International Journal of Behavioral Medicine (2023) 30 (Suppl 1):S1–S165
https://doi.org/10.1007/s12529-023-10200-2

ABSTRACT

17th International Congress of Behavioral Medicine

From Local to Global: Behavior, Climate and Health

INVITED SYMPOSIA

Invited Symposium S1

LEVENTHAL HONORARY SELF-REGULATION SYMPOSIUM: FROM PERCEPTIONS AND BEHAVIOURS TO ACTION PLANNING, PATIENT-PROVIDER COMMUNICATION, AND HEALTH OUTCOMES

Symposium Abstract- Howard Leventhal's work in the field of illness perceptions has impacted investigators of health behaviour on a global scale for over 50 decades. This symposium in honour of his work on the Common-Sense Model of Self-Regulation (CSM) will present current day research within this framework conducted by an international slate of former mentees and colleagues. Presentations will cover exploration of how illness perceptions form, addressing patient treatment perceptions in practice, and fostering concordance between providers' and patients' CSMs of the illness and treatment.

Abstract 1: "Translation of theory into practice: the Reliever Reliance Test (RRT)" describes use of CSM-based RRT to identify and address beliefs which are associated with short-acting beta2 agonists (SABA) over-reliance. Because SABA over-reliance is associated with worse clinical outcomes, having a tool that can identify and address such beliefs can be effective in changing perceptions about asthma treatment and motivating people to seek help.

Abstract 2: "Working towards concordance of illness and treatment representations between patients and providers for optimal patient care" uses the CSM framework to present data across a range of different illnesses supporting need to target concordance (and perceived concordance) between patients and providers to promote optimal patient adherence and health outcomes.

Abstract 3: "Fear of cancer recurrence and fertility concerns: How Common-Sense Model can help us make sense?" describes usefulness of CSM in investigating predictors of fertility-related distress. Quantitative data suggest emotional, rather than cognitive representations of illness determine level of stress while qualitative data revealed that both CSM and shared decision-making model were helpful in understanding and explaining young women's experience of treatment decision-making and fertility concerns.

Abstract 4: "Incipient illness representations and protective behaviours during COVID-19: results from a longitudinal study of representative samples of the population of Scotland" describes the development of illness representations during the initial phases of the COVID-19 pandemic and their relationship to protective behaviours before vaccinations became available.

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TRANSLATION OF THEORY INTO PRACTICE: THE RELIEVER RELIANCE TEST

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Background: Perceptions about asthma and its treatment, conceptualised within the extended Common-Sense Model (CSM), are key drivers of treatment related behaviour. In asthma, over-use and over-reliance on short-acting beta2 agonists (SABA) is associated with poor clinical outcomes. The Reliever Reliance Test (RRT) is a pragmatic, self-test tool which is designed to identify and address beliefs which are associated with SABA over-reliance.

Objective: To evaluate the RRT in practice and assess the impact of the RRT on perceptions about asthma and intentions to discuss their treatment with their doctor.

Methods: Patients with asthma who had completed the RRT were invited to an online survey exploring the acceptability of the RRT, its impact on changing perceptions about asthma treatment and its impact on intention to discuss treatment with a doctor.

Results: 109 patients completed the questionnaire. The RRT was acceptable to patients. After completing the RRT, 75% of patients at medium-to-high risk of over-reliance intended to visit their doctor to discuss their treatment. The RRT changed the way patients thought about their asthma treatment, with 67% agreeing that the RRT made them think they depend too much on their SABA and 66% questioning their asthma treatment.

Conclusions: The RRT is effective at changing perceptions about asthma treatment and motivating people to seek help. More research is needed to explore the extent to which it will change behaviour. However, this data supports the potential usefulness of the RRT and provides an example of how the CSM can be applied in clinical practice.

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WORKING TOWARDS CONCORDANCE OF ILLNESS AND TREATMENT REPRESENTATIONS BETWEEN PATIENTS AND PROVIDERS FOR OPTIMAL PATIENT CARE

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Background: Patients illness and treatment representations predict their adherence to treatment recommendations, healthcare utilization, and health outcomes. Although patient care for chronic conditions is mostly reliant on patient self-regulation, providers play critical roles in helping patients determine and follow appropriate treatment plans.

Objective: We review existing and present new evidence regarding the importance of patients perceptions of concordance with their provider regarding their illness and treatment representations for subsequent treatment adherence, patient satisfaction, and health outcomes.

Methods: Data come from a primary care sample of patients seeking care for a range of conditions and two samples of military veterans with chronic multisymptom illness (Gulf War Illness, GWI) seeking care from a primary care clinic or a tertiary care clinic that specializes in PTSD and GWI.

Results: Patients perceived concordance with the prescribing provider predicts their adherence to treatment recommendations and other outcomes, incrementally to their illness and treatment perceptions.

Conclusions: Beyond determining patients illness and treatment perceptions, interventions based on the Common Sense Model of self-regulation may target concordance (and perceived concordance) between patients and providers to promote optimal patient adherence and health outcomes, in a range of illness settings and populations.

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FEAR OF CANCER RECURRENCE AND FERTILITY CONCERNS: HOW COMMON-SENSE MODEL CAN HELP US MAKE SENSE?

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Background: Fertility-related issues are experienced by both men and women with cancer, however, the burden of reproductive concerns affects female cancer patients in particular. Common-Sense Model (CSM) can help us make sense of individual emotional and cognitive representations of illness and treatment but also from socio-cultural context.

Objective: Study 1 investigated the predictors of fertility-related distress and the role of illness perceptions and Study 2 applied CSM and shared decision-making model to explore experiences of treatment decision-making women of reproductive age experienced and the influence of fertility issues and fears of cancer progression and recurrence.

Methods: Study 1 recruited 164 women with breast or gynaecological cancer from Britain and Poland for a cross-sectional survey and Study 2 recruited 24 women with breast or gynecological cancer for a telephone interview.

Results: Study 1 showed that the impact of the desire to have children on fertility-related distress was mediated by psychological value of children, perceived consequences of cancer on one's life, emotional representation, and treatment-related regret. Study 2 revealed rich data on how fear of recurrence was present in different parts of the adaptation process from illness perceptions to post-treatment evaluation of decisions.

Conclusions: CSM was useful in investigating predictors of fertility-related distress, with emotional, rather than cognitive representation of illness determining its levels in our cross-sectional study. Our qualitative data, on the other hand, revealed that both CSM and shared decision-making model were helpful in understanding and explaining young women's experience of treatment decision-making and fertility concerns.

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INCIPIENT ILLNESS REPRESENTATIONS AND PROTECTIVE BEHAVIOURS DURING COVID-19: RESULTS FROM A LONGITUDINAL STUDY OF REPRESENTATIVE SAMPLES OF THE POPULATION OF SCOTLAND

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Background: COVID-19 provided rare opportunity to track development of population understanding of a disease. Common Sense Self-Regulation Model (CSSRM) proposes that new health threats are integrated with previous experiences of illness to develop new mental representations which guide coping efforts. We examined development of illness representations and relationship to protective behaviours before vaccinations.

Methods: Serial observational study assessing 10 illness representations in 13 randomly selected samples of Scottish population (N = 6420). Participants recruited and interviewed by telephone.

Results: Anxiety, consequences, and personal control representations most strongly endorsed; worry and treatment control least. Consequences and timeline (recurrence) significantly increased over time [F(12, 3952) = 2.00, p = 0.05, p2 = 0.01, and F(12, 3952) = 6.65, p 0.001, p2 = 0.02]. Older/more deprived endorsed illness representations more strongly than younger/less deprived. Men endorsed identity and personal control more, and timeline and emotional representations less than women. Adherence to protective behaviours associated with greater identity, consequences and timeline (Standardised Beta B = 0.035, standard error SE = 0.029; B = 0.129, SE = 0.033; B = 0.069, SE = 0.033; B = 0.083, SE = 0.033 respectively).

Conclusions: Pre-vaccination, control of COVID-19 perceived as personal rather than due to treatment; protective behaviour adherence was associated with strong illness representations. Beliefs about consequences and recurrence increased over time, perhaps reflecting increasing knowledge. Older and deprived endorsed all representations more strongly, perhaps reflecting greater perceived vulnerability. Further data on perceived causes and representations following availability of vaccination will add to this picture.

Invited Symposium S2

APPLYING THE ORBIT MODEL TO BEHAVIOURAL INTERVENTION DEVELOPMENT AND TESTING IN THE CONTEXT OF OBESITY, METABOLIC SYNDROME, DEMENTIA AND CHILD MENTAL HEALTH: A JOINT ISBM-IBTN SYMPOSIUM

The International Behavioural Trials Network (IBTN: http://www.ibtnetwork.org) was created to facilitate the global improvement of methods to develop and test behavioural health interventions and increase international capacity for conducting high quality trials. With over 1000 members worldwide, key to our mission is to foster the dissemination of best methods and practices for the development and testing of behavioural interventions targeting health. The ORBIT model is a rigorous, flexible and iterative framework for the development and testing of behavioural interventions. As part of a joint ICBM-IBTN initiative, this symposium will review and discuss some real-world applications of the ORBIT model and the multiphase optimization strategy (MOST) to develop, optimize and test behavioural interventions in the context of obesity, metabolic syndrome, dementia, and child mental health. Dr. Lussier (CANADA) will discuss the results of a feasibility (n = 120) and proof-of-concept (n = 39) study for a multi-component (diet, exercise, intellectual stimulation) digital lifestyle intervention for the prevention of dementia. She will describe application of the ORBIT model and present data on recruitment rates, enrollment, retention, acceptability, adherence, and the % of patients meeting pre-specified behavioural targets. Dr. Pfammatter (USA) will summarize the challenges and opportunities associated with recruiting national samples from a remote, virtual site for the EVO trial, which was designed to test a weight management intervention compared to the Diabetes Prevention Program. Dr. Guastaferro (USA) will review the use of MOST to optimize implementation strategies of a Family Navigation intervention (the DotHouse CARES for Kids project) for children with mental and behavioural health disorders. She will describe the rationale for conducting a 2 × 2x2 × 2 factorial experimental trial to determine which implementation strategies, alone and in combination, most greatly increase engagement with mental health services. Finally, Dr. Powell (USA) will lead the discussion by presenting baseline data from a Phase III multi-site behavioural clinical trial of a 3-component lifestyle intervention for patients with the metabolic syndrome (ELM trial), whose design was guided by the ORBIT model. The symposium will be co-chaired by IBTN co-founders and ISBM members Dr. Kim Lavoie and Dr. Simon Bacon.

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APPLICATION OF THE ORBIT MODEL TO THE DESIGN OF A PHASE III MULTI-SITE BEHAVIORAL CLINICAL TRIAL: THE ELM (ENHANCED LIFESTYLE IN THE METABOLIC SYNDROME) TRIAL

Dr. Lynda Powell
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ELM is a 6-year multi-site behavioral trial investigating the impact of a 3-component lifestyle intervention on sustained 2-year remission of the metabolic syndrome (MetS). It features 618 participants with the MetS from 5 representative geographic areas in the US who are treated to 1 of 2 options for lifestyle management. The design of this trial, guided by the ORBIT model, was informed by preliminary qualitative, quantitative, experimental, proof-of-concept, and feasibility pilot studies. These studies resulted in a hypothesized pathway with clinically significant targets to evaluate each of its steps, and informed such design decisions as the number of treatment components, sample size, eligibility criteria, choice of a comparator, and placement of the trial on the efficacy-effectiveness spectrum.

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THE EVO STUDY: A REMOTELY IMPLEMENTED TRIAL TO EVALUATE AN OPTIMIZED INTERVENTION FOR WEIGHT MANAGEMENT

Dr. Angela Pfammatter
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Using MOST, the EVO study was designed to evaluate the non-inferiority of an optimized weight management intervention as compared to an individually delivered Diabetes Prevention Program. The trial was launched to be site-less and implemented in an entirely virtual format. Some benefits were realized such as the ability to recruit from a wider geographical area. However, there are challenges to establishing rapport, orienting participants to trial protocols, and shipping that need to be considered. We will present the rationale and design of the EVO study and discuss the implications of conducting a clinical trial in a virtual environment, and discuss opportunities for further optimization and the opportunities we can leverage in the novel space of conducting trials without a geographical site.

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LUCI: A DIGITAL BEHAVIOUR CHANGE INTERVENTION FOR DEMENTIA RISK REDUCTION DESIGNED USING THE ORBIT MODEL: FEASIBILITY AND PROOF-OF-CONCEPT RESULTS

Dr. Isabelle Lussier[1], Dr. Kim Lavoie[2,3], Dr. Simon Bacon[3,4]
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There is a large body of evidence suggesting that modifiable lifestyle factors account for a large proportion of dementia cases. Past studies indicate that multi-component interventions in at-risk individuals are a promising strategy to delay disease onset. We will discussthe application of theORBIT modelto thedevelopment ofa dementiarisk reduction intervention, called Luci. Luci is a digital, multidomain (diet, exercise, intellectual stimulation), coach-based, lifestyle intervention to improve cognitive health in adults aged 50–70 at risk of cognitive decline. The results of our pre-efficacy studies will be presented.Our proof-of-concept (POC) was a 9-week within-subject single arm study (n = 38) to assess whether each single-domain lifestyle intervention could achieve a clinically significant change (CSC) in about half of the participants. The POC results supported moving to the next ORBIT framework step. A 24-week 2:1 wait-list randomized pilot study (n = 119) was conducted to establish the feasibility of the protocol for a future efficacy study. The success criteria were met for all pre-specified targets (recruitment rates, enrollment, retention, acceptability, and adherence). Results also revealed that a greater proportion of participants in the intervention versus control group reached a CSC. The data collected will be used to inform the design of the future and larger efficacy randomized controlled trial.

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OPTIMIZING FOR DISSEMINATION OF A FAMILY NAVIGATION INTERVENTION TO IMPROVE PEDIATRIC MENTAL HEALTH SERVICES USING MOST

Dr. Kate Guastaferro[1]
[1]*New York University (NYU), New York, USA*

Background: Family Navigation, a care-management approach, has been demonstrated as effective in reducing disparities in accessing health services for cancer, HIV, autism spectrum disorder, and attention deficit hyperactivity disorder. The dissemination of family navigation is challenging as it is a multicomponent intervention that can be delivered through a range of strategies.

Purpose: The DotHouse CARES study seeks to optimize the dissemination of Family Navigation in a pediatric primary care clinic to improve access to behavioral health services.

Methods: The effectiveness of four implementation strategies (e.g., care coordination, mode of delivery, symptom tracking, and structure of visits) are examined using a 2X2X2X2 factorial experiment. The goal is to determine the most effective combination of components producing an increase in the engagement of mental/behavioral health services.

Results: The trial is ongoing, but this presentation will highlight nuances of the design and progress to date.

Discussion: This project uniquely uses MOST to optimize the implementation of an intervention with an established evidence-base. Implications for the broader field of intervention science will be discussed.

Invited Symposium S3

HISTORY AND ACTIVITIES OF THE INTERNATIONAL NETWORK ON BRIEF INTERVENTIONS FOR ALCOHOL AND OTHER DRUGS

The International Network on Brief Interventions for Alcohol and Other Drugs (INEBRIA) is the only organization in the world exclusively dedicated to screening and brief intervention (SBI) research. Organized out of the World Health Organization Collaborative Project on Identification and Management of Alcohol-related Problems in Primary Health Care, INEBRIA serves as a catalyst for researchers and policymakers worldwide to meet and analyze emerging SBI-related research findings. In 2012, the group expanded its focus to include SBI for other drugs, in addition to alcohol. INEBRIA's goals are:

- to share information, experiences, research findings and expertise in on the early identification and brief intervention for hazardous and harmful substance use,
- to promote best practice in, and encourage the development of, guidelines for the wide dissemination and implementation of evidence-based early identification and brief intervention for hazardous and harmful substance use,
- to identify gaps and needs for research in the field of early identification and brief intervention for hazardous and harmful substance use,
- to promote international research cooperation and set standards for research, and
- to promote the integration of the study of brief interventions for hazardous and harmful substance use with the wider context of measures to prevent and reduce substance-related harm.

The network currently has over 800 members worldwide. Although the bulk of the membership is based in Europe, the USA and Latin America, INEBRIA membership spans the globe. In addition to regular annual conferences, the network supports NGOs and other bodies in organizing and cosponsoring events and other activities. INEBRIA is supported by a secretariat based at the Health Department of the Government of Catalonia in Barcelona and includes a semi-autonomous branch located currently in Mexico (INEBRIA Latina). INEBRIA has organized Special Interest Groups (SIGs) to promote and encourage research conducted by its members. This symposium will introduce INEBRIA to the ICBM membership through 4 presentations. The first will provide an overview of INEBRIA's history and objectives. The second will present the work of the SIG on research measurement standardization. The third will present the work of the SIG on digital approaches for screening and brief intervention for alcohol and substance misuse. The fourth will present the work of the SIG on youth screening and brief intervention for alcohol and substance misuse.

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HISTORY AND OBJECTIVES OF INEBRIA

Prof. Jeremy Bray[1]
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INEBRIA is an international network of researchers, policy makers, practitioners and other stakeholders interested in the potential of brief interventions in health and other settings to reduce the harms produced by alcohol and other drug use. It aims to provide global leadership in the development, evaluation and implementation of evidence-based practice in the area of early identification and brief intervention for hazardous and harmful substance use. INEBRIA was originally formed in 2004 following the end of the WHO Collaborative Project on Identification and Management of Alcohol-related Problems in Primary Health Care. At the Annual General Meeting in 2011, it was resolved to expand the network to include brief interventions for other psychoactive substances besides alcohol. INEBRIA promotes and encourages empirical research, health policy development and evaluation, and methodological improvements in brief intervention research through its Special Interests Groups (SIGs), which focus groups of INEBRIA members on specific topics of importance to the INEBRIA membership specifically and to the broad brief intervention research and policy community more broadly. INEBRIA currently has 3 SIGs: the SIG on research measurement standardization; the SIG on digital approaches for screening and brief intervention for alcohol and substance misuse; and the SIG on youth screening and brief intervention for alcohol and substance misuse.

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RESEARCH OF THE INEBRIA YOUTH SIG

Dr. Stacy Sterling[1], Dr. Verena Metz[1], Dr. Marcus Bendtsen[2], Dr. Sidharth Arya[3], Dr. Joel Francis[4], Dr. Abhishek Ghosh[5], Dr. Dagmar Haller[6], Dr. Sion Harris[7], Ms. Andrea Kline-Simon[1], Dr. Sharon Levy[7], Dr. Tracy McPherson[8], Dr. Shannon Mitchell[9], Prof. Dorothy Newbury-birch[10], Dr. Samir Praharaj[11], Dr. Paul Toner[12], Dr. Elissa R Weitzman[13]

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In this presentation, we will describe the formation and activities of the Youth Special Interest Group of INEBRIA. The Youth SIG was formed in late 2020, as a result of a growing recognition among INEBRIA members of the myriad gaps in the literature about screening, brief intervention and referral to treatment (SBIRT) for young people with unhealthy alcohol and other drug use. The SIG is currently comprised of approximately 50 members, representing 15 countries, with strong representation from low and middle income countries (LMICs). The SIG meets quarterly, and produces a quarterly newsletter, with numerous correspondences in between meetings. SIG members also have the opportunity to participate informally in ongoing virtual training programs at various participating institutions (e.g., existing Post-Doctoral training series). The SIG has sponsored symposia at each annual INEBRIA meeting since its formation. SIG members identified the need for a roadmap to lead work in this field based on the collective expertise of its members. The aim of the roadmap, currently under review, is to elucidate what is already known regarding SBIRT in young people and what still needs to be studied, and to highlight the kind of research needed to facilitate and promote access to high-quality, developmentally-appropriate screening and intervention, and improve outcomes of young people. This effort will contribute to the maturation of the field, and stimulate much needed discussions among research, policy and practice spheres. The SIGs next project is a systematic review of screening and brief intervention as prevention/anticipatory guidance.

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E-INTERVENTIONS FOR ALCOHOL AND ILLICIT DRUGS – A ROADMAP FOR RESEARCH

Prof. Anne H Berman[1], Dr. Michael Schaub[2], Dr. Hugo Pelayo[3], Dr. Nikolaos Boumparis[2], Dr. Zarnie Khadjesari[4], Dr. Matthijs Blankers[5], Dr. Heleen Riper[6], Dr. Lodewijk Pas[7], Dr. Lilian Gelberg[8], Dr. Abhishek Ghosh[9], Dr. Adriana Gonzalez[10], Dr. Antoni Gual[11]
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Delivering brief interventions for overconsumption of alcohol and illicit drugs is a matter of high priority, given the burden of long-term ensuing negative health consequences. A promising means to scale up brief intervention delivery is the digital format, given the increasing coverage of mobile devices and technologies for digital interventions, as well as the greater openness to digital interventions in the wake of the Covid-19 pandemic. However, although evidence-based digital interventions are increasingly available, the involvement of brief-intervention researchers and the development of good practices is relatively new. The Special Interest Group on digital interventions of the International Network on Brief Interventions for Alcohol Other Drugs (e-INEBRIA SIG) has an ongoing conversation regarding avenues of future research, recently summarized in a roadmap for digital interventions (JMIR, 2020). This roadmap covers research on ongoing technological developments, and their implementation across a continuum of prevention and care. Also, it outlines starting points for the diversification of brief digital interventions, as well as next steps for quality improvement and implementation in public health and clinical practice. In this presentation, we present the main points of the roadmap, briefly describe recent research inspired by it, and provide some orientation for researchers and clinicians on the complexity of current digital interventions for addictive behaviors.

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THE OUTCOME REPORTING IN ALCOHOL BRIEF INTERVENTION TRIALS (ORBITAL) CORE OUTCOME SET

Prof. Jeremy Bray[1], Dr. Gillian Shorter[2], Prof. Nick Heather[4], Prof. Anne H Berman[5], Dr. Emma Giles[3], Prof. Mike Clark[6], Dr. Carolina Barbosa[7], Dr. Amy O'Donnell[8], Prof. Aisha Holloway[9], Dr. Heleen Riper[10], Prof. Jean-Bernard Daeppen[11], Dr. Maristela Monteiro[12], Prof. Richard Saitz[13], Dr. Jennifer McNeely[14], Dr. Lela McKnight-Eily[15], Dr. Alex Cowell[7], Dr. Paul Toner[1], Prof. Dorothy Newbury-birch[3]
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The evidence base to assess the efficacy and effectiveness of alcohol brief interventions (ABI) is weakened by variation in outcomes measured and by inconsistent reporting. The 'Outcome Reporting in Brief Intervention Trials: Alcohol' (ORBITAL) project developed a core outcome set or minimum data standard (COS) to prioritize key measures and provide reporting guidance. Development of the COS required three phases a) systematic review to establish a contemporary map of outcomes used in efficacy/effectiveness trials b) outcome prioritization using an e-Delphi survey, and c) a consensus group meeting to select the final core outcome set. ABI definitions were informed by National Institute of Clinical Excellence Public Health Guideline 24. In 401 papers of 405 trials 2641 outcomes were measured in approximately 1560 different ways. A two-round e-Delphi study prioritized 15 outcomes that were subsequently discussed at an expert consensus meeting. Outcomes voted into the core outcome set were alcohol related problems or consequences, alcohol related injury, combined consumption measure which summarizes alcohol use, hazardous or harmful drinking, standard drinks consumed in a week, typical frequency of consumption, typical quantity of consumption, frequency of heavy drinking, quality of life, use of emergency healthcare services. Measurement instruments have been selected to ensure the COS can be implemented in ABI settings, with recommendations based on psychometric properties and relevance.

Invited Symposium S4

THE NEXT GENERATION OF BEHAVIOURAL MEDICINE RESEARCH IN CANADA: EMERGING FINDINGS FROM TRAINEE RESEARCHERS

Canada is home to an active behavioural medicine research community that fosters the development of young scholars. The Health Psychology and Behavioural Medicine Section of the Canadian Psychological Association is pleased to present this symposium, which showcases the latest research from trainees enrolled in Canadian graduate programs. The first speaker will describe work investigating a novel predictor of caregiver wellbeing. Specifically, the speaker will present findings describing the associations between caregiving style and quality of life among partners of patients with cardiac disease. The second speaker will present experimental work on public health messaging. The speaker will share the results of an experiment that tested the effect of message framing on COVID-19 vaccine hesitancy. The third speaker will present results from a promising pilot program designed to reduce infertility-related distress. The speaker will describe the nature of the pilot program, preliminary results, and implications for a larger trial. Finally, the discussant, who recently completed an environmental scan of behavioural medicine and health psychology researchers in Canada, will offer her perspective on the session and the impactful research being done by trainees across Canada. Overall, these presentations highlight how young researchers in Canada are investigating a wide range of topics and employing varied methods to advance the field of behavioural medicine.

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CARING FOR THE HEART: CAREGIVING STYLE AND QUALITY OF LIFE IN PARTNERS OF PATIENTS WITH CARDIAC DISEASE

Miss Elisa Stragapede[1, 2], Dr. Karen Bouchard[1], Dr. Kathleen Lalande[1], Ms. Chelsea Moran[3], Dr. Paul S. Greenman[4], Dr. Heather Tulloch[1, 2]
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Background: Caring for a loved one with cardiac disease (CD) can prompt feelings of satisfaction and fulfillment, but some caregivers experience emotional difficulties and reduced quality of life (QoL). Emerging evidence indicates that caregiver style (i.e., proximity, sensitive, controlling, compulsive) may influence the health outcomes of patients, but little is known about its effects on caregivers health outcomes.

Purpose: This cross-sectional observational study investigated associations between caregiving style and caregiver QoL.

Methods: Partners of patients with CD (N = 171; 75% female; M age = 62 years) completed self-report, validated measures of caregiving style (Caregiving Questionnaire) and QoL (QoL Questionnaire for Cardiac Spouses). Pearson correlations and multiple regression analyses were used to examine associations between variables.

Results: Higher levels of compulsive caregiving wereassociated with poorer levels of emotional (p.001), physical (p.001), and social (p.001) QoL. A compulsive style (R = 1.38–5.38) was reported in 15% of caregivers.

Conclusions: Caregiving style, particularly compulsive, is linked to the caregivers QoL. Future longitudinal studies are required to substantiate the cross-sectional findings. As caregiving style may be linked to patient outcomes and is associated with caregiver QoL, efforts to screen and modify partners' caregiving style may enhance health of both patients and caregivers.

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PILOT TRIAL OF A NEW SELF-DIRECTED PSYCHOLOGICAL INTERVENTION FOR INFERTILITY-RELATED DISTRESS

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Background: Infertility is associated with immense psychological burden, yet currently available psychological interventions have been shown to be ineffective.

Purpose: The purpose of the current study was to assess the efficacy and acceptability of a specialized psychological intervention for treating infertility-related distress in a one arm pre-to-post trial of the program in a small pilot sample of individuals experiencing infertility.

Method: A self-help program consisting of six 10-min weekly video modules addressing the cognitive, emotional, and interpersonal aspects of infertility-related distress was co-created with a panel of women with infertility. Twenty-one distressed women with infertility were recruited to participate in a pilot study of the program. Pre-to-post changes in fertility quality of life (FertiQoL), depressive symptoms (PHQ-9) and anxious symptoms (GAD-7) were examined. Participants rated the helpfulness of each module and provided feedback on the content and format of the program.

Results: Large pre-to-post intervention improvements in fertility quality of life, depression and anxiety were observed (p.001; Cohens d = 0.9–1.3). The mean helpfulness of the modules (rated from 0–10) ranged from M(SD) = 7.5(1.1) to 8.2(1.0). Ninety-three percent of participants liked the program pace and video length but 68% had recommendations for additional content, such as effectively communicating with healthcare professionals.

Conclusions: This self-guided intervention was well received and appears to be highly effective at reducing infertility-related distress. The next step will be to modify this program based on participant feedback and test the program in a larger randomized controlled trial.

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THE EFFECTS OF DIFFERENT MESSAGE FRAMES ON COVID-19 VACCINE BELIEFS

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Background: Public health officials must consider how to optimally communicate recommendations to vaccinate against COVID-19 to maximize uptake.

Purpose: To inform vaccination campaigns, this survey experiment investigated how individual differences and message framing influence the effectiveness of messages promoting COVID-19 vaccines.

Method: A total of 412 Canadians recruited from November 17th to December 15th, 2021, were randomly assigned to one of six messaging conditions. Those assigned to the control condition were not shown a message, while other participants were shown a message addressing either the benefits of vaccinating for the safety of others, the widespread willingness of Canadians to be vaccinated, the health consequences of contracting COVID-19 for vulnerable populations, or the safety and efficacy of the vaccines framed using either specific or general information. The primary outcome was COVID-19 vaccine beliefs.

Results: When compared to the control condition, none of the messages were effective in improving COVID-19 vaccine beliefs, and interestingly, the beliefs of those exposed to the message addressing the willingness of Canadians to be vaccinated were significantly more negative. Negative beliefs were predicted by younger age, identifying as male, and higher levels of conservative political beliefs and conspiracist ideation.

Conclusions: While no message resulted in improved beliefs towards the vaccines, these findings highlight the importance of considering the impact of message framing and the individual differences of the target audience when providing recommendations to vaccinate against COVID-19.

Invited Symposium S5

PARTICIPATORY SYSTEMS MAPPING IN RESEARCH, POLICY AND PRACTICE: NEW GUIDANCE AND APPLICATIONS IN HEALTH BEHAVIOUR RESEARCH

Background:
Developing systems approaches is key to health behaviour research, policy and practice. In particular, participatory approaches to systems mapping (PSM) are increasingly used to ensure research and practice are grounded in the multiple perspectives of systems' stakeholders (e.g. policymakers, practitioners or service users).

Symposium objectives:

A) To present findings from a recent mapping review, and guidance on the choice and design of PSM
B) To illustrate PSM's potential through three empirical case examples from different disciplines, which focus on different health areas and countries
C) To facilitate a discussion about future applications of PSM for strengthening systems and optimising health behaviour research, policy and practice

Summary of of presentations:

1. Mapping the use of PSM and developing guidance for future applications: Findings from a systematic mapping review will contextualise the symposium. These will be followed by an introduction to new guidance, with accompanying framework, for selecting and designing PSM methods. Optimising participation, implementation feasibility, and using maps in practice will be posited as key features for exploration in subsequent presentations.
2. Mental health and wellbeing in Filipino call centres: using PSM to understand workplace environments: The Katawag project is a collaboration between Glasgow University (UK) and De La Salle University (Philippines). Using PSM, researchers collaborated online with call agents, team leaders and managers from three call centre sites (two companies) to map mental health and wellbeing issues, discuss leverage points and design an intervention. Adaptation of PSM to the call centre setting will be discussed.
3. PSM for population physical activity (PA) promotion in British Columbia: This project applied a whole-of-system approach, using PSM to strengthen systems for population PA promotion. It included a scoping review of complex systems methods in PA research; interviews and workshops to 'describe the system'; and PSM to 'access the system' and identify leverage points to develop recommendations for 'strengthening the system'. Discussion of these components will emphasise lessons learned about practical applications and outcomes of PSM.
4. Using PSM to understand young people's involvement in sexual health policy and service improvement: Attempts to involve young people in sexual health policymaking and service improvement typically lack sustainability (e.g. one-off policy consultations) and meaningful collaboration 'between' young people, policymakers and practitioners. The CONUNDRUM Action project used extensive multi-stakeholder PSM activities to understand the current (lack of) young people's involvement and facilitated identification of key leverage points to improve future participatory initiatives.

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MAPPING THE USE OF PARTICIPATORY SYSTEMS MAPPING, AND DEVELOPING GUIDANCE FOR FUTURE APPLICATIONS

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Background
Participatory systems mapping (PSM) is increasingly used in health behaviour research. To date, however, there have been limited attempts

to map this evolving landscape, or develop guidance and tools to inform the evidence-based choice, design and conduct of PSM in health behaviour research. We aimed to address this gap in the methodological literature.

Purpose

This first presentation provides a contextual overview of PSM methods and an introduction to key elements from our methods guidance, which will be illustrated in-depth in subsequent presentations.

Methods

Guidance was developed by an interdisciplinary, multi-institution team and derived from three processes: i) a systematic mapping review of the extent and nature of PSM in population health; ii) key informant interviews; iii) a three-part consultation with international PSM experts (survey, workshops, written consultation). Data were analysed thematically and iteratively to facilitate guidance development.

Results

The mapping review showed diverse applications of PSM in health behaviour research, while the consultation highlighted the need to explore practical and meaningful approaches to participation, analysis and application of maps. A framework was developed to support the selection and design of different PSM methods, which emphasises three domains: optimising stakeholder participation; feasibility of implementation; and use of maps.

Conclusion

(s) This new guidance and associated framework are relevant to those with and without experience of PSM, as well as in both research and practice settings. It will support the selection of research methods, and highlights key opportunities for developing these approaches in health behaviour research.

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MENTAL HEALTH AND WELLBEING IN FILIPINO CALL CENTRES: USING PARTICIPATORY SYSTEMS MAPPING TO UNDERSTAND WORKPLACE ENVIRONMENTS

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Background

Call centres are a fast-growing industry in the Philippines. Although well-paid, call centre employees have little control over their work and must meet high demands under time pressure. These work conditions can lead to mental ill-health. Poor mental health can lead to lower productivity, increased sickness absence and higher staff turnover rates.

Purpose

Using PSM, researchers collaborated online with call agents, team leads and managers from three large call centres in the Philippines to build maps of mental health and wellbeing issues and use these to design an intervention.

Methods

To build and validate maps with stakeholders, 11 online workshops took place with 57 participants. To facilitate discussions, the research team used a suite of online tools to ensure stakeholders could have an active role in discussing mental health and wellbeing, in mapping their system, and identifying possible areas for intervention.

Results

The maps highlight the prevalence of stress, anxiety and sleep-related issues among call centre staff. These issues were caused by a complex array of factors and causal loops that are produced and reproduced by local factors, as well as external factors linked to the competitiveness of the sector at national and global level. Leverage points were identified and formed the basis of intervention development targeting middle managers (team leaders).

Conclusion(s)

The methods developed in this project may be useful to other researchers working in the corporate sector or in settings with limited access to system stakeholders.

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PARTICIPATORY SYSTEMS MAPPING FOR POPULATION PHYSICAL ACTIVITY PROMOTION IN BRITISH COLUMBIA, CANADA

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Background

Participatory system mapping (PSM) methods are increasingly applied in population physical activity promotion (PA) research, policy and practice. These methods can support the creation of visual maps with stakeholders to describe, assess and ultimately strengthen complex systems (or address complex problems). One approach is to apply an Attributes Model to examine the interdependence among system characteristics (leadership, resources, implementation, collaboration and systems thinking).

Purpose

The purpose of this presentation is to facilitate discussion of PSM to identify leverage points to strengthen systems for PA.

Methods

A scoping review on complex systems methods used in PA research and their alignment with the whole-of-system approaches was completed. Interviews and online workshops were conducted with diverse stakeholders to describe the system. PSM was then facilitated in one in-person session to assess the system and identify leverage points.

Results

There was strong alignment with systems mapping methods and a whole-of-system approach, such as with the pre-existing Attributes Model. Interviews and workshops provided rich descriptions of the system in terms of the interdependence among attributes. PSM built on these results to create a casual loop diagram of feedback loops. Leverage points were identified and rated in terms of priority feedback loops that need to be disrupted or amplified. Key lessons were learned in terms of optimising stakeholder participation, feasibility of implementation, and use of maps.

Conclusions

Using PSM methods in combination with whole-of-systems approaches, such as in the Attributes Model, offers innovation in integrating health behaviour research, policy and practice.

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USING PARTICIPATORY SYSTEMS MAPPING TO UNDERSTAND YOUNG PEOPLE'S INVOLVEMENT IN SEXUAL HEALTH POLICY AND SERVICE IMPROVEMENT

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Background

Despite increased interest, involvement of young people in sexual health policymaking and service improvement remains uncommon. Existing attempts typically lack sustainability (e.g. isolated policy consultation activities) and meaningful collaboration between young people, policymakers and practitioners.

Purpose

The CONUNDRUM Action project [2022–23] aimed to understand the dynamics underpinning young peoples involvement in shaping sexual health policy and services in Scotland, by building a system map through extensive multi-stakeholder participatory activities.

Methods

The systems map was co-produced in a multi-stage process with stakeholders across Scotland, including young people, policymakers, health service providers and charity sector actors. The systems map was built during a series of online workshops and using key informant interview data. Young people were actively involved, including interviewing stakeholders. The final map is a result of a multistakeholder online validation process.

Results

The system map increased stakeholders understanding of the current (lack of) involvement of young people in sexual health policymaking and service improvement. The map was used to identify key leverage points.

Conclusion(s)

Involving young people in PSM both as participants and researchers strengthened the mapping process and led to meaningful collaboration between young people, policymakers and practitioners.

SYMPOSIA

Symposium 1A

HOW CAN WE IMPROVE POPULATION MODELS FOR PREDICTING HEALTH IN OLDER PEOPLE?

Population ageing is a major global challenge. High-income countries such as Japan and UK stand on the front line and China is catching up fast. Population models of recent and future age-associated health states such as dementia, frailty and disability have been developed to inform policymakers and the research community. Future projection of health state occupancy and care needs is challenging because the mathematical model must integrate epidemiological trends in morbidity and mortality at older ages, with demographic data. Several sources of parameter uncertainty, such as current and future socioeconomic conditions, lead to heterogeneity in health of older people. The halt in the long-term rising trend in life expectancy in the UK around 2010 exemplifies one aspect of the forecasting problem.

This symposium aims to discuss population models in China, Japan and UK. Speakers will (1) consider strengths and weaknesses of their respective models in terms of concept, methods and input data, and (2) discuss potential developments that will increase validity and utility of the model. The concluding discussion will provide an opportunity for speakers and symposium participants to exchange perspectives on the use of prediction modelling to support health gain and reduce health inequality in older populations.

Four authors will present their recent work and perspectives. Kasajima (Tokyo) will discuss her microsimulation model of dementia and frailty in Japan. Chen (London) will discuss a Markov macrosimulation model of dementia, disability and cardiovascular disease in UK, focusing on the problem of the recent nonlinear dementia incidence trend. Liao (Guangzhou) will discuss an analogous Markov model for China. Bandosz (Gdansk) will consider methodological development in addressing uncertainty in population model estimation, and how to use simulation as a tool to engage with decision-makers. For example, scenario modelling can examine the future potential impact of policy interventions to reduce risk factor levels in a population.

Ahmadi-Abhari et al. BMJ 2017.
Guzman-Castillo et al. Lancet Public Health 2017.
Kasajima et al. Lancet Public Health 2022.
Bandosz et al. Diabetologia 2020.
Collins et al. PLoS One 2022.

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DOWNWARD DEMENTIA TREND GOES INTO REVERSE IN ENGLAND AND WALES: ENGLISH LONGITUDINAL STUDY OF AGEING 2002 TO 2019

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Background: Recent evidence suggests dementia incidence is declining in high-income countries. However, data for the trend after 2010 are scarce.

Purpose: We aimed to examine the temporal trend in dementia incidence in England and Wales 2002–2019, considering bias and nonlinearity and project the future burden of dementia in England and Wales to 2040 based on latest trend of dementia incidence.

Method: We used population-based panel data linked to the mortality register across wave 1 (2002–2003) to wave 9 (2018–2019) of the English Longitudinal Study of Aging. Standard criteria based on cognitive and functional impairment were used to ascertain incident dementia cases. We estimated the age- and sex-adjusted trend of dementia incidence with Cox and multi-state models. Restricted cubic splines allowed for potential non-linearity. An updated Markov model based on latest dementia trend was used to project future dementia cases.

Results: 19,806 people were included. Adjusting for age and sex and accounting for missing dementia cases due to death, estimated dementia incidence declined 28•8% from 2002 to 2008 (incidence rate ratio 0.71, 95%CI 0.58–0.88), and increased 25.2% from 2008 to 2016 (incidence rate ratio 1.25, 1.03–1.54). Given the latest trend of dementia incidence, the number of people with dementia is projected to have a larger increase than the previous estimate in 2040.

Conclusion: Dementia incidence may not be declining. There was a rebound after 2008 in England. If the upward dementia incidence trend continues, along with population ageing, the burden on health and social care may be large.

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POTENTIAL IMPACT OF FUTURE TRENDS IN DIABETES ON DISABILITY FREE LIFE EXPECTANCY AND PROPORTION OF LIFE LIVED WITH DISABILITY

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Background: Diabetes is a risk factor for several potentially disabling conditions like CVD and dementia.

Purpose: We explored the potential impact of future trends in the prevalence of diabetes upon disability-free life expectancy and the proportion of life lived with disability in England and Wales.

Method: The probabilistic, multi-state, open cohort Markov model integrating observed trends in cardiovascular disease and dementia was used to forecast life expectancy under different future diabetes trends in England and Wales: the baseline scenario assumed a 26% increase in the number of people with diabetes by 2060, which corresponds to current trends in obesity. We evaluated this scenario against alternative projected trends in diabetes: increase of 20% (scenario S1) and 7% (scenario S2), corresponding to the halt and reverse of current obesity trends. We also evaluated the sensitivity of these estimates to different future mortality assumptions.

Results: Both S1 and S2 resulted in an increase in disability-free life expectancy at age 65 compared to the baseline scenario, by 24 to 29 days for S1 and by 90 to 108 days for S2, depending on assumed future mortality trends. The proportion of life spent without disability is projected to increase on average between 0.0% to 0.1% for S1 (depending on assumed future mortality) and between 0.1% to 0.3% for S2, compared to the baseline scenario.

Conclusion: Diabetes prevention may increase disability-free life expectancy without increasing the proportion of life lived with a disability.

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FUTURE PROJECTION OF DEMENTIA AND FRAILTY IN JAPAN: DEVELOPMENT OF A MULTISTATE TRANSITION MICROSIMULATION MODEL AND ITS VALIDATION

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Background: Population agingis a global phenomenon regarded as a risk to social sustainability. Accurate estimates of future demand for health and social services in heterogeneous older populations are imperative to design sustainable healthcare and social security systems.

Purpose: We aimed to develop a multistate transition microsimulation model to project future health and social care demand, including dementia and frailty prevalence, using nationally representative repeated cross-sectional data and existing cohort studies.

Method: We built a microsimulation model that simulates an individuals status transition across 11 chronic diseases, depression, functional status, and self-reported health by age, sex, and educational strata as described elsewhere (Kasajima et al. 2022). Transition probabilities for all comorbidity patterns by age, sex, and education were calculated to reflect non-linear associations between elements. Forward corroboration, external validation, and backward validation were conducted for the validity of our simulation parameters.

Results: Our future estimates baselined the 2016 population predicted consistent results with trends in other recent epidemiological studies. Careful validation of the demographic structure, disease distribution, and the transition probabilities led to improvements in forecasting accuracy.

Conclusion: The utilization of microsimulation models to prepare for an increase in social burden due to rapid population aging is helpful in effectively discussing the sustainability of the social security system reform by providing population health change and detecting disparities. Our approach is widely applicable to countries with readily available cross-sectional data.

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PREDICTIONS FOR DEMENTIA PREVALENCE IN CHINA BY 2050: A MARKOV MODELLING STUDY

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Background
Dementia brings a heavy burden on older adults, their family and the society at large. Accurate prediction of dementia prevalence is important for preventive strategy for fast- ageing China

Purpose

The purpose of this study is to predict dementia prevalence in China by 2050, taking into account variations in dementia incidence rates and mortality rates in future.

Method

Based on two nationally representative Chinese ageing cohorts (i.e. CLHLS, CHARLS), a ten-state Markov model (IMPACT-CAM), including prevalence, transition probability and mortality rate of dementia, cardiovascular diseases and disability, was constructed to predict dementia prevalence in people aged above 60 years by 2050, with different assumptions on the future trends of dementia incidence and mortality rates.

Result

IMPACT-CAM projected there were approximately 57.9 million (95% uncertainty interval 56.3–59.6 m) people with dementia by 2050, assuming constant incidence rate of dementia and declining mortality rates over coming years. In comparison with this assumption, if the incidence rate of dementia decreasing by 1.0% annually coupled with declining mortality rates, the projected number of dementia cases would be 9.8 million less; if dementia incidence and mortality rates both remained constant since 2022, the projection would be 18.5 million less. The estimated dementia prevlance for people aged 60 years in 2050 were 12.0%, 9.9% and 9.5%, respectively.

Conclusion

Alongside the irreversible population ageing trend, the number of people with dementia in China is likely to increase rapidly in the near future. Nevertheless, effective prevention measures of dementia would restrain the surge substantially.

Symposium 1B

THE DEVELOPMENT OF WEB-BASED INTERVENTIONS FOR CLINICIANS, PATIENTS AND CAREGIVERS

Background: Web-based interventions are becoming increasingly common in the clinical setting, and are used for a variety of reasons, such as decision support or education, and in multiple populations. Web-based modalities allow for effective delivery of intervention content, while minimizing clinician burden. This symposium describes the development of three web-based interventions: one for clinicians, one for cancer survivors and one for caregivers.

Presentation 1 describes the development of a clinical decision support (CDS) tool based on Wells' Criteria for Pulmonary Embolism for the Emergency Department. We used a mixed methods approach to identify major behavioral barriers to use of our CDS tool and addressed these barriers with behavioral architecture (nudges), as a part of a human centered design process to develop a revised tool, PERK.

Presentation 2 describes the ddevelopment and early testing of an interactive, web-based decision aid and planning tool for young adult female cancer survivors that have completed gonadotoxic treatment to prompt early consideration of family-building goals and begin iterative decision-making processes about fertility care and family-building pursuits.

Presentation 3 focuses on the development of RELOAD-C, a web-based platform that aims to reduce loneliness in caregivers of persons with Alzheimer's Disease (AD) and AD-Related Dementias (AD/ADRD) via increasing their sense of meaning and purpose in life with concepts from Meaning-Centered Psychotherapy (MCP). The development of RELOAD-C occurred in 3 stages, primary of which was two rounds of individual interviews with N = 15 AD/ADRD caregivers who provided feedback on MCP intervention content.

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THE DEVELOPMENT OF RELOAD-C, A WEB-BASED PLATFORM TO INCREASE MEANING IN LIFE AND REDUCE LONELINESS IN CAREGIVERS OF PERSONS WITH AD/ADRD

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Background: There is a need for effective evidence-based interventions to reduce loneliness in caregivers of persons with Alzheimers Disease (AD) and AD-Related Dementias (AD/ADRD). Interventions to reduce loneliness may be strengthened by incorporating concepts from Meaning-Centered Psychotherapy (MCP), effective in increasing meaning in life in patients with advanced cancer and their caregivers. Our central hypothesis is that concepts from MCP can be adapted for caregivers of persons with AD/ADRD to reduce their loneliness through increasing their meaning.

Purpose: Describe the development of RELOAD-C (REducing LOneliness in Alzeheimers Disease-Caregivers), a web-based platform that delivers MCP concepts, adapted for AD/ADRD caregivers, via 6 brief videos, 7 virtual peer group meetings, and written content.

Method: The development of RELOAD-C occurred in 3 stages:

1) Preparatory Work/Adaptation of scripts from 6 existing MCP videos.
2) Stakeholder Involvement. N = 15 AD/ADRD caregivers underwent individual interviews to provide expert feedback on the scripts.
3) Development of RELOAD-C.
In collaboration with web specialists, RELOAD-C is created by integrating adapted MCP videos, links to virtual peer groups to discuss MCP concepts, and written MCP content.

Results: Input from stakeholders indicated:

1) preference for terminology (e.g., caregiver over care partner);
2) removing MCP content that urges caregivers to engage in complex conversations with the care recipient;
3) providing an explanation of ambiguous concepts (e.g., "unfinished business); and
4) re-ordering the delivery of the MCP concepts.

Conclusion: RELOAD-C is the product of multiple rounds of review by a multidisciplinary team and AD/ADRD caregivers as expert stakeholders.

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DEVELOPMENT AND PILOT TESTING OF ROADMAP TO PARENTHOOD, A DECISION AID AND PLANNING TOOL FOR FAMILY BUILDING AFTER CANCER

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Background: Young adult female (YA-F) cancer survivors who receive gonadotoxic treatment face complex decisions about fertility and family building, yet there is limited follow-up fertility counseling in post-treatment survivorship.

Purpose: Develop an interactive, web-based decision aid and planning tool for YA-F cancer survivors to support post-cancer fertility care and family-building pursuits.

Method: User-centered design practices were used to develop Roadmap to Parenthood. A multidisciplinary steering group consisting of clinicians and YA-F cancer survivors provided iterative input. Software usability testing included members of the target population. Qualitative and quantitative data to inform iterative design modification. A single-arm pilot study evaluated feasibility, acceptability, and preliminary efficacy of the tool over a three-month period.

Results: Ten patients evaluated usability and three qualitative themes were identified: ease of use, visibility/ navigation, and informational content. Changes were suggested to improve functionality and navigation and to address users' distressing emotions when viewing information about cancer-related infertility risks. Usability scores improved from acceptable to excellent. Overall feedback was positive, and YA-Fs reported improved decision-making self-efficacy. Design changes were incorporated and presented again to YA-Fs, who approved of the changes. The pilot study ($N = 102$) demonstrated the Roadmap tool was feasible, acceptable to users, and improved key outcomes of decision making and family-building planning.

Conclusion: Identifying the specific decision-making situation and its context and emphasizing the repeated nature of the decision process is a crucial part of the software development process to optimize usability and to ultimately ensure usage and to support patient-centered care.

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PERK TOOL DEVELOPMENT: NUDGING PROVIDER ADOPTION OF CLINICAL DECISION SUPPORT FOR PULMONARY EMBOLISM RISK STRATIFICATION

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Background: Clinicians often disregard potentially beneficial clinical decision support (CDS). We developed a CDS tool based on *Wells' Criteria for Pulmonary Embolism* for the Emergency Department (ED).

Purpose: We used a mixed methods approach to identify major behavioral barriers to tool use and addressed these barriers with behavioral architecture (nudges), as a part of a human centered design process.

Method: This mixed methods approach incorporated a survey, semi-structured interviewing and usability testing with Emergency Medicine providers at a large academic healthcare facility in New York. Surveys and interview guides were based on a behavior theory framework, Capability Opportunity Motivation Behavior.

Results: The tool was redesigned to address the four major barriers identified to use:

1. Fear of Missing PE – Clinicians expressed a fear of negative feedback from department quality improvement teams. A nudge incorporates a statement highlighting the institutions support of evidenced based practices.
2. Time Pressure / Cognitive Load – The revised tool automatically calculates *Wells' Criteria for Pulmonary Embolism* and suppresses itself when no behavior change is required.
3. Gestalt Includes Wells' – Clinicians expressed a belief that they were able to estimate risk without formal use of the tool. Automatic calculation provides feedback on their ability to do so.
4. Social Pressure – A social comparison nudge at the top of the tool compares their performance to colleagues.

Conclusion: Clinicians highlighted several important psychological and behavioral barriers to CDS use. Addressing these barriers facilitated the development of a tool with greater potential to transform clinical care.

Symposium 1C

MECHANISMS IN BODILY DISTRESS AND PERSISTENT SOMATIC SYNDROMES AND RELATED INTERVENTIONS IN BEHAVIORAL MEDICINE

Various bodily complaints such as pain, fatigue, bowel dysfunctions, or even tinnitus as an auditory perception in the ears or head are poorly or not related to any observable physiological dysfunction or medical disease factor. This type of bodily symptoms is very prevalent and of high relevance for the health care systems. Frequently, affected individuals experience that several somatic symptoms occur together and result in chronic disabling disorders. A number of factors are now known to be associated with somatic symptom disorders. In contrast, the processes leading to chronic complaints are still not sufficiently understood. In this symposium, we address such mechanisms and treatments from the field of behavioral medicine that target the supposed processes.
First, an ecological momentary assessment study (Hennemann et al.) shows that negative affectivity is related to subsequent symptom burden and the specific affective dyamics in somatic symptom disorder, suggesting affect-driven modulation of somatic signal processing as an important mechanism.
The next paper (Kleinstäuber et al.) highlights the important role of psychosocial variables in the transition from acute to chronic tinnitus. In addition to reports of other physical symptoms, specific cognitions such as health-related control beliefs and stress experiences were found to be predictors of tinnitus intrusiveness six months after symptom onset.

Physiological and interoceptive changes in heart rate variability biofeedback were investigated in an experimental study (Krempel et al.). Recent clinical trials show the beneficial outcome of the treatment in conditions characterized by bodily distress as well as in mental disorders. Less studied are the change mechanisms of the method, such as psychophysiological or emotion regulation. The present study shows self-regulation of heart rate variability, and a greater reduction in arousal, however no specific effects on interoception.

Cognitive behavioral therapy (CBT) for somatic symptom disorders and bodily distress focuses more on other mechanisms such as cognitive processes and illness behavior, and some newer variants more directly on emotion regulation. The last paper presents a meta-analysis on the efficacy of CBT for chronic fatigue syndrome, with positive effects on several outcomes. The presentation also addresses the important question of the extent to which such treatments are accepted by those affected.

Overall, the parallels between the mechanisms involved in the different somatic symptom patterns are becoming clearer. A better understanding of the underlying mechanisms will form the basis for further improvements in treatment and will be discussed in the symposium.

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EMOTION DYNAMICS AND SOMATIC SYMPTOMS IN EVERYDAY LIFE: ECOLOGICAL MOMENTARY ASSESSMENT IN SOMATIC SYMPTOM DISORDER AND HEALTHY CONTROLS

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Background: Negative affectivity (NA) has been identified as an important aspect of somatic symptom perception and is considered a vulnerability factor for the emergence and maintenance of functional somatic symptoms.

Purpose: This study investigated the temporal dynamics of somatic symptom burden and NA using ecological momentary assessment (EMA) in adults with somatic symptom disorder (SSD) and healthy control participants (HC).

Method: Participants underwent a seven-day, smartphone-based EMA, with 6 randomly-stratified time points per day (maximum of 42 assessments). NA was assessed using a five-item short form of the Positive and Negative Affectivity Scale (PANAS) and somatic symptom burden with two self-constructed items. 22 persons with SSD and 21 HCs (mean age 36.30, SD 14. 79, 67.4% female) were included in multilevel analyses.

Results

Within-person analyses showed a significantly stronger (positive) association of concurrent NA with somatic symptom burden in participants with SSD than in HCs, = 0.15, SE = 0.04, p = 0.001. Time-lagged analyses demonstrated that, across groups, NA at one timepoint was positively associated with somatic symptom burden at the subsequent timepoint, = 0.09, SE = 0.03, p = 0.005, but not vice versa (p = 0.830). Both inertia (i.e., decreased reactivity), d = 0.74, and instability (i.e., moment-to-moment fluctuations), d = 0.76 of NA were significantly higher in participants with SSD than in HCs.

Conclusions: Our findings sustain the idea of (negative) affect-driven modulation in somatic signal processing and suggest that interoceptive and emotional and interoceptive differentiation training can advance the psychotherapeutic treatment of SSD.

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EVALUATION OF PHYSIOLOGICAL AND INTEROCEPTIVE CHANGES IN HEART RATE VARIABILITY BIOFEEDBACK

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Background. Heart rate variability biofeedback (HRV-BF) is a self-regulation method and showed beneficial effects, e. g. in depression or pain. Some studies found both changes in psychopathology and HRV, while other found changes in psychopathology only. Evidence on assumed psychophysiological mechanisms of action is limited and inconsistent. Moreover, studies examining psychological change mechanism (e.g. interoception) of HRV-BF are still missing.

Purpose. The aim of the study is the evaluation of change mechanisms (HRV, mood, interoception) in HRV-BF.

Methods. A total of 70 healthy subjects (77.1% female, age: M = 26 years) were randomly assigned to one session HRV-BF or a control group (CG) watching a neutral film. We examined subjective states and interoception (cardiovascular signal detection task) before and after the HRV-BF/film, and parameters of HRV before, during and after the HRV-BF intervention. Effects are tested by ANOVAs. The study has been preregistered at OSF: https://doi.org/10.17605/OSF.IO/S45Z9

Results. In a preliminary analysis, HRV-BF and CG did not differ in their interoception or mood before and after the intervention. Both groups improved their interoceptive sensitivity. HRV-BF resulted in a greater reduction in arousal and tension (ps 0.01). Moreover, HRV-BF participants increased their HRV within the biofeedback episodes and were able to maintain HRV during self-regulation episode without feedback.

Conclusion. The results suggest that HRV-BF is beneficial to improve HRV and reduce tension and arousal, but does not show superiority in improving interoception and mood after one session. Therefore, it is necessary to examine the effects of HRV-BF intervention with more sessions.

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PREDICTING THE TRANSITION FROM ACUTE TO CHRONIC DISABLING TINNITUS

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Background: Tinnitus is an auditory perception in the ears or head in the absence of an external stimulus. Approximately 20% of tinnitus sufferers develop a chronic, disabling tinnitus.

Purpose: The central aim of our study was to determine psychological characteristics to identify individuals with acute tinnitus who are at risk to develop a chronic, disabling auditory symptom.

Method: Applying a longitudinal study design, we examined 71 participants within 3 months of their tinnitus onset and followed them up three and six months post tinnitus onset. We measured tinnitus intrusiveness at all three assessment points and various psychosocial variables at baseline that have been demonstrated to be related to tinnitus severity in previous cross-sectional studies.

Results: Spontaneous remission of the tinnitus was 5.6% and 4.2% at 3- and 6-month follow-up, respectively. Tinnitus intrusiveness at the 3-month follow-up was significantly predicted by symptoms of depression, physical symptom report, external health locus of control, subjective stress experience, anxiety sensitivity, and individuals tendency to seek medical help for minor health problems at tinnitus onset (0.289r.391). Symptom report, experience of stress and external health locus of control at tinnitus onset remained significant predictors of tinnitus intrusiveness six months post tinnitus onset (0.267r.292).

Conclusions: Our results demonstrate that psychosocial variables play an important role in the transition from an acute to a chronic disabling tinnitus; experience of stress, the report of multiple somatic symptoms, as well as individuals perceived dependence on a powerful external person (e.g., physician) in particular.

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EFFICACY AND ACCEPTANCE OF COGNITIVE BEHAVIORAL THERAPY IN ADULTS WITH CHRONIC FATIGUE SYNDROME—A META-ANALYSIS

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Background: The best-established psychological treatment for chronic fatigue syndrome (CFS) is cognitive behavioral therapy (CBT). Since the publication of the latest meta-analyses, several trials have been published providing new information. Hence, the available research syntheses on efficacy are outdated. Furthermore, there is no meta-analytical aggregation on acceptance of these interventions.

Purpose: The first aim of the meta-analysis is to examine the efficacy of CBT in adults with CFS on several outcomes. Secondly, we explore in which phase of trials patients are most likely to drop-out (preregistration: https://osf.io/2je7u).

Methods: We included RCTs that investigated CBT for adults with CFS compared to inactive control groups. First, we examined efficacy, considering fatigue, depression, anxiety, and perceived health status. Secondly, we analyzed drop-out according to the primary study definition, and the average of modules completed.

Results: We identified 17 studies (n = 2525). The effect on fatigue at post-treatment was g = -0.7906 (95%CI -1.2562, -0.3251), indicating a significant symptom reduction in favor of CBT. The secondary outcome effects were significant as well. Based on the study authors definition, we found a drop-out rate of 21% (95%CI 11%, 36%) for face-to-face CBT, and a high average session completion rate of 90.1% (95%CI 79.2%, 95.6%).

Conclusion: The results indicate that CBT is an effective therapy for CFS improving primary symptoms of fatigue, fatigue related impairment, depression, and anxiety. Conclusions on efficacy at follow-ups are still limited. Reasons for treatment discontinuation need to be further analyzed. However, adherence is high among those who received CBT.

Symposium 2A

ADVANCING INTERNATIONAL EVIDENCE AND KNOWLEDGE TRANSLATION TO SUPPORT HEALTH PROFESSIONALS AS AGENTS OF BEHAVIOUR CHANGE

A primary strategy for improving health involves behaviour change. Health professionals have a key role as agents of change, by supporting people to make changes in the behaviours crucial to improving and maintaining health and well-being, at all stages of healthcare. Theory and evidence-based interventions can encourage and support health professionals as agents of change, but there are often barriers to implementing and delivering these into practice, including health professional knowledge, skills, professional identity, target behaviours, context and scale. Objectives: This symposium aims to identify some key theoretical and pragmatic components influencing successful health professional delivery of behaviour change interventions, together with barriers to, and facilitators of their implementation, in different contexts, and at different levels of scale. Keyworth et al. explore the effectiveness of an online intervention to support health professional delivery of behaviour change interventions for patients who might benefit, carried out in the NHS in England during routine medical consultations. The study presents data from an RCT which evaluates use of an online theory-based intervention to change behaviour compared with a control condition. Byrne et al. conducted a programme of research to reduce the 'evidence into practice' gap in implementation of the 'Making Every Contact Count (MECC)' Programme, a national programme in Ireland training health care professionals to deliver brief behavioural interventions. The research, using a partnership and co-production approach, involved three studies, including a national survey of health professionals, qualitative interviews, and a final two-stage consensus study. Results identify enablers and barriers to delivering behavioural interventions in practice and MECC implementation, providing co-produced recommendations to optimise MECC implementation. Swanson et al. describe a mixed-methods evaluation of a national health behaviour change programme of training for people delivering health and social care across a range of professional groups and contexts in Scotland. The programme uses the MAP (Motivation, Action, Prompts) approach, offering knowledge and skills training in different modalities. The evaluation describes programme engagement, and identifies barriers and facilitators of effective implementation into practice. Dombrowski et al. describe health professional involvement in the co-design of a theory-based text message intervention, aiming to increase physical activity and exercise when post-stroke rehabilitation ends. The intervention involves handover from health professional to self-care, designed to avoid the 'cliff-edge effect' and feeling of abandonment when people leave services. Differences in the content of health professional style and approach in interacting with people to encourage self-care will be discussed.

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'IT HAS SIMPLIFIED WHAT I DO': EVALUATING MAP – A NATIONAL BEHAVIOUR CHANGE TRAINING PROGRAMME FOR HEALTHCARE

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Background: Scotland is a small country with large-scale health problems, including high rates of obesity and non-communicable diseases. A mixed methods evaluation of implementation of MAP- a national health professional training programme in evidence-based health behaviour change, using Motivational, Action-based and Prompting and cueing techniques is described.

Purpose: Evaluate implementation of a blended learning programme aiming to embed health behaviour change skills in practice for a range of professionals in health and social care contexts across Scotland.

Method: The MAP Programme includes a core set of 12 evidenced behaviour change techniques and communication skills delivered in an online module, face-to-face/digital workshops and training for trainers. Quantitative data evaluated module completion, pre-post attainment of workshop learning outcomes and training and activity of trainers over 3 years. Qualitative interview data on barriers, facilitators and impact of use of MAP in day-to-day practice was obtained, sampling workshop attenders and trainers.

Results: The MAP module was accessed by over 4250 practitioners including primary care, health improvement, pharmacy, and disease-management. There were 450 workshop completers and over 70 trainers. Knowledge and confidence in learning outcomes increased at follow-up (p.001). Qualitative interview data (12 attenders, 8 trainers) found MAP techniques helpful and easy in day-to-day practice, with positive patient feedback, but identified barriers, including time, resource, self-efficacy and management support.

Conclusions: This national programme achieved wide reach and successful implementation across a range of professional roles. Future patient data regarding implementation of specific techniques would help to target implementation to where it works best.

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REDUCING THE EVIDENCE-PRACTICE GAP IN HEALTHCARE THROUGH PARTNERSHIP AND COPRODUCTION: OPTIMISING THE IMPLEMENTATION OF THE NATIONAL MAKING EVERY CONTACT COUNT PROGRAMME IN IRELAND

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Background Rapidly increasing rates of chronic disease are a global societal challenge, which can be addressed by changing health-related behaviours. Brief behavioural interventions delivered by health professionals can support people to modify their health behaviour. The Making Every Contact Count (MECC) programme is a national programme in Ireland to train healthcare professionals to use brief behavioural interventions. Implementation, however, is suboptimal and an evidence-base is lacking.

Purpose We aimed to (1) understand current enablers and barriers of MECC implementation and (2) co-produce evidence-based recommendations to enhance MECC implementation.

Method Three studies:

(1) a survey based on the Theoretical Domains Framework (TDF) of 357 healthcare professionals who had completed the MECC training;
(2) a qualitative interview study with 36 health care professionals and HSE staff with a role in MECC implementation to further understand barriers and enablers;
(3) a two-phase consensus study, with an online consultation (23 stakeholders) and a consensus meeting (17 stakeholders) to agree implementation strategies.

Results Enablers and barriers to MECC implementation were identified in the following TDF domains: environmental context, goals and intentions, knowledge, professional role, beliefs about consequences, beliefs about capabilities and skills practice. Through the consensus process, nine implementation strategies were agreed. We co-produced a policy brief containing our recommendations to disseminate to policy makers.

Conclusion (s) We successfully co-produced a policy brief with evidence-based recommendations to improve the implementation of MECC. A partnership and co-production approach has been central to the success of this research and will increase the likelihood of translation into practice.

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CO-DESIGN OF A TEXT MESSAGE INTERVENTION TO INCREASE PHYSICAL ACTIVITY WHEN POST-STROKE REHABILITATION ENDS: THE KATS STUDY (KEEPING ACTIVE WITH TEXTING AFTER STROKE)

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Background After stroke rehabilitation people often struggle to undertake physical activities that support their recovery and health. Text messaging, used as an intervention, can reach large numbers of people at low cost.

Purpose To collaborate with people with stroke and health professionals to co-design a text message intervention to promote post-rehabilitation activity.

Method A four-step framework was used: formative research on physical activity post-stroke; creation of a behaviour change intervention; pre-testing; and refinement. Intervention development, described here, involved collaborative working with health professionals and people with stroketo identify what people want and need from an intervention. The Health Action Process Approach was used to structure the intervention. Key components included: increasing motivation for activity; goal setting and planning of activities; self-monitoring; coping planning; and maintenance of regular activity. Components were explained and modelled through text messages, using evidence based Behaviour Change Techniques.

Results A series of 95 messages was created for delivery over 12 weeks by a computer programme. Messages used conversational language to encourage engagement. Some asked questions on current activities. Quotes from people with stroke modelled behaviours, providing encouragement and authenticity. Some messages were personalised to include participants names. Health professionals reviewed and refined draft messages, prior to acceptability testing.

Conclusion Co-design processes facilitated the development of an intervention with a strong theoretical and empirical base that addresses the needs of people with stroke and aligns with the focus of health professionals rehabilitation practice. This intervention can provide daily contact to promote physical activity and boost motivation.

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EXPLORING THE EFFECTIVENESS OF AN ONLINE INTERVENTION TO SUPPORT HEALTH PROFESSIONALS' DELIVERY OF HEALTH BEHAVIOUR CHANGE INTERVENTIONS

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Background Health professionals are an expected and trusted source of health behaviour change advice, and public health policies encourage delivery of behaviour change interventions during routine consultations. Research suggests the COVID-19 pandemic may have impacted the delivery of interventions, due to wide scale changes in how healthcare is delivered to patients. One promising area are the new opportunities created by new technological approaches to healthcare consultations.

Purpose To test whether an online theory-based intervention (based on implementation intentions) could lead to significant changes in the delivery of health behaviour change interventions by health professionals during routine medical consultations.

Method This was a two-arm pilot randomised controlled trial. Health professionals (N = 1008) were randomly allocated either to form implementation intentions using a volitional help sheet (intervention group) or to use the volitional help sheet to think about critical situations and appropriate responses but not form implementation intentions (control group). The main outcome was delivery of behaviour change interventions at one-month follow-up. Data were analysed using descriptive statistics and binary logistic regression.

Results At one-month follow-up, results showed that health professionals in the intervention condition were more likely to deliver an intervention compared to health professionals in the control condition (OR = 2.35, 95%CI = 1.33–4.15, p.01).

Conclusions Our findings suggest a theory-based intervention has the potential to improve delivery of behaviour change interventions by health professionals. Future work should aim to understand the barriers and enablers to implementation of the intervention as part of routine healthcare delivery.

Symposium 2B

LET'S TALK ABOUT SIDE EFFECTS: TRANSLATIONAL ASPECTS OF NOCEBO RESEARCH

Fear of side effects and adverse treatment experiences often result in negative treatment expectations. These negative expectations can contribute to side effect load via the nocebo effect thereby increasing burden on patients and leading to poorer treatment outcomes. We present current evidence regarding potential nocebo mechanisms and strategies to mitigate these effects, such as type of risk information, framing, and personality characteristics. We focus on clinical and applied settings with implications for public health communication, including decision-making for prescription drugs and COVID-19 vaccinations. Kate Faasse will report results of an experimental study (N = 108) ostensibly testing the influence of modafinil on cognitive performance. In reality, all treatments were placebos, and it was tested whether providing incremental risk information versus standard risk information reduces nocebo effects. Although nocebo effects were induced, incremental risk information did not reduce negative expectations or symptoms experienced compared to standard information. A follow-up experiment indicated that framing incremental risk information may influence negative expectations. Yvonne Nestoriuc will present a prospective cohort involving 1.678 individuals receiving COVID-19 vaccinations. Vaccine side effects were measured for 7 consecutive days via a mobile app. The risk for severe side effects was higher for persons expecting a low benefit of vaccination, expecting higher side effects, having experienced higher symptom burden at first vaccination and in those scoring higher on Somatosensory Amplification. Negative expectations and prior experiences constitute risk factors for side effect from COVID-19 vaccination. Ben Colagiuri will present data from a series of studies investigating the extent to which positive framing can reduce concerns regarding side effects from COVID vaccinations and thereby increase intention to receive vaccinations. These data suggest that positive framing, whereby information is presented about the risk of not experiencing the side effect reduces side effect concerns and increases COVID vaccine intentions for unfamiliar, but not familiar vaccinations. Winfried Rief will elaborate on how to change negative treatment expectations. Drawing on basic psychological science, experimental and longitudinal studies to optimize expectation violation situations were designed. We investigated how to increase the credibility of the person who provides the more positive information to people with negative treatment expectations in a study including 700 participants (290 with a history of psychotherapy). Subjective warmth and competence seem to play a significant role. However, the expectation of moderate side effects can also booster positive treatment expectations. Recommendations are outlined how to optimize clinical interactions with people with negative treatment expectations.

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NEGATIVE EXPECTATIONS AND PRE-EXPERIENCES PREDICT SIDE EFFECTS OF COVID-19 VACCINATION: A PROSPECTIVE COHORT STUDY

Prof. Yvonne Nestoriuc[1, 2], Dr. Jan Hendrik Oltrogge[2], Dr. Ingmar Schäfer[2], Dr. Claire Warren[2], Prof. Stefanie Brassen[2], Mr. Maximilian Blattner[2], Dr. Dagmar Luehmann, Dr. Alexandra Tinnermann[2], Prof. Martin Scherer[2], Prof. Christian Buechel[2]
[1]Helmut-Schmidt-University, Hamburg, Germany, [2]University Medical Center Hamburg-Eppendorf, Hamburg, Germany

Background: Uptake of COVID-19 vaccination is strongly influenced by concerns about side effects. Research on the nocebo effects suggests that these concerns can amplify side effects.

Purpose: We investigate whether positive and negative expectations prior to COVID-19 vaccination influence side effects.

Method: This prospective observational study, analyses the effect of expected benefits and risks of vaccination, side effects at first vaccination, and observed side effects in close persons on severity of side effects in individuals receiving second dose of mRNA-based vaccines. Primary outcome was a severity index of systemic side effects in twelve symptom areas measured once daily with an electronic symptom diary using the mobile app m-Path over seven consecutive days.

Results: A total of 10,447 observations from 1,678 individuals receiving vaccinations (77.3% BNT162b2, 22.7%mRNA-1273) were collected. The risk for more severe side effects was higher for persons expecting a lower benefit of vaccination (OR = 0.72,95% CI = 0.63/0.83,p0.001), expecting higher adverse effects of vaccination (OR = 1.39,95% CI = 1.23/1.58,p0.001), having experienced higher symptom burden at first vaccination (OR = 1.60,95% CI = 1.42/1.82,p0.001), scoring higher in Somatosensory Amplification (OR = 1.21,95% CI = 1.06/1.38,p = 0.004), and if the vaccine mRNA-1273 (OR = 2.45,95% CI = 2.01/2.99,p0.001) was given rather than BNT162b2. No effects were seen for observed experiences.

Conclusions: Nocebo effects occur in the in the first week after COVID-19 vaccination. Side effects are not only caused by vaccine specific reactogenicity but also by negative pre-experiences and expectations regarding vaccination, and by higher symptom misattribution. Clinician-patient interactions and public campaigns may both benefit from these insights by optimizing and contextualizing information provided about COVID-19 vaccines.

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HOW TO CHANGE NEGATIVE TREATMENT EXPECTATIONS? THE ROLE OF THERAPIST'S WARMTH AND COMPETENCE

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Background: Negative treatment expectations are a major predictor of nocebo effects, treatment failure, low treatment adherence and premature treatment discontinuation. Therefore, focused short-term interventions need to be developed to improve negative outcome expectations.

Purpose: Experimental investigations of feasible, video-based interventions to improve outcome expectations.

Methods: In a sample of 700 participants (290 with a history of psychotherapy participation), we established a scenario about participation in a stress management program. First, negative treatment expectations were induced by a pretended psychotherapy patient, who reported low treatment efficacy. After establishing negative treatment expectations, a video-based psychotherapy section was shown. The psychotherapist always provided the same information, but following 4 experimentally varied conditions, the psychotherapist varied in terms of warmth and subjective competence.

Results: If psychotherapists provide new information without showing warmth or competence, this does not lead to a change of negative treatment expectations. Both warmth and competence can improve the effect of expectation change, and the combination of both features shows the strongest effects.

Conclusion: The credibility of the sender of new information is crucial to change negative treatment expectations.

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CAN POSITIVE SIDE EFFECT FRAMING DECREASE COVID-19 VACCINATION SIDE EFFECT CONCERNS AND INCREASE BOOSTER INTENTIONS?

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Background: Side effect information can trigger negative expectancies that exacerbate side effects via the nocebo effect. These nocebo-induced side effects have been shown to contribute to the burden of COVID-19 vaccination side effects and concerns about such side effects have been found to reduce intentions to receive these potentially life-saving vaccinations.

Purpose: To determine whether positive framing of side effect information can reduce side effect concerns and increase COVID-19 booster vaccination intentions.

Methods: Two pre-registered studies (total N = 2,419) compared the effect of positive side effect framing (e.g. 9 in 10 people are not affected) with standard negative side effect framing (e.g. 1 in 10 people are affected) on side effect concerns and intentions to receive familiar and unfamiliar COVID-19 vaccinations.

Results: Positive framing decreased side effect concerns and increased booster intentions overall. However, two moderators of this effect emerged. First, positive framing appeared to be more effective for less familiar vaccinations (i.e. those not previously received or not widely available in the relevant country). Second, positive framing appeared to be more effective when baseline intentions to receive a booster vaccination were lower.

Conclusions: These findings suggest that positive framing could be a relatively cheap, ethical, and scalable method to reduce nocebo-induced side effects and increase intentions to receive potentially life-saving COVID-19 vaccinations.

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INCREMENTAL RISK INFORMATION ABOUT SIDE EFFECTS, EXPECTATIONS, AND NOCEBO EFFECTS

Dr Kate Faasse[1], Mrs. Bianca Ton[1]
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Background. Nocebo effects are unpleasant side effects not caused by a treatment itself, but by negative expectations of the treatment. Side effect information provision may influence expectations and subsequent nocebo effects.

Purpose. The current study tested the utility of incremental risk information provision.

Method. Experiment 1 (N = 108) ostensibly tested the influence of modafinil (actually placebo) on fatigue and cognitive performance. Participants were randomised to no treatment control, placebo with standard side effect information, or placebo with incremental risk information. Side effects were presented as either standard total risk (34/100 people experience headache) or incremental risks which differentiate the experience of common unrelated symptoms from the additional risk caused by the drug (23/100 people experience headache without modafinil, 11 additional people experience headache after modafinil). Ratings of symptoms described as possible side effects were summed.

Results. Participants who took a placebo treatment reported higher symptoms scores than those in the control group, indicating that nocebo effects were induced. Incremental risk information did not reduce negative expectations or symptoms compared to standard information. A follow-up experiment indicated that how unrelated symptoms are framed in the incremental risk information condition can influence negative expectations.

Conclusion. The results suggest that incremental risk information provision did not reduce nocebo effects, but that this may be due to how unrelated symptoms were framed. Relatively subtle shifts in information provision can influence negative expectations. Careful consideration should be given to information framing in interventions to reduce nocebo effects.

Symposium 2C

POST INFECTIOUS FATIGUE FOLLOWING COVID-19: DEFINITION, ASSOCIATED SYMPTOMS AND TREATMENT

There has been increasing attention paid lately to the long-term sequelae of acute COVID-19, often referred to as long-COVID or post-acute sequelae of COVID (PASC). Fatigue is among the most prevalent symptoms reported following COVID-19, and it can be severe, leading to functional impairment. Post COVID-19 fatigue is reported by some up to 1 year following acute infection, suggesting a chronic course in this subset of patients. Persistent, severe fatigue is a common symptom following other infectious diseases as well (post-viral fatigue [PVF]) and can be associated with other symptoms such as memory impairment, trouble concentrating and sleep problems. PVF also overlaps with other fatigue syndromes, such as myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS). This symposium, organized by the international scientific Collaborative on Fatigue Following Infection (COFFI), will focus on PVF following COVID-19. The definition of long-COVID and the similarities and differences with other fatigue syndromes will be discussed, and data on symptoms associated with PVF following COVID-19 and the efficacy of a behavioral intervention will be presented.

Since PASC, PVF and ME/CFS have no diagnostic tests, how they are defined is critical, both for research and generalizability purposes, as well as clinically. Therefore, in the first presentation, different proposed case definitions of PASC will be discussed and critiqued. In addition, the importance of exclusionary criteria will be highlighted.

Persistent fatigue and insomnia have overlapping features. In the second presentation data will be presented on the prevalence of insomnia in patients with PVF following COVID-19. The sleep characteristics of patients with PVF will be compared with those of patients with ME/CFS. The clinical implications of the findings for management of fatigue will be discussed.

The third presentation will focus on the long-term neuropsychological functioning of patients following COVID-19. Data will be presented regarding persistent fatigue and memory/concentration impairment in individuals following acute COVID-19 vs those without these complaints.

The final presentation will focus on treatment. Cognitive behavioral therapy (CBT), targeting factors assumed to maintain fatigue, has been shown to be effective in reducing severe fatigue in patients with PVF and other long-term medical conditions. Long-term outcomes of CBT however are mixed. In this final portion of the symposium the results of the ReCOVer study will be presented. ReCOVer is a randomized controlled trial investigating the efficacy of CBT directly post-treatment and at six months follow-up for severe fatigue following COVID-19, as compared to care as usual.

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ESTABLISHING A CONSENSUS ON ME/.CFS EXCLUSIONARY ILLNESSES

Dr. Ben Katz[1], Dr. Leonard Jason[2], Dr. Benjamin Natelson[3], Ms. Suvetha Ravichandran[2], Dr. Hector Bonilla[4]
[1]Northwestern University Feinberg School of Medicine, Chicago, USA, [2]DePaul University Center for Community Research, Chicago, USA, [3]Mount Sinai, New York, USA, [4]Stanford University, Stanford, USA

Background: There has been increasing attention paid lately to the long-term sequelae of acute COVID-19 infection, often referred to as long-COVID or post-acute sequelae of COVID (PASC). Fatigue is among the most prevalent symptoms reported following covid, and it can be severe, leading to functional impairment. Post-COVID-19 fatigue is reported by some up to 1 year following acute infection, suggesting a chronic course in this subset of patients. Persistent, severe fatigue is a common symptom following other systemic infectious diseases as well (post-viral fatigue [PVF]) and can be associated with other symptoms such as memory impairment, trouble concentrating and unrefreshing sleep. PVF also overlaps with other fatigue syndromes, such as myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS).

Purpose: The definition of long-COVID, the similarities and differences with other fatigue syndromes and the importance of exclusionary criteria will be discussed and examined.

Method: Exclusionary conditions were listed for several prominent ME/CFS case definitions. Symptoms were also identified as exclusionary by several physicians with experience in diagnosing ME/CFS. Input was also solicited from representatives from the patient community.

Results: Once overlapping illnesses were eliminated, a considerably briefer set of exclusionary conditions was identified.

Conclusion: It is important for ME/CFS researchers to select uniform medical conditions to exclude from their definitions so that patient samples across different studies are consistent and generate generalizable ME/CFS findings. This list can be applied to ME/CFS case definitions in order to enhance the reproducibility of identifying patients with ME/CFS for research studies.

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INSOMNIA AND SLEEP CHARACTERISTICS IN POST COVID-19 RELATED FATIGUE: A CROSS-SECTIONAL STUDY

Mrs. Nynke Rauwerda[1,2], Ms. Tanja Kuut[1,3], Dr. Annemarie Braamse[1,3], Mrs. Irene Csorba[1], Dr. Pythia Nieuwkerk[1,3], Prof. Annemieke van Straten[3,4], **Prof. Hans Knoop**[1,3]
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Background: Following COVID-19 a substantial number of patients report persistent fatigue and insomnia. As these symptoms have overlapping features, insomnia can be easily underdiagnosed in post-viral fatigue (PVF) following COVID-19.

Purpose: To determine the prevalence of insomnia in patients with PVF following COVID-19 and investigate their sleep characteristics. Data of patients with PVF were compared with those of patients with ME/CFS, a condition also characterized by persistent fatigue.

Methods: In this cross-sectional study insomnia severity, assessed with the Insomnia Severity Index (ISI), and prevalence of clinical insomnia (ISI score 10), were determined in patients with PVF ($n=114$) and compared with MR/CFS patients ($n=59$). Linear regression analyses were used to evaluate which symptoms and diagnosis (PVF following COVID-19 or CFS/ME) were associated with insomnia severity. Sleep characteristics assessed with sleep diary and accelerometer were determined in patients with PVF and compared with CFS/ME patients.

Results: In patients with PVF following COVID-19 the mean (SD) insomnia severity was 11.46 (5.7) and prevalence of clinical insomnia was 64%. Both did not differ significantly with CFS/ME. In PVF insomnia severity was significantly associated with depressive symptoms ($=0.49$, $p=0.006$) and higher age ($=$—0.08, $p=0.04$). Mean subjective sleep duration in hours was 7.39 (1.00), sleep onset latency 0.97 (0.62) and wake after sleep onset 1.24 (0.72).

Conclusions: Insomnia severity and prevalence of clinical insomnia is high in PVF following COVID-19 and given its characteristics is likely to be responsive to insomnia related therapy. Insomnia should be assessed and if present treated.

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PERSISTENT FATIGUE AND CONCENTRATION PROBLEMS AFTER COVID-19 ARE ASSOCIATED WITH SPECIFIC COGNITIVE DEFICITS

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Background: Persistent fatigue and concentration problems are frequently reported after COVID-19.

Purpose: To compare long-term neuropsychological functioning between individuals with and without subjective persistent fatigue and concentration problems after COVID-19.

Method: The VeCosCO study included individuals with and without persistent fatigue (Checklist Individual Strength(CIS) fatigue score35) and concentration problems (CIS concentration score18) at least 3 months after infection. The following neuropsychological tests were administered: Test of Memory Malingering (TOMM)(performance validity), Stroop 1, 2, and Color-Word Test (working speed, cognitive interference), Controlled Oral Word Association Test (verbal fluency), Trial Making Test (TMT)(mental flexibility, processing speed), Rey Auditory Verbal Learning test (memory), D2 test (sustained attention), Digit Span Test (DST)(memory), letter and animal fluency (language skills) and the Rey Complex Figure test (visuo-construction). T-scores, adjusted for age, sex and education level, were calculated. A T-score36 was defined as abnormal. Kruskall-Wallis and Chi2 tests were performed to determine group differences in neuropsychological test T-scores and dichotomous outcomes.

Results: Until November 1st 2022, 114 individuals were included. Individuals with persistent fatigue and concentration problems ($n=69$) were significantly younger and had less often been admitted to an ICU ward than those without ($n=45$). Individuals with persistent complaints showed more frequently abnormalities on the TOMM, DST-forward, Stroop, TMT-B, letter and animal fluency (p0.05) than those without.

Conclusions: Persistent complaints are associated with deficits in various cognitive domains: attention, executive functioning and semantic and letter fluency, but not with memory and visuo-constructive functions. These findings suggest a cognitive phenotype associated with persistent complaints after COVID-19.

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EFFICACY OF COGNITIVE BEHAVIOURAL THERAPY FOR SEVERE FATIGUE POST-COVID-19

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Background: Severe fatigue following COVID-19 is prevalent and debilitating.

Purpose: To investigate the efficacy of cognitive behavioral therapy (CBT) for severe fatigue following COVID-19.

Method: A multicenter, 2-arm randomized controlled trial was conducted in the Netherlands with adult patients who were severely fatigued 3–12 months following COVID-19. Patients ($n=114$) were randomly assigned (1:1) to CBT or care as usual (CAU). CBT, targeting perpetuating factors of fatigue, was provided for a duration of 17 weeks. The primary outcome was the overall mean difference between CBT and CAU on the fatigue severity subscale of the Checklist Individual Strength, directly post CBT or CAU (T1), and after six months (T2). Secondary outcomes were differences in the proportion of patients meeting criteria for severe and/or chronic fatigue, differences in physical and social functioning, somatic symptoms and problems concentrating between CBT and CAU. Funded by The Netherlands Organization for Health and Research and Development, ZonMw; Netherlands Trial Register NL8947.

Results: Patients were mainly non-hospitalized and self-referred. Patients who received CBT were significantly less severely fatigued across follow-up assessments than patients receiving CAU (-8.8, (95% confidence interval (CI)) -11.9 to -5.8); P0.001), representing a medium Cohens d effect size (0.69). The between-group difference in fatigue severity was present at T1 -9.3 (95% CI -13.3 to -5.3) and T2 -8.4 (95% CI -13.1 to -3.7). All secondary outcomes favored CBT.

Conclusions: Among patients with severe fatigue, 312 months following COVID-19, those who received CBT had lower fatigue severity across follow-up assessments than those receiving CAU.

Symposium 3A

THE WHY AND HOW OF INTERVENTION OPTIMIZATION: EXAMPLES OF PROJECTS USING THE MULTIPHASE OPTIMIZATION STRATEGY (MOST)

Across public health priorities, there has been an increasing interest in optimizing our often costly and burdensome multicomponent interventions. One framework for doing so, the multiphase optimization framework (MOST), an innovative, engineering-inspired framework, has gained traction with funders and behavioral scientists alike. The goal of MOST is to systematically and empirically identify an intervention that strategically balances effectiveness with affordability, scalability, and efficiency. The symposium will provide a high-level overview of MOST to orient the audience to the phases of MOST (Preparation, Optimization, & Evaluation) which will provide structure to understand 5 funded projects using MOST across a number of public health priorities.

In the preparation phase, the goal is to lay the groundwork for optimization – this includes developing a conceptual model and conducting pilot work. The symposium will highlight a study in which the team partnered with an mHealth company to investigate the optimal dose of virtual health coaching and heart rate variability biofeedback to improve employee stress and wellbeing. The talk will highlight how this Preparation phase work will determine what happens next.

In the Optimization phase the goal is to empirically identify the optimized intervention through an optimization trial. The symposium will feature three projects conducting optimization trials: (1) REDUCE, designed to optimize an app based mindfulness intervention to reduce stress from discrimination among sexual and gender minorities; (2) The Nudge study, a micro-randomized trial designed to optimize just-in-time adaptive intervention messaging to promote adherence to daily weight-related behaviors among young adults; and (3) Adaptive Goals and Interventions for Lifestyle Enhancement (AGILE) study, designed to systematically build an optimized, remotely delivered, just-in-time adaptive intervention for weight loss among young adults.

In the Evaluation phase, the effectiveness of the optimized intervention is compared to a suitable control. This symposium will feature the EVO study, a remotely conducted evaluation trial that investigates whether an optimized intervention is non-inferior to the Diabetes Prevention Program on weight loss outcomes.

The objective of the symposium is to inspire the audience to use MOST in their program of research. There will be time at the end for discussion as well as question and answer with presenters.

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"LET'S CIRCLE BACK": A PREPARATION STUDY TO SELECT THE RIGHT LEVELS OF HEALTH COACHING AND HEART RATE VARIABILITY BIOFEEDBACK

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Background: Work-related stress is related to poor job performance and negative health outcomes. Employers often hire corporate wellness providers to run programs to mitigate workplace stress and improve wellness behaviours. Optimizing corporate wellness programs may reduce company costs while improving stress and wellness.

Purpose: To select the candidate intervention components from a corporate wellness program to be included in a future optimization study.

Methods: The study is situated within the preparation phase of the MOST framework. It is a 2 × 2x2 × 2 design with four components: two types of health coaching and two types of biofeedback. All components were tested on or off. Adult office workers (N = 16; Mage = 40, 15 Women) completed an 8-week self-paced virtual stress management and wellness program and were randomly assigned to one of the 16 conditions. Assessments included web analytics, surveys, and interviews (on program recommendations, likes and dislikes).

Results: Finding from the interviews provided suggestions to improve the intervention (e.g., separate wellness from stress content) and to improve trial conduct (e.g., streamline onboarding process). On average, participants logged into the wellness program 83 times (range: 36–291). Participant retention (n = 12/16) and survey completion (n = 8/12) were lower than expected. There were no reported problems with coaching or obtaining data from the interviews and apps.

Conclusions: Results provided areas to improve intervention content and trial methods. Rather than moving to the next planned large-scale optimization phase, we plan to iterate through a second pilot phase after making changes to the protocol, apps, and corporate coaching partner.

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USING MICRO-RANDOMIZED TRIALS TO OPTIMIZE JUST-IN-TIME-ADAPTIVE INTERVENTION MESSAGING TO PROMOTE DAILY ADHERENCE TO WEIGHT-RELATED BEHAVIORS IN YOUNG ADULTS

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Background: Just-in-time adaptive interventions (JITAIs) can potentially improve weight-related behaviors by providing highly personalized messages. However, little evidence exists regarding the efficacy of different JITAI messages.

Purpose: We developed micro-randomized trials to optimize JITAI messages that target distinct behavior change techniques (i.e., BCT messages) and promote daily adherence to weight-related behaviors among young adults.

Method: Building on our pilot micro-randomized trial, we developed a 6-month behavioral intervention, which uses wireless scales, activity trackers, and a food log to deliver tailored BCT messages. We used the 93-item BCT Taxonomy to code BCT messages from our pilot trial for the presence of BCTs to guide intervention enhancements (e.g., refinements to decision rules that evaluate individuals availability for messages, improved BCT message specificity).

Results: The Nudge intervention is delivered using a mobile app with evidence-based weekly lessons, tailored feedback, self-monitoring, and BCT messages. Participants have 3 daily weight-related behavioral goals: weigh daily, meet an active minutes goal, and stay at/under a red food limit (energy dense foods). At 3 decision points per day, participants are micro-randomized to receive, or not receive, 1 of 7 types of BCT messages. Among 201 young adults with overweight or obesity, we are testing the effects of BCT messages on daily proximal outcomes: weighing (assessed by wireless scale), meeting an active minutes goal (assessed by activity tracker), or staying at/under a red food limit (assessed by in-app food log).

Conclusion: Findings from these micro-randomized trials will guide how BCT messages are incorporated into future JITAIs for weight loss.

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OPTIMIZING A MINDFULNESS-BASED INTERVENTION TO ALLEVIATE STRESS FROM DISCRIMINATION AMONG YOUNG SEXUAL AND GENDER MINORITIES

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Background: Sexual and gender minorities (SGM) between ages 18–29 experience proportionate poor mental health outcomes due to minority stress (e.g., discrimination), compared to their cisgender and heterosexual counterparts. Mindfulness may reduce the negative effects of minority stress on perceived stress and well-being among young SGM. In particular, those who practice these mindfulness activities may experience lowered perceived stress and increased well-being.

Purpose: We used the Multiphase Optimization Strategy (MOST) framework to develop and optimize a mindfulness intervention designed to address the negative impacts of exposure to minority stress on mental health among SGM. We used a factorial experiment to identify which of 4 mindfulness practice or combination of practices most effectively reduced perceived stress and increases life satisfaction SGM.

Method: Using The Healthy Minds Program (HMP), 80 young SGM of color were randomly assigned to 1 of 8 conditions reflecting all possible combinations of 3 mindfulness practices of awareness, connection, and purpose. Participants engaged in mindfulness activities (duration ranging from 5–15 min) over a 5-day period. Participants completed pre and post surveys.

Results: Our results indicated that young SGM assigned to the mindfulness practice of connection by itself experienced reduced perceived stress among between baseline and follow-up. For our secondary outcome of SWL, young SGM who were assigned to the mindfulness practices of awareness but not purpose had the highest percent change in SWL.

Conclusions: Our study provides preliminary evidence that the mindfulness-based practice of connection compared to the other mindfulness-based practices can be leveraged to reduced stress among SGM.

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OPTIMIZING A JUST-IN-TIME ADAPTIVE INTERVENTION FOR WEIGHT LOSS: RATIONALE AND DESIGN OF THE AGILE STUDY

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Background: In-person behavioral interventions for obesity generally produce clinically significant weight losses; however, cost and access limit their potential to reduce obesity at a population level. Although web-based interventions have proven a viable alternative treatment, weight losses are generally smaller than in-person treatment. Newer digital interventions called just-in-time adaptive interventions (JITAIs) promise to improve upon outcomes by offering highly adaptive, personalized messages, but experimental evidence is lacking as to what adaptations should be made.

Purpose: Describe the design of the Adaptive Goals and Interventions for Lifestyle Enhancement (AGILE) study.

Methods: We used the Multiphase Optimization Strategy (MOST) and completed Preparation Phase activities to design AGILE.

Results: The primary aim of AGILE is to build an optimized JITAI that yields the greatest improvement in weight change among 608 young adults at 6 months. Using a 25 factorial experiment, all participants receive a core intervention, including an app and digital health tools, and are randomized to standard versus more adaptive options of 5 additional intervention components: 1) diet monitoring approach (standard vs. simplified), 2) adaptive physical activity goals (weekly vs. daily), 3) decision points for message timing (fixed vs. adaptive), 4) decision rules for message content (standard vs. adaptive), and 5) message choice (no vs. yes). Assessments occur at 0, 3, and 6 months.

Conclusions

AGILE is the first study to use MOST to systematically build a JITAI for weight loss and has potential to improve public health through scalable, just-in-time support that accounts for individual variability in lifestyle and environmental contexts.

Symposium 3B

ANXIETY IN CARDIOVASCULAR DISEASE

Research generally indicates that anxiety predicts recurrent cardiovascular events. However, the working mechanisms are not totally clear. There are also some contradicting evidences showing that anxiety might actually increase motivation for seeking care and to participate in interventions and self-care. In this symposium we highlight the complexity of the anxiety concept and its relationship to cardiovascular disease.

In the first presentation Philip Leissner from Uppsala University (SWE) will present how different self-reported aspects of anxiety, namely behavioural, cognitive and physiological, are related to a composite of cardiovascular endpoints in a post-myocardial infarction (MI) cohort. The findings are in line with previous research suggesting that the main mechanisms between anxiety on CV prognosis are through behavioural and physiological pathways.

The implantable cardioverter defibrillator (ICD) is the treatment of choice for prevention of arrhythmias and sudden cardiac arrest. Living with an ICD has been associated with psychological distress, such as post-traumatic stress disorder (PTSD), which in previous studies has been associated with poor cardiovascular outcomes. In the second presentation Dr Mirela Habibovic from Tilburg University (NL) here presents new data where this associations between PTSD and later arrhytmias and all-cause mortality in patients with an ICD are reinvestigated with results that are in contrast to previous studies.

Self-care is important for patients with heart failure (HF). In the third presentation Professor Kenneth Freedland from Washington University School of Medicine (MO) will present secondary data on the relationships between anxiety and self-care from a cognitive behavioural therapy (CBT) trial for depression and anxiety in HF patients. They show that baseline levels of anxiety predict self-care maintenance and self-care management but not self-care conficence in patients with HF.

Internet-based CBT (iCBT) have shown mixed results in the treatment of anxiety and depression in patients with CVD. In the fourth presentation Professor Peter Johansson from Linköping University (SWE) will demonstrate how a newly developed iCBT program for treating depression in CVD patients improved both depression and anxiety. However, the effects on anxiety differed with regard to if the anxiety was related to distress (i.e. GAD) or fear (i.e. cardiac anxiety). The improvements in depression had a stronger association with GAD than compared to cardiac anxiety.

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EFFECT OF AN I-CBT DEPRESSION PROGRAM ON ANXIETY IN PATIENTS WITH CARDIOVASCULAR DISEASE

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Background: There is a knowledge gap regarding the effects of I-CBT on anxiety in CVD patients.

Purpose: To evalute the short and long tern effect of an 9 week I-CBT depression program on anxiety in CVD patients.

Methods: Secondary analyses of data from randomized controlled trial evaluating the effect of I-CBT (n = 72) compared to an online discussion forum (ODF) (n = 72) on depression in CVD patients. Anxiety was measured by the General Anxiety Disorder-7 item scale and the Cardiac Anxiety Questionnaire, hereafter labelled as cardiac anxiety. Data was collected at baseline, 9-week follow-up, and 6 and 12-months post treatment.

Results: At 9-weeks follow-up GAD had improved significantly more in the I-CBT group compared to the ODF (p = 0.01). The improvement at 9 weeks in the I-CBT group was maintained at 12 months post treatment (p = 0.27). Cardiac anxiety did not differ between the groups at 9 weeks follow-up (p = 0.19). However, at 12 months follow-up levels of cardiac anxiety in the I-CBT group were significantly lower compared to 9-week follow-up (p = 0.02) and baseline (p = 0.01). In the I-CBT group changes in GAD correlated strongly and significantly with changes in depression (r = 0.71, p = 0.001). For cardiac anxiety, the correlation with changes in depression was also significant (p = 0.001) but weaker (r = 0.49) as compared to GAD.

Conclusion: An I-CBT program for treating depression in CVD patients was also found to improve anxiety. Compared to cardiac anxiety, improvements in GAD had a stronger association to improvements in depression. Suggesting that cardiac anxiety may need other types of CBT techniques.

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ASSOCIATION OF ANXIETY AND RECURRENT CARDIOVASCULAR EVENTS: INVESTIGATING DIFFERENT ASPECTS OF ANXIETY

Mr. Philip Leissner[1], Dr. Erik Olsson[1], Prof. Claes Held[1, 2], Dr. Elisabet Rondung[3], Dr. Sophia Humphries[4]
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Background: Research generally indicates that anxiety predicts recurrent cardiovascular events. However, there are some contradicting evidence and it is unclear what the working mechanisms are. The prominent theories are that it works through behavioural and physiological pathways.

Purpose: This study aims to evaluate the association between anxiety and CV-morbidity and to compare different aspects of self-reported anxiety in their ability to predict CV-morbidity.

Method: Anxiety levels of 935 patients post Myocardial Infarction were assessed using the Hospital Anxiety and Depression Scale and the Cardiac Anxiety Questionnaire. Patients were followed for a mean period of 2.92 years, with the endpoint being a major adverse cardiac event. Hazard ratios were calculated using Cox regression analysis. Anxiety measures were compared based on c statistics, using the Delong test.

Results: The two anxiety questionnaires predicted increased risk for a major adverse cardiac event. There were varying risk associations among the subscales. The highest hazard ratios were those of self-reported arousal [HR = 1.41, 95% CI 1.17–1.69, p.001] and avoidance [HR = 1.44, 95% CI 1.23–1.69, p.001]. Self-reported worry did not predict risk [p.05] and hypervigilance had a weaker predictive ability [HR = 1.18, 95% CI 1.00–1.40, p = 0.048]. The avoidance measure also had a predictive ability that with a statistically significant difference from the other measures.

Conclusion: This study gives further evidence to support anxiety as a predictor for recurrent MACE. The aspects of avoidance and arousal seem to be more related to increased risk, while hypervigilance or worry seem to be less predictive.

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THE ASSOCIATION BETWEEN POST-TRAUMATIC STRESS DISORDER AND CARDIAC ARRHYTHMIA AND ALL-CAUSE MORTALITY IN IMPLANTABLE CARDIOVERTER DEFIBRILLATOR RECIPIENTS

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Background: The implantable cardioverter defibrillator (ICD) is the treatment of choice for prevention of arrhythmias and sudden cardiac arrest. Despite the survival benefit, living with an ICD has been associated with psychological distress, such as post-traumatic stress disorder (PTSD), which in turn is associated with poor cardiovascular outcomes. This study aimed to examine the association between PTSD and arrhythmias and mortality in first time ICD recipients.

Methods: A total of N = 543 patients were included in the analysis. Observational data from two study cohorts of first-time ICD recipients were merged. Patients completed the Posttraumatic Diagnostic Scale (PDS) three months post-implantation and were followed for up to 7 years for data on arrhythmias and mortality. Respectively, Logistic regression analysis and Cox Regression analysis were performed to answer the research questions.

Results: Logistic regression analysis did not uncover a significant relationship between PTSD and experienced arrhythmias (OR = 1.01, 95% CI = 0.98–1.05; p = 0.476) during the 7 year follow-up. Also a non-significant association between PTSD and all-cause mortality was not observed (HR = 1.00; 95% CI = 0.97–1.03; p = 0.953). The results did not change after adjusting for demographic, clinical and psychological covariates.

Conclusion: Current findings show that PTSD is not association with arrhythmias and all-cause mortality in ICD recipients. As the findings are not in line with previous studies it is important to examine this association in future studies and further elucidate the underlying mechanism between PTSD and cardiovascular outcomes.

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ANXIETY AND SELF-CARE IN PATIENTS WITH HEART FAILURE

Prof. Kenneth Freedland
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Background: Anxiety and depression are common in patients with heart failure (HF) and they can affect HF self-care. Severe anxiety may decrease self-care confidence and interfere with timely responses to new or worsening symptoms of HF, but mild anxiety may motivate patients to engage in recommended self-care activities.

Purpose: This secondary analysis of data from a randomized controlled trial of cognitive behavior therapy vs. usual care for depression and anxiety in patients with HF (n = 139) examines the relationship between anxiety and HF self-care outcomes.

Method: The Beck Anxiety Inventory (BAI), Beck Depression Inventory (BDI-2), and Self-Care of Heart Failure Index (SCHFI v6.2) were administered at baseline and at Weeks 8, 16, and 23. Multivariable models evaluated the adjusted effects of baseline anxiety of self-care outcomes.

Results: All of the participants had current major depression. The mean baseline BAI score was 22.7 + 12.7, consistent with mild-to-moderate anxiety in most cases. Combining data from both arms of the trial, covariate-adjusted BAI baseline scores predicted better self-care Maintenance (b = 0.27, p.01) and self-care Management (b = 0.30, p.05) but it had no statistically significant effect on self-care Confidence (b = 0.22, p = 0.15). In contrast, neither baseline BDI-2 scores nor antidepressant use predicted self-care outcomes.

Conclusions: Mild to moderate anxiety may motivate patients to engage in recommended HF self-care behaviors, while having little impact on the patients confidence in their self-care abilities. The findings also suggest that relative differences in the severity of major depression may have little effect on HF self-care behaviors or confidence.

Symposium 4A

DEFINING IMPLEMENTATION SCIENCE WITH EXAMPLES FROM PRACTICE – AN INTERNATIONAL PERSPECTIVE

Many evidence-based programs promoting healthy behavior [i.e., nutrition, physical activity etc.] are proven to be effective in controlled settings but fail when it comes to implementation in real-life settings. Among other things, implementation research addresses the questions how and why programs work (or do not) and how these programs actually find their way into routine practice.

Laurence Moore will set the stage by providing insights into process evaluation with regard to program theory, and placing it in the context of the broader Medical Research Council (MRC)—Framework.

David H. Peters then will provide a broad definition of implementation research and outline key principles for how to do it. A special focus thereby is on implementation outcomes and strategies.

David Victor Fiedler will present first results of a process evaluation according to the MRC framework concerning an exercise-intervention for patients with mental disorders in Germany [ImPuls]. The results will provide important information that may support the decision-making process of health policy stakeholders and contribute to paving the way for exercise programs like ImPuls to be made successively available within the German outpatient mental health care system.

Paul Estabrooks will present an example of an implementation process relying on a participatory approach with community and practice organizations. The Healthy at Home project example uses the PRISM/RE-AIM Framework to describe contextual factors and dissemination and implementation outcomes. Results highlight the value of partnership approaches and underscore the dynamic nature of intervention delivery in real world settings.

Claudio Nigg will wrap up the session as a discussant critically reflecting the field of implementation science according to the contents of the session. He will provide a statement of how the different approaches used in different projects within different countries get together and what we can learn from it.

This symposium is supposed to increase the understanding of what implementation research is by emphasizing the importance of process evaluation. In a broader sense it aims to expand the evidence across the globe to contribute to the international evidence base for implementation science.

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PROCESS EVALUATION OF AN EXERCISE INTERVENTION PROMOTING PHYSICAL ACTIVITY FOR PATIENTS WITH MENTAL DISORDERS (IMPULS)

Mr. Victor Fiedler[1], Dr. Stephanie Rosenstiel[1], Ms. Johanna Zeibig[1], Ms. Britta Andrea Seiffer[1], Dr. Stefan Peters[4], Ms. Lena Zwanzleitner[6], Ms. Anna Lena Flagmeier[5], Prof. Ander Ramos-Murguialday[1], Prof. Leonie Sundmacher[3], Ms. Eva Herzog[2], Prof. Thomas Ehring[2], Dr. Sebastian Wolf[1], Prof. Gorden Sudeck[1]
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Background Physical activity has a positive influence on the symptoms of patients with mental disorders. The exercise intervention ImPuls is designed to support them in improving transdiagnostic symptoms and integrating physical activity into their daily lives. It is currently tested within a pragmatic randomized controlled trial. Its efficacy evaluation is accompanied by a comprehensive process evaluation, which aims to identify facilitating and hindering factors for the implementation into the outpatient mental health care setting in Germany

Purpose Present first insights into exercise therapists (ET) and facility managers (FM) experiences with conducting the ImPuls program, that have to be considered with regard to its implementation in the outpatient mental health care system.

Methods The process evaluation is based on the MRC framework by taking implementation outcomes into account. Eleven Online surveys (average 43 items) with 26 ETs and 10 FMs were conducted and supplemented by 19 semi-structured qualitative interviews (estimated average duration: 50 min) and one focus group interview (120 min). Qualitative content analysis of the latter two is performed to identify factors influencing the practical realization of ImPuls.

Results Preliminary results suggest e.g., group set-up and sufficient preparation time as facilitators. Perceived barriers are e.g., an inadequate running track and technically demanding additional equipment. Further analysis will provide deeper insights related to e.g., contextual factors (e.g., economic requirements, feasibility in daily-business).

Conclusion The results will provide information about the treatment processes and their underlying personal (ETs) and contextual conditions with the aim of generating in-depth knowledge about how ImPuls achieves its effect.

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PARTICIPATORY METHODS TO IMPROVE HEALTH EQUITY AND THE ADOPTION, IMPLEMENTATION, AND SUSTAINABILITY OF EVIDENCE-BASED WEIGHT LOSS INTERVENTIONS FOR BLACK AMERICANS

Prof. Paul Estabrooks[1]
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Background

Historically, evidence-based weight loss programs have been less successful at reaching, and effectively supporting sustained weight loss for Black Americans.

Purpose

To describe the role of participatory research methods focused on advancing health equity through improvements in community weight loss intervention effectiveness, dissemination, and implementation outcomes.

Method

Experimental, quasi-experimental, and convergent mixed methods approaches are used across the studies that will be described in this presentation.

Results

Phase 1: Integration of research, practice, and community groups resulted in the design of a highly scalable, community-based weight loss program. Providing multiple locations for intervention engagement and modest financial incentives resulted in higher proportional reach, effectiveness, and weight loss maintenance for Black participants relative to other racial groups.
Phase 2: A cohort of Black members collaboratively developed strategies (using the Practical Robust Implementation and Sustainability Model and the Reach, Effectiveness, Adoption, Implementation and Maintenance Framework; PRISM/RE-AIM) to gather daily, weekly, and biweekly information on adaptations identified through weight loss intervention participation. Over 50 adaptations were specified including cultural adaptations related to intervention images and meal plans (enhance reach/effectiveness), technological adaptations to foster peer interactions and support (enhance retention/sustainability), integration of existing community resources to address social determinants and mental health issues (retention/sustainability), and development of policy, system, and environmental changes to support reach, effectiveness, and sustainability.

Conclusion(s)

Participatory methods used at each stage of intervention develop has a strong potential to improve RE-AIM outcomes and point to the need for ongoing, dynamic methods to continually improve intervention content and structure.

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IMPLEMENTATION SCIENCE - WHAT IT IS AND HOW TO DO IT

Prof. David Peters
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Background

Implementation science is an evolving and growing area of interest in global health as a means of closing the Know-Do gap in health programs.

Purpose

To describe the history of implementation science in global health, the search for common language, and the main principles of using implementation research using examples of implementation questions, strategies, and outcomes in different settings.

Method

Purposively selected case studies and structured expert review process.

Results

There are at least seven implementation research traditions that have emerged from different disciplinary backgrounds, each employing a range of research methods that address different types of questions targeted for different audiences. All fit within a broad definition of implementation research involving scientific inquiry to address questions around implementation of health policies, programs, and individual practices. We show how implementation strategies and research can be used to evaluate the feasibility, adoption, and acceptance of interventions and their coverage, quality, equity, efficiency, scale, and sustainability. Case studies show how implementation research can contribute to positive health outcomes, inform policy design, improve management and service delivery, or empower communities and beneficiaries. Given the complexity of health systems, there is often a tension between maintaining the fidelity of intervention and the need for adaptation, involving trade-offs between contribution to generalizable knowledge and context specific problem-solving.

Conclusion(s)

Implementation science offers a range of ways to understand and address implementation challenges and contribute to building stronger and more responsive health systems within the realities of specific contexts that vary widely.

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THE MRC/NIHR FRAMEWORK FOR DEVELOPING AND EVALUATING COMPLEX INTERVENTIONS & THE ROLE OF PROGRAM THEORY THROUGHOUT THE RESEARCH PROCESS: REFLECTIONS FROM A BODY OF BEHAVIORAL INTERVENTION RESEARCH

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Background

Explicitly stating how an intervention is hypothesized to generate effects is an essential component of intervention research. Program theory describes how an intervention is expected to lead to change and under what conditions. It is a critical tool in intervention development, evaluation and implementation.

Purpose

This presentation will provide context for the symposium, giving an overview of our 2021 MRC/NIHR Framework for Developing and Evaluating Complex Interventions, and providing further detail on the role of program theory.

Method

We will identify deficiencies in intervention research approaches that are predominantly concerned in estimating effectiveness, without appropriate consideration of why and how the intervention may produce anticipated and unexpected outcomes, for whom and under what circumstances. We will focus on challenges to replicating effectiveness research results in implementation, and how program theory can inform successful implementation and research translation for real-world impact.

Results

The aforementioned 2021 Framework proposes six core elements for consideration throughout intervention research, from development, through feasibility and evaluation, to implementation. These include development, testing and refinement of program theory, with a focus on contextual dependencies, identification of key uncertainties and engagement with diverse stakeholders. The presentation will include an exemplar application of the framework to an adolescent substance misuse prevention program.

Conclusion(s).

Program theories should incorporate a range of evidence and stakeholder perspectives, including those with lived/living experience, and be open to continual refinement. Developing a comprehensive program theory, which is continuously updated, can help avoid potential pitfalls in the journey through intervention development, evaluation and implementation.

Symposium 5A

CONTEMPORARY ILLUSTRATIONS OF NOCEBO AND PLACEBO PROCESSES

This symposium brings together four illustrations of the importance of placebo and nocebo processes. The results of these new studies show the impact of these processes on real world outcomes. In the first presentation Kate MacKrill presents the results of a study investigating whether media coverage of side effects following the Pfizer COVID-19 vaccine can produce a nation-wide nocebo response. Data will be presented on an analysis of over 60,000 adverse events reports following media stories of myocarditis compared to control symptoms. The results confirm a nocebo response occured in response to the media stories. In the second presentation Alia Crum investigates whether a brief video informing patients that symptoms of the COVID-19 vaccine are a sign of boosting immunity changes patients' mindsets about side effects and increases intentions to vaccinate against COVID-like viruses in the future. Results of this randomized controlled study showed that participants who watched the video experienced fewer side effects after their second COVID-19 vaccine, showed less worry about side effects and had increased intentions to vaccinate, compared to control patients. In the third presentation Marc Edwards, a water engineer from Virgina Tech who first identified the elevated lead levels in Flint water that set off the Flint Water Crisis, presents a new analysis investigating whether a nocebo response, rather than lead levels, were responsible for an increase in Flint childrens' special education enrollment seen following the crisis. The study did not find any relationship between blood levels in children and special education enrollment, instead the data are consistent with a nocebo effect from negative media stories about the likely effects of the Flint Water Crisis. In the final presentation, Keith Petrie presents the results of a new study examining whether open label placebos can be used to increase the efficacy of an existing effective on-line sleep program to reduce insomina. Existing research has shown that open-label placebos are effective in a number of conditions but there are significant barriers to use them as stand-alone treatments. Data will be presented from a recent randomised controlled trial showing open label placebos as an augmented treatment did not significantly improve an existing treatment for insomnia but did seem to improve engagement in the program.

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CAN OPEN-LABEL PLACEBOS AUGMENT AN EXISTING EFFECTIVE TREATMENT FOR INSOMNIA?

Ms. Sasha Findlay[1], Prof. Lee Ritterband[2], Prof. Borge Sivertsen[3], **Prof. Keith Petrie**[1]
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Purpose

This study assessed the efficacy of an open-label placebo administered concurrently with an effective established treatment for insomnia (SHUTi).

Method

A RCT randomised 90 participants with sleep difficulties to OLP + SHUTi, SHUTi only, or an patient education control. The SHUTi + OLP were asked to complete the six-week digital CBT insomnia programme and take two placebo tablets every night for the duration of the programme. The SHUTi-only group completed the six-week digital programme only. The patient education group received standard sleep health patient education. Participants completed follow-up questionnaires at 9 and 12 weeks.

Results

The results showed that participants in both the OLP + SHUTi and SHUTi-only groups reported greater improvements in insomnia severity, sleep variables (sleep onset latency, wake after sleep onset, sleep efficiency and sleep quality) as well as anxiety and depression severity over the patient education group. However, there were no significant differences in improvements between the OLP + SHUTi and SHUTi-only at the nine-week and three-month assessments.However, the OLP + SHUTi did increase adherence to the digital program and patients in this group reported equivalent satisfaction to the SHUTi-only group.

Conclusions

The study was the first to explore whether open-label placebos could augment an effective existing treatment. The study found no significant advantages for using OLPs on improving insomnia over the SHUTi programme, but the results showed the OLP group did increase adherence to the on-line therapy, an aspect which could be exploited in other treatments.

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DID A NOCEBO EFFECT CONTRIBUTE TO RISING SPECIAL EDUCATION ENROLLMENT IN PUBLIC SCHOOL CHILDREN FOLLOWING THE FLINT, MICHIGAN WATER CRISIS?

Dr. Siddhartha Roy[1,3], Prof. Keith Petrie[2], Mr. Greg Gamble[2], **Dr. Marc Edwards**[1]

[1]Virginia Tech, Christiansburg, USA, [2]University of Auckland, Auckland, New Zealand, [3]University of North Carolina, Chapel Hill, USA

Background: Exposure to waterborne lead during the Flint Water Crisis during April 2014-October 2015 is believed to have caused increased special education enrollment in Flint children.

Method: This retrospective population-based cohort study utilized de-identified data for children under six years of age who had their blood lead tested during 2011 to 2019, and special education outcomes data for children enrolled in public schools for corresponding academic years (2011–12 to 2019–20) in Flint, Detroit (control) and the State of Michigan. Trends in the following crisis-related covariates were also evaluated: waterborne contaminants, poverty, nutrition, city governance, school district policies, negative community expectations, media coverage and social media interactions.

Results: Between 2011 and 2019, including the 2014–15 crisis period, the incidence of elevated blood lead in Flint children (5 g/dL) was always at least 47% lower than in the control city of Detroit (P0.0001) and was also never significantly higher than that for all children tested in Michigan ($P = 0.33$). Nonetheless, special education enrollment in Flint spiked relative to Detroit and Michigan (P0.0001). There is actually an inverse relationship between childhood blood lead and special education enrollment in Flint.

Conclusion: This study failed to confirm any positive association between actual childhood blood lead levels and special education enrollment in Flint. Results are more consistent with a hypothesis that negative psychological effects associated with media predictions of brain damage, created a self-fulfilling prophecy via a nocebo effect. The findings demonstrate a need for improved media coverage of complex events like the Flint Water Crisis.

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IMPACT OF MEDIA COVERAGE ON SIDE EFFECTS FROM THE COVID-19 VACCINE

Dr. Kate MacKrill[1]

[1]University of Auckland, Auckland, New Zealand.

Background: Side effects from COVID-19 vaccines have received considerable media attention. Media coverage of medicine side effects can influence an individual's expectations, thereby producing the nocebo effect. In New Zealand, the media extensively discussed the rare Pfizer COVID-19 vaccine side effect of myocarditis.

Purpose: This study examined whether COVID-19 vaccine side effects increased following the media coverage and the influence of demographic factors and anxiety on reporting.

Method: Vaccine adverse reaction data was retrieved from the NZ medicine safety authority. The primary outcomes were the symptoms mentioned in the media (myocarditis, chest pain, heart rate changes, and difficulty breathing). Regressions compared side effect reporting after the media coverage with the pre-media baseline rate. The reporting of control side effects not mentioned in the media (fever and musculoskeletal pain) were also examined. Logistic regressions identified the factors associated with side effect reporting.

Results: Following media attention, rates of self-reported myocarditis from the vaccine increased by 2800%. The reporting rates of chest, heart and breathing symptoms also significantly increased ($ps = 0.001$). There was no change in the reporting of the control symptom fever ($p = 0.06$). Individuals who were male, younger and who reported anxiety were significantly more likely to attribute myocarditis or other cardiac symptoms to the vaccine.

Conclusions: The results indicate that a media-induced nocebo response occurred. This is likely due to increased awareness of and expectations for COVID-19 vaccine side effects, elevated symptom experience from anxiety, and consequently greater reporting of the symptoms in line with the media coverage.

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CHANGING MINDSETS ABOUT SIDE EFFECTS OF THE COVID-19 VACCINATION: A RANDOMIZED CONTROLLED TRIAL

Dr. Alia Crum[1], Prof. Keith Petrie[2], Dr. Lauren Heathcote[3], Dr. Zara Morrison[2], Dr. Rachael Yielder[2], Dr. Kari Leibowitz[1], Dr. Helen Petousis-Harris[2], Dr. Mark Thomas[2], Dr. Charles Prober[3], Dr. Jonathan Berek[3]
[1]Stanford University, Stanford, CA, USA, [2]University of Aukland, Aukland, New Zealand, [3]King's College, London, United Kingdom

Background: Side effect concerns are a major barrier to vaccination against COVID-19 and other diseases. Identifying cost- and time-efficient interventions to improve vaccine experience and reduce vaccine hesitancy; without withholding information about side effects— is critical.

Objective: Determine whether a brief symptom as positive signals mindset intervention can improve vaccine experience and reduce vaccine hesitancy after the COVID-19 vaccination.

Methods: English-speaking adults (18 +) were recruited during the 15-min wait period after receiving their second dose of the Pfizer COVID-19 vaccination and were randomly allocated to the symptom as positive signals mindset condition or the treatment as usual control. Participants in the mindset intervention viewed a 3:43-min video explaining how the body responds to vaccinations and how common side effects such as fatigue, sore arm, and fever are signs that the vaccination is helping the body boost immunity. The control group received standard vaccination center information.

Results: Mindset participants (N = 260, M = 2.10, SD = 1.44) vs. controls (N = 268, M = 2.47, SD = 1.82) reported significantly less worry about symptoms at day three (F = 6.69, p = 0.01, η 2 = 0.013), fewer symptoms immediately following the vaccine (Mindset M = 1.35, SD = 1.35; Control M = 1.83, SD = 1.83; F = 7.49, p = 0.006, η 2 = 0.014), and increased intentions to vaccinate against viruses like COVID-19 in the future (Mindset M = 5.52, SD = 0.74; Control M = 5.34, SD = 0.90; F = 6.55, p = 0.01, η 2 = 0.012). No significant differences for side-effect frequency at day three, coping, or impact.

Conclusions: This study supports the use of a brief video aimed at reframing symptoms as positive signals to reduce worry and increase future vaccine intentions.

Symposium 6A

PSYCHOSOCIAL IMPACTS OF ENDOMETRIOSIS: A MULTIDISCIPLINARY PERSPECTIVE

As a systemic inflammatory disease endometriosis carries a high symptom burden, characterised by chronic pelvic pain. In the absence of a cure, people living with this condition rely to a large extent on self-initiated symptom management that may entail a combination of surgical, medical, behavioural (e.g., diet) and psychological approaches. Despite the extensive physical consequences of endometriosis, little is known about the psychosocial aspects of living with and managing this condition. This multidisciplinary symposium presents emerging evidence regarding the psychological challenges and behavioural implications of endometriosis, including considerations for effective management of this disease. In this symposium, the first presentation, by Professor Kerry Sherman (Health Psychology, Sydney, Australia) will describe the first known evidence of extensive perceived cognitive functioning difficulties experienced by people living with endometriosis and identify factors associated with these difficulties. Associate Professor Holly Harris (Epidemiology, Seattle, US) will then review the literature pertaining to diet (e.g., individual foods and dietary patterns) and dietary supplement use for endometriosis-associated pain and present evidence regarding the link between physical activity and endometriosis. The third presentation from Rebekah Davenport (Clinical Psychology, Melbourne, Australia) synthesises findings from a systematic review identifying cognitive factors that may increase risk for people living with endometriosis to experience depression and anxiety symptoms. The final presentation by Dr Mike Armour (Endometriosis Clinical Practitioner, Sydney, Australia) will present evidence of widespread negative impacts of endometriosis on workplace functioning and the adverse impact of this condition on individual career trajectories, and outline strategies adopted to mitigate these impacts. Professor Kerry Sherman will then facilitate discussion about priorities in healthcare policy and endometriosis research, and explore the need for targeted interventions to address these psychosocial difficulties and concerns.

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PERCEIVED COGNITIVE FUNCTIONING DIFFICULTIES IN PEOPLE LIVING WITH ENDOMETRIOSIS

Prof. Kerry Sherman[1], Ms. Mary Horn[1], Ms. Melissa Pehlivan[1], Ms. Michelle Basson[1], Ms. Zixin Lin[1], Ms. Tanya Duckworth[2, 3]
[1]Macquarie University, Sydney, Australia, [2]University of Adelaide, Adelaide, Australia, [3]University of Sydney, Sydney, Australia.

Background: Endometriosis is a chronic inflammatory condition affecting at least 1 in 9 females globally. It is characterized by a fluctuating constellation of physical symptoms centred around chronic pelvic pain, with fatigue and psychological distress commonly comorbid. Difficulties and impairments in cognitive functioning have been documented in other pain-related conditions, yet investigations of these difficulties in endometriosis are lacking.

Purpose: This mixed-methods study aimed to identify the prevalence of perceived cognitive functioning difficulties in individuals living with endometriosis and to investigate the association of pain, fatigue and depressive symptoms with cognitive functioning.

Method: Participants (N = 1239) self-reporting a prior endometriosis diagnosis were recruited from an Australian online endometriosis community. Perceived cognitive functioning (Cognitive impairment, Cognitive abilities, Comments from others, Quality of life; FACT-Cog), pain, fatigue, and depressive symptoms were assessed quantitatively via an online survey. An open-ended question in the survey explored perceived cognitive difficulties qualitatively.

Results: Mean scores indicated most participants experienced significant cognitive functioning difficulties on all FACT-Cog domains and high levels of pain, fatigue and depressive symptoms. Linear regression analyses indicated increased pain, fatigue and depressive symptoms were associated with diminished perceived cognitive functioning. Qualitatively, six themes echoed perceived negative impacts of pain, fatigue, depression and treatments on cognitive functioning and the nature and functional impacts of these cognitive difficulties.

Conclusions: Perceived cognitive difficulties were commonly experienced. The strong association between pain, fatigue and depressive symptoms and poorer cognitive functioning suggests a need for future research to clarify the directionality of these relationships and to develop targeted interventions.

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DIET AND LIFESTYLE AND ENDOMETRIOSIS RISK AND TREATMENT: METHODOLOGIC CONSIDERATIONS AND EMERGING

Dr. Holly Harris[1]
[1]Fred Hutchinson Cancer Center, Seattle, USA

Background

Endometriosis, a disorder characterized by the presence of endometrial-like tissue outside of the uterus, affects approximately 10% of people who menstruate. Over 80% of those with endometriosis report chronic pelvic pain and symptoms are often not sufficiently abated with hormonal suppression or surgery. Hence, the identification of other evidenced-based, modifiable factors, that improve pain and quality of life are critical to improving the lives of people with endometriosis.

Purpose

This talk will present the current state of knowledge of the influence diet and lifestyle factors on risk of endometriosis diagnosis and treatment of endometriosis-associated pain including discussion of methodologic issues in endometriosis-focused study designs.

Methods

A literature review as well as original research will be presented to capture the current knowledge on diet and lifestyle impacts on endometriosis risk and symptoms.

Results

Among prospective studies there is evidence that consumption of an anti-inflammatory dietary pattern, as well as intake of citrus fruits and omega-3 fatty acids, is associated with lower risk of pain presenting endometriosis phenotypes, while consumption of red/processed meats is associated with greater risk. With respect to supplement use there is not currently clear evidence from randomized controlled trials (RCTs) to support supplement use for endometriosis-associated pain. The association between physical activity and endometriosis is inconsistent, potentially due to reverse causation from endometriosis symptoms impacting physical activity levels.

Conclusions

Observational studies suggest the potential for an anti-inflammatory diet to influence endometriosis pain, however, there is a lack of high-quality RCT evidence to confirm these findings.

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IMPROVING UNDERSTANDING OF COGNITIVE FACTORS RELATED TO DEPRESSION, ANXIETY, AND COMORBID DEPRESSION AND ANXIETY IN ENDOMETRIOSIS: A SYSTEMATIC REVIEW AND NARRATIVE SYNTHESIS

Ms. Rebekah Davenport[1], Associate Professor Isabel Krug[1], Ms. Nicole Rickerby[2], Ms. Phuong Linh Dang[1], Dr. Litza Kiropoulos[1]
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Background: Evidence and process-based perspectives propose a common set of cognitive factors underpinning emotional disorders in general and clinical populations, including personality, anxiety sensitivity (AS), rumination, emotion dysregulation (ER), psychological inflexibility (PF), distress intolerance (DT) and intolerance of uncertainty (IU). Clinical levels of depression and anxiety are highly prevalent in persons living with Endometriosis (plwE) and are recognised as common symptoms that negatively impact prognostic outcomes and quality of life.

Purpose: Synthesise evidence on the cognitive factors related, or trans-diagnostic to, depression and anxiety symptoms in plwE.

Methods: Five electronic databases (Medline, Embase, PsycInfo, Web of Science, ProQuest) were searched from database conception through August 2022, utilising search terms for every combination of ER, DT, PF, IU, AS neuroticism, rumination, OR broader descriptors for cognitive factors, AND depression OR anxiety, AND Endometriosis.

Results: Eligible publications ($K = 164$) were reviewed against inclusion criteria by three independent reviewers, resulting in 6 included studies ($n = 916$ plwE). Over half of participants within each study self-reported clinically relevant levels of depression and anxiety. Lower perceived locus of control, rumination and pain-catastrophising were identified as correlates of depression and anxiety, with medium-to-strong support. Findings for the associations between locus of control and anxiety were mixed. Negative meta-cognitive beliefs, and two emotion regulation strategies (self-blame, catastrophising) were identified as correlates of depression, with medium support, but were not examined in relation to anxiety.

Conclusions: Cognitive factors have received little attention, however, may represent important factors in understanding elevated rates of depression and anxiety in plwE.

ORAL PRESENTATIONS

2

EFFECT OF ASSERTION AND PHYSICAL ACTIVITY ON DEPRESSIVE SYMPTOMS OF BULLYING WITNESSES WORKERS

Mr. Atsuo Hattori[1], Prof. Yasumasa Otsuka[2]
[1]University Of Tsukuba: R & D Center For Working Persons Psychological Support, Bunkyo-ku, Japan, [2]University of Tsukuba, Bunkyo-ku, Japan.

Background and Objectives

Companies in Japan were legally obligated to take necessary employment management regulations to prevent workplace bullying from 2019. Several studies have reported that depressive symptoms of those who witness workplace bullying are deteriorated. On the other hand, it has been pointed out that assertion and physical activities can reduce depressive symptoms. In this study, we examine the effects of assertion and physical activity interventions on depressive symptoms among workers who have witnessed workplace bullying.

Methods

Participants were 45 Japanese adults. After viewing the workplace bullying on video in early October 2021, participants were randomly divided into three groups: an assertion learning group, a physical activity group, and a control group. Depressive symptoms were measured by the Brief Job Stress Questionnaire (Shimomitsu et al., 2000) before (T1), and after (T2) viewing the video, and immediately after intervention (T3). A two-factor analysis of variance was conducted using group and time as independent variables and depressive symptoms as dependent variable. This study was approved by the Ethics Committee of the University of Tsukuba (TOU 2021–69).

Results
Analysis of variance showed that the interaction effect was significant, and simple main effect analysis revealed that scores of depressive symptoms at T3 was significantly lower than T2 in the assertion group. In the physical activity group, depressive symptoms were significantly lower at T3 than T1 and T2.

Conclusion
The results of the present study suggest that assertion and physical activity may ameliorate depressive symptoms among workers who have witnessed workplace bullying.

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SOCIO-DEMOGRAPHIC INEQUITIES IN THE RISK OF AND RESPONSE TO COVID-19 IN UGANDA: A COMPARISON OF SLUM AND ESTATE COMMUNITIES

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Background: The various Covid-19 response and control measures implemented in different countries have often shown a disregard towards the most socioeconomically disadvantaged populations, such as the urban poor.

Purpose: The study aims to explore the social, economic, demographic and health inequalities related to Covid-19 prevention, impact and response among the slum and estate residents in Uganda.

Method: This comparative cross-sectional study had 1025 participants and data was collected through face-to-face interviews (March 2022). The main outcome assessed was behavioral response to Covid-19 (personal protective measures (PPMs) and vaccination). Multiple logistic regression and structural equation modelling (SEM) assessed the associations and possible mediations, respectively.

Results: Out of the 1025 respondents, 511 and 514 were slum and estate residents respectively. Slum-residents had significantly lower socioeconomic-status (SES) indicators (education-level, household-income, employment, subjective and objective SES), and greater Covid-19-induced loss of resources, direct-impact, and mental-distress(depression), as well as poor practices of PPMs (30.3% vs 22.2%). In contrast, estate-residents had higher rate of vaccine hesitancy (40.1% vs 28.2%) and more household-crowdness compared to slum-residents. SEM results show that access to Covid-19-information has a full-mediation effect on the association between SES and PPM practice. Moreover, household size, loss of resources and direct-impact have partial-mediation on the association between SES and Covid-19-induced mental-distress.

Conclusions: The is a need for consideration of slum-dwellers' vulnerability and dynamics in Covid-19 control programs and rethinking of the identified potential mediators would have a better impact. Continuous community education to address the existing vaccine hesitance in both communities would be beneficial.

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SELF-ENDANGERING WORK BEHAVIOR (SEWB) AND FLEXIBLE WORK STYLES IN JAPANESE WORKERS

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Background: Flexible work styles are believed to promote Self-Endangering Work Behavior (SEWB), a work style in which workers' own self-management and responsibility put themselves at risk.

Purpose: We examined the associations among SEWB, workaholism, work engagement, and job stressors in flexible work styles and their health effects.

Method: An Internet survey of 600 (329 males, 271 females) workers was conducted using a questionnaire containing the Japanese version of the SEWB rating scale (J-SEWB, Yokoyama et al.: Juntendo Medical Journal 68:242–250, 2022). Similarly, responses were also obtained from 2750 (1656 males, 1087 females, 7 unknown) freelancers.

Results: For the 600 workers, J-SEWB total scores increased significantly for non-fixed work hour systems (e.g., discretionary work systems) and for long working hours. Non-fixed work hour systems were associated with positive factors (work engagement) as well as detrimental factors (burnout, increased work hours, SEWB, workaholism, and work burden). Path analysis suggested that (1) burnout is enhanced by workaholism (directly and via SEWB) and low work discretion, and conversely reduced by work engagement, and (2) subjective health is worsened by workaholism (via SEWB) and improved by work engagement. The freelance survey found a significant association between SEWB and long working hours.

Conclusions: The J-SEWB is a useful instrument for assessing maladaptive-coping behavior. Workaholic-induced SEWB plays an important role in the negative health effects of non-fixed working hour workers and freelancers. For workers to benefit from flexible work arrangements, it is important to improve workaholism, SEWB, low job discretion, and develop work engagement in the workplace.

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A SUBSTANTIAL DECLINE IN PREVALENCE OF PROBABLE DEPRESSION DURING THE COVID-19 PANDEMIC WAS FULLY MEDIATED BY REDUCED RESOURCE LOSSES IN A CHINESE ADULT POPULATION: AN APPLICATION OF THE CONSERVATION OF RESOURCES THEORY

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Background: The levels of resource losses due to COVID-19 and mental distress may change during the pandemic period.

Purpose: Basing on the Conservation of Resource (COR) Theory, this study investigated such changes and mediation between survey time (Round 2 versus Round 1) and depression via resource losses.

Methods: Two serial random population-based telephone surveys interviewed 209 and 458 Hong Kong Chinese adults in April 2020 and May 2021, respectively. Probable depression was defined as PHQ-9 score ≥ 10. The validated CORS-COVID-19 scale was used to assess resource losses due to COVID-19. Structural equation modeling (SEM) was conducted to test the mediation hypothesis.

Results: The prevalence of probable depression declined from 8.6% to 1.0% over time, together with reductions in losses of financial resource, future control, social resource, and family resource due to COVID-19. All the overall scale/subscales of the CORS-COVID-19 were positively and associated with probable depression at both time points. In SEM, the latent variable of resource loss fully mediated the association between survey time and probable depression.

Conclusions: The lessening of the resource losses might have fully accounted for the significant decline in probable depression from Month 3 to 15 since the first COVID-19 outbreak in Hong Kong. The level of depression might have increased during the first phase of the pandemic, but might decline in the later phases if resources losses could be lessened. All stakeholders should hence work together to minimize individuals' COVID-19-related resource losses to prevent depression in the general population, as COVID-19 might be lasting.

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IN IT TOGETHER: ON THE ROLE OF RELATIONSHIP TRANSITIONS FOR COUPLE CONCORDANCE IN WELL-BEING AND HEALTH

Dr. Theresa Pauly[1], Dr. Elisa Weber[2], Dr. Christiane Hoppman[3], Dr. Denis Gerstorf[4], Professor Urte Scholz[2]
[1]Simon Fraser University, Vancouver, Canada, [2]University of Zurich, Zurich, Switzerland, [3]University of British Columbia, Vancouver, Canada, [4]Humboldt University Berlin, Berlin, Germany

Background. Romantic partners tend to show linked (i.e., concordant) health and well-being trajectories over time. Transitions that change the family system, e.g., by introducing a new member or children leaving the household, have the potential to impact couple dynamics. However, there is a limited understanding of how shared transitions uniquely shape the strength of the link between couples' health and well-being.

Purpose. The current project is based on coordinated analyses using two large panel data sets (SOcio-Economic Panel, SOEP; Household, Income, and Labour Dynamics in Australia, HILDA) to investigate how couple concordance in life satisfaction, self-rated health, mental health, and physical health might change with the transition to parenthood and an empty nest.

Method. We make use of longitudinal data (≥ two decades) from both partners from 2,069 German (Mage = 29) and 1,842 Australian (Mage = 36) couples transitioning to parenthood and 3,501 German (Mage = 41) and 1,128 Australian (Mage = 49) couples transitioning to an empty nest. Data were analyzed using multi-level latent growth curve models for dyads.

Results. Results revealed couple concordance in intercepts (averaged $r = 0.58$), linear rates of change (averaged $r = 0.65$), and wave-specific fluctuations (averaged $r = 0.22$). Concordance in rates of change was stronger after transitions than before transitions, whereas no systematic change to concordance in wave-specific fluctuations was found across studies.

Conclusion. Findings emphasize that shared transitions represent windows of change for couple dynamics with the potential to influence partners' health and well-being, for better and for worse.

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IMPACT OF CARDIOVASCULAR HEALTH ON COGNITIVE AGING IN MIDLIFE: IS THERE A DIFFERENCE BY RACE? THE STUDY OF WOMEN'S HEALTH ACROSS THE NATION (SWAN)

Dr. Imke Janssen[1], Dr. Lynda Powell[1], Dr. Sheila A. Dugan[1], Dr. Carol Derby[2], Dr. Howard M. Kravitz[1]
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Background. Cognitive decline may proceed for decades prior to dementia onset. Better cardiovascular health (CVH) is related to reduced rates of cognitive decline, but it is unclear whether this occurs for all racial subgroups. Executive functions such as perceptual speed may be particularly impacted by vascular risk factors.

Purpose. Is better CVH related to less cognitive decline in both White and Black women?

Methods. Subjects were 363 black and 402 white women similar in baseline age (mean ± SD = 46.6 ± 3.0 years) and education (15.7 ± 2.0 years) from the Study of Women's Health Across the Nation (SWAN) Chicago site. Cognition was assessed as perceptual speed annually or biennially over 9.3 years (SD = 6.7). CVH, conceptualized as Life's Essential 8 (comprised of blood pressure, BMI, glucose, cholesterol, smoking, physical activity, diet, sleep). A series of linear mixed models examined the hypothesis.

Results. Baseline cognitive scores were lower in Black than White women (55.9 ± 12.2 vs. 60.3 ± 9.7, $p < 0.001$). Adjusting for baseline age, race, education, CVH and their interactions with time, the 3-way interaction of race, CVH and time was significant ($F(1,4283) = 9.7$, $p < 0.002$). Worse CVH was associated with greater decline in perceptual speed only among Black women. Black women with CVH < median declined in perceptual speed by mean of 5.7 (95% CI = 4.3, 7.0), but no significant decline was detectable in Black women with CVH ≥ median or the corresponding white women.

Conclusion. Cardiovascular health promotion might be particularly important in midlife Black women to prevent later cognitive decline.

Supported by NIH/DHHS U01NR004061, U01AG012505, U01AG012535, U01AG012531, U01AG012539, U01AG012546, U01AG012553, U01AG012554, U01AG012495, U19AG063720.

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CHANGING EXPECTATIONS TOWARDS END-OF-LIFE COMMUNICATION: A RANDOMIZED CONTROLLED TRIAL INVESTIGATING AN EXPECTATION-FOCUSED ONLINE INTERVENTION

Mr. Yannik Bendel[1], Prof. Martin Pinquart[1], Prof. Christian Schulz-Quach[2], Dr. Pia von Blanckenburg[1]

[1]Department of Psychology, Philipps University of Marburg, Marburg, Germany, [2]Department of Psychiatry, University of Toronto, Toronto, Canada

Background/Purpose: Despite various advantages, end-of-life(EOL) conversations with relatives or significant others are often avoided. Negative expectations regarding such conversations can be one reason. Therefore, we developed a short online intervention violating common negative expectations in this field and investigated its effect in healthy adults.

Method: 272 participants (18–77 years) were randomly assigned to three different video conditions (CG1: Expert lecture not addressing EOL topics, CG2: Persons reporting different attitudes towards EOL conversations, IG: Persons reporting positive outcomes of EOL conversations). Primary outcome was negative expectations, secondary outcomes readiness for EOL conversations and communication apprehension. After the videos, participants were invited to have their own EOL conversation in the following eight weeks. Data were collected before(T0) and after the videos(T1) as well as eight weeks later(T2). Data was analyzed using multilevel models.

Results: Between T0 and T1, negative expectations decreased significantly more in the IG compared to CG1 ($b = 0.15$, $t = 2.08$, $p = 0.020$) and CG2 ($b = 0.21$, $t = 2.94$, $p = 0.002$). The IG also reported more changes in readiness than CG1 ($b = -0.16$, $t = -2.56$, $p = 0.006$). Across conditions, participants having had their own conversation between T1 and T2 reported significantly more changes towards positive expectations ($b = 0.35$, $t = 3.54$, $p < 0.001$). They also showed a higher increase in general readiness for EOL communication ($b = -0.13$, $t = -2.15$, $p = 0.016$).

Conclusions: In the short term, online interventions can be useful to change negative expectations and increase readiness for EOL communication. In the longer term, having a live conversation seems to be most effective in violating negative expectations and improving readiness for further conversations.

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MULTI-LEVEL PREDICTORS OF BURNOUT AND TURNOVER AMONG THE EARLY CARE AND EDUCATION WORKFORCE SERVING LOW-RESOURCED FAMILIES

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Background: The early care and education (ECE) workforce provides care for children aged zero to five. This critical segment of the workforce experiences significant burnout and turnover rates resulting from extensive demands and poor overall well-being. Factors associated with well-being in these settings and the resulting impacts on burnout and turnover are understudied and a more comprehensive understanding of ECE worker well-being is needed to inform best practices.

Purpose: The purpose of this study was to investigate associations between five well-being domains and burnout and turnover outcomes among a large sample of Head Start ECE staff in the United States ($n = 332$).

Methods: An 89-item survey based off the National Institutes of Occupational Safety and Health Worker Wellbeing Questionnaire (NIOSH WellBQ) was administered to ECE staff employed in five large urban and rural Head Start agencies. The WellBQ is made up of five domains intended to measure worker well-being as a holistic construct. We utilized linear mixed-effect modeling with random intercepts to investigate associations between sociodemographic characteristics, well-being domain sum scores and burnout and turnover.

Results: After controlling for sociodemographic variables, the well-being Domain 1 (Work Evaluation and Experience) ($\beta = -0.73$, $p < 0.05$) and Domain 4 (Health Status) ($\beta = -0.30$, $p < 0.05$) were significantly and negatively associated with burnout; and the well-being Domain 1 (Work Evaluation and Experience) ($\beta = -0.21$, $p < 0.01$) was significantly and negatively associated with turnover intent.

Conclusions: These findings suggest that multi-level, preventative behavioral health programs are critical to address individual-, interpersonal-, and organizational-level predictors of overall ECE workforce well-being.

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COMPLETENESS OF INTERVENTION REPORTING OF NUTRITIONAL WEIGHT MANAGEMENT INTERVENTIONS ADJUNCT TO BARIATRIC SURGERY: EFFECT OF THE TIDIER CHECKLIST

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Backgrounds & purpose: Given the importance of transparency in research reporting, this study aimed to use the Template for Intervention Description and Replication(TIDieR) checklist to evaluate the completeness of intervention reporting in nutritional weight management interventions adjunct to bariatric surgery. The secondary aim was to examine the factors that might be associated with better reporting.

Methods: A literature search in PubMed, PsychINFO, EMBASE, Scopus, and the Cochrane Controlled Register of Trials was conducted, to include relevant randomized controlled trials (RCT), quasi-RCTs and parallel group trials. Two reviewers independently extracted data related to intervention reporting, and disagreements were resolved by consensus with a third party.

Results: A total of 22 trials were included in the final analysis, none of which completely reported all intervention descriptors. The main areas where reporting required improvement included: providing adequate details of materials and procedures of the interventions; intervention personalization; and intervention modifications during the course of the study. No statistically significant difference was found in the quality of intervention reporting before vs. after the release of the TIDieR guidelines. Receiving funds from industrial organizations was significantly associated with better reporting of interventions ($p = 0.02$), and having the study recorded within a registry platform did marginally impact improved intervention reporting ($p = 0.08$).

Conclusions: Nutritional weight management interventions in bariatric care are still below the desirable standards for reporting. The present results highlight the need to improve adequate reporting of such interventions, which then allow for greater replicability, evaluation through evidence synthesis studies, and transferability into clinical practice.

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EVALUATING A MULTI-BEHAVIOURAL HOME-BASED INTERVENTION FOR REDUCING DEPRESSIVE SYMPTOMS IN POSTNATAL WOMEN: THE FOOD, MOVE, SLEEP (FOMOS) FOR POSTNATAL MENTAL HEALTH RANDOMISED CONTROLLED TRIAL PROTOCOL

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Background: Physical inactivity, sedentary behaviour, and poor diet and sleep quality are risk factors for postnatal depression (PND), a mental illness experienced by 23–64% of postnatal women globally. Home-based interventions can help overcome unique barriers to behaviour change during the postnatal period (e.g., limited childcare) and may offer practical solutions for supporting change in health behaviours that enhance postnatal mental health. However, high-quality RCTs testing these approaches are limited.

Purpose: Examine the efficacy and acceptability of a multi-behavioural home-based program (FOMOS) designed to improve PND symptoms in postnatal women (2-arm RCT design).

Methods: 245 eligible postnatal Australian women experiencing heightened PND symptoms (Edinburgh Postnatal Depression Scale (EDPS) score ≥ 10) are being randomised to FOMOS or control groups. FOMOS is a 6-month program targeting improved diet quality, physical activity (PA), sedentary behaviour, sleep and mental health. The program, aligned with social cognitive theory, involves providing exercise equipment, educational/motivational material (e.g., goal setting, self-monitoring) and social support via eHealth (website, SMS/email) and social media (Instagram). Data collection at 0, 3, 6 and 12 months will assess the primary outcome of PND symptoms (via EPDS). Secondary outcomes (diet quality, PA, sitting time, sleep quality) are assessed using established self-report and device measures. Process evaluations will explore implementation outcomes and program acceptability (i.e. adoption, acceptability, appropriateness, cost-effectiveness, feasibility, penetration, sustainability).

Results and conclusions: If efficacious, FOMOS has potential to become a practical preventative care pathway by which women with PND symptoms can improve their health behaviours and mental health during an especially vulnerable period.

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MALADAPTIVE HEALTH FACTORS AS MEDIATORS OF THE ASSOCIATION BETWEEN POSTTRAUMATIC STRESS DISORDER AND CARDIOVASCULAR DISEASE: A SEX-STRATIFIED ANALYSIS IN THE U.S. ADULT POPULATION

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Objectives: Despite a higher prevalence of posttraumatic stress disorder (PTSD) and greater severity and chronicity of cardiovascular disease (CVD) in females than males, sex-differences in explanations for the PTSD-CVD relationship are lacking. This study examined sex-differences in the role of health risk factors in mediating the relationship between PTSD and CVD.

Methods: Data were analyzed from the 2012–2013 National Epidemiological Survey on Alcohol and Related Conditions, which surveyed a nationally representative sample of 36,309 U.S. adults. Natural effect models and logistic regression analyses were conducted to evaluate the potential mediating effects of each health risk factor (smoking, low physical activity, high body mass index [BMI], binge eating, multiple health risk factors).

Results: High BMI independently mediated the PTSD-CVD relationship in females (indirect AOR = 1.05, 95% CI = 1.02, 1.07) though not males. Binge eating, smoking and low physical activity were not found to mediate this relationship in either sex. The number of health risk factors also mediated this relationship in both sexes (indirect AOR = 1.14, 95% CI = [1.08, 1.19] for females; indirect AOR = 1.16, 95% CI = [1.07, 1.26] for males).

Conclusions: The results may inform the development of secondary prevention strategies, such as screening for health risk factors to mitigate the adverse effect of PTSD on CVD risk. Further, the findings may inform early intervention strategies designed to reduce risk of PTSD and CVD, such as addressing high BMI in females and the cumulative burden of health risk behaviours in both sexes through psychological treatments.

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DISPARITIES IN ACCESSING CARE ALONG THE CANCER GENETICS SERVICE DELIVERY CONTINUUM

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Background

Efforts are being undertaken to improve the delivery of cancer genetic services by increasing the identification, referral, genetic counseling and genetic testing of patients (Bednar et al., 2022).

Purpose

This study set out to examine disparities in access along the cancer genetic service delivery continuum.

Method

Data are drawn from 15 clinical sites across 6 states in the US, which screened for individuals at-risk for hereditary cancer and 1) referred individuals to be scheduled for an appointment with a genetic counselor (referral workflow) or 2) offered genetic testing at the point of care (POC workflow). Logistic regression analyses evaluated the associations between race/ethnicity and several outcomes including appointment scheduling, genetic counseling and genetic testing, controlling for demographics, clinical factors, and county-level covariates.

Results

A total of 14,665 patients were identified at-risk. Race/ethnicity was significantly associated with genetic testing uptake, with Black non-Hispanic patients having significantly lower odds of testing compared to White non-Hispanic patients (aOR = 0.839, 95% CI 0.705, 0.999). Moreover, this disparity was observed for sites deploying a referral workflow but not for POC workflow sites. Among referral workflow sites, race/ethnicity was not associated with appointment scheduling. However, among patients scheduled, Black non-Hispanic patients had decreased odds of genetic counseling (aOR = 0.277, 95% CI 0.166, 0.463) compared to White non-Hispanic patients, suggesting that factors influencing genetic counseling attendance may explain disparities in genetic testing uptake.

Conclusion

Identifying drivers of disparities along the care continuum will facilitate the design of intervention efforts to ensure equitable access to genetic services.

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THE PREVALENCE OF COMORBID MENTAL HEALTH DIFFICULTIES IN YOUNG PEOPLE WITH CHRONIC SKIN CONDITIONS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Chronic skin conditions (CSCs) can have psychosocial and somatic implications, influencing well-being and quality of life. It is important for dermatology settings to ecognize mental health difficulties in young patients, and identify factors which may mitigate the adverse psychological effects of CSCs.

Purpose: This systematic review and meta-analysis aimed to synthesize evidence on the prevalence of comorbid mental health difficulties in young people up to 25 years old with CSCs. A secondary aim included identifying factors associated with resilience and coping.

Method: We searched PubMed, EMBASE, CINAHL Plus and PsycINFO. Forty-one studies met the eligibility criteria and were included in the narrative synthesis. Quality was assessed using the Joanna Briggs Institute Critical Appraisal Checklist for Studies Reporting Prevalence Data. Separate meta-analyses were performed for each outcome (non-diagnosed mental health conditions; diagnosed mental health conditions; suicidal behaviour; socio-emotional and behavioural difficulties) including only studies of moderate–high quality.

Results: The pooled prevalence of non-diagnosed mental health conditions was 22.6% (95% CI = 18.9–26.7); of diagnosed mental health conditions was 2.4% (95% CI = 0.1–2.8); of suicidal behaviour was 14.5% (95% CI = 11.2%–18.6%); and of socio-emotional and behavioural difficulties was 20.9% (95% CI = 14.7%–28.8%). Subgroup analysis suggested a higher prevalence of mental health difficulties for atopic dermatitis and eczema.

Conclusions: Our findings demonstrate the pooled prevalence of comorbid mental health difficulties in young people with CSCs. In order to address the impact of dermatological conditions on young peoples' mental health, clinicians should be equipped to initially screen and discuss mental well-being in clinical practice with young patients.

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UNCOVERING THE FACTORS ASSOCIATED WITH FECAL OCCULT BLOOD TEST UPTAKE AMONG HONG KONG CHINESE USING ANDERSEN'S BEHAVIORAL MODEL

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Background

Colorectal cancer (CRC) screening is effective to aid cancer detection. A government-subsidised CRC screening programme is regularised in Hong Kong since 2018.

Purpose

To examine the FOBT uptake in Hong Kong and identify the factors associated with an FOBT uptake.

Method

From August 2019 to December 2020, a territory-wide cross-sectional study was conducted and recruited 1,317 Hong Kong Chinese aged 50–75 years to complete a survey. A structured survey guided by Andersen's Behavioral Model was used to delineate the predisposing, enabling, and need-for-care factors related to FOBT uptake rate. Logistic regression analysis was conducted to identify the influencing factors associated with an FOBT uptake.

Results

The FOBT uptake rate was 44%. Among the predisposing factors, older age ($p = 0.01$), people with higher perceived severity of the disease ($p = 0.003$) and benefit of screening ($p < 0.001$) were associated with increased odds of having an FOBT uptake. People with higher perceived barriers to screening were less likely to have undergo an FOBT ($p < 0.001$). Among the enabling factors, people who had used the government subsidy ($p < 0.001$), had received information from booklets ($p < 0.001$), had undergone screening for other cancer types

($p < 0.001$), and had been encouraged by doctors ($p = 0.029$) or family ($p = 0.004$) were more likely to have undergo an FOBT. Among the need-for-care factor, people who were current smokers were less likely to have undergo an FOBT ($p = 0.001$).

Conclusions

Several predisposing, enabling and need-for-care factors were associated with FOBT uptake. In view of the relatively low uptake rate, continual efforts should be made to promote FOBT uptake.

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THE ACCEPTABILITY OF AND EXPERIENCE IN USING A LINGUISTICALLY APPROPRIATE PRINTED DECISION AID TO AID DECISION-MAKING FOR CERVICAL SCREENING PARTICIPATION IN SOUTH ASIAN WOMEN

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Background

Despite the availability of screening tests for cervical cancer screening, the screening uptake rate remains low among ethnic minority populations in various countries. A decision aid is a tool that may help ethnic minority women to make decisions to undergo cervical cancer screening.

Purpose

To examine the acceptability of and experience in using a linguistically appropriate printed decision aid for cervical cancer screening in South Asian women in Hong Kong.

Method

Semi-structured individual telephone interviews were conducted with 24 South Asian women involved in a pilot randomized controlled trial evaluating the effects of linguistically appropriate printed decision aid on their decisional conflicts and cervical cancer screening uptake in Hong Kong. Trained South Asian interviewers conducted the interviews using a semi-structured interview guide. The participants were asked about their comments on the decision aid content and their experience in using it. They were also asked to provide suggestions for improvement. The interviews were audio-recorded and were transcribed verbatim. Data were analysed using content analysis.

Results

All 24 participants completed the interviews. Four themes were generated, and these were: 1) user-friendly and aids in decision-making; 2) free to choose the time and venue to read the decision aid; 3) no barriers were experienced in using the decision aid, and 4) preferred format of the decision aid.

Conclusions

The linguistically appropriate printed decision aid was found to be acceptable and useful to aid decision making in South Asian women. Various formats of the decision aid, other than printed version, could be developed.

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SOCIAL ECOLOGICAL MODEL BASED INFLUENCING FACTORS ON RESIDENTS' HEALTH LITERACY IN CHINA: A QUALITATIVE STUDY

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Background

Improving residents' health literacy is one of the main goals of the "Healthy China 2030". China has established national surveillance system to monitor residents' health literacy since 2009. Most studies about influencing resident' health literacy was focused on sociodemographic factors.

Purpose

To explore the social ecological factors to influence residents' health literacy, and provide evidence for intervention strategies to promote health literacy.

Method

A qualitative study with semi-structured interviews was conducted to explore social ecological factors related residents' health literacy. A total of 61 participants who attended national health literacy survey had been recruited in Jiangsu Province. All interview records were imported into Nvivo12 for data management and preliminary analysis.

Results

The majority of the study participants reported the individual and family members' " health status", and related needs "were the motivation factors for seeking health information and health care services. They also expressed social network and community environment are enablers for attending physical activities. Free health service policies such as " physical examination for the elderly", " cancer screening for women" are facilitator factors for the elderly and women to access relevant health information. One of third participants reported "lack of time", or "I am at good health" are the main obstacles for actively seeking health information. Most participants indicated to get health knowledge from social media such as Wechat and Tic-Tok,

Conclusions

This study provides evidence that the promotion of improving health literacy should be considered multifactor in terms of individual, family, social network, community and policy.

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BASELINE OCCUPATIONAL NOISE EXPOSURE AND HEARING-RELATED FACTORS AMONG CANADIAN ARMED FORCES RECRUITS: TRENDS ANALYSIS OF THE RECRUIT HEALTH QUESTIONNAIRE

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Background: The number of hearing-related claims submitted by serving and retired Canadian Armed Forces (CAF) members continues to be of concern. This prompted the need to understand baseline rates of occupational noise exposure and its associated precursory symptoms (dizziness and tinnitus) within the CAF.

Purpose: The aims of this study were to (1) present baseline rates of occupational noise exposure, dizziness, tinnitus, and prior workplace injury among CAF recruits attending basic training and (2) analyze trends over time (i.e., across recruitment cohorts).

Method: Our sample included 50,603 recruits (84.9% male; 78.6% non-commissioned members) who voluntarily completed the Recruit Health Questionnaire (RHQ) from 2003 to 2018. The RHQ was used to collect information on socio-demographics (age, education, income, rank, sex), workplace noise exposure, workplace injury, tinnitus, and dizziness in the year prior to basic training.

Results: Younger recruits, recruits with less education, and non-commissioned members reported significantly more occupational noise exposure, dizziness, and tinnitus than their counterparts. Males reported more occupational noise exposure, whereas female reported significantly more dizziness and workplace injuries. Occupational noise exposure, dizziness, tinnitus, and workplace injuries significantly increased over time.

Conclusion: Hearing-related symptoms varied by socio-demographic characteristics. Furthermore, there was a general upward trend of baseline occupational noise exposure, dizziness, tinnitus, and workplace injuries among CAF recruits. These findings suggest there may be a need for tailored intervention programs on hearing loss in CAF recruits. However, these factors need to be explored longitudinally to inform policy.

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MINDFULNESS-BASED STRESS REDUCTION (MBSR) AS AN EFFECTIVE METHOD FOR IMPROVING SYMPTOMS OF STRESS AND INFLUENCE OF THE PARASYMPATHETIC NERVOUS SYSTEM DURING COVID-19

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Background: The Selah trial, a partially randomized, preference-based waitlist controlled trial, evaluated three potentially stress-reducing interventions among clergy in North Carola during COVID-19.

Purpose: Secondary analysis of data from the Selah trial to evaluate the effectiveness of mindfulness-based stress reduction (MBSR) on self-report and physiological markers associated with stress, including examination of mediators.

Method: Participants indicated preference among interventions which guided assignment to their preferred intervention or randomization across the three interventions evaluated. A portion of participants were randomly assigned to waitlist control. MBSR spanned 8 sessions that were delivered virtually through Duke Integrative Medicine Center. Surveys and 48-h ambulatory heart rate were collected at 0 and 12-weeks, and practice data via daily text messages. Primary outcomes were symptoms of stress measured through Calgary Symptom of Stress Inventory, and cardiac vagal control (CVC) measured as the Midline Estimating Statistic of Rhythm (MESOR). Mixed model ANCOVA evaluated between-group change in outcomes, and Mediation and Moderation for Repeated Measures analyses (MEMORE) evaluated mediation.

Results: Relative to control ($N = 42$), participants who completed MBSR ($N = 65$) practiced a mean 28 m/day, and evidenced significant improvement in symptoms of stress, $p < 0.001$, CVC, $p = 0.038$, perceived stress reactivity, $p < 0.001$. Improvement in symptoms of stress were partially mediated by change in CVC, -0.027 (95% CI: -0.067,-0.0007), stress reactivity, 0.13 (95% CI: 0.075, 0.197), and mindfulness, 0.025 (95% CI: 0.013, 0.0564).

Conclusion: MBSR delivered virtually is an effective intervention to improve stress and well-being during COVID-19. Improvements in stress symptoms were partially accounted for by improvements in perceived reactivity to stressors and influence of the parasympathetic nervous system measured at the heart.

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A CUMULATIVE SOCIAL RISK MEASURE DOES NOT SHOW BIAS BY INCOME AND EDUCATION

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Background: Social risks such as housing instability and food insecurity have been associated with less engagement in cancer screening and worse health. The collective effects of each social risk a person experiences are called cumulative social risk. Cumulative social risk has traditionally been measured through counts or sum scores that treat each social risk as equivalent, such as treating being homeless as equivalent to having a pest problem in one's home.

Purpose: The purpose of this study is to use item response theory (IRT) as an alternative measure of cumulative social risk as IRT accounts for the severity in each risk. We report on a differential item functioning (DIF) analysis comparing IRT-based cumulative social risk scores by income and education.

Methods: Using address-based sampling, residents of Washington state ($n = 2122$) received a postcard invitation to complete a research survey online. The survey included six questions on social risks. IRT models compared income and education levels for statistically significant and meaningful differences.

Results: Analyses showed no statistically significant DIF by education level on an IRT-based cumulative social risk score. Statistically significant DIF was found on three of six items by income level but the ultimate effect on the scores was negligible (approximately 6% of the variance in scores).

Conclusion: An IRT-based cumulative social risk score was not biased by education and income level and can be used for clinic-based screening. An IRT-based cumulative social risk score appears useful for combining datasets to examine policy, community and individual factors affecting social risk.

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HONG KONG CHINESE OLDER ADULTS' COVID-19 VACCINE HESITANCY: THE SOCIAL INFLUENCES AND PSYCHOLOGICAL PROCESSES

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BACKGROUND: Vaccine hesitancy remained a major barrier to achieve high vaccination uptake among older adults.

PURPOSE: To understand factors that contributed to older adults' COVID-19 vaccine hesitancy and the underlying decision-making processes.

METHODS
Three parts of data analyses were included. Part I involved serial cross-sectional surveys conducted among general Hong Kong adults from December 2020 to March 2021 to collect data on COVID-19 vaccination acceptance and related psychosocial factors. Part II was a sentiment analysis on vaccine-related news of the same period to supplement data interpretation in Part I. Part III was a qualitative study conducted among 27 unvaccinated older adults aged ≥ 60 years guided by grounded theory.

RESULTS: Part I found that older adults' vaccination decision relied more on affective and norms-related cues, but they showed less worry about contracting COVID-19 which lowered their vaccination acceptance. Sentiment analysis found that as vaccine news became negative, older adults' vaccine hesitancy increased. The qualitative data revealed that older adults' vaccine hesitancy weaved into the context of lacking sufficient decisional support and attitude roots of negative perception of ageing, fatalistic risk attitudes, present-oriented time perspectives, and distrust in western biomedicine. Attitude roots were used as decisional anchors to further shape older adults' peripheral processing of vaccine-related information, resulting into various vaccine-hesitant attitudes. Alternatively, they turned to other coping strategies for regaining self-control.

Conclusions: Interventions to address older adults' attitude roots and strengthen their social connectivity, and communication to tailor messages to their information-processing preference are important for reducing older adults' vaccine hesitancy.

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SHORT SLEEP DURATION AND OBESITY RISK: DOES DIET OR ACTIVITY EXPLAIN THE LINK? A RANDOMISED CROSSOVER TRIAL

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Background: Although observational studies consistently show that insufficient sleep increases the risk of obesity in children, the mechanisms remain uncertain.

Purpose: To experimentally determine how sleep loss influences time spent active and sedentary, and dietary intake.

Method: 105 children aged 8–12 years who met sleep guidelines (8–11 h/night) went to bed one hour later than normal (sleep restriction) and one hour earlier than normal (sleep extension) for one week each, separated by a one-week washout. 24-h time use (time spent in sleep, physical activity, and sedentary) was measured using waist-worn Actigraphs for 8 days, and dietary intake using two 24-h recalls, each intervention week. Data are presented as mean difference (95% CI) in sleep restriction versus extension weeks.

Results: 83 (79%) children (53% female) lost a mean (SD) of 48 (30) minutes of sleep each night, but also woke 8 (SD 21) minutes less overnight. With less time asleep, sedentary time increased (+ 31 min), with smaller increases in light physical activity (+ 21 min) and MVPA (+ 4 min). Daily energy intake was 401 kJ (103, 698) higher with sleep restriction, with all of the extra energy from non-core foods (552 kJ; 126, 979). For every 48 min of sleep lost, caloric intake was 252 kJ (55, 470) higher after accounting for differences in 24-h time use.

Conclusion: Children are not less active when tired, but they do eat more, particularly non-core foods. Therefore, changes in diet and not physical activity likely explain why not getting enough sleep increases obesity risk in children.

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A TRANS-THEORETICAL MODEL-BASED INTERVENTION DELIVERED BY FULLY AUTOMATED CHATBOT WAS EFFECTIVE IN INCREASING SEASONAL INFLUENZA VACCINATION UPTAKE AMONG COMMUNITY-LIVING OLDER ADULTS IN CHINA -- FINDINGS OF A RANDOMIZED CONTROLLED TRIAL

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Background

Despite its effectiveness, the coverage of seasonal influenza vaccination (SIV) remains low among older adults in Hong Kong. A Chatbot is a computerized program that can automatically select and provide different path of interventions according to participants' responses.

Purpose

This was a parallel-group non-blinded randomized controlled trial to evaluate the efficacy of a Chatbot-delivered online intervention based on the trans-theoretical model in increasing SIV uptake among people aged ≥ 65 years.

Method

A total of 396 Chinese-speaking Hong Kong residents aged ≥ 65 years recruited by random telephone sampling were randomized evenly into the intervention group or the control group. In the intervention group, the Chatbot first assessed participants' stage of changes (SOC) and then automatically sent them an online health promotion video tailored to their SOC through WhatsApp once every two weeks for four times. The control group watched a standard online video covering general information about SIV every two weeks for four times. Participants completed a telephone follow-up evaluation six months after baseline survey; the dropout rate was 14.4%. Self-reported SIV uptake was validated by requesting participants to send an image of the receipt of SIV to the project WhatsApp account. Intention-to-treat analysis was performed.

Results

Between-group differences for baseline background characteristics were statistically non-significant. At Month 6, the validated SIV uptake was significantly higher in the intervention group than that of the control group (50.5% versus 35.4%, p = 0.002).

Conclusion

The Chatbot-delivered tailored online intervention is of good potential to increase SIV uptake among older adults in Hong Kong.

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INTERNATIONAL IMPLEMENTATION OF AN ONLINE MENTAL HEALTH PROGRAM FOR PARENTS OF YOUNG CANCER SURVIVORS (CASCADE): IMPLEMENTATION PROCESS AND LESSONS LEARNED

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Background: Parents of child cancer survivors can experience a spike in psychological distress at the end of treatment, potentially compounded by insufficient availability of evidence-based support. Our team therefore developed and evaluated a four-module group-videoconferencing intervention, 'Cascade' to promote parents' resilience. However, evidence is needed to show feasibility and sustainability in 'real world' settings.

Purpose: To evaluate the implementation process of Cascade being integrated within five cancer community organisations [our delivery-partners] across four countries (Australia, New Zealand, the UK, and Mexico).

Method: Between 2019–2022, our delivery-partners obtained research approvals, received training for Cascade facilitators [social workers/counsellors/psychologists], culturally adapted Cascade for local populations, and delivered Cascade to parents. We interviewed delivery-partner staff (facilitators/managers/administrators) to assess their confidence delivering Cascade, perceived barriers/facilitators to implementation, participant uptake and attrition, manual fidelity, and financial sustainability.

Results: We interviewed 20 staff members, 9 of whom had facilitated/delivered Cascade to 35 parents. Most parents (77%) completed all modules. Staff perceived Cascade to be "desperately needed", but reported that the group format, online delivery, scheduling difficulties, and high anxiety were barriers for some parents. Facilitators reported high confidence delivering Cascade and high manual fidelity. Some challenges (e.g., the pandemic, prolonged site-specific approvals) delayed implementation across sites. Staff reported that while the research/evaluation component of the study was time-consuming, establishing groups and delivering Cascade was generally financially and practically sustainable within their organisations.

Conclusion(s): By integrating Cascade within trusted cancer community organisations internationally, we can sustainably and feasibly broaden parents' access to support after their child's treatment completion.

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ASSIST GLOBAL SMOKING PREVENTION INTERVENTION: CHALLENGES AND OPPORTUNITIES

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Background: Tobacco is the world's leading cause of avoidable poor health and premature death. Around 80% of the world's smokers live in lower-middle income countries. ASSIST is a 'peer-led', school-based smoking prevention intervention, developed in the UK. ASSIST is based on 'diffusion of innovation' theory, with new norms and behaviours promoted through: (i) peer modelling by locally influential individuals; and (ii) information disseminated by them through their social networks. The aim of this study is to adapt ASSIST for delivery in Indonesia, China and the Philippines and to assess the feasibility and acceptability of the intervention.

Design: Two stage study; i) development and set up including stakeholder engagement and programme theory refinement ii) randomised feasibility trial in 10 schools per country (n = 30 total), with economic and process evaluations.

Results and conclusions: Findings from the development stage of this multi-site international trial will be presented ocusing particularly on the challenges and opportunities of global work. To date these have included contractual, financial, ethical and data sharing challenges as well as political and funder issues. A key concern has been navigating power and knowledge asymmetries. Results from the stakeholder work in each partner country have indicated key contextual factors that will be important in refining the programme theory and trial methods including differences in knowledge and the cultural acceptability of smoking as well as necessary changes to the training programme. Findings from this project will be valuable to other researchers considering working with international partners in lower and middle income countries.

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AN UMBRELLA REVIEW AND META-ANALYSIS OF 68 META-ANALYSES EXAMINING HEALTHCARE WORKERS' MENTAL HEALTH DURING THE COVID-19 PANDEMIC

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Background

In the context of the SARS-CoV-2 (i.e., COVID-19) pandemic, healthcare workers (HCWs) have experienced worsened work conditions and have reported significant declines in their mental health.

Purpose

An umbrella review of meta-analyses was conducted to examine the prevalence of various mental health problems experienced by HCWs during the COVID-19 pandemic, and to determine whether these problems changed over time.

Methods

We searched the PubMed, EMBASE, PsycINFO, and Scopus databases. Meta-analyses published in English, including data on at least one type of HCW and reporting on at least one type of mental health problem were included. A meta-analysis was conducted on the prevalence of mental disorders, with additional moderations for type of HCWs and for time from declaration of the pandemic (March 11, 2020).

Results

Sixty-eight meta-analyses were included in the analysis, summarizing over 1,400 manuscripts. The overall prevalence among HCWs for the different mental health problems was 20% for PTSD, 29% for depression, 29% for anxiety, 32% for psychological distress, 37% for sleep problems, and 41% for burnout. Analyses also revealed significant changes over time, with depression ($p < 0.01$), sleep problems ($p = 0.02$), and PTSD ($p = 0.03$) increasing, and anxiety having an apparent rise then decline ($p = 0.04$). Nurses, compared to physicians, had significantly greater anxiety, sleep problems, and PTSD ($p < 0.05$).

Conclusion

Prevalence of mental health disorders in HCWs is high, with increasing depression, sleep problems, and PTSD as the pandemic progressed. Health administrations worldwide need to address these growing problems through institutional policies and wellness programming.

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PERCEIVED DISCRIMINATION AND TYPE 2 DIABETES INCIDENCE: FINDINGS FROM THE HEALTH AND RETIREMENT STUDY

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Background: Evidence on the association between perceived discrimination and type 2 diabetes onset is mixed. Repeated exposure to stressors, such as discrimination, is theorized to predispose individuals to disease. However, the impact of repeated reports of perceived discrimination on type 2 diabetes risk is unknown.

Purpose: To examine the prospective association between perceived discrimination and type 2 diabetes incidence and to assess whether repeated reports of perceived discrimination exacerbate this.

Method: Data were from the Health and Retirement Study of 22,731 individuals aged ≥ 50, without a diabetes diagnosis. Participants self-reported experiences of discrimination and diabetes status. Associations between baseline perceived discrimination and incident diabetes in the following ten years were modelled using Cox regression, adjusting for potential confounders. Weighted cumulative exposure models were used to assess the effect of repeated reports of perceived discrimination on incident diabetes.

Results: Baseline perceived discrimination was prospectively associated with a 31% increased risk of diabetes (HR = 1.31, 95%CI:[1.20;1.43]). This association was attenuated when adjusting for health behaviours (HR = 1.27, 95% CI:[0.31;1.43]). For ethnic minority participants, repeated reports of perceived discrimination were associated with an increased risk of diabetes (HR = 1.37,95%CI: [0.81;1.61], $p < 0.001$). The inclusion of health behaviours in the model attenuated this association (HR = 1.31,95%CI:[0.64;1.67]).

Conclusions: Perceived discrimination increased the risk of type 2 diabetes onset in middle-aged and older adults over a median 8-year follow-up period. Repeated reports of perceived discrimination further exacerbate the link between discrimination and diabetes onset in ethnic minority groups. Health behaviours may offer a potential mechanism through which discrimination influences diabetes onset.

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PERCEIVED BARRIERS AND ENABLERS INFLUENCING PHYSICAL ACTIVITY IN HEART FAILURE: A QUALITATIVE ONE-TO-ONE INTERVIEW STUDY

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Background: In heart failure (HF), increased physical activity is associated with improved quality of life, reduced ospitalization, and increased longevity and is an important aim of treatment. However, physical activity levels in individuals living with HF are typically extremely low.

Purpose: To explores perceived clinical, environmental, and psychosocial barriers and enablers in older adults (≥ 70 years old) living with HF.

Methods: Semi-structured interviews ($N = 16$) based on the Theoretical Domains Framework elicited 39 belief statements describing the barriers and enablers to physical activity. Theoretical domains containing these beliefs and corresponding constructs that were both pervasive and common were deemed most relevant. Each transcript was assessed on the presence of lexico-syntactic patterns used to infer causality in natural language. The TDF domains and constructs that were perceived to be linked, as evidenced by these patterns, were noted as being related to one another.

Results: Concerns about physical activity (Beliefs about Consequences), self-efficacy (Beliefs about Capabilities), social support (Social Influences), major health event (Environmental Context and Resources), goal behavioural (Goal), action planning (Behavioural Regulation) were suggested to be relevant. The perceived links between the identified barriers and enablers described using lexico-syntactic patterns are consistent with Health Action Process Approach.

Conclusion: This work extends the limited research on the modifiable barriers and enablers for physical activity participation by individuals living with HF. The research findings provide insights for cardiologists, HF-specialist nurses, and physiotherapists to help co-design and deliver a physical activity intervention likely to be effective for individuals living with HF.

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A THEORY-BASED FRAMEWORK FOR CATEGORIZING BEHAVIOUR CHANGE MECHANISMS

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Background: Psychologists have sought to identify the active ingredients of effective behavior change interventions. A core taxonomy of theory-based techniques (Abraham & Michie, 2008) was extended into list of 93 "techniques" not explicitly linked to underlying change mechanisms (Michie et al., 2013). Kok et al. (2015) sought to systematize such lists by identifying 14 types of applications of change technique from "individual-level" to "policy-level". Knittle et al. (2020) listed 123 things that one can try to change oneself, from "prayer" to "task crafting". We argue that this well-intentioned work has become disconnected from a coherent theoretical understanding of behavioral regulation and change.

Methods: We present a theory-based categorization of regulation and change processes based on CEOS theory (Borland, 2017). We conceptualize how executive processes are informed by and influenced by affective reactions and how they modulate and direct contextual and operational (e.g., affective) influences on behaviour.

Results: These analyses generated 4 broad types of contextual influences, 5 distinct types of executive activities that can support change, and 3 types that focus more directly influencing underlying unconscious, operational, mechanisms. Executive influences include: integrating conceptual and experiential understanding of the problem and possible solutions, metacognitive framing of the problem in relation to the self, analysis of options, plans to support or direct change, and a core self-management function involved in deciding and directing action.

Conclusions: This framework can incorporate all techniques identified in the existing taxonomies, while also differentiating between techniques in relation to the underlying mechanisms of change they utilize.

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THE IMPACT OF RISK PREFERENCE ON THE PRESCRIPTION BEHAVIOR OF PHYSICIANS IN RURAL CHINA

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Background: Inappropriate prescribing is challenging to global health, particularly in primary healthcare settings of low and middle-income countries. Over prescription (e.g. antibiotics) is a salient problem in rural China

Purpose: Our objective is to evaluate the impact of risk preference on physicians' prescription behavior in rural China

Method: We collected data from 330 village clinics in Yunnan province, China, through a facility and physician survey. After two months, unannounced Standard Patients (SPs) randomly visited village clinics and presented viral diarrhea, angina, and asthma cases to measure physician prescription behavior. The risk preference of physicians was measured by the Balloon Analogue Risk Task (BART), in which a higher score represents risk-seeking and closer to zero presents risk-averse. We used a two-part Linear Probability Model to estimate the association of physicians' risk preference with medication prescription behavior.

Results: Regression results indicate that risk preference measured by BART score significantly correlates with SP medication expenditure ($P < 0.01$, CI: -0.0058,-0.0010). Within a specific range of risk levels, a risk-averse BART score was associated with an increase in medication prescription, leading to higher expenditure ($P < 0.01$, CI: -0.006,-0.001). Risk-neutral physicians are more rational in prescribing medication. A linear marginal effect exists between risk preference level and physicians' prescription, which varies across disease types.

Conclusions: Our findings provide evidence of a strong association between risk preferences and prescription behavior in rural China. Therefore, we suggest implementing effective interventions integrated into doctors' prescription process to reduce diagnostic uncertainty and prevent over-prescription from subjective risk attitude.

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PASSIVE MONITORING OF DEPRESSION AND ANXIETY AMONG WORKERS USING DIGITAL BIOMARKERS ON THEIR PHYSICAL ACTIVITY AND WORKING CONDITIONS: A TWO-WEEK LONGITUDINAL STUDY

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Background: Digital data on physical activity are useful for self-monitoring and preventing depression and anxiety. Although previous studies have reported machine or deep learning models that use physical activity for the passive monitoring of depression and anxiety, there are no models for workers.

Purpose: This study evaluated the performance of a deep-learning model optimized for predicting psychological distress in workers.

Method: A two-week longitudinal study was conducted on workers in urban areas in Japan. In a daily survey, psychological distress was measured As features, activity time by intensity was determined using the Google Fit application. Additionally, we measured age, gender, occupations, employment status, work shift types, working hours, and whether the response date was a working or non-working day. A deep learning model, using the long short-term memory, was developed and validated to predict psychological distress the next day using features of the previous day. A five-fold cross-validation method was used to evaluate the performance of the aforementioned model by the classification accuracy for the severity of the psychological distress (light, subthreshold, and severe).

Results: A total of 1,661 days of supervised data were obtained from 236 workers, who were aged between 20 and 69 years. The overall classification accuracy for psychological distress was 76.3 ± 0.04%. The classification accuracy for severe-, subthreshold-, and light-level psychological distress was 51.1 ± 0.05%, 60.6 ± 0.05%, and 81.6 ± 0.04%, respectively.

Conclusions: The developed deep learning model showed a similar performance as in previous studies and, in particular, high accuracy for light-level psychological distress.

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REGIONAL DISCREPANCY BETWEEN PSYCHOTHERAPY USE AND SELF-REPORTED MENTAL HEALTH PROBLEMS IN FINLAND

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BACKGROUND There are prominent regional differences in mental health across Finland. An increasing number of people receive partly state-subsidized rehabilitative psychotherapy every year.

Purpose We examined if the prevalence of psychotherapy use corresponded to the prevalence of self-reported mental health problems across different regions in Finland. And whether there were regional differences in the ratio of these prevalences.

Methods The prevalence of psychotherapy use was estimated from national register data drawn from Statistics Finland and The Social Insurance Institution. The prevalence of regional mental health problems was estimated from national FinHealth2017 survey data. We estimated the regional prevalence of mental health problems, the use of rehabilitative psychotherapy and the ratio between these prevalences for the working-age population.

Results There were regional differences in the ratio between prevalence of mental health problems and the use of psychotherapy. In the northern and northeastern parts of Finland, there were 37.5 individuals reporting mental health problems per one individual receiving rehabilitative psychotherapy. In the western and southwestern parts, the corresponding figure was 17.

Conclusions Regional differences in mental health problems and mental health services are an important source of health inequality in Finland. This should be one focus in implementing the current reform of healthcare and social welfare structures.

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PRECARIOUS EMPLOYMENT AT A YOUNG AGE AND MENTAL HEALTH PROBLEMS REQUIRING INPATIENT CARE

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Background: Precarious employment is a known determinant of self-reported mental health problems among young adults; however, less is known about more severe health problems requiring inpatient care.

Purpose: The current study aims to test if exposure to precarious employment at a young age is associated with an increased risk of mental health problems requiring inpatient care.

Method: A registered-linked population-based cohort study based on the Swedish Work, Illness, and Labor-market Participation (SWIP) cohort was conducted following a cohort of young adults born between 1973–1976 (n = 367 655 individuals). Three years after graduating from school information on labour market establishment (precarious employment, sub-standard employment, unemployed, and standard employment) were collected from registers, and information on the outcome of mental health problems (depression, anxiety, and stress-related disorders) was collected from National Patient Registers during a 10-year follow-up. Crude and adjusted risk ratios (aRR) with 95% confidence intervals (CI) were obtained by generalized linear models.

Results: The preliminary results suggest that individuals that were precariously employed at a young age were at an increased risk of mental health problems later in life compared to young adults in standard employment relations (aRR: 1.50, 95% CI: 1.39, 1.62). Young men appeared to be more sensitive to precarious employment compared to young females (aRR: 1.65, 95% CI: 1.47, 1.87, aRR: 1.41, 95% CI: 1.28, 1.56, respectively).

Conclusion: Young adults in precarious employment are at an increased risk of later mental health problems, which is of importance as precarious employment is increasing and especially among young adults.

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SOCIAL RESOURCES FOR EVERYDAY PHYSICAL ACTIVITY DURING THE COVID-19 PANDEMIC

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Physical activity has substantial health benefits. Older adults tend to engage in too little physical activity, and this situation has become worse since the onset of the pandemic. This project aims to investigate everyday social resources that are associated with more physical activity, specifically whether physical activity that occurred with a close other or alone is influential. One-hundred thirty-seven Canadian older adults (Age: Meanage = 70.72 years, SDage = 5.77; Female: 67%, Ethnicity: 87% White) participated in a daily diary study on social support for everyday health behaviours together with a close other person of their choice. Both dyad members provided background information and completed daily questionnaires for up to 10 consecutive days including reports of daily steps, daily minutes engaged in moderate to vigorous physical activity, and whether they engaged in physical activity alone or together with their close other. Results show that on days when engagement in physical activity involved a close other, participants reported increased concurrent step counts and minutes of moderate to vigorous physical activity whereas engaging in physical activity alone was associated with fewer daily steps and minutes of moderate to vigorous physical activity. Similarly, older adults who generally engaged in physical activity alone engaged in fewer overall minutes of moderate to vigorous physical activity. Findings point to the importance of close others in facilitating physical activity in everyday life. Further analyses will aim to investigate the relationship between time-varying social resource- physical activity associations and individual difference factors or those of their close others.

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ACTION AND/OR COPING PLANNING FOR HEALTH BEHAVIOUR CHANGE: A COCHRANE SYSTEMATIC REVIEW OF 266 RANDOMIZED CONTROLLED TRIALS

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Background:

Action Planning and/or Coping Planning (cf. Implementation Intentions) are well-tested post-intentional behaviour change techniques that link pre-specified cues to a planned action.

Purpose:

To conduct a Cochrane systematic review of all randomized controlled trials of all health behaviour and healthcare provider behaviour change interventions involving Action and/or Coping Planning.

Method:

We searched Cochrane, MEDLINE, Embase, CINAHL, PsycINFO, and trial registers up to November 2020. We included trials reporting health behaviour outcomes (self-reported and objective measures) for patients/public or healthcare providers. Follow-up timeframes for assessing health behaviour change were categorized as short- (< 1 month), medium- (1–6 months), or long-term (7 + months). Random effects meta-analyses were conducted on trials with sufficient data.

Results

We included 266 trials (n = 369,930), the majority of which were conducted with patients/public (only 11 trials with healthcare providers). The most common targeted health behaviours were physical activity, food consumption, alcohol consumption, medication-taking/adherence, and smoking. Meta-analyses for self-reported outcomes indicated overall small-to-medium effects for Action Planning: < 1 month (18 trials, Cohen's d = 0.37 [95%CI = 0.16–0.59]); Coping Planning: < 1 month (9 trials, d = 0.19 [95%CI = 0.02–0.37]); 1–6 months (28 trials, d = 0.33 [95%CI = 0.16–0.49]); and Action + Coping Planning: 1–6 months (41 trials, d = 0.29 [95%CI = 0.15–0.42)]. Similar small-to-medium effects were observed in trials with objectively measured outcomes, though these were fewer in number.

Conclusion

In this largest systematic review to date, Action and/or Coping Planning interventions had overall small-to-medium effects on health behaviour change, particularly over short-to-medium timeframes. There are opportunities to evaluate these strategies for wider use as part of large-scale rigorous pragmatic trial designs.

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THE INTENTION-PHYSICAL ACTIVITY ASSOCIATION DEPENDS ON CULTURE: COMPARISONS BETWEEN ASIAN AND NON-ASIAN OLDER ADULTS

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Intentions are a key construct in most health behaviour models. Yet, intentions may play a smaller role in motivating health behaviours in non-Western, collectivistic cultures where socio-contextual norms play a stronger role in facilitating actions (Markus, 2016). This project explores potential differences in the association between physical activity intentions and physical activity behaviours across different cultural groups. We used data from 258 community-dwelling older adults living in the Vancouver Metropolitan Area, Canada who participated in a study on everyday health dynamics in couples (Age: Mean age = 70.51, SD age = 5.91; Ethnicity: 36% Asians). We used ethnicity (Asian vs. non-Asian) as a proxy for cultural background of collectivism and individualism. Self-reported physical activity intentions at baseline and one week of accelerometer-assessed physical activity were collected as individuals went about their everyday routines. Multilevel modeling was used to accommodate the nested structure of the data (i.e., individuals nested in couples), and age, gender, mobility, and total wear time of the accelerometer were controlled for as covariates. Analyses showed that individuals with stronger intentions had higher physical activity (minutes of MVPA and step counts). Cultural groups did not show significant differences in their level of physical activity engagement. More importantly, a significant interaction between intentions and cultural background indicated that intention-physical activity associations were only significant among non-Asian but not among Asian participants. Findings point to a need to adjust Western-focused health behavior models when working with Asian participants to consider different motivational styles across cultures.

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APPLYING FAMILY-CENTERED COMMUNICATION TO IMPROVE PATIENT-PROVIDER-COMPANION DISCUSSIONS ABOUT CHANGING TO BIOSIMILARS: AN EXPERIMENTAL STUDY

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Background. Healthcare providers' communication styles can influence patients' treatment decisions. However, it remains unclear whether the effects extend to patient-companion-provider encounters. Experimental research is also needed to understand how to improve companion involvement in decision-making, as companions rely on practitioner support.

Purpose. This study examines whether family-centered communication impacts decisions and optimizes patient-companion-provider consultations.

Method. A parallel, two-arm randomized controlled trial was conducted with 108 participants acting as patients with arthritis or companions. Pairs were randomized to attend a consultation where a physician explained changing from a bio-originator drug to a biosimilar using family-centered or patient-only communication. Participants completed various scales including the Patient Perception Scale and reported their willingness to change medicines, risk perceptions, understanding and social support. Interviews were conducted to assess perceptions towards the consultation.

Results. Family-centered communication did not impact decisions or cognitive risk perceptions compared to patient-only communication. However, it improved emotional risk perceptions ($p = 0.047$, Cohen's $d = 0.55$) and satisfaction with communication ($p = 0.015$, Cohen's $d = 0.71$). Feeling the explanation was reassuring was associated with less worry ($p = 0.004$). Receiving emotional support ($p = 0.014$) and companions asking fewer questions ($p = 0.046$) were associated with higher recall. The intervention improved companion involvement ($p < 0.001$, Cohen's $d = 1.23$) and support ($p = 0.002$, Cohen's $d = 0.86$). Encouraging companions to ask questions, using positive body language, and acknowledging companions facilitated involvement.

Conclusions. Practitioners can employ family-centered communication to augment patient-companion-provider encounters. However, it did not seem to influence treatment decisions. Providers should provide reassurance to reduce patient worries, encourage emotional support and summarize key points to improve understanding.

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VIRTUAL HUMANS ENHANCE HOMEWORK COMPLETION OF DIGITAL MINDFULNESS INTERVENTIONS

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Background

Digital technologies can increase access to psychological interventions, but often suffer low engagement and poor adherence. Teletherapy can increase engagement and effectiveness compared to purely digital delivery, but requires a trained therapist. Virtual human (VH) delivery (realistic embodied conversation agents) may increase engagement and adherence compared to less humanlike technologies.

Aim.

This study aimed to compare the effects of mindfulness training delivered by a VH, a text-based chat-bot, and a teletherapist over zoom.

Methods

108 stressed University students were randomly assigned to either the VH, chat-bot, or teletherapist delivery, for one in-person session of cognitive behavioural stress management focused on mindfulness meditation. Participants were asked to complete homework sessions at least twice a week for 4 weeks in each condition (VH, chatbot, or teletherapist). Changes in stress, mindfulness, homework completion, and engagement were compared between groups.

Results

All groups experienced reduced stress and increased mindfulness after the intervention and 4 weeks later (p's < 0.05). Homework completion was significantly greater in the VH group ($p < 0.05$), and homework engagement was significantly lower in the chatbot group, compared to the other groups ($p < 0.05$). Greater homework completion was significantly associated with stress reduction ($r = 0.27$, $p < 0.05$). Suggestions for improvement included a less robotic voice for the VH, an audio format for the chatbot, and some participants felt more judged by the teletherapist.

Conclusions

The use of VH for the delivery of digital mindfulness interventions may increase engagement and adherence to homework sessions compared to other technologies.

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EVALUATING THE EFFICACY OF THE MYSUGR DIABETES APP TO IMPROVE HBA1C AND PSYCHOLOGICAL WELLBEING IN ADULTS LIVING WITH TYPE 1 DIABETES: A RANDOMISED CONTROLLED TRIAL

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Background and Purpose: Adults living with type 1 diabetes (T1D) are increasingly using digital tools to improve their self-management, including diabetes apps. One of the most popular commercial diabetes apps is mySugr, yet it has never been evaluated using a tabilized controlled trial. We evaluated mySugr to explore whether using the app could improve HbA1c and psychological wellbeing in adults with T1D in Auckland, New Zealand.

Methods: Sixty-three adults with T1D were tabilized to mySugr (N = 31) or to the standard care control group (N = 32). The primary outcome measure was HbA1c measured at baseline and at 3 and 6-months follow-up. Secondary outcomes were self-care behaviours, diabetes self-efficacy, and psychological wellbeing measured at baseline and 3-months follow-up. Mixed analysis of variance (ANOVA) and analysis of covariance were used to explore differences between groups and across time.

Results: Fifty-five participants completed the study (mySugr N = 26, control N = 29). HbA1c remained stable in the mySugr group in comparison to a slight increase (deterioration) in the control group ($p = 0.034$), with significant between-group differences maintained after controlling for baseline HbA1c ($p = 0.030$). There were no statistically significant differences observed in any of the secondary outcome measures. Self-reported user engagement was high with 20 out of 26 participants using the app daily for 3 months.

Conclusions: The findings suggest that mySugr may have tabilized participants' HbA1c compared to the control group. There were no changes found in any behavioural or psychological outcomes. Future research should further explore the mechanisms through which mySugr may be influencing HbA1c.

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THE NEW ASSOCIATIONS BETWEEN RESOURCES AND STRATEGIES FOR COPING WITH THE COVID-19 PANDEMIC DURING SELF-ISOLATION

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Background: Other than a vaccine, social distancing is the best defence against COVID-19. Government-enforced social distancing in Australia resulted in widespread social isolation. This increased the stress associated with COVID-19 while simultaneously reducing access to typical resources and strategies used to cope with stress.

Purpose: This study explored whether there was a change in the well-established associations of intrinsic and extrinsic coping resources and strategies with key indicators of stress-related emotional outcomes in those that were self-isolating.

Methods: Australian English-speaking adults ($n = 188$) completed an online survey incorporating measures of coping (approach and avoidant), locus of control, self-compassion, depression, anxiety, stress, and positive and negative affect at two time points, two weeks apart during June–August 2020. A longitudinal design was adopted to assess whether coping style, locus of control, or self-compassion were predictive of changes in depression, anxiety, stress, and positive and negative affect over time. Demographic information, coping, locus of control, and self-compassion were obtained at T1 only.

Results: Avoidant coping at T1 was predictive of increased anxiety, stress, and negative affect at T2. Self-compassion at T1 was predictive of increased positive affect at T2. No other coping resource or strategy was associated with emotion-related outcomes of stress during social isolation.

Conclusion: These results confirm that there was a change in which coping resources and strategies were associated with emotion-related outcomes of stress during social isolation. As such, avoidant coping and self-compassion are potential target variables for diminishing the negative effects of social isolation during pandemics.

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PUBLIC BELIEFS AND RISK PERCEPTIONS OF CLIMATE CHANGE IN HONG KONG: A MIXED-METHODS STUDY

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Background

Despite scientific consensus on current impacts, climate change continues to be viewed as a more distant threat.

Purpose

To explore and characterize Hong Kong adults' patterns of climate change beliefs and to what extent climate change was perceived as a health risk.

Method

A mixed-methods study combined qualitative in-depth interviews and a population-based survey. Purposive sampling recruited subjects for in-depth qualitative interviews, while random-digital-dialed telephone interviews recruited adults for the population-based survey. Survey data were analyzed using latent class analysis (LCA) to identify any underlying climate change belief patterns.

Results

Thirty participants completed the in-depth interviews, and 1,705 participants completed the survey. The qualitative data revealed themes reflecting knowledge deficit and skepticism about the climate change causes, perceiving "faraway" climate impacts, illusory optimism about the control of climate change, and perceiving low collective engagement and externalization of the responsibility in climate change mitigation. For the survey data, the LCA identified four distinct patterns of climate change beliefs: "Skeptical & Optimistic" (32.0%), "Concerned & Engaged" (26.9%), "Disengaged" (23.9%) and "Concerned & Pessimistic" (17.2%). Around 67% of the surveyed participants perceived that climate change posed a risk to their personal health. The "Concerned & Pessimistic" group perceived higher personal health risk caused by climate change while the "Skeptical & Optimistic" and the "Disengaged" groups perceived lower health risk.

Conclusion

Psychological distance, climate skepticism, illusory optimism, and perceiving low collective engagement remained important factors that hinder public emotional and behavioural engagement with climate change in Hong Kong.

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DEVELOPING AND EVALUATING AN HIV SELF-TESTING SERVICE WITH ONLINE REAL-TIME INSTRUCTION, PRE-TEST AND POST-TEST COUNSELING PROVIDED BY A FULLY-AUTOMATED CHATBOT (HIVST-CHATBOT)

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Background: Counseling with HIV self-testing (HIVST) could facilitate linkage to care and behavioral changes among men who have sex with men (MSM). As demonstrated by previous randomized controlled trial (RCT), HIVST with real-time instruction, pre-test and post-test counseling provided by trained administrators (HIVST-OIC) was highly effective in increasing HIV testing uptake. However, it was labor-demanding and difficult to implement on a large scale. A fully-automated Chatbot is potentially useful for providing real-time counseling supporting HIVST users.

Purpose: This study was to develop and evaluate an HIVST service with real-time counseling provided by a fully-automated Chatbot (HIVST-Chatbot). We aim to test whether HIVST-Chatbot was as efficacious as HIVST-OIC in increasing HIV testing uptake and the proportion of HIVST users receiving counseling.

Method: After the HIVST-Chatbot was developed and pilot-tested among 30 MSM. A parallel-group non-inferiority RCT was conducted. A total of 528 HIV-negative or sero-status unknown Chinese-speaking MSM aged ≥ 18 years were randomized evenly into the intervention group or the control group. In the intervention group, we promoted and implemented the HIVST-Chatbot. In the control group, we promoted and implemented the HIVST-OIC. Participants completed two telephone surveys at baseline and six months afterward.

Results: The study was ongoing. Preliminary results showed that MSM perceived HIVST-Chatbot as user-friendly and convenient. The acceptance of the HIVST-Chatbot and the HIVST-OIC was equally high.

Conclusions: HIVST-Chatbot may be a cost-effective alternative to HIVST-OIC in promoting HIV testing and ensuring support and linkage to care among MSM HIVST users.

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LONG-TERM SICKNESS ABSENCE IN MIGRANT AND NON-MIGRANT CARE WORKERS: A REGISTER-BASED FOLLOW-UP STUDY FROM FINLAND

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BACKGROUND AND AIMS: Care work is demanding, and migrant care workers can be exposed to additional vulnerabilities causing sickness absence. The aim of this study was to compare long-term sickness absence rates (LTSA, over 10 days) among migrant and non-migrant care workers in Finland.

Methods: The nation-wide register-data included 79,402 care workers, of which 5% had a migrant background. Two independent cohorts were analyzed together in a three-year follow-up design (2011–2013 and 2014–2016). Statistical analyses were performed using Poisson regression modeling.

Results: 35% of Finland-born care workers had at least one LTSA during the follow-up. Care workers from lower-income countries, i.e., Post-2004 EU countries (29%), Russia, the former Soviet Union and Balkan (25%) and Global South and East (20%), had lower LTSA rates than Finland-born care workers. These differences remained statistically significant after controlling for occupation, sex, age, employment income and region of residence (in Finland). Care workers from higher-income countries, i.e., the Western Europe and other Global North, had higher LTSA rates in comparison to Finland-born care workers.

Conclusions: There are several potential explanations for the results. Migrants from lower-income countries are generally healthier than the Finland-born population (health differences); migrants from lower-income countries need to be healthier than Finland-born job seekers to get a job in the care sector (selection bias and discrimination); migrants from lower-income countries underuse their right to sickness allowance (sickness presenteeism). It seems that these mechanisms affect migrants from higher-income countries less than other migrants.

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FEASIBILITY OF A TARGETED INTENSIVE COMMUNITY-BASED CAMPAIGN TO OPTIMISE VAGUE CANCER (TIC-TOC) SYMPTOM AWARENESS AND HELP-SEEKING IN AN AREA OF HIGH SOCIOECONOMIC DEPRIVATION

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Background/Purpose

Rapid Diagnostic Centres (RDCs) are being implemented across the UK to accelerate diagnosis among patients presenting with vague suspected cancer symptoms. We assessed the feasibility of delivering and evaluating a targeted community-based vague symptom awareness intervention.

Method

Mixed-methods evaluation of an intervention delivered from July 2021-March 2022, in deprived communities in Wales, UK. Intervention messages aligned to the Behaviour Change Wheel were delivered by trained cancer champions and using broadcast, printed, outdoor and social media channels. Data collection included (1) questionnaires with RDC patients to assess the patient interval (Neal et al., 2014), (2) Facebook metrics and (3) qualitative interviews and focus groups. Feasibility was assessed as 'green' (deliverable), 'amber' (amend) or 'red' (review).

Results

Of 243 RDC patients, 21% completed the questionnaire with < 20% missing data. Most intervention participants (72%) were from the two most deprived quintiles. Patient interval measurement was sub-optimal. Seven cancer champions were recruited, with 4 retained. Facebook advertisements reached 237,023 people and received 8,164 post engagements. Supermarket billboard and poster advertising, pharmacy bags, radio adverts and adverts on Facebook and in newspapers were assessed as 'green'. Adverts on buses, newspaper stories and leaflets were 'amber' and TV interviews, posters in buses and bus shelters were 'red'. Interviews with 43 stakeholders and two focus groups were conducted. Thematic analysis is underway.

Conclusion

It was feasible to deliver and evaluate multiple intervention elements. A stakeholder workshop will inform optimal methods of implementing and evaluating behavioural interventions to support RDCs in deprived populations.

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MONKEYPOX AWARENESS, COGNITIONS AND BEHAVIORAL INTENTIONS OF VACCINATION AND TESTING AMONG YOUNG MEN WHO HAVE SEX WITH MEN IN CHINA: A NATIONWIDE CROSS-SECTIONAL STUDY

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Background: on July 23, 2022, the World Health Organization has declared the multi-country monkeypox outbreak as a Public Health Emergency of International Concern, in which men who have sex with men (MSM) is the mostly affected population.

Purpose: This nationwide study aimed to investigate the levels of monkeypox awareness, cognitions, and behavioral intentions of vaccination and testing among young MSM (YMSM) aged 18–29 years in China

Methods: The facility-based survey was conducted in September, 2022 in six provincial regions in China which geographically and socioeconomically represent the country. The anonymous questionnaire was self-administered and took about 10–15 min to complete.

Results: Approximately 92.7% of the 2,493 YMSM had heard of monkeypox. The proportions of choosing the right answers for the ten knowledge questions ranged 13.4–81.7%. About 3.7–17.0% perceived a monkeypox susceptibility in three scenarios; 81.6–83.2% perceived a strong severity of monkeypox by scenarios; and 24.3% reported being emotional distressed due to monkeypox. About 66.2–88.4% of the sample showed an intention eceiveng monkeypox vaccination in four different scenarios; 92.3–93.9% showed an intention of monkeypox testing by scenarios. Monkeypox awareness, perceived susceptibility, perceived severity, and emotional distress were significantly and positively associated with the vaccination intention. Perceived severity of monkeypox was significantly and positively associated with the testing intention, while the emotional distress was a negatively associated factor.

Conclusions: Future national response to monkeypox in China should raise YMSM's monkeypox awareness, disseminate updated diseases information timely, implement targeted risk communication, and provide advice on coping with the associated emotional distress positively.

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THE EFFECTIVENESS AND COST-EFFECTIVENESS OF A DIGITAL HEALTH INTERVENTION TO SUPPORT BREAST CANCER PATIENTS PREPARE FOR AND RECOVER FROM SURGERY: A RANDOMISED CONTROLLED TRIAL PROTOCOL

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BACKGROUND:

Approximately 80% of breast cancer patients have surgery. Many commence radiation therapy soon after and need to be physically and mentally prepared for and recovered from their surgery in preparation for the next phase of their treatment. Up to 30% of the recovery from surgery is under the direct control of the patient. Best-practice ERAS (Enhanced Recovery After Surgery) guidelines include the following patient-managed recommendations: early tilization, eating and drinking; opioid tilization; physiotherapy/exercises. Patients need support to adhere to these recommendations and a Digital Health Intervention (DHI) may provide an effective, cost-effective, and scalable solution.

PURPOSE:

This RCT aims to evaluate the effectiveness and cost-effectiveness of the 'RecoverEsupport' DHI in increasing adherence to the patient-managed ERAS recommendations among breast cancer surgical patients (mastectomy and reconstruction). The study protocol is presented here.

METHOD:

200 eligible patients (low-risk, 18–80 years, internet access) will be recruited from the surgical lists at the Calvary Mater Newcastle (NSW, Australia). Patients will be tilizatio (1:1) to receive usual care (control) or 'RecoverEsupport' (intervention). The DHI incorporates the following evidence-based behaviour change strategies: information provision, skills training, self-monitoring and feedback, and prompts and cues. The primary trial outcome is Quality of Life (EORTC QLQ-C30) 1-month post-discharge. Secondary outcomes include: Length of Stay, ED admissions, Quality of Recovery, and health service tilization. Adherence to patient-managed ERAS recommendations will be assessed via self-report during the hospital admission.

RESULTS & CONCLUSIONS:

If effective, the intervention could be rapidly rolled-out at scale and adapted for other surgical patient groups.

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SHORT TERM OUTCOMES OF A HEALTHY FOOD CHOICE ARCHITECTURE INTERVENTION IN ONLINE LUNCH ORDERING SYSTEMS USED BY HIGH SCHOOLS: CLICK & CRUNCH HIGH SCHOOLS RCT

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Background: The WHO recommends the application of choice architecture strategies to encourage healthier food choices within school food settings. The rapid uptake of online lunch ordering systems in Australia represents an opportunity to apply choice architecture strategies to encourage healthier food purchasing at a critical behavioural decision (the point of purchase). Despite this no study has tested the efficacy of an online choice architecture intervention on encouraging healthier food purchases from high-school canteens.

Purpose: To assess the impact of embedding choice architecture strategies in an online lunch ordering system on the nutritional quality of the school canteen lunch purchases of high school students (aged 12–19 years).

Method: A cluster-RCT was conducted with nine high schools (1331 students) in one Australian state. Schools were andomized to a 2-month multi-strategy choice architecture intervention implemented in the school's online canteen or control (usual online ordering). Outcomes were the proportion of 'Everyday', 'Occasional' and 'Should Not Be Sold' lunch items purchased, categorized using the state's healthy canteen policy. Linear mixed models were used to analyse outcomes.

Results: There were significant between group differences over time for the intervention group for the mean percentage of online lunch items per student that were 'Everyday' (+ 5.5%; $p < 0.001$) and 'Should Not Be Sold' (-4.4%; $p < 0.001$).

Conclusions: A choice architecture intervention in an online lunch ordering system can improve the nutritional quality of foods purchased from high school canteens. Such an intervention may be appealing to policy makers interested in improving adolescent nutrition.

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THE YORKSHIRE ENHANCED STOP SMOKING (YESS) STUDY: PROCESS EVALUATION OF A PERSONALISED INTERVENTION TO SUPPORT SMOKING CESSATION WITHIN LUNG CANCER SCREENING

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Background/purpose

Lung cancer screening with integrated prevention is being offered to high-risk populations. The YESS study tested the effectiveness of an enhanced smoking cessation intervention (gold standard support involving behavioural support and pharmacotherapy + personalised booklet of images highlighting potential emphysema and/or coronary artery calcification) vs control (gold standard support only). All elements were delivered by trained smoking cessation practitioners (SCPs). No significant effect of the intervention was found; an embedded process evaluation examined intervention setting, delivery, dose, and contextual factors.

Method

Mixed-methods process evaluation. Qualitative interviews with 30 intervention and 15 control participants, and 30 participants who declined cessation support were analysed thematically. Consultations with SCPs (10%) on screening van and at intervention delivery were audio-recorded.

Results

Participants from both arms described co-located and ongoing smoking cessation support, with immediate provision of pharmacotherapy and compassionate and holistic care, as the main facilitator to initiating/sustaining a quit attempt. Strong self-efficacy and response-efficacy beliefs regarding smoking cessation were expressed across trial arms. In contrast, those who declined support described shame, social isolation, mental health issues and were concerned about the perceived effectiveness of cessation aids. Audio-recording analysis is ongoing.

Conclusion

Gold standard smoking cessation, optimised with personalised, efficacy-focused components, can boost receptivity to quitting across trial arms. Further analysis of the remaining data will shed light on intervention delivery and dose in relation to the trial outcomes.

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EFFECTS OF BODY-SHAMING DURING PREGNANCY ON POSTPARTUM DEPRESSION AND THE INFLUENCE OF CHANGES IN BODY SATISFACTION

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Postpartum depression is a clinical phenomenon in the context of pregnancy and childbirth. For both affected women and their families, this disorder is associated with considerable impairment and suffering. The relationship between body satisfaction and postpartum depression is already well established.

The aim of this study was to investigate the influence of body-shaming experiences (unsolicited, negative, body-related comments by third parties) during pregnancy and their particular role, with regard to body satisfaction and the development of postpartum depression.

Using data from 310 mothers of newborn children (age of child < 12 months), the influence of body-shaming experiences during pregnancy on scores of the Edinburgh Postnatal Depression Scale (EPDS) was examined. Using mediator analysis, the mediating influence of altered body satisfaction was additionally examined.

One third of the mothers reported body-shaming experiences during pregnancy. EPDS scores of mothers with body-shaming experiences during pregnancy (n = 105) were significantly higher than those of mothers without body-shaming experiences (n = 205), $p < 0.001$, $d = 0.45$. Mothers with body-shaming experiences also showed lower body satisfaction during and after pregnancy, $ps < 0.001$, $ds > 0.43$. The difference in body satisfaction before and after pregnancy significantly mediated the relationship between body-shaming and EPDS scores.

The results highlight the importance of negative body-related comments on mothers' body satisfaction and mental health. Regarding the multiple stress factors that mothers and families encounter during the postpartum period, it is of great importance to identify potential risk factors, minimize them and provide optimal health care support. Here, body-shaming should be considered as an important factor to be prevented.

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INCOME GRADIENT IN PSYCHOTROPIC DRUG PURCHASES AND PSYCHOTHERAPY USE: A LONGITUDINAL REGISTER STUDY

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Background: There are income-based inequalities in mental health treatment use.

Purpose: To examine changes in the income gradient in the use of long-term rehabilitative psychotherapy and psychotropic drug purchases in men and women during a 9-year follow-up in the context of the relatively high coverage of treatment costs.

Methods: We used register data from a random sample of the working-age population (18–55 years) with information on annual income, psychotherapy use and psychotropic drug purchases from 2011 to 2019 (N = 736 613, 49.7% women). Sex-stratified generalized estimating equations logistic regression models with predicted marginal probabilities were used to examine the change in the treatment use rates over time for income quartiles.

Results: In 2011, the psychotropic drug purchase rate was 8.5% in men and 13.7% in women in contrast to 0.2% and 0.8% of psychotherapy use, respectively. In the lowest income quartile, the psychotropic drug purchase rate increased from 2011 to 2019 by 5.3 percentage points (pp) in men and 5.9 pp in women. In the highest income quartile, the increase was 2.4 pp in men and 2.5 pp in women. A small, relatively stable income gradient in psychotherapy use was observed only among men: the lower the income quartile, the higher the psychotherapy use rate through the study interval.

Conclusion: The negative income gradient in psychotropic drug purchase rates increased among men and women. The lowest income quartile remained the most active in the use of psychotherapy in men. Findings suggest contextual effects in mental health treatment.

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THE CO-DEVELOPMENT OF A LINGUISTIC AND CULTURALLY TAILORED TELE-RETINOPATHY SCREENING INTERVENTION FOR IMMIGRANTS LIVING WITH DIABETES FROM CHINA AND AFRICAN-CARIBBEAN COUNTRIES IN OTTAWA, CANADA

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Background: Diabetic retinopathy is a sight-threatening complication of diabetes. Screening is an effective way to reduce severe complications, but screening attendance rates are often low, particularly for newcomers to Canada and people from cultural and linguistic minority groups.

Purpose: We co-developed a linguistically and culturally tailored tele-retinopathy screening intervention for people with diabetes who recently immigrated to Canada from China or African-Caribbean countries.

Methods: Following an environmental scan of diabetes eyecare pathways in Ottawa, we conducted iterative co-design workshops with Mandarin and French-speaking individuals with diabetes who immigrated to Canada from China or African-Caribbean countries (n = 13), patient partners (n = 7), and health system partners (n = 6) recruited from community health centres in Ottawa. At the workshops, we created personas of individuals requiring screening and identified and prioritized barriers to screening. Using the Theoretical Domains Framework, we categorized the barriers and mapped them to potentially effective behaviour change techniques (BCTs). Finally, participants prioritized the strategies and delivery channels, and developed the intervention.

Results: Together, we prioritized five barriers to attending diabetic retinopathy screening: language, lack of retinopathy knowledge, inadequate physician communication on screening, limited awareness about screening, and fitting screening around other activities. The developed intervention included BCTs: information about health consequences, instructions on attending screening, prompts, adding objects to the environment, social support, and restructuring the social environment. Operationalized delivery channels integrated language support, prebooking screening and sending reminders, providing social support via WeChat and community champions, and resources.

Conclusion: This study shows the opportunities/challenges of codeveloping a culturally relevant intervention.

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SMARTPHONE APPS FOR TINNITUS: A REVIEW ON INTERVENTION COMPONENTS AND BEHAVIOR CHANGE TECHNIQUES USED IN TINNITUS APPS

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Background/purpose:
Tinnitus affects 10–15% of the population and can have a substantial impact on different areas of life. Although several tinnitus apps are available, little is known about what exactly is being offered via these apps. The current study aimed at identifying tinnitus apps and investigating intervention components as well as Behavior Change Techniques (BCTs, Michie et al. 2013).

Method:
The Google Play Store and Apple App Store were searched systematically to identify relevant apps. Apps were included if they were developed for tinnitus and available in English or German. Intervention components (e.g. psychoeducation, relaxation, mindfulness) and BCTs were assessed by two independent raters.

Results:
The systematic search yielded 1.073 apps. Of those, 57 apps (English: 34, German: 23) met the inclusion criteria. In apps available in German, three intervention components were most prominent: providing sounds (n = 18), assessing tinnitus characteristics (n = 13), or informing about tinnitus (n = 9). Of 93 BCTs, 24 were identified at least once. Mostly used were "feedback on behaviour" (n = 9), "instruction on behavior" (n = 6), "prompts/cues" (n = 6), and "behavioral practice/rehearsal" (n = 6). Only one app was scientifically evaluated.
Conclusion:
The current findings for German apps showed that most apps are restricted to offering sounds or information on tinnitus while components recommended by treatment guidelines are less frequently found. Noteworthy, BCT categories "goals and planning" or "reward" were rarely used, although digital technology offers creative features to support behavioral change through those techniques. Furthermore, to date, scientific evaluation is scarce. At the conference, findings for all included apps will be discussed.

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USING E-CIGARETTES VS. NICOTINE REPLACEMENT: RELATIONSHIPS TO QUITTING CIGARETTES OR RELAPSING IN A LONGITUDINAL ANALYSIS OF CURRENT AND FORMER SMOKERS FROM THE CANCER PREVENTION STUDY 3

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Background: Relevant to the controversy over how electronic (e-) cigarettes should be regulated is their potential efficacy in helping people quit combustible cigarettes, relative to nicotine replacement therapies (NRT); however, longitudinal research comparing e-cigarettes with NRT for quitting is scant and equivocal. Similarly, it is unclear whether using e-cigarettes to quit vs. NRT increases risk of lapsing among former smokers.

Purpose: To investigate the odds of quitting combustible cigarettes (among current smokers), and of lapsing (among former smokers) by users of e-cigarettes, NRT, both, and neither.

Method: Participants in the American Cancer Society's Cancer Prevention Study (CPS-3) Cohort reported smoking status at two follow-up triennial surveys (in 2015 and 2018) (n = 49,069). At the 2nd follow-up they reported on current and/or past use of NRT (for 1 year or more), and e-cigarettes (for > once/month for > 3 months).

Results: Compared to people who used neither e-cigarettes nor NRT: (1) the odds of having quit cigarettes by the 2nd follow-up were greater among people reporting current exclusive e-cigarette use (OR = 2.96, 95% CI, 2–18-4.04, p = 0.001), than for those reporting current exclusive NRT use (OR = 1.59, CI, 0.99–2.53, p = 0.05), and (2) the odds of having lapsed by previously formers smokers was greater for people who reported past exclusive e-cigarette use (OR = 8.87, CI, 6.75–11.47, p = 0.001) than for those reporting past exclusive NRT use (OR = 2.91, CI, 2.24–3.71, p = 0.001).

Conclusion(s): While e-cigarettes may increase quitting among cigarette smokers in the short term compared to NRT, they are associated with an elevated risk of lapsing back to cigarette smoking.

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SOCIOECONOMIC DISPARITIES IN EXPOSURE TO AND ENDORSEMENT OF COVID-19 VACCINE MISINFORMATION, AND THE ASSOCIATIONS WITH VACCINE HESITANCY AND VACCINATION

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Background

Exposure to and endorsement of vaccine misinformation may reduce vaccination uptake.

Objective

We examined disparities in vaccine misinformation exposure and endorsement, and the associations with vaccine hesitancy and vaccination uptake.

Methods

A population-based survey was conducted on 5,002 Hong Kong adults oversampling low socioeconomic status (n = 2,200; SES, income: below the poverty line, education: primary or below, or received social assistance). Information on exposure (13 misinformation statements, total 0–13, median = 2), endorsement (13 statements, score 0–10, high scores indicate higher levels of endorsement, median = 5.75), vaccine hesitancy (14 items, score 1–5), and vaccination (2 doses) were collected. Multivariable linear regression (adjusted β, aβ) and Poisson regression (adjusted risk ratio, aRR) adjusting for sex, age, and SES were used to examine the associations.

Results

71.8% of respondents had at least exposure to one vaccine misinformation and 35.7% had a high level of endorsement (median or above). Respondents with low SES had a lower exposure (≤ 2 statements, 57.1% vs. 50.1%, $p < 0.001$) but a higher level of endorsement (36.6% vs. 34.9%, $p = 0.01$). 72.9% had been vaccinated in two doses or more, and fewer respondents with lower SES (61.1% vs. 83.6%, $p < 0.001$) reported this. Compared with no exposure, high levels of exposure and endorsement were associated with vaccine hesitancy (aβ = 0.44, 95%CI 0.40–0.48; aβ = 0.50, 0.47–0.54, respectively) and lower vaccination rates (aRR = 0.98, 0.97–0.99; aRR = 0.92, 0.88–0.96, respectively). Vaccine hesitancy mediated the associations of exposure (fully, 100%) and endorsement (partially, 73%) with vaccination uptake.

Conclusion

Endorsement of vaccine misinformation in respondents with lower SES was associated with low vaccination uptake.

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CHANGING RECREATIONAL ACTIVITIES FOR REDUCING INSOMNIA SEVERITY? RESULTS FROM A SERIAL MEDIATION ANALYSIS ON THE IMPACT OF RECREATIONAL BEHAVIOR AS A MECHANISM OF CHANGE IN DIGITAL INTERVENTIONS FOR INSOMNIA

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Background

Work-related stress is a risk-factor for insomnia.There is metanalytic evidence for insomnia to be a risk factor for and a comorbid condition to various mental and physical conditions.

While insomnia is highly prevalent, first line treatment is not widely available.Recently, there is growing evidence for digital intervention to be effective in different groups including the general working population.

Purpose

GET.ON-Recovery is a digital intervention with 6 weekly sessions based on cognitive-behavioral-therapy for insomnia and adapted to the needs of employees.The adaptation follows a theoretical framework assuming behavioral change in recreational activities facilitating mental detachment from work-related stressors that in turn affects sleep quality.

While there is evidence for the efficacy of the intervention, the proposed underlying mechanism is unknown.

Method

A serial mediation analysis with individual data pooled from three randomized-controlled trials (N = 433) was conducted to test the proposed mechanism of GET.ON-Recovery.

Results

The intervention led to an increase in both mediators, recreational activities (a1 = 5.75 (3.72–8.18)) and mental detachment (a2 = 0.53(0.38–0.68)).

The marked effect on insomnia severity three months after randomization was mediated by an increased frequency of recreational activities (d21 = 0.01(0.01–0.02) and increased mental detachment from work (b2 = -1.17(-1.74- -0.60) at the end of the intervention.

Conclusions

Results suggest that encouraging workers to incorporate more recreational activities into their daily lives is an appropriate way to promote mental detachment from work, which in turn is a good precondition for restful sleep.

This may provide new insights into the mechanisms of action making digital interventions for insomnia in workers effective.

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DEVELOPMENT OF A CONCEPTUAL MODEL FOR END-USER ENGAGEMENT OF mHEALTH INTERVENTIONS

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Background: Tailoring of existing mHealth interventions to new contexts require assessment of how interventions work in new contexts. Assessment of engagement usually provides broad understanding of how interventions are used and perceived among potential end-users. However, optimized tailoring of intervention content also requires identification of barriers to efficient understanding, interpretation, and application of intervention content. Thus, assessment of end-user engagement should also involve consideration of such potential barriers.

Aim: To explore the cognitive process which influences end-users' understanding, interpretation, and application of mHealth content.

Method: Think aloud interviews (n = 21) with end-users of a novel mHealth intervention (LIFE4YOUth) targeting healthy eating, moderate alcohol consumption, smoking cessation and physical activity among high school students were analyzed using qualitative content analysis.

Result: Four concepts were developed to describe dimensions of the cognitive process which influenced how the content of LIFE4YOUth was understood, interpreted, and applied by end-users. These are: defining, considering, centralizing, and personalizing. End-users engaged with these dimensions to different degrees, which demonstrated potential consequences of high degree and low degree, respectively. Consequences relates to the mechanisms through which the LIFE4YOUth intervention is assumed to work. A conceptual model was developed to describe the relation between the four concepts, and how these potentially affect the mechanisms involved in intervention effectiveness.

Conclusion: The model includes four empirically derived concepts which are proposed to interact and together contribute to end-users' understanding, interpretation, and application of mHealth content. The model can guide future mHealth research investigating end-users' engagement of mHealth content.

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HOW EXERCISE AND SLEEP CONTRIBUTE TO RESIDENT PHYSICIAN'S PROFESSIONAL COMPETENCY: THE MEDIATION ROLE OF PERSONAL RESILIENCE

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Background: Resident physicians belong to a highly stressful group and are always subject to heavier workload than their age-similar counterparts. Engagement in healthy lifestyles such as good sleep and adequate physical activity might help people stay productive at work.

Purpose: The current study investigated the role of personal resilience in the association between healthy lifestyles and professional performance during standardized residency training in China

Methods: A national survey of 3,666 resident physicians in radiology was conducted, in which exercise, insomnia symptoms, resilience, and professional competency were measured. Path analysis was used to estimate the mediation effect of resilience in the relationship between healthy lifestyles and professional competency.

Results: Of the 3,666 responding radiology residents, 37.5% had never taken physical exercise and 56.1% had insomnia symptoms in the past month. The path analysis showed that residents who had physical exercise in the past month reported a higher level of resilience, which was in turn associated with a higher score of professional competency (indirect effect: Standardized b = 0.03, 95% CI [0.02 to 0.04]). While residents who had insomnia symptoms in the past month reported a lower level of resilience, which in turn was associated with a decreased score of professional competency (indirect effect: Standardized b = -0.05, 95% CI [-0.07 to -0.04]).

Conclusion: This study revealed that through resilience, a type of personal resource, physical exercise may serve as a potential booster leading to better medical performance, while insomnia may serve as a stressor that decreases working performance.

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HOW DO RELAXING MUSIC AND RELAXING SOUND AFFECT STRESS RECOVERY?

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Background: This study aimed to explore the effect of music on stress recovery using both subjective measurements and physiological indices.

Methods: One hundred and five healthy female participants underwent the Trier Social Stress Test before being randomly allocated to four groups: group 1 (n = 25) listened to a researcher-selected relaxing music; group 2 (n = 27) listened to self-selected relaxing music; group 3 (n = 26) listened to the sound of rippling water; and group 4 (n = 27) remained in silence. During the recovery, Visual Analogue Scales (VAS) were used for subjective stress measurement and saliva samples were collected for cortisol and saliva alpha-amylase (sAA) analysis.

Results: During recovery, the change of VAS scores was significantly different among groups (F(3, 99) = 3.11, p = 0.030, d = 0.71); the area under the curve with respect to increase (AUCi) of sAA was also significantly different (F(3, 95) = 3.36, p = 0.022, d = 0.85); whereas there were no differences for the AUCi of cortisol (F(3, 72) = 0.90, p = 0.445, d = 0.53). The planned contrasts revealed that, for VAS change, group 4 was higher than groups 1–3 (t(99) = 0.049, r = 0.20). For AUCi of sAA, group 1 was significantly higher than group 2 (t(95) = 0.003, r = 0.30).

Conclusion: Music or nature sounds decreased recovery compared to resting in silence. Self-selected music played a better role on sAA compared to researcher-selected music.

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THE EFFECTIVENESS OF IMPLEMENTATION STRATEGIES IN IMPROVING PRECONCEPTION AND ANTENATAL PREVENTIVE CARE: A SYSTEMATIC REVIEW

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Background: Guideline recommendations for addressing modifiable risk factors are not routinely implemented into preconception and antenatal care.

Purpose: To assess the effectiveness of implementation strategies in improving the provision of preconception and antenatal care addressing tobacco smoking, weight management and alcohol consumption.

Methods: A systematic review of randomised and non-randomised studies with a parallel comparison group was conducted. Eligible studies used one or more implementation strategies to support health professionals improve preconception and/or antenatal care compared to usual practice/control or alternative strategies. Random-effects meta-analyses were conducted where appropriate. Certainty of evidence was assessed using GRADE.

Results: Fourteen studies were included; 13 focussed on the antenatal period and 12 tested multiple implementation strategies. Meta-analyses found that implementation strategies compared to usual practice/control probably increase asking (OR: 2.52; 95% CI: 1.13, 5.59) and advising (OR: 4.32; 95% CI: 3.06, 6.11) about smoking and assessing weight gain (OR: 57.56; 95% CI: 41.78, 79.29), and may increase assessing (OR: 2.55; 95% CI: 0.24, 27.06), assisting (OR: 6.34; 95% CI: 1.51, 26.63) and arranging support (OR: 3.55; 95% CI: 0.50, 25.34) for smoking. The effect of implementation strategies in increasing advice about weight gain (OR: 3.37; 95% CI: 2.34, 4.84) and alcohol consumption (OR: 10.36; 95% CI: 2.37, 41.20) is uncertain.

Conclusions: Implementation strategies likely improve the delivery of antenatal care addressing smoking and weight management. Rigorous research is needed to build certainty in the evidence for the effect of such strategies in improving antenatal care addressing alcohol consumption and weight gain.

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THE INCOME GRADIENT IN THE PRODUCTIVITY EFFECTS OF PSYCHOTHERAPY USE

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Background

Mental disorders have detrimental effects on labor market outcomes. In Finland, partly state-reimbursed rehabilitative psychotherapy is offered to improve individuals' ability to work. Psychotherapy may have potential to restore individual-level productivity as well.

Purpose

To examine, whether productivity effects exist, and whether they differ according to income gradient.

Method

We used administrative register data from 2008–2019 to examine the productivity effects of psychotherapy use. Difference-in-differences regression with inverse probability weighting controlling for age and sex was used to compare the earnings of those receiving psychotherapy in 2011–2013 (Treatment group, N = 6109) to those who received it five years later, 2016–2018 (Control group, N = 9665). Analysis was carried separately for different income-quartiles for the year prior to psychotherapy onset of treatment group. Productivity effects were estimated using the human capital approach.

Results

Psychotherapy use did not restore individual level productivity to the level of control group during the five-year follow-up after the onset of therapy. There were income-quartile-related differences in productivity effects. The average difference-in-difference estimate in the lowest quartile for the five years after the onset of therapy was -14% (95% CI-19% – -9%) of earnings. For other quartiles the observed difference was -6% (95% CI -9% – -3%), -7% (95% CI -9% – -5%), and -5% (95% CI -6% – -3%) of earnings from the second lowest to the highest quartile, respectively.

Conclusion

Findings suggest that there are inequalities in the productivity effects of psychotherapy. Considering the relative level of earnings for different income-quartiles, the lowest income quartile's productivity suffered the most.

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CHANGING BELIEFS ABOUT STRESS (C-BAS): RANDOMISED CONTROLLED PILOT TRIAL OF A TRAINING TARGETING STRESS BELIEFS

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Background/purpose

Negative stress beliefs (e.g., "stress is dangerous") have been independently associated with mental/physical ill health and with a 40% increase in mortality. This study aimed to investigate whether a novel training is capable of 1) creating more balanced (i.e., less negative and more positive) stress beliefs, and 2) reducing depression, anxiety, and somatic symptoms.

Methods

N = 40 healthy young adults were andomizat to a training group (changing beliefs about stress; C-BAS) and a control group. The C-BAS group received three weekly group sessions targeting stress beliefs, each lasting three hours. The control group received no training. Stress beliefs, depression, anxiety, and somatic symptoms were measured before and after C-BAS/the waiting period, using validated questionnaires.

Results

This is an ongoing study, which will be terminated mid-December 2022. Preliminary analyses of our data set (n = 20) revealed no pre-training group differences in any variables, indicating successful andomization. Moreover, a significant decrease in negative stress beliefs and an increase in positive stress beliefs was found in the participants receiving C-BAS, which were absent in the control group (large effect sizes). There were no significant group differences regarding depression, anxiety, and somatic symptoms.

Conclusions

A new training (C-BAS) was capable of creating more balanced stress beliefs. Should we be successful in confirming and extending these findings in the full sample, the training could be further evaluated and tailored to the needs of other populations. The ultimate aim would be its use in various preventative contexts to reduce the burden induced by negative stress beliefs.

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PREVENTING HARM FROM UNDIAGNOSED OROPHARYNGEAL DYSPHAGIA IN AMBULATORY OLDER PEOPLE: A BEHAVIOURAL SCIENCE REALIST REVIEW

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Background: Oropharyngeal dysphagia (OD) affects a fifth of older adults but is largely undiagnosed until they are hospitalised. Primary care practitioners can assume a proactive role in identifying and supporting OD to improve patient outcomes.

Purpose: This behavioural science realist review aimed to synthesise relevant literature to inform programme theories (PTs) explaining how and why interventions work to facilitate primary care practitioners to improve outcomes for older adults with OD.

Methods: 22 initial programme theories (IPTs) were constructed using a preliminary literature search, the Theoretical Domains Framework (TDF) and the project's stakeholder group (patients, carers, practitioners working in primary healthcare, geriatrics and dysphagia care). Databases were searched and literature screened and evaluated for relevance and rigour. Data were extracted, mapped and synthesised to confirm, refine or refute IPTs to provide final PTs.

Results: 6 final PTs were supported by 26 sources of evidence: OD education (Knowledge), consistent, clear messaging on OD (Memory, attention and decision making), addressing misconceptions of OD (Social influences), incorporating OD identification into existing workflow (Environment context and resources), awareness of OD's adverse outcomes and perception of OD as part of the practitioner role (Social/professional role).

Conclusion: PTs describe the mechanisms of action by which intervention components facilitate practitioners to improve outcomes for older adults with OD. Using the TDF and associated taxonomy of behaviour change techniques provides a route to perationalizing these mechanisms in an intervention. Operationalisation of these mechanisms into an effective intervention requires co-design with patients, practitioners and professionals in the NHS.

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HOW LONG SHOULD ISOLATION PERIODS LAST FOR INDIVIDUALS WITH COVID-19 INFECTIONS? RESULTS FROM A RAPID SYSTEMATIC REVIEW

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Background
In response to the COVID-19 pandemic, governments have implemented a variety of behaviour-based policies to reduce transmission rates. Among these, isolating individuals with infections has been a common strategy. Given the potential burden of enforcing isolation, it is important to understand the optimal length of isolation periods.

Purpose
To review the effectiveness of different isolation periods in reducing COVID-19 transmissions.

Method
We conducted a rapid systematic review using EMBASE and hand searching (of related reviews) to identify studies that compared the effectiveness of at least two duration periods for isolating individuals with COVID-19 in reducing transmissions.
Single reviewers evaluated titles, abstracts, and full text articles, and extracted data. Included records were verified by a second reviewer.

Results
As of October 24th, 2022, we included one observational study and five modelling studies. Generally, the duration of isolation periods had minimal impact on secondary infections, particularly in high-density populations. However, results also suggest that shorter isolation periods could be coupled with frequent testing to achieve a more efficient reduction of transmissions.

Conclusions
Our findings suggest that shorter isolation lengths coupled with frequent testing may help prevent new infections. However, this conclusion relies predominantly on computational studies under idealized assumptions that do not reflect the current pandemic situation (e.g., Omicron). If these results hold in primary studies, then there is a need to develop effective behavioural interventions to enhance both isolation and testing behaviors to further reduce COVID-19 transmission.

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THE ASSOCIATION BETWEEN INFECTIONS AND FUNCTIONAL SOMATIC DISORDERS: A CROSS-SECTIONAL POPULATION-BASED STUDY

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Background: It has been suggested that infections can trigger functional somatic disorders (FSD). Current evidence is limited by inconsistent findings in smaller studies conducted in clinical settings within selected populations and short follow-up time.

Purpose: We aimed to test the hypothesis that former infections are associated with FSD using data from nationwide registries and a large population-based cohort study, the DanFunD study.

Method: FSD-cases were identified in a cross-sectional population-based cohort (N = 9,656) and linked retrospectively to former hospital contacts with infections identified in the Danish National Patient Registry. Outcomes were FSD-delimitations: bodily distress syndrome (BDS), irritable bowel (IB), chronic fatigue (CF), chronic widespread pain (CWP), and multiple chemical sensitivity (MCS). The associations between FSD and former infections within 17 years were analyzed using logistic regressions calculating odds ratios (OR) and 95% confidence intervals (CI) adjusted for age, sex, and subjective social status.

Results: Infections within 17 years were associated with increased risk of all delimitations of FSD, more pronounced for multi-systemic FSD, and in dose–response manner ($p < 0.0001$). Bacterial but not viral infections were significantly associated with BDS (OR 1.69 (95% CI 1.46–1.96)), IB (OR 1.41 (95% CI 1.06–1.88)), CWP (OR 1.47 (95% CI 1.13–1.90)) and CF (OR 1.62 (95% CI 1.34–1.96)), but not MCS.

Conclusion: Former infections leading to hospital contacts were associated with higher risk of having FSD and in a dose–response manner. These associations were more pronounced for bacterial than viral infections. The results tend to support the idea that severe infections could play a role in FSD.

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THE EFFECTS OF STRESS BELIEFS ON DAILY AFFECTIVE AND CARDIOVASCULAR STRESS RESPONSES

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Background

Believing stress to be bad for one's health has been associated with detrimental mental and physical health and even increased mortality.

Purpose

In order to identify potential mechanisms, this study aims to investigate how negative stress beliefs affect the affective and cardiovascular response to every day stress.

Methods

Healthy young adults (target N = 80) underwent a baseline assessment followed by 7 consecutive days of ecological momentary assessments (EMA) of their daily stress responses. Stress beliefs were assessed at baseline using the Beliefs about Stress Scale. EMA assessment consisted of 3 daily smartphone-based queries (using m-Path) regarding daily stressors, affective and behavioral stress responses. Heart rate and heart rate variability were continuously monitored. The study design and hypothesis were preregistered at osf.io/2knvf.

Results

This is an ongoing study, which is set to conclude by April 2023. Preliminary analyses of our data set ($n = 55$) revealed a significant cross-level interaction between negative stress beliefs and the affective response to daily stress ($B = 0.147$; 95-CI 0.08 to 0.21; $p < 0.001$). Simple slopes indicated that individuals with relatively high negative stress beliefs experienced stronger increases of negative affect in response to daily stress than individuals with low negative stress beliefs. An association between stress beliefs and heart rate (variability) was not found.

Conclusions

Preliminary results replicate previous findings on the moderating role of stress beliefs on daily affective stress responses. Whether the more pronounced affective stress response accounts for the effects of negative stress beliefs on long-term health needs to be further investigated.

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USES AND BENEFITS OF VANCOUVER'S URBAN GREENSPACES ACROSS DEMOGRAPHIC GROUPS AND HEALTH STATUSES

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Background: Urban greenspaces such as parks, trees, and woodlands, can alleviate the health risks of city life in a changing climate, providing benefits to urban residents by enabling recreation, socialization, and relaxation. However, researchers need to better understand the mechanisms that drive the greenspace-health relationship in order to support the health of diverse populations across multiple contexts.

Purpose: This study aims to explore motivational (reasons, benefits) and practical (schedule, greenspace provision) variables that influence the urban greenspace-health connection.

Method: 355 participants from the City of Vancouver responded to a map-based online survey inquiring about occurrence, location, nature dose, activities, benefits of, and reasons for greenspace visits in one day, as well as demographic and health data. Chi2, Mann–Whitney-U and correlational analyses were conducted to assess associations between visitation variables and health and demographic group differences.

Results: Our study results did not show a significant health advantage for greenspace visitors over non-visitors, although park users reported better mental health than visitors to other greenspaces. Interestingly, we found that most greenspaces provided several benefits to users (e.g., restoration, learning), despite a negative relationship between mental health and greenspace visitation.

Conclusion: Our results suggest that the greenspace-health relationship is not unidirectional; they support the idea that visiting greenspaces is a way to cope with negative health status. Moreover, we recommend a differentiated view on the perceived benefits of greenspace visits in relation to health outcomes that takes additional influences such as individual choices and needs regarding site selection, schedule, and activities into account.

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BEYOND BIOLOGY AND ECONOMY: MULTIDIMENSIONAL VULNERABILITIES DURING THE COVID-19 PANDEMIC

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Background

A key objective of government interventions in Denmark during the covid-19 epidemic was to protect especially vulnerable citizens against infection and prevent a collapse of healthcare institutions. However, such policy focus on biological and economic vulnerability may have come with a cost to society in other arenas. This study examines what other forms of vulnerability and resilience were at stake in the context of coronavirus and control measures.

Methods

This study is based on ethnographic research across nine different empirical fields, employing participant observation, interviews, diaries, and other participatory experiments from April 2020-October 2021in Denmark. Through extensive coding and analyses, the study maps out ten vulnerability-resilience dimensions among different population groups.

Results

The study shows the multidimensionality of vulnerabilities. It finds a paradoxical dynamic between vulnerability and resilience, where reducing one vulnerability can exacerbate others. The individual and societal costs are still to be fully understood, e.g., to the generations of children and young people whose social and psychological well-being was relegated as societal priority. The analysis outlines a need to de-separate biological and social dynamics of vulnerability, beginning with an understanding that viral spread itself is a social activity.

Conclusion

The study suggests how understanding vulnerability as a multidimensional spectrum, where changes in one dimension may influence other dimensions, has important implications for future pandemic control. It points to unintended consequences of narrow pandemic policy measures and suggests that future pandemic control is strengthened by interdisciplinary commitment in policymaking, integrating also underserved groups in society as stakeholders.

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INVESTIGATING ADOLESCENT PSYCHOLOGICAL WELL-BEING USING PISA 2018 CANADA DATA

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Background

Adolescent psychological well-being was identified as an important public health priority in the World Health Organization's (WHO) 2014 report, Health for the World's Adolescents. However, very few studies have examined adolescent psychological well-being in educational contexts nationwide in Canada

Purpose

This research aims to investigate what factors are associated with Canadian adolescent psychological well-being, how immigrant adolescents differ from their peers, whether student attitudes towards immigrants can moderate the relationship between immigration status and well-being, and whether gender differences in well-being exist.

Method

The data set was retrieved from an international database, the Programme for International Student Assessment (PISA) 2018. Psychological well-being was used as the outcome; about 20 explanatory variables were selected because they were essential factors related to adolescents' well-being in educational contexts. Linear mixed-effects models were conducted in this study.

Results

Our results showed students' sense of belonging in school, resilience to challenges, and goal orientation were positively related to well-being, whereas their fear of failure and experiences of being bullied had negative relationships. Additionally, we did not find gender differences and differences between immigrant adolescents and their peers. However, we found adolescents' attitudes toward immigrants were positively related to well-being.

Conclusions

Our findings showed that both school and family played an important role in adolescents' psychological well-being. Immigrant status was not important in adolescents' well-being. Our findings suggest that the school and family should foster students' growth mindset and help them to develop positive attitudes and become resilient when facing challenges.

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DOES THE EFFECTIVENESS OF BOOSTER COVID-19 VACCINES CHANGE OVER TIME? RESULTS FROM A LIVING EVIDENCE SYNTHESIS FOCUSED ON THE OMICRON PERIOD

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Background: COVID-19 vaccination is a vital behaviour to mitigate disease spread and complications. COVID-19 vaccine effectiveness (VE) for two doses decreases over time, especially against Omicron. Booster doses are recommended, but understanding their duration of protection is crucial for the timing of additional boosters.

Purpose: To review the long-term VE of booster doses against COVID-19 infections, hospitalizations, and deaths.

Method: A rapid systematic review on the VE of COVID-19 vaccines approved in Canada (BNT162b2, mRNA-1273, ChAdOx1/AZD1222, and Ad26.COV2.S). Studies with a baseline VE, a follow-up ≥ 84 days, and comparing unvaccinated individuals were included. Three-level meta-analytic models were used to pool VE estimates.

Results: 12 studies (by November 2022) found VE against COVID-19 infections was 66% (95% CI: 53–76) at baseline and decreased to 39% (11 – 58) at 112–139 days after the booster dose. The pooled effect for 7 VE studies against COVID-19 hospitalizations was 89% (82 – 93) at baseline and decreased to 71% (51–73) by 112–139 days. The VE against deaths started at 86% (72–93) and decreased to 83% (63–92) 112–139 days after the booster vaccination (2 studies).

Conclusion(s): COVID-19 booster protection against Omicron infection is modest initially and declines substantially. In contrast, protection against hospitalization and deaths begins at a higher level and appears to be largely maintained over time. During the Omicron spread, getting a booster dose protects against hospitalization and death. Engaging in additional protection measures and another vaccine booster may be relevant after 139 days. Information that behavioural scientists can use to develop interventions.

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A QUALITATIVE EXPLORATION OF HEALTH-RELATED BARRIERS AND FACILITATORS FACED BY PARTICIPANTS IN AN ONLINE BEHAVIOURAL WEIGHT MANAGEMENT PROGRAMME

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Background: Research has shown early improvements in health and weight can act as a facilitator of engagement with behavioural weight management programmes. Exploring how health-related intrapersonal, interpersonal, and environmental factors influence weight loss efforts could inform the content and design of programmes.

Purpose: This study aimed to understand how health factors supported or hindered weight management efforts.

Methods: Semi-structured interviews were conducted with 48 participants. Participants were predominantly female (83%) with a mean age of 49.09 (± 10.16) years and a mean BMI of 31.60 (±4.80). Interviews included questions on what intrapersonal, interpersonal, and environmental factors had affected their weight loss journey. Interviews were analysed in NVivo using a thematic approach. Following coding and completion of the programme, participants were grouped as successful (weight loss of > 5%) or unsuccessful and the emergent themes were compared between groups.

Results: The interviews revealed that health acted as a barrier or facilitator through physiological response, cognitions and emotions, interpersonal response, and the environment. Barriers included: feeling unwell, scepticism of the benefits or weight loss on health, lack of support from others, and being unable to engage with the local environment due to health issues. Facilitators included: noticeable improvements in health, learning about health consequences, being motivated to reduce future risks, and becoming motivated by the health status of others.

Conclusion: These findings provide insights into how health related factors interact with a participant's weight loss. Future programmes and research should consider these findings and incorporate strategies to increase success rates.

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LONG-TERM EFFECTIVENESS OF THE PRIMARY SERIES OF COVID-19 VACCINES AGAINST OMICRON USING FINDINGS FROM A RAPID LIVING SYSTEMATIC EVIDENCE SYNTHESIS AND META-ANALYSIS

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Background: The increase in the uptake of COVID-19 vaccines resulted in declining mandates for other prevention behaviours like mask-wearing. Consequently, mitigating the effects of the pandemic rests increasingly on the ability of COVID-19 vaccines to provide long-term protection, particularly against Omicron and future variants of COVID-19. Thus, understanding the long-term vaccine effectiveness (VE) of COVID-19 vaccines is invaluable in making evidence-based prevention decisions in households and communities.

Purpose: To synthesise evidence on the long-term VE of the primary series (2 doses or 1 dose of a complete regimen) of Canadian-approved COVID-19 vaccines (BNT162b2, mRNA-1273, ChAdOx1/AZD1222, and Ad26.COV2.S) against Omicron infections, hospitalisations, and mortality.

Methods: We conducted a rapid review of studies reporting VE at baseline and at least 16 weeks (follow-up) after a primary series. Single reviewers evaluated titles and abstracts, full-texts, and extracted data, with a second reviewer verifying at each stage. VE estimates were pooled using 3-level meta-analytic models. We update the review monthly.

Results: As of November 8, 2022, we included 21 studies. For infections, VE estimates declined from 61% [95% CI: 50–69%] at baseline to 36% [15–52%] at 26–32 weeks follow-up. For hospitalisations, estimates declined from 71% [55–80%] to 52% [29–67%] at 24–28 weeks follow-up. Studies on mortality were too few to be ynthesized.

Conclusion: Baseline levels of VE for the primary series are insufficient against Omicron infections and hospitalisations, and rapidly decline over time. Thus, there remains a need to encourage other COVID-19 prevention behaviours like mask-wearing and isolating when infected, especially among vulnerable individuals.

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HOW DO ADOLESCENT SMOKING PREVENTION INTERVENTIONS WORK IN DIFFERENT CONTEXTUAL SETTINGS? A QUALITATIVE COMPARATIVE STUDY BETWEEN THE UK AND COLOMBIA

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Adolescent smoking is associated with significant health and social risks. Theory based behavior change interventions to prevent adolescents smoking uptake have been shown to be effective. However, the evidence is limited on how such complex interventions work, including in different contextual settings.

A Realistic Inquiry perspective guided our comparative qualitative analysis of possible mechanisms of behavior change among participants taking part in two smoking prevention interventions in Northern Ireland and Bogotá. Twenty-nine focus groups were conducted in 12 schools (6 in Northern Ireland and 6 in Bogota) (n = 192 pupils participated). The Theoretical Domains Framework guided a content analysis of the data.

We found similarities across settings in knowledge, skills and beliefs related to smoking or vaping behavior change, as well as differences in contextual resources and social influence. Social influences on smoking behavior were triggered through need to belong, the fear of negative evaluation, and social pressure. Different environmental resources included availability to purchase tobacco products in the neighborhoods and previous information about tobacco risk. Participants of both interventions perceived behavioral change outcomes as related to personal skills and intention to not smoke or to not vape.

These findings have highlighted how both individual factors and contextual resources influence behavior change for smoking prevention in practice. Local contextual factors and social influences affecting pupils should be taken into account in the implementation of health behaviour change interventions. In particular, this study supports using social and contextual influence strategies in interventions to reduce the onset of adolescent smoking and vaping.

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CULTURAL ADAPTATION OF TWO SCHOOL-BASED SMOKING PREVENTION PROGRAMS IN BOGOTÁ, COLOMBIA

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Smoking prevention among adolescents is a public health challenge that is even more significant in low and middle-income countries where local evidence is limited and smoking rates remain high. Evidence-based interventions could be transferred to LMIC settings but only after appropriate cultural adaptation. This study aims to describe the process of the cultural adaptation of two school-based smoking prevention interventions, ASSIST and Dead Cool, to be implemented in Bogotá, Colombia.

A recognized heuristic framework guided the cultural adaptation through five stages. We conducted a concurrent nested mixed-methods study consisting of a qualitative descriptive case study and a quantitative pre and post quasi-experiment without a control. In total, eight schools participated in Bogotá, including 893 pupils participated (482 in ASSIST program and 411 in Dead Cool program). We conducted a focus groups with all individual practitioners (N = 3) and 14 focus group with 81 pupils.

Contextual, content, training and implementation modifications were made to the programs to address cultural factors, to maintain the fidelity of implementation, and to increase the pupils' engagement with the programs. Modifications incorporated the suggestions of stakeholders, the original developers and local community members, whilst considering the feasibility of delivering the programs.

Involving stakeholders, original program developers and community members in the cultural adaptation of evidence-based interventions is essential to properly adapt them to the local context, and to maintain the fidelity of program implementation. This study provides evidence-based strategies to promote awareness of tobacco control within school environments, contributing to the global effort towards tobacco control.

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HEAVY PHYSICAL WORKLOAD AND RISK OF ALCOHOL-RELATED MORBIDITY: A REGISTER-BASED COHORT STUDY OF THE WORKING POPULATION IN SWEDEN

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Background: A few studies have looked at the relationship between heavy physical work and alcohol-related outcomes, with mixed results. These studies have relied on small samples and self-report of alcohol consumption.

Purpose: To investigate the association between heavy physical workload and alcohol-related morbidity in the Swedish population.

Methods: This register-based cohort includes around 3 million individuals aged 30–60 years old registered in Sweden in 2005. Physical workload was measured using a job exposure matrix, where mean levels of physical workload were linked to index persons through their registered occupation in 2005 and categorized into quintiles. Cox proportional hazards regression was used to measure associations between physical workload and alcohol-related diagnoses in the in- and outpatient registers between 2006 and 2016. Models were gradually adjusted for a variety of factors throughout the life-course.

Results: Heavy physical workload was associated with an increased risk of alcohol-related morbidity in a dose–response pattern (HR = 2.03, 95%CI = 1.97–2.10 and HR = 1.69, 95%CI = 1.61–1.77 when comparing the highest quintile to the lowest for men and women respectively). After adjustments for birth year, previous psychiatric diagnoses, childhood socioeconomic status, parents' previous psychiatric diagnoses, marital status, number of children, birth country, and attained education, estimates were significantly attenuated (HR = 1.38, 95%CI = 1–32-1.43 for men and HR = 1.17, 95%CI = 1.11–1.23 for women).

Conclusion: Heavy physical workload is associated with alcohol-related morbidity among men and women in the Swedish population. Though this association is largely explained by socioeconomic and health differences throughout the life-course, there remains a higher risk of alcohol-related morbidity among those in heavy physical work.

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PHYSICAL ACTIVITY MAINTENANCE REMAINS A (COMMUNITY) CHALLENGE: EVALUATING THE EFFICACY OF NATIONAL APP-BASED PHYSICAL ACTIVITY COMMUNITY CHALLENGES

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Background: The ParticipACTION app (https://www.participaction.com/app/) is a theory-informed, national physical activity promotion app. An integral component of this app is community-based challenges, in which users track their physical activity as individuals or 'communities' with the opportunity to win prizes.

Purpose: The purpose of this study was to evaluate the efficacy of these app-based challenges by examining how device-measured moderate-to-vigorous physical activity (MVPA) levels changed before, during, and after app users' participation in the challenges.

Method: Using a quasi-experimental design, demographic and MVPA data were extracted from the app from two weeks prior to the challenges to two-weeks following the completion of the challenge. Participants represented a subgroup of app users (n = 46,824; Mage = 43.70 years, SD = 13.58, 77.00% female) who participated in at least one of the four app-based challenge from May 2021 to March 2022. Two separate multilevel growth models were used to test changes in weekly MVPA minutes (including linear and quadratic changes) for the 2-week and 4-week challenges.

Results: The study demonstrated significant quadratic trajectories for both the 2-week and 4-week challenges. Specifically, MVPA increased during the 2-week (b = -12.10, CI [-12.57, -11.63.], $p < 0.001$) and 4-week (b = -11.65, CI [-11.94, -11.36], $p < 0.001$) challenges, followed by a precipitous decrease after the challenge completion.

Conclusions: The results support the utility of app-based physical activity challenges in increasing MVPA during the challenge period; however, changes in MVPA did not persist beyond the challenge period.

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COMMUNICATING RESEARCH TO PUBLIC HEALTH POLICY MAKERS AND PRACTITIONERS TO IMPROVE EVIDENCE USE: A VALUE WEIGHTING STUDY

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Background: Improving how research is communicated may enhance its use in public health policy and practice decision making.

Purpose: This study aimed was to quantify and describe public health policy makers and practitioners' preferences for the source, message content and format for receiving public health research findings.

Methods: A total of 186 participants completed a value weighting exercise, to quantify their views regarding attributes of the source, message content and format for receiving public health research evidence. Participants were asked to allocate a proportion of 100 points across attributes of each outcome. A higher allocation of points represented a greater level of importance participants perceived for an attribute.

Results: The source of research evidence viewed as most influential were researchers followed by government departments, knowledge brokers, and peers. Message content perceived as most useful included a summary of key findings and implications, evidence-based policy or practice recommendations, and the inclusion of data and statistical summaries. The outcomes most valued when selecting interventions or strategies to implement them were those reporting effectiveness, equity, feasibility and sustainability. Finally, the format most valued by participants were peer reviewed publications followed by reports, policy briefs and plain language summaries.

Conclusion: The findings provide a basis for the future development, and ptimization of dissemination strategies to this important stakeholder group.

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DEVELOPMENT OF A CONCEPTUAL MODEL OF DIGITAL CARDIAC REHABILITATION: THE PREPARATION PHASE OF THE MULTIPHASE OPTIMIZATION STRATEGY

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Background: Emerging data suggest that digitally delivered cardiac rehabilitation (CR) is an effective alternative to centre-based CR. However, there is a limited understanding of the behaviour change mechanisms of CR. The Multiphase Optimization Strategy (MOST) allows the effects of individual components to be determined, providing information for intervention ptimization. The preparation phase of a MOST study involves developing a conceptual model to explain how intervention components are ptimizat to work.

Purpose: To develop a conceptual model of digital CR to guide decision-making in a pilot ptimization trial.

Method: The development process included a systematic review of 25 randomized controlled trials to identify the behaviour change techniques included in digital CR interventions, and a qualitative study of patients' (n = 11) perceptions of digital CR. Findings were ptimizatio using the Theoretical Domains Framework. An initial model was developed and then refined through discussion among the research team and with members of a Public and Patient Involvement panel.

Results: The resulting conceptual model outlines the causal process of how digital CR improves outcomes for patients with cardiovascular disease. The model specifies key intervention components (e.g. Risk Factor Management, Psychosocial Support), outcomes targeted by each component (e.g. Physical Activity, Quality of Life), and ptimizat mediating variables (e.g. Knowledge, Beliefs about Capability).

Conclusion: This study provides an exemplar of using the Theoretical Domains Framework to inform the preparation phase of MOST. The conceptual model will be used as a blueprint to develop a digital CR intervention and guide decision-making in a pilot ptimization trial.

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JOB INSECURITY PROFILES IN RELATION TO INDICATORS OF HEALTH AND WELL-BEING AMONG FACULTY IN SWEDEN

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Background:
Job insecurity is a well-known stressor. Yet among the highly educated, including individuals working in higher education, little is known regarding how perceptions of job insecurity coincide with outcomes of health and well-being. Perceived job insecurity concerns threats of job loss (quantitative job insecurity), and concerns about deteriorating working conditions (qualitative). Studies have linked quantitative and qualitative job insecurity with consequences for employee health and well-being, but few have investigated their combined effects and health-related associations within academia.

Purpose:
This study investigates profiles of quantitative and qualitative job insecurity among faculty in Sweden, and examines these in relation to health and well-being outcomes.

Method:
Questionnaire data was collected in 2021 from a representative sample of faculty with a doctoral degree, working in Swedish academia (N = 2729). Forty-eight percent were women, (mean age: 50). Latent profile analysis and auxiliary variable analyses (to compare health-related outcomes across profiles) were conducted.

Results:
Five distinctive profiles of job insecurity emerged: 1) Moderately insecure, 2) Secure, 3) Secure; quality-concerned, 4) Insecure; employment-concerned, and 5) Insecure. Significant differences were found between profiles for exhaustion, depressive symptoms, well-being and work-family conflict.

Conclusions:
Variations of perceived job insecurity also exist among highly educated groups, including faculty in Sweden. While the majority belong to the Secure profile, characterized as better off, health-wise, there are some faculty, belonging to the more insecure profiles, who appear more vulnerable. Efforts to mitigate job insecurity among these groups may reduce risks for adverse outcomes and benefit their health and well-being.

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PSYCHOSOCIAL WORKING CONDITIONS AND RECOVERY AMONG WOMEN AND MEN: FINDINGS FROM TWO STUDY COHORTS IN HIGHER EDUCATION

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Background:
Previous studies of social workers suggest that psychosocial working conditions and social position may interfere with both short-term and long-term recovery. But it is unclear whether this holds for individuals who work in higher education, a particularly knowledge-intensive sector of the labor market.

Purpose:
This study investigates how employment (contract type) and psychosocial working conditions (effort and reward) relate to different aspects of recovery among women and men. Specifically, three aspects of recovery were included: recovery 1) in the morning, 2) after a weekend, and 3) after a longer holiday.

Method:
Self-reports in questionnaires were collected in 2016 (n: 920 women/717 men) and 2021 (n: 1290 women/1416 men) from two different study cohorts in Swedish academia.

Results:
There were no significant relationships between contract and recovery. Higher effort was consistently associated with all aspects of recovery among both women men in the two study cohorts. Higher reward was associated with better recovery across cohorts, for both women and men. However, findings for reward were less consistent in 2016 (women: promotion; men: esteem).

Conclusions:
Among the highly educated, contract type has no important role, which may relate to most individuals having a permanent employment contract. Psychosocial working conditions were associated with all aspects of recovery, with associations seeming more consistent in 2021, which may relate to the better representativity of this cohort. Overall, the findings underscore the importance of providing sustainable psychosocial working conditions that allow recovery opportunities for both women and men working in higher education.

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WAS THE PANDEMIC A GOOD OPPORTUNITY FOR PARENTS TO REDUCE ADOLESCENTS' SCREEN TIME?

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Background: Media parenting practices (MPP) and adolescents' screen time are associated and the latter tends to deteriorate as adolescents transition to secondary school. However, it is unclear whether this pattern changed during the pandemic as weekday routines were altered.

Purpose: To examine the effect of MPP on adolescents' weekday screen time both cross-sectionally and longitudinally during the transition to secondary school in a pandemic vs. non-pandemic cohort.

Methods: Between 2018–2021, 689 parent-adolescent dyads in British Columbia, Canada, self-reported parents' MPP and adolescents' screen time on weekdays at two time points; when adolescents were in elementary school (grade 7), and again in secondary school (grade 8). As recruitment occurred in waves, 43% of the sample had all their data collected before the pandemic (non-pandemic cohort) and the remaining during the pandemic (pandemic cohort). Linear regression models with multiple imputation were used to address the main study questions.

Results: In both grades, adolescents' screen time was significantly higher in the pandemic vs. the non-pandemic cohort; however, only for the latter screen time increased with the transition to secondary school. Moreover, better MPP were associated with lower weekday screen-time in both grades (cross-sectional associations), and longitudinal increases in positive MPP during the transition predicted lower screen-time in secondary school, but only among the pandemic cohort.

Conclusions: Adolescents' screen time drastically increased during the pandemic and parents who used more positive MPP during this time had more success curtailing their adolescents' use of screens especially as they transitioned into secondary school.

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FAMILY-BASED BRIEF INTERVENTIONS TO PROMOTE PHYSICAL ACTIVITY AND MENTAL WELLBEING IN ADULTS: A PILOT CLUSTER RANDOMISED CONTROLLED TRIAL

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Background: Effective population-based interventions to improve mental wellbeing are needed.

Purpose: To evaluate the effect of brief family-based interventions on promoting physical activity and mental wellbeing of community adults.

Methods: The trial (registry number: NCT03332810) was conducted in 15 family service centres (cluster) in Hong Kong with 8 centres ($n = 162$) randomised to the intervention group and 7 ($n = 152$) to the control group. Participants in the intervention group received two 2-h interventions incorporating "sharing, mind and enjoyment" (SME), Zero-time Exercise (ZTEx)-based physical activity, principle of positive psychology and simple family games. ZTEx is a set of brief PAs that denotes zero time, zero cost and zero equipment, and can be done anytime, anywhere, and by anybody. Sharing was to share joy and appreciation to family members and encourage them to do ZTEx. Mind was to encourage participants to keep positive mind to do PA, with intention, goal and confidence. Enjoyment was to have at least 10 min PA or ZTEx each day. The control group received interventions unrelated to SME. The primary outcome was self-reported SME behaviours related to physical activity measured at 3-month. Secondary outcomes included subjective happiness and wellbeing. Intention to treat analysis was used.

Results: The intervention group showed significantly greater positive changes in SME behaviours than the control group at 3-month (Cohen's d: 0.33–0.42, all $P < 0.05$). However, no significant changes in subjective happiness ($d = 0.11$, $P = 0.56$) and wellbeing ($d = 0.21$, $P = 0.58$) were observed.

Conclusion: Our trial showed preliminary effectiveness of brief family-based interventions on physical activity in community.

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EFFECTS OF A THEORY-BASED AND SETTING-BASED INTERVENTION IN PROMOTING STRENGTH TRAINING AMONG OLDER ADULTS IN HONG KONG: A CLUSTER-RANDOMIZED CONTROLLED TRIAL

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Background: In Hong Kong, 12.3% of men and 7.6% of women aged 70 years above had sarcopenia. Although strength training (ST) is proven to increase muscle strength, muscle power and muscle endurance, very few interventions were conducted to promote ST among older adults in Hong Kong.

Method: A two-arm clustered RCT was conducted. A total of 235 older adults were recruited from eight elderly centers and randomized to either intervention group or control group. Participants in the intervention group took part in a 6-month intervention based on the Health Belief Model that consisted of ST sessions, individual exercise prescription consultation, social gathering sessions and a buddy program; while participants in the control group took part in social gathering sessions. Participants were evaluated at baseline, post-intervention and at 3 months follow-up.

Results: Participants in the intervention group reported significantly higher prevalence of meeting the American College of Sports Medicine recommendations of ST at post-intervention ($I = 78.2\%$ versus $C = 4.2\%$; $RR = 81.69$, $p < 0.001$) and 3-month follow-up ($I = 57.9\%$ versus $C = 4.4\%$; $RR = 29.56$, $p < 0.001$). Results from linear mixed model showed significant main effect of intervention in muscle strength, self-efficacy of ST, perceived susceptibility and perceived severity of sarcopenia, perceived barriers of ST, intention to perform ST, quality of life in physical health and psychosocial and physical well-being, adjusted for baseline score. Participants reported a high level of satisfaction towards to intervention.

Discussion: The 6-month intervention was effective in increasing ST level, improving muscle strength, quality of life and psychosocial well-being, and improving cognitions associated with ST.

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INCREASING PHYSICAL ACTIVITY IN EMPTY NEST AND RETIRED POPULATIONS ONLINE: A RANDOMIZED FEASIBILITY STUDY

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Overwhelming evidence has established that regular moderate-to-vigorous-intensity physical activity (MVPA) is a critical health protective behavior for aging adults, and yet over 67% of Canadians over 60 are not active enough (≥ 150 min/week of moderate-to-vigorous PA (MVPA)) to attain health benefits. As such, we explored whether the onset of retirement and launching adult children (the empty nest period) might offer a unique 'window of opportunity' to influence MVPA in an PA based intervention feasibility study.

Method: 46 inactive retirees ® and 9 inactive parents with recently launched children (P) were randomized to a 10-week web-intervention (n = R = 25/ P = 4) or wait-list control (n = R = 21/P = 5). Intervention techniques were derived from the multi-process action control (M-PAC) framework.

Results: Enrollment (37.5% for P; 40% for R), retention (89% for P; 83% for R) and satisfaction was high. 100% of intervention selected participants increased their MVPA compared to 52% of controls; large effect size differences were observed for key M-PAC constructs. Overall, participants were highly satisfied with the intervention. Data from the qualitative interviews, along with the large effect size differences from baseline in identity, suggests that these life transitions hold promise as a future area of research for further MVPA intervention studies.

Conclusion: While it appeared that the MPAC intervention was successful in both P and R transitions groups, recruitment challenges for parents with recently launched children support moving to an RCT for only the recently retired. Further research in promoting PA within life course transitions is needed.

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ALLOPREGNANOLONE IN SALIVA: VALIDATION OF A COMMERCIAL ENZYME-LINKED IMMUNOSORBENT ASSAY AS DIAGNOSTIC TOOL FOR PERIPARTUM DEPRESSION

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Background

With a prevalence of 17% worldwide, peripartum depression is one of the most common and severe pregnancy complications. For adequate treatment, a validated method is needed to detect women at risk early. Allopregnanolone is a neuroactive steroid hormone that plays a crucial role in the aetiology of peripartum depression, and could serve as an early indicator, if measured precisely. Enzyme-linked immunosorbent assays (ELISAs) for saliva are simple, non-invasive methods for hormone detection.

Purpose

This study is the first to validate commercial ELISAs, developed for use with blood, for the measurement of salivary allopregnanolone, and should ensure good quality control for the establishment of an ELISA as a diagnostic tool for peripartum depression.

Methods

We validated two ELISAs, developed for use with blood, with the saliva samples of 25 pregnant women, examining range and sensitivity, intra- and inter-assay precision, parallelism, linearity of dilution, and recovery. The samples were simultaneously analysed using an LC–MS method.

Results

The ELISAs differed in range (31.2—2000 pg/ml vs. 1.6—100 ng/ml) and sensitivity (< 9.5 pg/ml vs. 0.9 ng/ml). The first fulfilled the acceptance criteria of all parameters. The second showed matrix effects. The concentrations measured with LC–MS were under the LLOQ (< 1.0 ng/ml) and no signal was detected.

Conclusions

One tested ELISA is a valid method for detecting allopregnanolone in saliva of pregnant women. It has higher sensitivity than a conventional LC–MS method. This is a stepping stone towards the establishment of an ELISA as diagnostic tool for peripartum depression.

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INCIDENCE OF FUNCTIONAL SOMATIC DISORDERS IN A POPULATION-BASED COHORT. THE DanFunD STUDY

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Background: The epidemiology of functional somatic disorders (FSD) has not been well-established yet, despite a prevalence of about 16% in the general population. Common for the conditions are "persistent and troublesome physical symptoms accompanied by impairment or disability" that cannot be explained better by another physical or mental condition.

Purpose: To assess the incidence of FSD in relation to age, sex, socioeconomic status, and self-perceived health (SPH) in a large population-based cohort.

Method: A population-based cohort (N = 9,656) was reexamined after median 65 months, where 5,738 participated. Various delimitation of FSD based on self-reported symptoms (bodily distress syndrome (BDS), irritable bowel (IB), chronic widespread pain (CWP), chronic fatigue (CF), and multiple chemical sensitivity (MCS)) were assessed at baseline and follow-up and incidence was expressed as percentages of those without the specific FSD at baseline. Multiple indicators of socioeconomic status including education, employment, subjective social status, and self-perceived health (SPH) based on self-reports were assessed as exposures by logistic regression analyses adjusted for sex and age calculating odds ratios and 95% confidence intervals.

Results: Depending on the FSD delimitation incidence varied between 0.5–11.2%. Age was inversely associated with incidence of IB and CF, and positively associated with CWP. Female sex was positively associated with most FSD delimitations. Unemployment, lower subjective social status, and low SPH were risk factors for incidence of multiple FSD delimitations.

Conclusion: Incidence of most delimitations of FSD is predicted by low socioeconomic status and low SPH and with a female predominance.

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TAI CHI FOR PAIN MANAGEMENT AMONG ADULTS WITH HIV: PRELIMINARY DATA FROM A PILOT TRIAL

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Background: Adults with HIV experience higher rates of chronic pain compared to the general population. Nonpharmacological approaches to pain management are understudied in this population.

Purpose: This study is a randomized controlled clinical trial examining the feasibility and acceptability of Tai Chi compared to a control condition (i.e., health coaching) for pain management among adults with HIV. Data to be presented will describe baseline characteristics and preliminary findings.

Method: Adults with HIV and chronic pain were recruited from university-affiliated health clinics in the northeastern United States. Participants signed informed consent, completed a baseline survey, and were randomized to 10 weekly sessions of Tai Chi or health coaching. Follow-up assessments were conducted post-intervention and 3-months later. Measures included pain severity, pain interference, depressive symptoms, perceived stress, and quality of life. Participant satisfaction was also assessed post-intervention.

Results: To date, 19 participants have been enrolled and randomized; enrollment is ongoing (target N = 40). Participants are 79% female and 84% Black or African American (84%), with a mean age of 61 (SD = 7.5). Participants reported a high level of pain at baseline (M = 8/10, SD = 1.4). Most participants reported high stress (63%) and PHQ-8 scores indicated moderate depressive symptoms (M = 11, SD = 5.8). Among those who completed the intervention, 86% reported being satisfied with the intervention, and 100% would recommend the program to a friend.

Conclusion: Preliminary data from this randomized controlled trial suggest that high levels of stress and pain are common, and both Tai Chi and health coaching are acceptable to adults with HIV and chronic pain.

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THE ASSESSMENT OF SOCIAL ISOLATION AND LONELINESS IN CANCER PATIENTS AND SURVIVORS: A SYSTEMATIC REVIEW

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Purpose: The purpose of this systematic review is to identify quantitative instruments of social isolation or loneliness in patients previously or currently diagnosed with cancer.

Method: PubMed (Web), Scopus, CINAHL, and PsycINFO were searched on August 22, 2019. The search strategies included terms that captured instruments/tools, social isolation or loneliness, and cancer. A total of 289 titles/abstracts were returned. Upon review, 117 titles/abstracts were deemed to be potentially eligible and the full text was retrieved. Of the 117 full texts, 73 articles met inclusion criteria. From these articles, variables extracted included: measure name, construct of focus, number of items, response range, psychometrics, journal name/year, study sample size and characteristics (age, gender, race, stage/type of cancer).

Results: The most common measure was the UCLA Loneliness Scale (n = 23). Measure length ranged widely, from 1 item to 80 + items. Nearly all measures used a Likert-type scale to capture response options.
A total of 22,272 patients with or survivors of cancer were assessed across all studies. Average age = 56 years old, age range 12 to 85 years. For the studies conducted in the United States, the majority of participants were White/Caucasian. Many (n = 22) studies were conducted in all female samples or patients with breast cancer.

Conclusions: Studies to explore social isolation/loneliness in non-White groups, patients with cancers other than breast, all-male samples, younger adults and patients/survivors living in the context of COVID-19, would complement the existing literature.

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DISTURBED GLUCOSE METABOLISM IS ASSOCIATED WITH VARIOUS FUNCTIONAL SOMATIC DISORDERS. THE DANFUND STUDY

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Background: Functional Somatic Disorders (FSD) refers to clusters of recurrent physical symptoms (e.g., chronic fatigue, pain) accompanied by impairment or disability. About 16% of the adult populations have an FSD, yet the epidemiology of FSD remains poorly described. An association between FSD and disturbed glucose metabolism has been reported, primally in smaller case-controls settings only examining one type of FSD at a time.

Purpose: The aim of this study was to analyse associates between glucose metabolism and various delimitations of FSD in a large general population-based sample.

Method: Data was derived from the Danish Study of Functional Disorders (DanFunD), a population-based cohort study including a random sample of 9,656 men and women aged 18–76 years, that completed a health examination. Self-reported FSD were assessed using international accepted classifications of bodily distress syndrome (BDS), irritable bowel (IB), chronic widespread pain (CWP) and chronic fatigue (CF). Associates between measures of fasting glucose and glycated haemoglobin A1c (HbA1C) levels and various FSD were analysed using logistic regression adjusted for sex & age (model 1), + lifestyle (model 2) and + socioeconomics (model 3), calculating odds ratios and 95% confidence intervals.

Results: All types of FSD assessed were found to be associated with increased levels of both fasting glucose and HbA1c after adjustment of model 1–3, except for CF and IB, where the association disappeared after adjusting for lifestyle.

Conclusion: This cross-sectional study supports impaired glucose metabolism to be associated with FSD independent of lifestyle and socioeconomics. Prospective studies are needed to clarify causality.

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CHANGES AND CORRELATES OF MODES OF PHYSICAL ACTIVITY ACROSS TWO YEARS OF THE COVID-19 PANDEMIC

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Background: The COVID-19 pandemic has negatively impacted the physical activity (PA) landscape through recreation and sport closures and stay-at-home orders. With the relaxing of COVID-19 restrictions, it is unclear how modes of PA have shifted over the past two years. This study aimed to describe the changes in, and predictors of, PA modalities from a typical pre-COVID timepoint to a current timepoint.

Methods: A representative sample of Canadians completed a retrospective survey assessing modes of PA behaviours (i.e., frequency/duration of: digital PA, at-home PA, gym, sports, active transportation, and solo PA), screen time, mental health, work from home percentage, perceived COVID severity, and demographics. Paired-sample t-tests were conducted for modes of PA between pre-COVID and current (i.e., March 2022) timepoints. Multiple linear regressions for PA differences were conducted with predictor variables.

Results: A total sample of 977 Canadians completed the survey. Gym, sports, active transportation, and solo PA modes demonstrated significant decreases ($p < 0.01$) in weekly minutes, ranging from -37.35 ± 131.71 min for active transportation to -11.39 ± 59.04 min for sports. Increased recreational screen time, decreased occupational screen time, higher wellbeing, and being female were small, significant predictors of negative changes among modes of PA ($R2 = 0.31–0.49$, $ps < 0.05$).

Discussion: Aside from at-home and digital PA, COVID-19 appears to have decreased the amount of PA that Canadians are performing, even with the re-opening of recreational facilities and organized sport. Future work should aim to return Canadians back to previous levels of PA, particularly gym, sport, and active transportation.

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APPLLYING LEARNING HEALTH SYSTEMS PRINCIPLES TO OPTIMISE THE PUBLIC HEALTH IMPACT OF A POLICY IMPLEMENTATION STRATEGY

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Background: Learning Health Systems (LHS) are inimizeded by a data-driven, cyclical process with evidence generated from routine health service used to improve healthcare practice, service, and research quality. LHS. Are increasingly inimized for their potential to improve public health interventions and inimize health impacts; however there is little evidence of their application in practice.

Purpose: To describe how an Australian public health unit applied LHS principles to successfully improve a school-based policy implementation strategy.

Methods: Three cycles of data generation and application were used. Within each cycle, data were collected on effectiveness (via inimized and controlled trials conducted in schools), costs, implementation indicators, and qualitative insight. A multi-disciplinary team of researchers and practitioners, in consult with stakeholders, used data to inform incremental improvements to the implementation strategy.

Results: Cycle 1 showed the strategy's feasibility and efficacy for improving school's policy implementation. Three components were added to address outstanding implementation barriers. Cycle 2 established the strategy's effectiveness and cost-effectiveness for improving school's policy implementation. The most costly components were adapted to reduce in-person contact from external support personnel. Cycle 3 showed that Cycle 2 adaptations inimized the relative cost of delivery without adversely impacting on the effect. All components delivered in-person were adapted for optional online delivery.

Conclusion: Through this process, we have identified an effective, cost-effective and scalable policy implementation model for service delivery. This novel approach provides important information for researchers and policy makers seeking to improve the impact of health interventions.

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USER ENGAGEMENT WITH MENTAL HEALTH TECHNOLOGIES

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While mental health technologies have the potential to improve mental health outcomes, user engagement varies and can be an ongoing issue. To understand how these technologies may fit within the public mental health system of care, a number of cities and counties across California offered or are planning to offer mental health technologies to their residents as part of a statewide innovation project. Evaluation of these efforts included consumer surveys, focus groups, and exploration surveys. Presenters will discuss trends across evaluation studies, and highlight common barriers and facilitators that may influence user engagement.

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PERCEIVED PROVISION OF PERIOPERATIVE INFORMATION AND CARE BY PATIENTS WHO HAVE UNDERGONE SURGERY FOR COLORECTAL CANCER: A CROSS-SECTIONAL STUDY

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Background: Active patient participation in their preparation for and recovery from colorectal cancer surgery is vital and can be facilitated by timely information and care.

Purpose: This study aimed to identify gaps in provision of perioperative information and care among patients who have undergone surgery for colorectal cancer. It compares patient perceptions of optimal care to experiences of actual care received.

Methods: 179 (64% consent rate) colorectal cancer surgical patients retrospectively completed one of two 64-item surveys exploring either their views of ‘optimal care’ (n = 79) or their experiences of ‘actual care’ (n = 100). Gaps in care were identified from discrepancies in the endorsement of optimal versus actual survey items. Phases of perioperative care examined were: pre-hospital (24 items), pre-operative (8 items), post-operative (7 items), discharge planning (18 items), post-discharge follow-up (7 items).

Results: In total, 41 (64%) aspects of care were endorsed as optimal. Gaps in care included: the provision of information about the impact of surgical wait-times on cancer cure (69%); pre-habilitation behaviors to improve health (75%); the type of questions to ask the health care team (74%); impact of pain medications on bowel movements (73%); how to obtain medical supplies for self-care at home (67%); dietary or exercise advice after discharge (25–31%); and emotional advice after discharge (44%).

Conclusions: Given gaps can limit patients’ ability to undertake effective self-care before and after surgery, and can affect clinical outcomes including length of stay and postoperative outcomes, the identified gaps represent patient-centered priorities and targets for supportive interventions.

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NEUROTICISM, PERCEIVED STRESS, AND NEGATIVE LIFE EVENTS AS RISK FACTORS FOR DEVELOPING AND PERPETUATING FUNCTIONAL SOMATIC DISORDERS: DanFunD

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Background: Functional somatic disorders (FSD) have shown to be associated with neuroticism, perceived stress, and adverse life events (ALE). However, prospective cohort studies investigating the causational relationship are lacking.

Purpose: To explore the role of neuroticism, perceived stress, and ALE, respectively, in the development and perpetuation of FSD.

Method: This prospective cohort study included data from the DanFunD baseline II cohort (n = 7,493) and the five-year follow-up investigation cohort (n = 5,738). FSD were assessed at both baseline and follow-up and defined with self-reported questionnaires and diagnostic interviews. All explaining variables were assessed at baseline: Neuroticism was measured with the Danish version of the short-form NEO Personality Inventory (NEO-PI-Rsf), perceived stress was measured with Cohen’s Perceived Stress Scale, and ALE were measured with the Danish version of the Cumulative Lifetime Adversity Measure. Data was analysed with multiple logistic regression analyses adjusted for sex and age.

Results: Higher baseline scores of neuroticism, perceived stress, and ALE increased the odds (OR ranging from 1.04 to 1.07) of new onsets of FSD at follow-up (i.e. for one-point difference on each scale, the odds of incident FSD was 4% to 7% higher). Likewise, higher baseline scores of perceived stress and ALE increased the odds of perpetuating FSD from baseline to follow-up (OR ranging from 1.05 to 1.06), however, neuroticism did not (1.01, 95% CI: 0.98–1.04).

Conclusions: Neuroticism, perceived stress, and ALE were individual risk factors for developing FSD, but only perceived stress and ALE were risk factors for perpetuating FSD.

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SUPPORTING GPS AND PEOPLE WITH HYPERTENSION TO MAXIMISE MEDICATION USE TO CONTROL BLOOD PRESSURE: DEVELOPMENT OF THE ‘MIAMI’ INTERVENTION

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Background: Uncontrolled blood pressure is the major preventable cause of heart disease and all-cause death globally. One of the biggest causes of poor blood pressure control is non-adherence to treatment. Despite this, discussions around medication taking are often not a routine part of the GP-patient encounter.

Purpose: Development of an intervention to support GPs and people with hypertension to maximise medication use to control blood pressure.

Method: Using the Behaviour Change Wheel as guidance, we drew on theory and evidence to draft the intervention. We then held a “Collective

Intelligence" (CI) workshop with 20 participants, including people living with hypertension, GPs, primary care nurses, pharmacists and researchers. We used scenario based design, informed by the Extended Common Sense Self-Regulation Model, to elicit views on the proposed intervention and generate targeted intervention options. A 'Public and Patient Involvement' (PPI) panel refined the proposed intervention.

Results: The MIAMI intervention is a structured set of supports for GPs and patients to facilitate adequate information exchange about long-term antihypertensive medication use and adherence skill development. GP intervention components include a 30 min online training programme, information booklet and consultation guide. Patient intervention components include ambulatory blood pressure measurement, a chemical adherence test, consultation plan and educational videos.

Conclusion: The CI methodology provided a systematic approach to behavioural intervention design that embraced the principles of PPI and stakeholder engagement. The acceptability and feasibility of the MIAMI intervention is currently being assessed in a pilot cluster andomized controlled trial.

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HOW CAN PARENT WELL-BEING IN HONG KONG BE PROMOTED: A MULTI-COMPONENT POSITIVE PSYCHOLOGICAL INTERVENTION

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Background: Being a parent is considered one of the most demanding and stressful undertakings of raising children, working full-time, and caring for a family. With countless parental responsibilities, parental depression, stress, and ill-being were frequently reported.

Purpose: This study examined the effects of a multi-component positive psychological intervention on promoting parent well-being in Hong Kong.

Method: Participants were young children's parents (N = 120; Mage = 37.19 years, SD = 4.71, range = 24–53; female = 95.00%) who agreed to participate in the 1-month randomized control trial. Participants were randomly assigned to the intervention (n = 50) and waitlist control group (n = 70). Intervention group participants received two online workshops and an evidence-based smartphone application that promoted four positive psychological skills: growth mindset, positive reappraisal, hope, and mindful parenting. Participants completed a questionnaire about positive psychological skills, psychological and subjective well-being at baseline and post-intervention follow-up.

Results: The results of the three multivariate regressions adjusting for participants' gender and age revealed that the intervention significantly improved participants' positive psychological skills (F(4, 109) = 3.76, p = 0.01), psychological (F(6, 105) = 3.24, p = 0.01) and subjective well-being (F(3, 110) = 2.95, p = 0.04).

Conclusion(s): Our findings provided preliminary evidence supporting parents' positive psychological skills in promoting their psychological and subjective well-being. The combination of training workshops and smartphone applications appeared to be a promising approach to delivering positive psychological materials to parents.

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HOW PERMA PROMOTES PRESCHOOL TEACHER WELL-BEING IN HONG KONG: A 2-MONTH RANDOMIZED CONTROL TRIAL

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Background: Preschool teachers' well-being is positively associated with their students' development and learning outcomes. Developing a positive psychological intervention that can foster preschool teachers' well-being would be essential.

Purpose: This study examined the effects of an intervention based on the PERMA (i.e., positive emotion, engagement, relationships, meaning, and accomplishment) model on well-being outcomes among preschool teachers in Hong Kong.

Method: We recruited 116 preschool teachers (Mage = 34.14 years, SD = 10.17, range = 21–59; female = 98.51%). Participants were randomly assigned to the intervention (n = 51; received four online workshops that cultivated the PERMA dimensions in 4 weeks) and waitlist control group (n = 65; only received the workshops after the data collection). Participants completed a survey that measured the PERMA dimensions of well-being at baseline 4- and 8-week follow-up occasions. MANCOVA and ANCOVA, controlling for gender, age, and teaching experience, were employed to examine the intervention effects.

Results: A significant time x group interaction effect was found in the MANCOVA, Wilks' Lambda F(10,102) = 2.19, p = 0.02, η2 = 0.18. The results of ANCOVA revealed that participants in the intervention group scored significantly higher on engagement, relationship, and accomplishment (η2 = 0.02 to 0.05, p < 0.05) than those in the control condition across time.

Conclusion(s): Our findings highlighted the effects of PERMA-based interventions to promote mental health of preschool teachers. Teachers are encouraged to engage in positive psychological activities (e.g., positive reappraisal and self-compassion) to cultivate their well-being.

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INTEGRATING DIGITAL MENTAL HEALTH TOOLS IN THE PUBLIC MENTAL HEALTH SYSTEM: LESSONS LEARNED FROM ORANGE COUNTY CA'S LOCAL IMPLEMENTATION

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Background: Orange County is the third most populous and second most densely populated county in California. Meeting the mental health needs of this large, diverse population presents challenges. The County of Orange joined the Help@Hand project to bring interactive technology tools to the public mental health system to increase access to care.

Method: The County engaged in a collaborative process incorporating input from stakeholder groups as it implemented digital mental health tools. This presentation focuses on the lessons learned while deploying Mindstrong, a virtual care platform that uses passive sensing to support symptom monitoring and crisis intervention. Challenges and opportunities were identified through collaborative meetings with project management, program staff, privacy and information security officers, behavioral health peers, industry partners, evaluators and community stakeholders.

Results: The County continues to see steady enrollment and consistent engagement in Mindstrong. Key lessons include: ensure the product is appropriate and/or developed for the identified sample; build a comprehensive team involving affected stakeholders, including peers and an implementation champion at each recruitment site; confirm terminology is shared across the public and private sectors; remain open to continual adaptation of the implementation approach; and ensure continuity of project management.

Conclusion: Integrating digital mental health tools into the public system requires organizational readiness and strategic planning. A dedicated project team is essential to establishing and maintaining relationships with partners, executing implementation and responding to client and partner feedback. Support from leadership and partners creates the space for transformative change in service delivery and access to care.

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PERSUASIVE MESSAGES TO PROMOTE HEALTHY FOOD CHOICE

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Background: Given the recognized impact of excessive consumption of animal-based foods on health, we need to understand how to promote the adoption of plant-based diets.

Purpose: With seven studies, we analysed how to promote plant-based diets using intervention via a mobile app. In total, we involved about 1800 volunteers.

Methods: In these studies, we assessed the effectiveness of diverse message appeals:

- informational appeal by comparing health, environmental, health/+environmental messages,
- emotional appeal by leveraging anticipated regret,
- behavioural appeal by testing addition and replacement strategies,
- normative appeal by referring to social norms,
- moral appeal by eliciting reflection on personal values.

We compared all these appeals with control conditions and evaluated the moderating effects of several psychosocial variables (e.g., past behaviour, group identification, attitudes, intrinsic motivation, biospheric values).

Results: Both informational and emotional appeals were effective in reducing unsustainable food choices. As to behavioural appeals, replacement messages were more effective than addition messages in increasing plant-based food choices, especially in the long term and when combined with normative appeals. Normative and value-reflection messages were differently effective according to individuals higher or lower motivation.

Discussion: Overall, these studies showed that a one-size fits all approach is not the most effective communication strategy and that a tailored communicative approach can be effective in motivating even those who are initially resistant to dietary changes.

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PUT YOUR MONEY WHERE YOUR FEET ARE: THE REAL-WORLD EFFECTS OF STEPBET GAMIFIED DEPOSIT CONTRACTS FOR PHYSICAL ACTIVITY

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Background: Gamification and deposit contracts (a financial incentive in which participants pledge their own money) can enhance effectiveness of mobile behavior change interventions. However, to assess their potential for improving population health, research should investigate implementation of gamified deposit contracts outside the research setting.

Purpose: We performed a naturalistic evaluation of gamified deposit contracts offered in the StepBet smartphone app, for whom they work best, and under which conditions they are most effective to help increase physical activity.

Methods: The modal StepBet challenge consisted of a $40 deposit made prior to a 6-week challenge period during which participants reached daily and weekly step goals in order to regain their deposit (and additional earnings). Step goals were tailored on a historic step count retrieval that was also used as baseline comparison. Primary outcomes were increase in step count (continuous) and challenge success (dichotomous).

Results: Overall ($N = 72{,}974$), average daily step counts increased by 31.2% from 7,774 steps ($SD = 3{,}112$) at baseline to 10,197 steps ($SD = 4{,}162$) during the challenge. Those who succeeded in their challenge ($n = 53{,}281$) increased their step count by 44.0%, while those who failed their challenge (n = 19,693) decreased their step count by -5.3%.

Discussion: Participating in gamified deposit contracts was associated with a large and clinically relevant increase in step counts. We recommend implementing gamified deposit contracts for physical activity where possible. Future research should explore possible setback effects among people who fail a challenge, and how setbacks can be mitigated.

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FUNCDATA, A DANISH NATIONAL DATABASE FOR CLINICAL AND DIAGNOSTIC SUPPORT AND RESEARCH IN FUNCTIONAL SOMATIC DISORDERS (FSD)

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Background

In Denmark, a unifying diagnosis functional somatic disorders (FSD), including functional somatic syndromes, like fibromyalgia, irritable bowel syndrome, and chronic fatigue syndrome, has recently been established. Concurrently, a national clinical database for FSD, FuncData, was established and implemented. FuncData aims to be a supportive tool for clinicians 1) for diagnostic, 2) monitoring of treatment and outcomes and 3) administrative and research purposes.

Purpose

To introduce FuncData, including the different patient-reported outcome measures (PROMs) and clinician-reported data. Moreover, to compare patient characteristics of the first 1,000 patients included in FuncData with the general population.

Method

Patient characteristics of consecutive patients admitted to one of 5 FSD clinics in the period from February 2021 to February 2022 were compared to the DanFund general population cohort (N = 9656). Experiences using FuncData were explored in patients (n = 199) and clinicians (n = 23) with online surveys.

Results

In FuncData, 40.8% of the patients was diagnosed with FSD-multisystemic type; 23.7% did not have FSD. Compared to the general population, patients were younger (median age 42 vs. 54 years), more were females (76% vs. 54%), fewer were in work (26% vs. 67%), and they had higher anxiety (median 6 vs. 1) and depression scores (median 6 vs. 3). Clinicians rated FuncData relevant (95.6%) and useful (82.6%) in daily clinical practice. Patients rated their overall experience with FuncData as good.

Conclusion

FuncData was considered helpful in daily clinical practice and well accepted by patients. It has evident capability for use to monitor treatment at department level and for research.

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ASSOCIATIONS OF ADVERSE CHILDHOOD EXPERIENCES WITH INTERNET GAMING DISORDER IN CHINESE UNIVERSITY STUDENTS

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Background: Adverse childhood experiences (ACEs) by the age of 18 have been associated with addictive behaviors in adulthood, such as smoking and alcohol drinking. Little is known about the impacts of ACEs on internet gaming disorder (IGD), a newly established type of addictive behavior in ICD-11.

Purpose: To examine the associations of ACEs with IGD symptoms in Chinese young adults.

Method: 1231 university students (54.5% male; 56.9% aged 18–20 years) who had played internet games at least once in the past month completed an online survey from December 2022 to January 2023. ACEs were measured using the 10-item ACE questionnaire (yes/no) on neglect, abuse, and household dysfunction. IGD was measured using the 9-item Internet Gaming Disorder Scale–Short-Form (score ranging 9–45, > 32 indicating IGD symptoms). Multivariable regression was used for examining associations adjusting for sex, age, maternal and paternal educational attainment, and monthly household income.

Results: Of 1231 participants, 492 (40.0%) reported ≥ 1 ACEs, 353 (28.7%) screened positive for IGD symptoms. Higher odds of IGD symptoms were observed for 4–10 ACEs compared to 0 ACEs (adjusted OR [aOR] = 2.46, 95% CI 1.72, 3.53). Specifically, physical neglect (aOR = 5.83), emotional neglect (aOR = 2.00), sexual abuse (aOR = 2.44), incarceration (aOR = 2.20), divorce or separation (aOR = 2.54), substance abuse (aOR = 3.68), mental illness (aOR = 2.38) were associated with higher odds of IGD symptoms (all Ps < 0.001).

Conclusions: Our results of the associations between ACEs and IGD symptoms informed screening of ACEs to prevent IGD in Chinese young adults. Future interventions of IGD may differentiate the types of ACEs for more personalized support.

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MENTAL WELLBEING IN SWEDISH UNIVERSITY STUDENTS: PROTECTIVE AND RISK FACTORS IN A CROSS-SECTIONAL STUDY

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Objective: Mental wellbeing is a fundamental aspect of the broader notion of quality of life. Little is known about the mental wellbeing of university students in general and Swedish university students in particular. As emerging adults, university students typically experience substantial changes to their living conditions, relationships, and academic stress, and depression and anxiety are prospectively associated with lower academic achievement at the end of the first year.

Methods: Data from five cross-sectional cohorts (n = 7423), collected between spring 2020 and spring 2022, were compared descriptively, regarding sociodemographic factors, lifetime and past 30-day symptoms of mental health problems, experiences of bullying, feeling loved and measures of well-being. Linear regression identified protective factors for wellbeing according to the Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS), and risk factors for lower wellbeing.

Results: Participants were > 70% women, 24–27 years old, 75–83% born in Sweden. About one-third had experienced physical bullying at school and about 70% felt loved and cared for. About two-thirds had medium levels of wellbeing, with one-third having low levels and about 5% having high levels. Protective factors for wellbeing included older age, male gender, feeling loved most of the time, and the grit construct. Risk factors included being an international student, non-heterosexual sexual orientation, having symptoms of depression or anxiety most of the time, and experiencing effort/reward imbalance.

Conclusions: A large proportion of students experience less than optimal wellbeing. Interventions to enhance positive, nurturing relationships and reinforce grit-related factors could support students in this challenging period of life.

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TEACHING DIGITAL MENTAL HEALTH TREATMENT IN THEORY AND PRACTICE: A PROOF-OF-CONCEPT PILOT AND FEASIBILITY STUDY

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Objective: The labor market for mental health professionals increasingly requires competency in digital mental health treatment (DMHT). This presentation targets DMHT practitioners as course developers and teachers, describing proof-of-concept findings based on a) development of a remotely delivered DMHT course; and b) results from a qualitative evaluation of students' experiences from the first course round.

Methods: The course syllabus was developed through two structured workshops, attended by 11 stakeholders with DMHT experience. For the qualitative evaluation, interviews with seven women participants in the first course round were analyzed according to an inductive, phenomenographic approach.

Results: The course development process established a 12-week syllabus covering historical development and evidence for DMHT and an 8-week DMHT clinical practicum treating students with common mental health problems. Examination was formulated as individual case reports encompassing reflections on a) the therapist and client roles; b) ethical aspects of DMHT; and c) future innovations for DMHT. The course is offered via a standard learning management system, with the practicum completed on a separate DMHT platform. The qualitative analysis of the first pilot course round, where students role-played therapists and clients, yielded six themes: overall course experience, treatment program and platform, therapist role, client role, supervision and the alliance.

Conclusions: This proof-of-concept procedure led to course establishment in two formats: as an ordinary elective course for advanced clinical psychology students, and as a stand-alone national course for health professionals with basic psychotherapy training. Following local adaptation, the course could be replicated at additional universities globally.

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IMPACTS OF THE COVID-19 PANDEMIC IMPACT ON HEALTHCARE PROFESSIONAL DELIVERY OF OPPORTUNISTIC BEHAVIOUR CHANGE INTERVENTIONS: A RETROSPECTIVE COHORT STUDY

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Background

Public health policies compel healthcare professionals to deliver behaviour change interventions during routine consultations. The COVID-19 pandemic and its mitigations have stretched services, yet supporting people to modify health behaviours is more important now than when the policy was introduced.

Purpose

The present study aims to: (a) examine changes in healthcare professionals' awareness of, and engagement with public health policy over a five-year period, (b) examine the psychosocial drivers associated with delivering behaviour change interventions, and (c) identify targets to increase healthcare professionals' delivery of interventions.

Method

Comparison of data from two independent representative surveys of NHS healthcare professionals working in the UK (2017; N = 1387, and 2022; N = 1008). Participants were asked to report: (1) policy awareness, (2) delivery of behaviour change interventions, and (3) perceptions of capabilities, opportunities and motivations to deliver interventions. T- tests, MANOVA, linear regression, and chi-square analyses were used to generate comparisons between the surveys.

Results

Awareness of policy increased from 2017 (31.4%) to 2022 (52.0%). However, in 2022 compared with 2017, healthcare professionals reported delivering behaviour change interventions to a lower proportion of patients (38.0% versus 50.0%), and spent a lower proportion of the consultation time delivering interventions (26.5% versus 35.3%). Further, in 2022, compared with 2017, healthcare professionals reported fewer physical opportunities, social opportunities, and psychological capabilities to deliver interventions.

Conclusions

Delivery of behaviour change interventions appears to have reduced over time. Future research should consider how to increase capabilities, opportunities, and motivations to deliver interventions during routine consultations.

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PREVENTING NON-COMMUNICABLE DISEASES IN GENERAL HOSPITAL PATIENTS: CAN BRIEF ALCOHOL INTERVENTIONS ALSO ADD TO THE REDUCTION OF TOBACCO SMOKING?

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Background

Tobacco use and at-risk alcohol consumption are among the most important modifiable behavioural health risk factors for the development of cancer, cardiovascular and other non-communicable diseases. Both substances often co-occur and are strongly associated with each other.

Purpose

First, to analyse whether brief alcohol interventions (BAIs) may add to the reduction of tobacco smoking over two years among general hospital patients. Second, if such spill-over effects exist: do they differ by the way how BAIs are delivered. We tested in person versus computer-delivered feedback.

Method

In total, 961 inpatients at age 18–64 have been recruited on 10 hospital wards, among them cardiology, pneumology, ear-nose-throat, general and trauma surgery. Patients with at-risk alcohol use were randomized to three groups: in-person counselling based on motivational interviewing (PE), computer-generated individualized feedback (CO) and assessment only (AO). PE and CO included contacts at baseline, 1 and 3 months later. After 6, 12, 18 and 24 months self-reported smoking status and number of cigarettes were assessed as secondary outcomes. Latent growth models were estimated.

Results

Up to month 24, smoking status did not change significantly in the intervention groups relative to AO ($ps > 0.18$). Up to month 12, smokers in CO reduced cigarettes per day relative to AO ($ps < 0.05$). No significant differences between CO and PE were found ($ps > 0.32$).

Conclusion

Theory-driven computer-based BAI not only reduced alcohol use, but also the number of cigarettes among at-risk drinkers who smoke up to one year after hospitalization.

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PROACTIVE AUTOMATIZED LIFESTYLE INTERVENTION (PAL): REACH AND RETENTION AMONG GENERAL HOSPITAL PATIENTS

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Background

Multiple health risk behaviours (HRBs, i.e. tobacco smoking, at-risk alcohol use, physical inactivity and unhealthy diet) are main preventable causes of non-communicable diseases, applying to more than half of the adult population. Electronic interventions may help to efficiently address multiple HRBs in health care patients.

Purpose

To investigate reach and retention of a Proactive Automatized Lifestyle intervention (PAL) among general hospital patients.

Method

Over two months (05–07/2022), all 18-to 64-year old patients admitted to 11 hospital wards (among them cardiology, pneumology, ear-nose-throat, general and trauma surgery) were systematically approached and asked to participate in a pre-post-intervention study. Based on psychological behaviour change theory, participants ($n = 175$) received individualized computer-generated feedback after baseline, 1 and 3 months later. Reach (proportion of participants among eligible patients) and retention (proportion of participants at months 1 and 3 among participants at baseline) were calculated. Sociodemographic and severity differences in reach and retention were investigated.

Results

Among all eligible patients ($n = 286$), 76.2% ($n = 218$) were reached for survey. Of these, 80.3% ($n = 175$) were reached for participation in the intervention trial. Participants were significantly younger than non-participants ($p < 0.01$). Of all intervention participants, 69.7% ($n = 122$) were re-reached after month 1. They were more likely to have fewer HRBs ($p < 0.01$) to live in partnership ($p < 0.03$) than non-participants. Month 3 data is currently being collected.

Conclusions

PAL reached and retained hospital patients to a promising degree. More efforts are needed to reach older people and those with a higher number of HRBs. Proactive automatized interventions might provide public health impact.

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THE 'SECRETS' TO SUCCESSFUL WEIGHT LOSS: IMPLEMENTING AND MAINTAINING TIME-RESTRICTED EATING IN DAILY LIFE AMONG INDIVIDUALS WITH OVERWEIGHT AT RISK OF TYPE 2 DIABETES

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Background: implemented in daily life. Time-restricted eating (TRE) is a novel strategy which has been highlighted as a potential weight loss strategy, but limited knowledge exists of how the ways people implement and maintain TRE in daily life relate to body weight changes.

Purpose: To investigate experiences with TRE during a six-month period to shed light on strategies and processes related to weight loss.

Methods: Twenty participants with overweight at risk of type 2 diabetes were interviewed and weighed at baseline, after the three-month intervention and after a three-months follow-up peiord in a clinical setting in Denmark. Data were analysed longitudinally inspired by qualitative, content analysis.

Results: Three sub-groups of participants based on changes in body weight during intervention were identified: 1. Large body weight reduction, 2. Moderate body weight reduction, and 3. Small or no body weight reduction. Sub-group 1 used flexible implementation strategies, had high levels of adaptability and social support, and were motivated by factors such as becoming healthier or skipping late-night snacking. Sub-group 2 was more heterogeneous in applied strategies and motivation, while sub-group 3 used rigid implementation strategies, had limited levels of adaptation and low levels of social support, but they were highly motivated by losing weight.

Conclusions: TRE has the potential of becoming a strategy to obtain a weight loss. Success relies on broader motivation than weight loss, more flexibility and guidance in the concept and incorporating social support opportunities.

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DESCRIBING THE FIDELITY OF A RANDOMIZED, MULTISITE, BEHAVIORAL CLINICAL TREATMENT FOR METABOLIC SYNDROME REMISSION

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Background: In the past 10 years, Metabolic Syndrome (MetS) prevalence has increased from one-quarter to one-third of the US population. Lifestyle is a fundamental risk factor. Implementing a lifestyle intervention is cumbersome, and fidelity measures are underreported in MetS lifestyle clinical trials.

Purpose: To describe delivery, receipt, and enactment fidelity of an ongoing, 3-component behavioral clinical treatment for MetS across 5 geo-diverse US locations.

Methods: Participants with MetS ($n = 306$) were randomized to participate in 19 weekly/biweekly meetings (90 min, groups of 15 participants) led by behavioral professionals across 6 months. Treatment goals supported developing 3 lifestyle habits (taking a brisk walk, eating vegetables, and mindful attention). Delivery fidelity was assessed as content delivery (observer score from checklist of essential session content delivery, 0–13 points) and delivery process (independent review of video recordings of essential process indicators, 6–18 points). At each session's end, receipt fidelity was assessed by participants' essential concepts comprehension (1–5 points) and enactment fidelity was assessed as the self-reported percentage of engaging in the 3 habits on most days.

Results: From 56 videos reviewed, the mean content score was 12.05 (± 1.05) and the mean process score was 16.16 (± 1.58). The average comprehension score was 4.42 (± 0.18). Enactment support was self-reported by 194 (65%) participants taking a brisk walk, 189 (62%) eating vegetables, and 188 (61%) practicing mindful attention.

Conclusions: Delivery, receipt, and enactment fidelity were excellent at all locations during the weekly/biweekly meetings. Implementation of this group-based treatment as planned is feasible in diverse research settings.

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RANDOMIZED CONTROLLED TRIAL OF AN INDIVIDUAL BLENDED COGNITIVE BEHAVIORAL THERAPY TO REDUCE PSYCHOLOGICAL DISTRESS AMONG DISTRESSED COLORECTAL CANCER SURVIVORS: THE COlo-Rectal canceR distrEss reduCTion (CORRECT) TRIAL

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Background: Colorectal cancer survivors often experience high levels of distress.

Purpose: The objective of this randomized controlled trial (RCT) was to evaluate the effect of blended cognitive behavior therapy (bCBT) on distress severity among distressed colorectal cancer survivors (CRCS).

Method: CRCS with high distress (Distress Thermometer ≥ 5) between 6 months and 5 years post cancer treatment were randomly allocated

(1:1 ratio) to receive bCBT, including five face-to-face and three online sessions, or care as usual (CAU, targeted N = 160). Participants completed questionnaires at baseline (T0), four (T1) and seven months later (T2). Intervention participants completed bCBT between T0 and T1. The primary outcome analyzed in the intention-to-treat population was distress severity (Brief Symptom Inventory; BSI-18) immediately post-intervention (T1).

Results: 84 participants were randomized to bCBT (n = 41) or CAU (n = 43). The intervention significantly reduced distress immediately post-intervention (-3.86 points, 95% CI -7.00 to -0.73) and at 7 months post-randomization (-3.88 points, 95% CI -6.95 to -0.80) for bCBT compared to CAU participants. Among secondary outcomes, depression symptoms, anxiety symptoms, cancer worry, and cancer-specific distress were significantly lower in the intervention arm. Self-efficacy scores were significantly higher. Overall treatment satisfaction was high (7.4/10, N = 36) and 94% of participants would recommend the intervention to other colorectal cancer patients.

Conclusion: A statistically significant reduction in distress severity amongst distressed CRCS treated with CORRECT was found. Interventions such as CORRECT might be a useful tool to address mental health needs in a select vulnerable group of CRCS.

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IMPLEMENTING DIGITAL MENTAL HEALTH TOOLS IN COUNTY SERVICES: A QUALITATIVE STUDY OF FACILITATORS AND BARRIERS

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Background:

Digital mental health (DMH) tools are a potential solution to addressing unmet mental health needs. Empirical evidence has demonstrated their efficacy, leaving important questions understudied such as their ability to be integrated into care delivery pathways to increase equity and quality of care. As such, many settings governments, health systems, and universities are attempting to determine how to use DMH tools in their services. These efforts included Californias Help@Hand project, an innovative approach to integrating DMH tools as part of county mental health services.

Purpose:

Our aim is to identify barriers to and facilitators of implementing DMH toolsin county mental health settings.

Method:

We conducted pre- and post-implementations interviews with 42 providers and agency leaders from participating counties; some of them were interviewed at both timepoints resulting in 70 interviews. Directed thematic analyses were performedusing the Exploration, Preparation, Implementation, Sustainment framework. Relevant theory-based categories of influencing factors included innovation characteristics, inner context, and outer context.

Results:

Main barriers identified included interface challenges such as overwhelming and time-consuming to set up (innovation characteristics), limited bandwidth and competing demands of service providers (inner context), and concerns surrounding data privacy (outer context). Facilitators included the ease of incorporating DMH tools into treatment (innovation characteristics) and providers' openness (inner context).

Conclusion:

Implementing DMH requires considerations around organizational contexts (e.g., organizational workflow) and individual characteristics (e.g., provider preferences). Understanding staffs competing demands is critical to engaging providers. Facilitating conversations about DMH tools may increase willingness and comfort to use these tools.

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STUDENTS IN SWEDEN DURING THE COVID-19-PANDEMIC: BEHAVIORS, SELF-EFFICACY, AND MENTAL HEALTH

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Background:

During the COVID-19-pandemic, Sweden introduced voluntary public health recommendations. In addition, Swedish higher education institutions shifted to remote teaching to reduce contagion. For the majority of students, this led to changes relating to several daily behaviors, and study routines, which might impact mental health.

Purpose:

This study investigates compliance with recommendations, COVID-19 symptoms, academic self-efficacy, and mental health in students in higher education in Sweden

Method:

Self-reports were collected through online questionnaires from students at higher education institutions across Sweden (N: 4495; 71% women; mean-age: 26.5 years). These were analyzed using multinomial regressions taking a Bayesian approach.

Results:

Compliance with recommendations ranged from about 70 to 96 percent, with women and older students reporting higher compliance. Most of those with COVID-19 symptoms reported having mild to moderate symptoms (30%). Mild to moderate COVID-19 symptoms in significant others were associated with symptoms of contagion but not with study capacity or mental health. In contrast, over 80% reported effects, mainly negative, on both academic self-efficacy and mental health.

Conclusions:

Students largely followed voluntary recommendations, indicating no need of coercive measures. Still, many reported negative effects on academic self-efficacy and mental health thus raising concerns for enduring effects. Digital interventions boosting study skills and mental health could be a key for providing accessible support to all at reasonable costs.

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ARE WEB-BASED STRESS MANAGEMENT INTERVENTIONS EFFECTIVE AS AN INDIRECT TREATMENT FOR DEPERESSION? AN INDIVIDUAL PARTICIPANT DATA META-ANALYSIS

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Background. Depression is highly prevalent and associated with numerous adverse consequences for the individual and society. Due to low uptake of direct treatment, interventions that target related, but less stigmatizing problems such as perceived stress have emerged as a new research paradigm.

Purpose. This individual participant data meta-analysis (IPD) examines if a web-based stress management intervention can be used as an "indirect" treatment of depression.

Method. Bayesian one-stage models were used to estimate pooled effects on depressive symptom severity, minimally important improvement, and reliable deterioration. The dose–response relationship was examined using additive models, and IPD network meta-analysis was employed to estimate the effect of guidance.

Results. We included $N = 1235$ patients with elevated depressive symptoms (CES-D ≥ 20) from $K = 6$ randomized trials. Moderate-to-large effects were found on depressive symptom severity at 7-week post-test ($d = -0.65$; 95%CrI:-0.84 to -0.48). Effects were sustained at 3-month follow-up ($d = -0.74$; 95%CrI:-1.01 to -0.48). Post-test symptom severity was linearly related to the number of completed sessions. The incremental impact of guidance was estimated at $d = -0.25$ (95%CrI:-1.30 to 0.82), with a 35% posterior probability that guided and unguided formats produce equivalent Effects.

Conclusions. Our results indicate that web-based stress management can serve as an indirect treatment, yielding effects comparable to direct interventions for depression. Further research is needed to determine if such formats can indeed increase the utilization of evidence-based treatment, and to corroborate our findings concerning human guidance.

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PSYCHOSOCIAL AND HEALTH IMPACTS OF THE LENGTH OF RECOMMENDED COVID-19 ISOLATION PERIODS IN INDIVIDUALS WITH COVID-19 SYMPTOMS OR A POSITIVE TEST

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Background: To reduce virus transmission, self-isolation was a key recommendation for people with symptoms or who tested positive for COVID-19. Though the length of recommended isolation periods have varied across the pandemic, little is known about the psychosocial and health impacts of isolation policies and different isolation periods.

Purpose & Methods: This study assessed the mental, health, occupational and social impacts of Canadian isolation recommendations (CIHI data) as function of being required to isolate and duration of recommended isolation (5–7 vs 10–14 days) in a representative sample of 12,111 Canadian adults as part of the iCARE study (http://www.icarestudy.com). Participants completed an online survey between Sept 10, 2021 and June 3, 2022.

Results: Isolation was associated with a 1.35 to 2.71 increased odds of being impacted 'to a great extent' compared to no isolation across all outcome domains (e.g., anxiety, depression, loneliness, anger, job/income loss, unable to pay bills, worse health, separation/divorce, physical/verbal fights with family members, all p's < 0.01). With the exception of increased odds of loneliness ($OR = 1.78$) and working more ($OR = 1.94$), isolating for 10–14 was not significantly worse than isolating for 5–7 days (p's < 0.05).

Conclusion: Isolation policies had a significant and widespread impact across multiple psychosocial and physical health domains, but there were few impact differences as function of duration of isolation. Findings suggest that if there is significant transmission reduction associated with 10–14 days, this level should be maintained, as reducing this to 5/7 days made little difference.

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DO TEACHERS SUSTAIN SCHEDULING OF PHYSICAL ACTIVITY AFTER CESSATION OF IMPLEMENTATION SUPPORT? A LONG TERM FOLLOW-UP OF A RANDOMISED AND CONTROLLED TRIAL

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Background: Physically Active Children in Education (PACE) is an effective and cost-effective intervention that improves schools' implementation of a physical activity policy. However, sustained implementation is required for the policy to reach its full public health potential.

Purpose: Using data from a pilot randomised and controlled trial*, we sought to explore (1)whether teachers sustained their scheduled weekly minutes of physical activity 18-months following delivery of PACE and (2)teacher's perceptions of the usefulness of sustainment strategies.

Methods: We conducted surveys of teachers from the six intervention schools post-intervention and 18-months later. Teachers recorded their minutes of scheduled physical activity during a five-day school week in a daily log book. They also rated the usefulness (on a 5-point Likert scale) of 14 proposed strategies to support sustainment. Generalised linear mixed models assessed the difference in minutes of physical activity scheduled between time points. Descriptive statistics explored teacher's preferences for proposed sustainment strategies.

Results/findings: Valid survey responses were received from 50 teachers post-intervention and 30 teachers at 18-months. There was a significant decrease between time points for teacher's scheduled minutes of total physical activity (33 min; 95% confidence interval = -59.99, -6.91; p = 0.014). Strategies perceived 'most useful' in supporting sustainment were provision of physical activity equipment packs, professional learning modules delivered online or in-person, and a handover package for new staff.

Conclusion: Physical activity scheduling was not sustained in the long-term. These findings have informed our subsequent preparation to address this and ensure the full public health impact of PACE is ealized.

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PERCEIVED NEED FOR MENTAL HEALTH SUPPORT AND SERVICE UTILIZATION AMONG TEXAS COLLEGE STUDENTS DURING THE COVID-19 PANDEMIC

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Background: COVID-19 created a global mental health (MH) crisis, exacerbating social determinants and MH. However, research on the pandemic's impact on perceived need and use of MH services is scarce, especially among high-risk populations like college students.

Purpose: We examined the social determinants of perceived need for and use of MH services among Texas college students in the early months of the pandemic.

Methods: Data from the COVID-19 Texas College Student Experiences Survey (June–August 2020; n = 746) includes full/part-time students from Texas higher education institutions. Participants reported past 3-month perceived need for professional and social services and MH services use (in-person, virtual, avoided). Regressions examined perceived need and services use across social determinants (e.g., economic stability), controlling for self-rated MH, age, gender, and race/ethnicity.

Results: Perceived need for professional (60%) and social (50%) services was common. Yet, few (20% and 9%, respectively) received these services; 21% avoided MH services. Students in low-income households (< $60 K), compared to high-income, were more likely to perceive need for and receive social services (e.g., housing support). Undergraduates were less likely than graduate students to use in-person MH services. Higher race-based discrimination was associated with greater odds of in-person and virtual visits but also with more avoidance of services. Healthcare access and neighborhood/built environment were not associated with any outcomes.

Conclusion: Demand for MH services has grown during the pandemic. Findings suggest the need for higher education institutions to mobilize MH services, including virtual and social services, to meet the necessities of students from diverse social contexts.

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CHANGING SOCIAL EXPECTATIONS: AN EXPERIMENTAL COMPARISON OF MICRO-INTERVENTIONS TARGETING EXPECTATION CHANGE IN THE CONTEXT OF SOCIAL ANXIETY AND PERFECTIONISM

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Background. Dysfunctional expectancies and cognitive immunizations against expectancy-disconfirming information are associated with greater maintenance of symptoms and lower treatment benefits, especially in socially anxious individuals.

Purpose. The aim of this study was to assess expectation change and the effects of different micro-interventions on expectation formation processes.

Methods. A modified online cyberball-paradigm was used to induce and manipulate social expectations (inclusion vs. exclusion) within a healthy to socially anxious sample (N = 88). An expectancy-focused intervention (EFPI) was compared to a mindfulness-based intervention (MBPI) and an active control group (CG) on outcomes of expectations, negative affect, and state anxiety. Modulatory influences of social anxiety and perfectionism on differences in the efficacy of interventions were analyzed.

Results. Hierarchical linear modeling indicated superiority of EFPI against MBPI and CG in expectation change and changes in negative affect and state anxiety. Higher social anxiety was associated with less expectation change after expectancy violation. Individuals higher in social anxiety benefited from MBPI and individuals higher in perfectionism from EFPI regarding expectation change and changes in negative affect. No modulatory influences on changes in state anxiety could be found.

Conclusion. Expectancy-focused interventions targeting cognitive immunization positively influence changes in expectations, negative affect, and state anxiety. Their augmentative incorporation in planning and executing interventions could benefit treatment processes within modern cognitive-behavioral psychotherapy.

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A RANDOMIZED CONTROLLED TRIAL FOR EVALUATING THE EFFICACY OF A COGNITIVE BEHAVIORAL THERAPY INTERVENTION IN REDUCING INTERNET GAMING DISORDER AMONG SECONDARY SCHOOL STUDENTS IN HONG KONG

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Background

The emerging health problem of adolescent Internet gaming disorder (IGD) is prevalent globally. IGD is a newly defined disease in ICD-11. Despite the urgency, there are few evidence-based treatments. Cognitive behavioral therapy (CBT) is potentially useful by restructuring cognitions and cultivating positive coping. Gaps exist as the only two existing clinic-based small randomized controlled trials (RCT) yielded mixed findings on CBT's treatment effect for adolescent IGD.

Purpose

This two-armed RCT evaluated the efficacy of a brief group-based CBT in reducing IGD, compared to a wait-list control group. The treatment mechanisms, maladaptive cognitions and adaptive coping, were also tested.

Method

Secondary 1–4 students with IGD (DSM-5 classification; $n = 312$) were recruited in a school-based screening in Hong Kong. Evaluation involved surveys at baseline, end of intervention, and 6 months afterwards. In addition to education information received by the wait-list control group, the intervention group receives a carefully designed brief 8-week group-based CBT delivered by well-trained social workers.

Results

The intention-to-treat analysis showed significant reductions in IGD score at post-test ($p = 0.005$) and 6-month follow-up ($p = 0.03$) in the intervention group compared with the control group. Generalized Linear Mixed Models reviewed that CBT significantly reduced IGD at post-test and 6-month follow-up but not for the control group. Structural Equation Models showed good model fit (e.g., CFI = 0.98, NNFI = 0.96) and demonstrated the mediation effects of maladaptive cognitions and adaptive coping ($ps < 0.05$).

Conclusions

The findings lead to an evidence-based low-side-effect treatment for adolescent IGD. Understanding its mechanism contributes to the theoretical development of IGD and related treatments.

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A PILOT RANDOMIZED CONTROLLED TRIAL INVESTIGATING THE FEASIBILITY OF A DIGITAL MINDFULNESS-BASED INTERVENTION AND ITS EFFECTS ON PSYCHOLOGICAL DISTRESS AND STRESS IN COPD PATIENTS

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Mindfulness-based interventions (MBIs) are effective in reducing psychological distress and stress in various chronic conditions. However, research on MBIs in individuals with chronic obstructive pulmonary disease (COPD), who often experience psychological distress and stress, is still scarce. Given the reduced mobility of many COPD patients, digital interventions are particularly promising. This pilot study investigates a) the feasibility of a brief digital MBI and b) its effects on psychological distress and stress in COPD patients.

Methods: $N = 38$ psychologically distressed COPD patients (62.74 ± 6.98 years, 61.5% female) were recruited and randomly assigned to the MBI or waitlist control group. Patients in the intervention group performed one of 4 auditory-guided mindfulness exercises (10-15 min, via smartphone) daily for 8 weeks. Psychological distress, stress, and secondary outcomes (e.g., fatigue) were measured in both groups at baseline, after 4 and 8 weeks. MBI's feasibility was assessed via dropouts, usage rates and qualitative interviews with patients in the intervention group.

Results: 21.05% patients dropped out (final sample: $n = 30$). Preliminary data ($n = 12$) show a usage rate of 80.80% and positive experiences with the MBI (e.g., 92% rate MBI as pleasant in the interview). The final results on feasibility and effects on psychological distress and stress will be presented at the congress.

Discussion: This is the first study to investigate a brief digital MBI for COPD patients. The results may serve as a basis for larger clinical trials and promote the implementation of MBIs as add-on low-threshold treatment options in everyday life.

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IMPLEMENTATION OF COORDINATED PHYSICAL ACTIVITY COUNSELLING AMONG PHYSIOTHERAPISTS AND SPINAL CORD INJURY PEER COACHES: A THEORETICAL DOMAINS FRAMEWORK ANALYSIS

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Background: A large decrease in physical activity (PA) is observed among people with spinal cord injury (SCI) following rehabilitation hospital discharge, yet interventions during this transition are unexplored. To target this critical timepoint, the evidence-informed ProACTIVE SCI PA counselling intervention has been adapted for delivery by physiotherapists in the rehabilitation hospital and peers with SCI in the community.

Purpose: To identify the barriers and facilitators to implementing coordinated PA counselling among physiotherapists and SCI peer coaches.

Methods: Semi-structured interviews guided by the Theoretical Domains Framework (TDF) were conducted with physiotherapists and SCI peer coaches. Using the TDF, barriers and facilitators were coded abductively to identify factors affecting PA coaching delivery. A critical friend and member checking were used throughout analysis.

Results: Participants included 9/11 eligible physiotherapists and all eligible SCI peer coaches ($n = 2$). The most commonly identified TDF domains were social influences (34%), environmental context and resources (31%), and skills (15%). Specifically, participants identified the need for champion support, the value of referring out to peers with lived experiences, and the challenges of patient barriers within the social influences domain. Environmental context and resources were highlighted by the desire for new staff onboarding resources and a time-efficient PA coaching form. Skills in PA coaching were supported by ongoing training sessions and motivational interviewing skill development.

Conclusion: A network of support and ongoing training are central to the long-term implementation of the ProACTIVE intervention. Findings also highlight core implementation intervention components for the scale-up of this intervention to other sites.

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CO-OCCURRING HEALTH RISK BEHAVIOURS: ASSOCIATION WITH MOTIVATION TO CHANGE AND PATIENT PREFERENCES

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Background

The majority of general hospital patients report ≥ 2 health risk behaviours (HRBs) among tobacco smoking, at-risk alcohol use, unhealthy diet, and insufficient physical activity. It is unclear how the HRB number relates to motivation to change HRBs.

Purpose

To investigate the association between HRB number and motivation to change, and patient preference in case of co-occurring HRBs.

Methods

In 2020/2021, 256 18–64-year-old general hospital patients (72.1% of eligibles) reported their motivation to change each of their HRBs. Associations between HRB number and the motivation to change each of these were investigated using multivariate linear regression analysis. Participants ranked each HRB concerning their interest in motivational feedback and the expected gain in quality of life if change occurred.

Results

The higher the HRB number the lower the motivation to change at-risk drinking only ($p = 0.034$). Among currently smoking patients, 54.0% expected that to gain quality of life, smoking would be the most or second-most important lifestyle-related behaviour change, but only 40.0% were interested in feedback about their smoking behaviour. Among patients with at-risk alcohol use, the respective proportions were 24.6% and 12.3%. The opposite ($ps < 0.001$) was found for patients with insufficient vegetable/fruit intake (75.2%, 81.5%) and insufficient physical activity (64.4%, 70.1%).

Conclusions

An unhealthier lifestyle may be accompanied by decreased motivation to change in at-risk alcohol users. To individually decide on which of multiple HRBs to focus on, asking for expected gain in quality of life may be helpful. However, relying on patient preference only may leave substance-use related HRBs unaddressed.

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STRESS AND DISTRESS AS MEDIATORS BETWEEN RACE DISCRIMINATION AND PHYSICAL AND SLEEP HEALTH AMONG A DIVERSE SAMPLE OF COLLEGE STUDENTS

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Background: Discrimination experiences increased among minority students during the COVID-19 pandemic. Discrimination is associated with poorer physical health (PH) and sleep, but its mechanisms are not well-understood.

Purpose: We examined whether stress and psychological distress mediated associations between discrimination and PH and sleep among a diverse sample of college students and moderating effects of race/ethnicity.

Methods: Data are from the COVID-19 Texas College Student Experiences Survey (June–August 2020; $n = 838$) which included students enrolled in any Texas higher education institution. Participants reported race-based discrimination experienced in 9 settings (e.g., school, social media), psychological distress, perceived stress, PH [i.e., poor(1) to excellent(5)], and sleep (duration, quality) during initial months of the pandemic. Discrimination experiences were summed and dichotomized (i.e., none, at least one). Multigroup path analyses examined indirect effects of discrimination on PH and sleep through stress and distress and moderated mediation by race/ethnicity.

Results: Latino and Asian students were more likely to experience discrimination than White students. Experiencing discrimination, greater distress, and higher stress were associated with poorer PH and sleep quality. Higher stress was associated with shorter sleep duration. Stress and distress partially mediated relationships between discrimination and PH and discrimination and sleep quality. Stress fully mediated the relationship between discrimination and sleep duration. Race/ethnicity did not moderate relationships.

Conclusion: Latino and Asian students experienced high discrimination during the pandemic and may more heavily feel its health impacts. Developing strategies that reduce discrimination and buffer its effect by addressing mental well-being may mitigate poor PH and sleep among college students.

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PERCEIVING A CONNECTION BETWEEN THE SELF AND A PLACEBO ANALGESIC ENHANCES PLACEBO ANALGESIA

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Purpose

Research on placebo analgesia usually shows that pain outcomes can be improved after people used a placebo analgesic. A new line of research demonstrates that under some circumstances placebo analgesia can be achieved by possessing (without using) a placebo analgesic. This possession-based placebo effect was repeatedly observed (Yeung et al., 2019; 2020; 2021; 2022), yet its underlying mechanism has not been systematically studied. We tested whether perceiving having a strong self-connectedness with the owned analgesic contributes to possession-based placebo analgesia.

Method

Healthy adults ($n = 126$) were randomized to either the experimental (EXP) conditions (EXP1: possess a placebo analgesic cream perceived to have high self-connectedness; EXP2: possess a placebo analgesic cream perceived to have low self-connectedness); or control (CO) conditions (CO1: possess a pain-irrelevant cream; CO2: no-possession). All participants did a cold-pressor-test to experimentally induced pain to their non-dominant hand. Pain outcomes (pain threshold, tolerance, intensity, severity, quality and unpleasantness) were measured.

Results

Participants in EXP1 reported a greater pain threshold, $F(3, 122) = 7.00$, $p < 0.001$, $\eta p^2 = 0.15$, and longer pain tolerance, $F(3,122) = 5.38$, $p = 0.002$, $\eta p^2 = 0.12$, than participants in the other three conditions (EXP2, CO1, CO2). Also, participants in EXP1 showed a higher probability to persistently submerge their hand in the cold water than participants in EXP2, $p = 0.001$; CO1, $p = 0.049$; and CO2, $p = 0.023$. The three conditions (EXP2, CO1 and CO2) did not differ from each other, ps = ns. Participants did not differ in self-reported pain outcomes.

Conclusion

Possessing a placebo analgesic perceived to have high self-connectedness enhances pain outcomes.

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IMPROVING HEALTH AND DIABETES SELF-MANAGEMENT IN PEOPLE WITH IMMIGRANT BACKGROUND AND TYPE 2 DIABETES THROUGH A CO-CREATED INTERVENTION: OUTCOMES AND EFFECTIVE MECHANISMS

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Background

Active involvement of the target group through co-creation in development is a way to ensure that interventions meet the preferences and resources of immigrant populations.

Purpose

We examined the effectiveness and mechanisms of a co-created culturally sensitive diabetes self-management education and support (DSMES) intervention.

Method

Guided by a realist methodology, we explored outcomes as well as mechanisms related to the educational approach that underlie change in outcomes. We used data from interviews, observations and clinical, behavioural and psychosocial outcomes measured at baseline, postintervention and at six months follow up. Participants consisted of Urdu, Arabic and Turkish-speaking immigrants with T2D ($N = 97$). Participants were offered a six-week intervention based on a person-centred approach using research-based dialogue tools to facilitate learning and reflection.

Results

Several clinical outcomes were improved post-intervention, including HbA1c ($P < 0.001$), body fat percentage ($P = 0.002$), self-rated general health ($P = 0.05$), well-being ($P = 0.004$) and several self-management behaviours, e.g., physical activity ($P < 0.001$). Most outcomes remained improved after six months. Effective mechanisms in relation to the education provided included a story-based technique to promote change, personas facilitating dialogue about diabetes dilemmas and mental health problems as well as an encouragement of the participants to test a behaviour change after each session.

Conclusion

Co-creation processes can increase the cultural sensitivity of interventions, which may lead to improved health outcomes. Concrete educational approaches such as dialogue about sensitive subject seemed effective in promoting positive health outcomes in people with immigrant background and type 2 diabetes.

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RECRUITING AFRICAN AMERICAN PROSTATE CANCER SURVIVORS THROUGH A STATE-WIDE CANCER REGISTRY

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Background: Prostate cancer (PC) disproportionately impacts African American men compared to men of other racial/ethnic groups. We created a state-wide biobank to examine disparities in biobehavioral cancer outcomes in African American PC survivors.

Purpose: To describe recruitment of African American PC survivors identified through a Florida-wide cancer registry.

Methods: African American men diagnosed with PC between 2013–2017 and living in Florida at diagnosis were identified through the State of Florida's cancer registry. Patients were approached via mail and telephone, assessed for eligibility, then asked for informed consent. Chi-square and t-tests were conducted to identify differences between patients who were eligible and reachable (i.e., had valid contact information) vs. consented patients.

Results: Of the 5,960 eligible and reachable patients, 3,904 were eligible and contacted at least once, and 578 consented (overall consent rate = 10% [578/5,960]; adjusted consent rate = 15% [578/3,904]). Statistically significant ($ps < 0.05$) but small differences in demographic and clinical variables were observed. Consented participants were less likely to be older than 65 (35% vs. 41%), less likely to have radiotherapy (36% vs. 41%) or hormone therapy (16% vs. 21%), and more likely to have regional PC (13% vs. 11%) and undergo surgery (44% vs. 39%). There were no other significant differences between consented participants and eligible and reachable patients ($ps > 0.05$).

Conclusions: Recruiting African American PC survivors to biobanking research through a cancer registry is feasible. However, existing challenges limit consent and participation. Strategies for overcoming barriers to informed consent and increasing participation in biospecimen research are needed to address cancer disparities.

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THE INFLUENCE OF EXPECTATIONS ON AFFECT-REGULATORY CHARACTERISTICS OF DECEPTIVE PLACEBOS: AN EXPERIMENTAL INVESTIGATION

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Background. Several studies identified affect-regulatory qualities of deceptive placebos within negative and positive affect. However, which specific characteristics of an affect-regulatory framing impacts the placebo effect has not yet been subject to empirical investigations.

Purpose. The aim of the study was to identify whether specifically framed expectations on the occurrence (anticipatory) vs. regulation capability (reactive) of affect, induced with an active placebo nasal-spray, have effects on affect-regulatory processes. Because personality traits have been shown to influence placebo responses and affect regulation as well, an additional goal of the study was to examine modulating influences of shame proneness, depressiveness, experiential avoidance, and emotion control.

Methods. N = 121 healthy volunteers were randomized to either a deceptive placebo condition (anticipatory vs. reactive affect-regulation framing) or a no-treatment control group before shame was experimentally induced via autobiographical recall. Groups were compared on outcomes of state shame, rumination, and situational flexibility.

Results. A placebo response of anticipatory framing on state shame could be observed. Anticipatory and reactive placebo framings influenced changes in state rumination and situational flexibility outcomes. Shame proneness and depressiveness modulated the anticipatory placebo response on state rumination whereas emotion control influenced the reactive placebo response on situational flexibility. Experiential avoidance modulated both placebo responses in situational flexibility.

Conclusion. The results suggest that experienced shame and rumination processes can be positively influenced by placebo treatment in healthy subjects. Traits of shame proneness, depressiveness, emotion control and experiential avoidance influenced the affect-regulatory placebo responses on outcomes individually.

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CLUSTERS TYPOLOGY OF 24-HOUR MOVEMENT BEHAVIORS AND DIET AMONG YOUTH: A SYSTEMATIC REVIEW

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Background: The interaction between 24-h movement behaviors and diet plays an important role in physical and mental health-related indicators in youth.

Purpose: To identify clusters of physical activity (PA), sedentary behavior (SB), sleep, and diet among children and adolescents.

Method: This study was registered in PROSPERO (CRD42018094826). Five electronic databases were assessed. Eligibility criteria allowed studies that included youth (aged 0–19 years); analyzed only PA, SB, sleep, and diet (salt, sugar, and beverages [SSB]; fruits and vegetables [FV]) by applying data-based cluster procedures. The screening and data extraction were completed by two independent peers; a third reviewer was consulted for disagreements.

Results: A total of 11,910 articles were screened; 16 were included. Fifty-four mixed behavior profiles were identified, being 22 with both sexes, 10 in boys and 11 in girls only. The most frequent cluster in both sexes were “High SB SSB Low Sleep”, “High FV”, “Low PA High SB Satisfactory Sleep”, and “Low SB SSB High FV Satisfactory Sleep”. Commonly boys were in “Low PA FV High SSB Sleep”, “Low PA FV High SB SSB”, “Low PA SB SSB High FV”, and “High PA FV”. Among girls the most frequent clusters were “Low SB SSB High FV Sleep”, “High SSB Low FV”, “High SB Sleep”, “High FV Low SSB”, and “Low FV Sleep”.

Conclusion(s): At least one unhealthy behavior characterized lifestyle profiles in youth, boys had different behavior clusters from girls. These results support the necessity of tailoring multicomponent strategies in intervention programs including more than one behavior simultaneously.

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SYSTEMATIC REVIEW AND META-ANALYSIS OF CHILDHOOD OBESITY PREVENTION INTERVENTIONS IN CHILDREN AGED 6 TO 18 YEARS CONDUCTED IN ANY SETTING

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Background: Childhood obesity remains a global public health priority due to the enormous burden it generates. The Cochrane review of childhood obesity prevention interventions (0–18 years) updated to 2015 is the most rigorous and comprehensive review of RCTs on this topic.

Purpose: To assess the effectiveness, adverse effects and cost-effectiveness of obesity prevention interventions published up to 2021 on child (aged 6–18 years) weight and identify intervention characteristics associated with effectiveness.

Method: A partial update of the Cochrane review restricted to children aged 6–18 years was conducted. Any RCT targeting diet and/or physical activity to prevent obesity in children in any setting was eligible and synthesised via meta-analyses using random-effects models.

Meta-regression was conducted to identify intervention characteristics associated with effectiveness.

Results: Meta-analysis of 140 of 195 included studies (183,063 participants) found a very small positive effect on BMI/BMIz scores for school-based studies (SMD:-0·03, 95%CI:-0·06,-0·01; trials = 93; participants = 131,443; moderate certainty evidence) but not after-school programs, community or home-based studies. Subgroup analysis by age (6–12; 13–18) found no differential effects in any setting. Meta-regression found no study characteristics associated with intervention effect. Ten of 53 studies assessing adverse effects reported presence of an adverse event. Nine of 38 studies reported cost data.

Conclusions: This updated synthesis of obesity prevention interventions for children aged 6–18 years found a small beneficial impact on child BMI for school-based obesity prevention interventions only. A more comprehensive assessment of interventions is required to identify mechanisms of effective interventions to inform future obesity prevention public health policy.

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USING PICTURES TO MEASURE CHILDREN'S HEALTH-RELATED QUALITY OF LIFE

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Background:
Health-related quality of life (HRQoL) is an important indicator of overall health and wellbeing of young children. Current measures have relied on parent-proxy measures to control for the language barrier in completing a self-reported health related quality of life.

Purpose:
To develop the first Pictorial Paediatric Health-Related Quality of Life Scale (PPQLS), allowing self-reported HRQoL among young children.

Methods:
Following existing guidelines, pictorial questions that reflect a child's physical, mental, social, and functional health were created. A mixed-method study using the Delphi method was employed where 20 parents and 10 experts in the field were recruited and were asked to rate the pictorial pictures based on their clarity, accuracy and representativeness. Additionally, a pilot study was employed with 20 child participants (age 3–8) to determine whether they could complete the questionnaire and verbally describe the pictorial representations. The pictorial questionnaire was revised till satisfaction was met.

Results:
Significant ($p < 0.05$) Aiken's content validity scores of physical, mental, social, and functional health indicated that these constructs exhibited acceptable clarity, accuracy and representativeness.
Young children in the pilot study demonstrated understanding of the pictorial items as they were able to describe the pictorial representations. Also, they showed competence in completing the questionnaire items independently.

Conclusion
We have established acceptable face validity of the PPQLS and pilot tested it among young children. Our future studies will collect larger samples to examine the psychometric properties. These studies will provide comprehensive evidence to reveal whether the PPQLS is effective in measuring child self-reported HRQoL.

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THE USE OF WELFARE BENEFITS FOR INDIVIDUALS WITH FUNCTIONAL SOMATIC DISORDERS: DanFunD

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Background: Clinical studies suggest functional somatic disorders (FSD) to entail a socioeconomic burden. High quality studies investigating the socioeconomic burden of FSD in terms of welfare benefits in a random sample from the general population are, however, lacking.

Purpose: To investigate the use of sickness benefit, unemployment benefit, and social assistance for individuals with FSD and compare them to individuals without FSD.

Method: This study included data from the general population-based cohort study DanFunD (n = 9,656). FSD were defined with self-reported questionnaires and diagnostic interviews. Data on welfare benefits was obtained from The Danish Register for Evaluation of Marginalization (DREAM). Welfare benefits were counted as number of weeks in a 10-year period before and 4-year period after participation in the DanFunD investigation. Data was analysed with sex and age adjusted linear regression analyses with non-parametric bootstrap resampling with 1,000 repetitions.

Results: Compared to controls, individuals with FSD received 38 (95% CI: 33–44) more weeks of sickness benefit, 13 (95% CI: 9–16) more weeks of unemployment benefit, and 38 (95% CI: 31–45) more weeks of social assistance in the 10-year period before inclusion in DanFunD. The same pattern was seen for the 4-year period after inclusion: 16 weeks (95% CI: 14–19), 4 weeks (95% CI: 3–6), and 15 weeks (95% CI: 12–17), respectively.

Conclusions: Individuals with FSD have a significantly higher use of welfare benefits than controls. In spite of its cross-sectional design, our study suggests FSD to be a disabling condition with substantial impact on both the individual and the society.

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IDENTIFYING THE EFFECTIVE COMPONENTS OF PRIMARY SCHOOL-BASED OBESITY PREVENTION INTERVENTIONS: AN EXPLORATORY ANALYSIS

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Background: Childhood overweight and obesity is increasingly prevalent, can persist into adulthood and influence lifelong health trajectories. Complex, multicomponent, school-based obesity prevention interventions are both common and heterogeneous, highlighting a need to assess the effectiveness of individual intervention components.

Purpose: An exploratory analysis was conducted to determine the potential effectiveness of the heathy eating and physical activity intervention components of primary school-based randomised controlled trials (RCTs) included in a recent systematic review of obesity prevention interventions in children aged 6 to 18 years.

Method: Intervention components of school-based studies were coded by two independent authors according to the healthy eating and physical activity 'practices' described in international and Australian best practice guidelines. An exploratory subgroup analyses of studies adopting each intervention component was conducted to determine their potential effect on child weight using random effects meta-analysis.

Results: Of the 195 studies included in the systematic review, 140 studies (183,063 participants) were conducted in primary schools and 93 studies were coded and included in subgroup meta-analysis conducted by intervention component. Thirty-six discrete intervention components or 'practices' were identified. A series of subgroup analyses by 'practice' found ten healthy eating (e.g. healthy food incentives, healthy canteen policies) and physical activity practices (e.g. short activity breaks, increased time/intensity of physical activity) to have a significant positive effect on child weight.

Conclusions: This exploratory analysis provides important guidance to policymakers regarding which healthy eating and physical activity intervention components should be prioritized in future school-based obesity prevention programs to maximize their intended impact.

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DO PARENTAL AND FRIENDS' INTERNET GAMING BEHAVIORS HAVE AN IMPACT ON ADOLESCENTS' INTERNET GAMING DISORDER SYMPTOMS? THE MEDIATING ROLES OF COGNITIVE PREOCCUPATION AND INTERNET GAMING TIME

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Background

The importance of social modeling on adolescents' addictive behaviors is well established. However, little is known about how parental and friends' gaming behaviors would affect adolescent internet gaming disorder (IGD).

Purpose

The present study assessed the association between parental and friends' internet gaming behaviors and adolescent IGD, and further tested the mediating roles of adolescents' internet gaming time and cognitive preoccupation with internet gaming (CPIG).

Method

A total of 2,413 adolescents were surveyed in Hong Kong from February to December 2021. The mediating effects were examined by a SEM model.

Results

Results of correlation analysis showed that friends' frequency of internet gaming, adolescents' CPIG and internet gaming time were positively correlated with adolescent IGD symptoms. Moreover, parental and friends' frequency of internet gaming were positively correlated with adolescent internet gaming time; Mother's and friends' frequency of internet gaming were positively correlated with adolescent CPIG. The SEM model fitted the data well: $\chi2/df = 2.37$, $CFI = 0.98$, $TLI = 0.97$, $RMSEA = 0.02$, $SRMR = 0.01$. And results revealed that father's and mother's frequency of internet gaming were positively associated with adolescent IGD indirectly through adolescent internet gaming time; friends' frequency of internet gaming was not only positively associated with adolescent IGD directly, but also indirectly through both adolescents' internet gaming time and CPIG.

Conclusion(s).

The findings provide evidence to illuminate the roles of parents' and friends' gaming behaviors in why adolescents may develop IGD. Prevention programs for adolescent IGD may consider involving the parents and friends of adolescents.

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WHAT IMPACT DO BEHAVIOURAL FACTORS HAVE ON TIME TO INITIATION OF BYSTANDER CPR IN OUT-OF-HOSPITAL CARDIAC ARREST? RESULTS FROM AN ANALYSIS OF 200 RECORDED AMBULANCE CALLS

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Background

Worldwide, out-of-hospital cardiac arrest (OHCA) is common with high mortality (~90%). Immediate CPR reduces mortality but is often not provided by bystanders, even when ambulance personnel provide instructions.

Purpose

To identify behavioural barriers to CPR in recorded OHCA ambulance calls.

Method

Content analysis of 200 randomly identified, pseudonymised, transcribed Scottish ambulance call-recordings involving OHCA (Jan 2019-Dec 2020). Data extracted about (i) the patient (ii) the caller (iii) 'time to get patient flat' and (iv) 'time from instructions to CPR initiation'. Barriers to CPR were coded (10% double-coded, confirmed reliability) and behavioural barriers identified.

Results

OHCA patients were mostly male (62%), aged 0–90+(most 40–80). Callers were mostly female (62%) and known to patient. CPR was achieved in 86% of cases. Median time from instructions to initiation of CPR: 52 s (IQR 63.5). Time to get patient flat was significantly longer for female callers and where rescuer expressed concerns about (i) doing harm ($\chi2$:4.04, $p < 0.05$); (ii) being physically unable ($\chi2$:63.12, $p < 0.001$), patient being too heavy ($\chi2$: 26.23, $p < 0.001$),it being 'too late'/futile ($\chi2$:9.93, $p = 0.019$) or expressed emotion ($\chi2$:7.89, $p = 0.048$). Time from instructions to CPR was significantly longer for male callers and when rescuers didn't know how to do CPR ($\chi 2$:9.44, p = 0.002) and felt physically unable ($\chi 2$:9.99, p = 0.018).

Conclusion

Behavioural barriers are associated with longer delays getting OHCA patients flat (a crucial first step) and time from instructions to CPR initiation. Behaviour-change techniques may be helpful in addressing these barriers and achieving CPR sooner.

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INCREASING SCHOOLS' IMPLEMENTATION OF A MANDATORY PHYSICAL ACTIVITY POLICY: OUTCOMES OF A CLUSTER RCT

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BACKGROUND:

Many jurisdictions have policies that stipulate the number of daily or weekly minutes of physical activity (PA) that schools are required to schedule. Unfortunately, the implementation of such policies is less than optimal. The potential public health benefits that may result from these policies requires population-wide implementation.

PURPOSE:

This study aimed to determine the effectiveness of a multi-strategy implementation intervention on increasing teachers' implementation and maintenance of a mandatory PA policy.

METHODS:

A cluster RCT was undertaken with 61 Australian primary schools. Designed using the Behaviour Change Wheel and Theoretical Domains Framework a 12-month multi-strategy implementation intervention was delivered to schools. Control schools received usual support. The primary outcome was weekly minutes of structured PA implemented by classroom teachers. Data were collected at baseline (October-December 2017), 12-month (October-December 2018) and 18-month (April-June 2019) follow-up. Data were analysed using linear mixed effects regression models.

RESULTS:

Overall 400 teachers provided valid primary outcome data at each time point. From baseline to 12-month follow-up, teachers at intervention schools recorded a greater increase in weekly minutes of PA by an average of 45.30 min (95% CI: 33.75, 56.86; p < 0.001) which remained at 18-months, however the effect size was smaller (27.61 min; 95% CI: 15.99, 39.22; p = < 0.001).

CONCLUSIONS:

A multi-strategy implementation intervention increased mandatory PA policy implementation. Some, but not all of this improvement was maintained after implementation support concluded. Further research into the impact of scale-up strategies on the sustainability of physical activity policy implementation over longer time periods is warranted.

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EMBEDDING A BEHAVIOURAL INTERVENTION DELIVERED VIA MHEALTH INTO ROUTINE SERVICES TO OPTIMISE CHILD HEALTH AND DEVELOPMENT ACROSS THE FIRST 2000 DAYS

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Background: Universal provision of preventive health services for families is key to ptimizing health outcomes in the first 2000 days of a childs life. Despite this, parental engagement with face-to-face services declines significantly over time. Despite significant promise, there are no behavioural interventions delivered via mHealth targeting child health and development spanning the first 2000 days internationally.

Purpose: This presentation outlines the development of an mHealth intervention embedded into routine care and delivered universally to parents/carers to support child health and development across the first 2000 days. Acceptability, feasibility, appropriateness from the perspective of clinicians and parents/carers is presented.

Methods: Designed using the COM-B model of behaviour change, an mHealth (text-message) intervention was co-designed by a multidisciplinary team to support parents/carers to make informed health choices aligned to age and stage milestones and policy guidelines. Initially, the intervention supported sustained breastfeeding, introduction of solids, sleep behaviours, immunization reminders and maternal wellbeing. Semi-structured interviews with clinicians and telephone surveys with parents/ carers assessed acceptability, feasibility and appropriateness.

Results: Commencing in 2021 as a pilot, the intervention has been delivered to ~ 2000 families, capturing 96% of parents/carers of newborn infants. Semi-structured interviews (clinicians) and cross-sectional phone surveys (parents/carers) indicate high acceptability, (85% and 96% respectively) of the mHealth service.
Implications: An mHealth intervention holds significant promise and potential for further vertical and horizontal scale-up. The intervention has the ability to address multiple health and development outcomes with significant potential to tailor content and support screening and early intervention.

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PARENTAL CONTROLLING FEEDING PRACTICES MIGHT REDUCE ADOLESCENTS' EATING COMPETENCE. THE STEPS STUDY

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Background: Eating competence concept, based on The Satter Eating Competence Model, includes eating attitudes, food acceptance, internal regulation and contextual skills. Competent eaters have natural and positive attitudes about eating and food. Parental feeding practices have been associated with child BMI status. However, the association of parental practices and eating competence are largely unknown among adolescents. We examined association between parental feeding practices and eating competence among adolescents aged 11–13 years.

Methods: We used data from a prospective Steps to Healthy Development follow-up study from South-West Finland, with 348 mother-adolescent dyads and 215 father-adolescent dyads. Eating competence was evaluated by using the Satter Eating Competence Inventory (ecSI 2.0) instrument filled by adolescents. Parental feeding practices were evaluated with Child Feeding Questionnaire filled by parents. Linear regression analyses were made separately for mother-adolescent pairs and father-adolescent pairs controlling for parental education and income, parent BMI, child BMI-SDS and child sex.

Results: We found that Restriction by mother but not by father, was associated negatively with adolescents´ total eating competence score, eating attitudes and food acceptance. In addition, higher scores in Pressure to Eat by mother and father, significantly reduced adolescent eating attitudes. In addition, mother´s greater Concern for adolescent´s weight was negatively associated with adolescent´s total eating competence score, eating attitudes and internal regulation.

Conclusions: The results indicate that parental feeding practices may affect adolescents´ eating competence. Especially Restriction and Pressure to Eat may be detrimental to adolescents´ eating competence and positive eating attitudes.

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SCALING UP AN EFFECTIVE M-HEALTH LUNCHBOX PROGRAM TARGETING PARENTS IN AUSTRALIAN PRIMARY SCHOOLS

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Introduction: Most (85%) Australian primary school students bring a packed lunch to school containing more than 3 serves of discretionary food items, impacting health and educational outcomes.

Purpose: We report the development, pilot, ptimization and national scale-up of the SWAP-IT lunchbox program.

Methods: A seven-step program of work was undertaken including: 1) formative research to identify parental barriers and behaviour change techniques (BCT) that underpinned the m-health intervention; 2) pilot RCT to evaluate acceptability, feasibility and efficacy; 3) intervention ptimization study prior to the fully powered trial; 4) hybrid effectiveness-implementation trial; 5) dose trial to identify core components and maximise cost-effectiveness; 6) evaluation of dissemination methods; and 7) national scale-up evaluated via an RCT.

Results: The SWAP-IT program was developed to address common parental barriers to packing healthy lunchboxes: time, cost, convenience, child preference and knowledge. BCT's were incorporated into the intervention delivered via an existing school app, which was acceptable to 95% of parents during the pilot. Optimised lunchbox messages were then incorporated into the hybrid implementation-effectiveness trial in 36 schools in Australia which demonstrated a decrease in mean energy (kJ) content of discretionary foods packed in lunchboxes (-117.26 kJ; $P = < 0.01$; $n = 3022$). The dose trial demonstrated no significant change in the effectiveness of SWAP-IT when program costs decreased from $6.02 to $0.07 per student, making SWAP-IT appropriate for large-scale dissemination and evaluated in 450 schools nationally.

Conclusions: This scalable m-health intervention has the potential to improve the health of populations by enhancing the nutritional quality of school lunchboxes.

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USING THE COM-B MODEL TO EXPLORE INDIVIDUALS' EXPERIENCES OF A NATIONAL WORKPLACE WALKING CHALLENGE IN SCOTLAND AND ITS IMPACT ON THEIR PHYSICAL ACTIVITY BEHAVIOURS: A QUALITATIVE INTERVIEW STUDY

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Background: There is a wealth of research surrounding the positive impacts of exercise on health and wellbeing, however, sedentary behaviour is still prevalent, particularly in the workplace. This has led to the creation of many workplace programmes intended to reduce sedentary behaviour and increase activity levels. An example is Step Count Challenge (SCC) rganized by the charity Paths for All, and available across all workplaces in Scotland. In SCC, teams of five colleagues attempt to complete as many steps as possible during either a four- or eight-week period.

Purpose: To explore SCC participant experiences and the impact of participation on exercise behaviours, using the COM-B model.

Method: Previous SCC participants ($N = 8$, data collection ongoing) took part in one-to-one semi-structured interviews regarding their experiences and behaviour change, both during and after the SCC. The interview schedule addressed each element of the COM-B model and was analysed using thematic analysis.

Results: Preliminary analyses suggest that the SCC assisted with all elements of the COM-B model. Prevalent themes included 'Importance of Team', 'Competition', 'Health & Wellbeing' and 'Social Aspect of the challenge'. Also, most participants believed that participation impacted their physical activity behaviours, increasing exercise levels and motivation.

Conclusion: Participants reported that they benefitted from the SCC, and that their physical activity levels were positively impacted. This seemed to be largely affected by the competition element of the SCC and the team driving motivation to exercise, thus supporting workplace physical activity challenges as potentially effective behaviour change programmes for increasing physical activity levels.

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THE EVALUATION OF TELEHEALTH REIMBURSEMENT POLICY ON HEALTH SERVICE UTILIZATION AND HEALTH EXPENDITURE IN THE US

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Background: In response to the COVID-19 pandemic, 22 states in the US implemented emergency payment parity mandates, requiring private insurers to reimburse telehealth visits at the same rate as in-person ones.

Purpose: Our objective is to examine the telehealth adoption decisions of privately insured beneficiaries and evaluate the impact of the payment mandate on healthcare utilization and expenditure.

Method: We used the IBM MarketScan Commercial Claims dataset from 2019 to 2020. We leverage a policy shock to identify the effects of interest using a difference-in-differences (DiD) estimation. Our treatment group is patients in the 22 states with payment mandates, whereas the control group is those in other states.
Principal findings: The adoption of telehealth services varied significantly among patients. Patients aged 55–64 (28%) account for the largest percentage of telehealth users. Females have a 5.83 percentage points higher predicted probability of using telehealth than males ($p<0.01$; CI: 0.058, 0.590). After the mandates were implemented, the treatment group had 3 more outpatient visits than the control group ($p<0.01$; CI:2.43, 3.11). However, the total out-of-pocket expenditure of the treatment group is 4.12% lower than that of the control group ($p<0.01$; CI: -0.049, -0.034), which suggests that telehealth might have an overall cost-saving effect, despite the visits per se are reimbursed at the same rate as in-person ones.

Conclusions: Payment mandate enhanced health access, increased health service utilization and reduced out-of-pocket health costs for patients. Our studies provide evidence for policymakers to establish sustainable reimbursement policies and payment models to support telehealth.

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WHICH GOALS MATTER TO PEOPLE WITHIN CARDIAC CARE? A STUDY ON LIFE GOAL AND HEALTH GOAL PREFERENCES

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Background: Goal setting is essential when changing lifestyle in people with cardiovascular disease (CVD). Achieving health goals may become more attainable if linked to long-term life goals.

Purpose: Identify life goal and health goal preferences among people with CVD.

Method: Respondents ($N=629$; 39% female; 69 ± 35 years) were randomly assigned into two groups: setting a health goal (HG) and setting a health goal linked to a life goal (HG + LG). Both groups, HG and HG + LG, chose a lifestyle domain (exercise, stress, nutrition, smoking, alcohol, sleep) and formulated an individual health goal. However, prior to this, the HG + LG group formulated a subjective life goal by answering the questions: 1) "What is important in my life?", 2) "What is important in my life right now?", and 3) “What do I want to be able to do?”.

Results: Life goals focused on My physical health (35%), My family (32%) or My relationship (12%). The chi-square test showed a significant association between group and health goal, $\chi^2(5)=12.398$, $p=0.03$, Cramer’s $V=0.140$. Respondents from both groups most often chose an exercise-focused health goal (HG 67%, HG + LG 66%). However, a stress-related health goal was chosen more frequently among HG + LG respondents (17%) than among HG (9%) ($\chi^2(1)=8.851$, $p=0.003$, Cramer’s $V=0.119$).

Conclusions: When life goals are included in the context of health goal setting, people with CVD appear to have a somewhat greater preference for addressing stress. Discussing one’s life goals within cardiac care may be a valuable complement to health goal setting.

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KIDS SIPsmartER IMPROVES SUGAR-SWEETENED BEVERAGE BEHAVIORS AMONG APPALACHIAN MIDDLE-SCHOOL STUDENTS AND THEIR CAREGIVERS: RESULT OF A CLUSTER RANDOMIZED CONTROLLED TRIAL

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Sugar-sweetened beverage (SSB) consumption is disproportionately in rural Appalachia. This cluster randomized controlled trial includes 12 Appalachian middle schools (6 each in Kids SIPsmartER and control). Kids SIPsmartER is a 6-month, behavior and health literacy program aimed at improving SSB behaviors among 7th grade students. The program also incorporates a two-way text message strategy to engage caregivers in SSB role modeling and improving the home environment. Students and caregivers are eligible to participate, regardless of baseline SSB behaviors. Analyses include modified two-part models with time fixed effects and relevant demographics controlled and school cluster robust standard errors and includes 526 students and 238 caregivers. Regardless of SSB intake at baseline, intervention students significantly decreased SSB by -9.9 oz/day (95% CI = -12.2, -7.6) compared to the control students with a decrease of -2.7 SSB ounces/day (95% CI, -5.4, -0.1); $p < 0.001$, effect size (ES) = 0.35. Among students who consumed > 24 oz SSB/day at baseline (n = 223, 42% of sample), the ES increased to 0.45 (p = 0.003). Regardless of SSB intake at baseline, intervention caregivers significantly decreased SSB by -7.9 oz/day (95% CI = -12.1, -3.7) relative to the control caregivers with a decrease of -1.9 SSB ounces/day (95% CI, -4.3, 0.6); p = 0.018, ES = 0.31. Among caregivers who consumed > 24 oz SSB/day at baseline at baseline (n = 67, 28% of sample), the ES increased to 0.71 (p = 0.004). Kids SIPsmartER is effective at improving SSB behaviors among students and their caregivers in the rural, Appalachian region. Importantly, effects were even stronger among high SSB consumers at baseline.

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TESTING DILEMMAS DURING COVID-19 IN DENMARK

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Background: Tests for COVID-19 have been a vital tool against the spread of infection in Denmark. The public health authorities introduced an elaborate testing regime to prevent transmission and monitor the epidemic. For people in everyday life, tests had the power to regulate access to society and social life.

Purpose: We explored how people used tests in everyday life, and how they managed the dilemmas that emerged from the decision to test or avoid testing.

Methods: A multisited ethnographic study was conducted between February 2021 and April 2022 in Denmark. We explored test practices and decision-making strategies, drawing on participant observation in testing facilities and semi-structured interviews. Participants were recruited according to different socio-demographic variables, and the material was analysed using abductive thematic analysis.

Results: People were generally keen to follow guidelines from the health authorities, but the decision to test rarely derived from notions of public spirit. Tests allowed people to exert control over uncertain situations, show care for loved ones and achieve peace of mind. As tests could restrict access to society and social life, the decision to test produced dilemmas that involved complex negotiations between individual needs, personal freedom and the consequences of test results.

Conclusion: The testing regime led to an increased medicalization of everyday life, as decision-making and actions became structured around or determined by tests. The dilemmas that emerged from the decision to test or avoid testing questioned the notion of tests as a public good or a violation of personal freedom.

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MATERNAL HEALTHCARE PROVIDER ATTITUDES TOWARDS CARING FOR PREGNANT PATIENTS WHO HAVE OBESITY

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Background: Pregnant individuals who have obesity may be subjected to weight stigma in clinical settings, which reduces quality of care. Weight stigma is defined as societal devaluation of individuals who have a higher body weight, for example, making assumptions that patients who have obesity are unmotivated to improve their health and lacking self-discipline. Provider weight-related attitudes can directly influence the quality of care they deliver.

Purpose: To evaluate maternal healthcare provider (MHCP) attitudes towards caring for pregnant patients who have obesity.

Methods: Canadian MHCPs completed an online survey that assessed their assumptions about patient lifestyle behaviours, attitudes towards caring for pregnant patients who have obesity, and how their colleagues act towards patients who have obesity. Participants indicated their level of agreement on a 5-point likert scale to statements about obesity in pregnancy and patient behaviours. Mean scores were calculated with higher scores indicating poorer attitudes.

Results: Seventy-two MHCPs (i.e., obstetricians, midwives, perinatal nurses, family physicians, and resident trainees) participated in this study. Overall, MHCPs expressed positive attitudes towards caring for pregnant patients who have obesity (2.3 ± 0.5) and limited assumptions about their lifestyle behaviours (2.1 ± 0.7). However, 80% stated they had observed pregnant patients experience weight stigma in a clinical setting and more than 70% agreed that their colleagues have negative attitudes and have stigmatized patients.

Conclusions: According to MHCPs, weight stigma is present in prenatal clinical environments. As weight stigma can negatively impact delivery of healthcare and patient health, effective strategies to mitigate weight stigma in prenatal clinical settings are needed.

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ACCEPTABILITY OF A PRECISION PREVENTION MODEL FOR REDUCING RISK OF ALCOHOL USE DISORDER AMONG YOUTH

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Purpose: To explore acceptability of returning individual genetic risk information about risk for alcohol use disorder (AUD) to adolescents to motive risk reducing behaviors.

Methods: Community survey of adults (≥ 18 yr) engaged via two survey platforms about attitudes toward precision prevention of AUD targeting adolescents. Descriptive statistics and multivariate logistic regression were used to understand attitudes and beliefs.

Results: Among N = 1,218 survey participants (mean age 55.5, (SD 17.4) 56.3% male, 76.9% white, 76.2% college or higher, 93.6% speak English at home, 61.7% homeowners, 68.0% parent/guardian), 84.4% reported ever using alcohol, 21.5% reported binge drinking in the past 3 months, 9.4% reported having been diagnosed with AUD, and 31.9% reported having close family (parents, children, siblings) diagnosed with AUD. Overall, 47.7% thought it very likely/likely they would limit their drinking if they learned they were at heightened genetic risk of AUD. A majority (66.6%) definitely/probably would permit their adolescent to receive genetic testing for AUD. Permission was associated with sex, race/ethnicity, survey platform, positive family and personal history of AUD (all p-values < 0.05). In adjusted logistic regression analyses, history of genetic testing, family or personal history of AUD were each associated with elevated odds of permitting their adolescent to receive genetic testing for AUD risk (AORs and 95% Cis, respectively: 1.86;1.42–2.45; 1.51;1.14–2.00, 3.27;1.83–5.83).

Conclusions: We found high acceptability of personalized prevention of AUD in adolescents, especially among persons with a family or personal history of AUD. Findings are promising for a precision prevention approach to reducing AUD risk among youth.

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DEVELOPMENT OF AN INCLUSIVE COMMUNICATION TOOL (TALKING MATS) FOR PEOPLE WITH INTELLECTUAL DISABILITIES TO FACILITATE DISCUSSION OF CANCER SCREENING ACCESS

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Background: Screening can reduce deaths from cancer if people participate; however, cancer screening programmes often fail to sufficiently engage the most vulnerable, leading to persistent inequalities in uptake. Cancer research among people with intellectual disabilities (PWID) and other vulnerable groups is neglected and underfunded, and requires greater diversity in our methodological approaches. Collaborative research designs and material development can facilitate the inclusion of underserved groups in health research.

Purpose: To develop a set of 'talking mats', an innovative tool to facilitate discussion, to conduct qualitative interviews about cancer screening with PWID.

Method: Two online co-design workshops were facilitated by the TalkingMats® team. Three PWID and 5 researchers with expertise in intellectual disabilities and/or cancer screening participated in the workshops. The first workshop identified relevant concepts to include in the talking mats: the purpose of the research was introduced, and participants discussed their experiences of cancer screening and use of talking mats. The participants were then guided to develop topics to be covered by the talking mats. For the second workshop the TalkingMats® team had drafted images to symbolise the talking mats topics. The participants provided feedback on the images and discussed further developments.

Results: The team produced a set of talking mats to facilitate qualitative interviews about key barriers and facilitators of breast, cervical, and colorectal screening for PWID who have participated in cancer screening and those who have not.

Conclusion(s): The talking mats will facilitate effective communication for people of all abilities and enable more inclusive qualitative research.

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AN ONLINE DELIVERED RUNNING AND WALKING GROUP PROGRAM TO SUPPORT LOW ACTIVE STUDENTS' WELL-BEING AND EXERCISE BEHAVIOR DURING THE COVID-19 PANDEMIC: A PILOT RANDOMIZED CONTROLLED TRIAL

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Background: Due to physical distancing mandates early in the COVID-19 pandemic, postsecondary students were at risk for depleted well-being and inactivity.

Purpose: Evaluate the feasibility and acceptability of the Socializing Together while Running InDEpendently (STRIDE) program, an eight-week, social identity-informed online running group initiative to support low active students' well-being and exercise behavior during the pandemic.

Methods: The STRIDE Trial was a pre-registered (NCT04857918), 2-arm, parallel pilot randomized trial. Low active, healthy postsecondary students (N = 72) were randomized to a group exercise program designed to support social connectivity via online platforms (Zoom, Strava) and a group exercise goal (run/walk distance across BC) or attention control condition. Feasibility and acceptability were assessed via process outcomes (recruitment/retention, attendance) self-report measures (satisfaction, affective attitudes) and post-program interviews. Secondary outcomes included exercise behavior, well-being, identity, and social support.

Results: Recruitment was successful, study retention and questionnaire completion were above 90%, and weekly attendance was 62.88%. Program satisfaction (M = 4.13/5) and social identification (M = 4.63/7) were high and moderate, respectively. Condition by time effects for affective attitudes were negligible ($\eta p^2 = 0.004$), and small to negligible for secondary outcomes ($\eta p^2 = 0.025$ to 0.000). During interviews, participants reported satisfaction with the program but difficulties in developing meaningful social connection online and a preference for in-person running activities.

Conclusion: The STRIDE program was found to be feasible and acceptable. Prior to conducting a larger efficacy trial, refinements (to include in-person running/walking activities) should be included and piloted to enhance intervention potency.

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BARRIERS AND ENABLERS OF BEHAVIORAL WEIGHT MANAGEMENT FOLLOWING BARIATRIC SURGERY: INTERESTED PARTIES' PERSPECTIVES

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Background

Failure to provide behavior change support following bariatric surgery (BS) may lead patients to struggle with weight management following bariatric surgery (BS). Nevertheless, there is currently a lack of adjunct behavioral interventions for BS patients co-constructed with interested parties to ensure relevance and feasibility.

Purpose

We explored the perspectives of different groups of interested parties to 1) define successful weight management (WM) following BS; 2) specify the barriers and enablers of WM following BS; and 3) formulate hypotheses as to the specific aspects of a relevant, effective, and implementable behavioral WM intervention.

Methods.

Participants were recruited from a large bariatric care center in Montreal, Canada. Separate focus groups were conducted for 4 groups of interested parties: health administrators, healthcare professionals (HCPs), and patients waiting for or who underwent BS. Collected data were thematically analyzed.

Results

HCPs and health administrators identified patient satisfaction as a key indicator of successful WM following BS. However, both groups stressed that unrealistic WL expectations were common among patients, which hindered satisfaction. Patients reported lacking knowledge regarding proper nutrition beyond the first postoperative month, notably when weight regain occurred; and potential expectations following BS, and thus worried about not knowing when to seek additional help. Finally, patients reported lacking strategies other than eating to cope with negative emotions and stress.

Conclusion

Interventions focused on long-term nutrition, expectations and coping skills are needed. Results will contribute to a larger integrated knowledge translation research program aimed at developing behavioral interventions for patients undergoing BS.

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MISSED OR DELAYED COVID-19 VACCINATION IN 26 COUNTRIES: AN OBSERVATIONAL SURVEY

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Background: The COVID-19 pandemic has disrupted vaccination services and raised the risk of a global resurgence of preventable diseases.

Purpose: We assessed the extent of and reasons for missed or delayed vaccinations in middle- and high-income countries in the early months of the pandemic.

Method: From May to June 2020, participants completed an online survey on missed vaccination. Analyses separated missed childhood and adult vaccination in middle-and high-income countries.

Results: Respondents were 28,429 adults from 26 middle- and high-income countries. Overall, 9% of households had missed a vaccine, and 13% were unsure. More households in middle- than high-income countries reported missed childhood vaccination (7.6% vs. 3.0%) and missed adult vaccination (9.6% vs. 3.4%, both $p < 0.05$). Correlates of missed childhood vaccination in middle-income countries included COVID-19 risk factors (respiratory and cardiovascular diseases), younger age, male sex, employment, psychological distress, larger household size, and more children. In high-income countries, correlates of missed childhood vaccination also included immunosuppressive conditions, but did not include sex or household size. Fewer correlates were associated with missed adult vaccination other than COVID-19 risk factors and psychological distress. Common reasons for missed vaccinations were worry about getting COVID-19 at the vaccination clinic (15%) or when leaving the house (11%). Other reasons included no healthcare provider recommendation, clinic closure, and wanting to save services for others.

Conclusion: Missed vaccination was more prevalent in middle- than high-income countries. Missed vaccination could be mitigated by emphasizing COVID-19 safety measures, ensuring free and accessible immunization, and clear healthcare provider recommendations.

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IMPROVING QUALITY CARE IN PATIENTS WITH ADVANCED CANCER: A GENDER-SENSITIVE ANALYSIS OF THE FEASIBILITY AND BENEFIT OF A PSYCHOLOGICAL INTERVENTION

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Background: The role of gender in psychotherapy has been widely recognized but infrequently investigated in psychotherapy trials.

Purpose: We conducted a secondary analysis of data from a randomized controlled trial of Managing Cancer and Living Meaningfully (CALM), a supportive-expressive intervention for individuals with advanced cancer, to examine gender effects in the feasibility, acceptability, perceived benefit, and effectiveness of CALM.

Method: Trial participants, outpatients with advanced cancer (N = 305, 40% men and 60% women), completed measures at baseline, 3 months (t1), and 6 months (t2). We investigated gender differences in participation rates, attrition rates, number of CALM sessions received, and perceived benefit of CALM. Separate subgroup analyses of data and gender X treatment group moderator analyses from men and women were compared in examining treatment effects on depressive symptoms, end-of-life preparation, and death anxiety at each follow-up period.

Results: No gender differences were observed in participation or attrition rates, number of CALM sessions received, or perceived benefit of CALM. In subgroup analyses at t2, men in CALM reported significantly lower depressive symptoms than men in usual care (UC; $P = 0.017$), women in CALM with moderate baseline death anxiety reported lower death anxiety than women in UC ($P = 0.009$), and both men ($P = 0.022$) and women ($P = 0.016$) in CALM reported greater end-of-life preparation than those in UC. There were no significant gender X treatment group interaction effects on any outcome.

Conclusions: CALM therapy is feasible, acceptable, and beneficial for men and women. Further clinical trials are needed to evaluate psychotherapeutic interventions for patients with cancer.

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THE IMPACT OF PUBLICLY FUNDED SCHOOL-BASED HPV VACCINATION PROGRAMS

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Background: Reaching and maintaining high global human papillomavirus (HPV) vaccine uptake has been challenging. The impact of publicly funded HPV immunization programs and the interplay of sociodemographic, psychosocial and policy factors in maximizing vaccination is poorly understood.

Purpose: This study examined the impact of introducing publicly funded school-based HPV vaccination programs, while concurrently examining other important sociodemographic and psychosocial factors.

Method: Data were collected from a national, longitudinal sample of Canadian parents of children aged 9 – 16 years during August–September 2016 (T1) and June-July 2017 (T2). Participants completed an online questionnaire measuring sociodemographic characteristics, vaccine knowledge and attitudes, health care provider recommendation, and HPV vaccine uptake. Analyses were conducted separately for parents of boys and girls using logistic regression analyses at T1 and T2. Jurisdictions with HPV vaccine funding for boys at both time-points were compared to those with funding at neither time-points and those that introduced funding between time-points.

Results: The sample included parents of boys ($n = 716$) and girls ($n = 843$). In multivariate analyses, jurisdictions with funding for boys at both time-points had higher odds of vaccination (adjusted odds ratio, $T1 = 10.18$, $T2 = 11.42$; 95% confidence interval, $T1 = 3.08 - 33.58$, $T2 = 5.61 - 23.23$) than jurisdictions without funding at both time-points. Vaccination was associated with consistent determinants in boys and girls including child's age, health care provider recommendation, perceived vaccine harms, and perceived vaccine affordability.

Conclusion: This study highlights the interplay of sociodemographic, psychosocial, and policy factors that can improve HPV vaccination. Publicly funded school-based programs are an impactful strategy to increase vaccine uptake.

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24 WEEKS OF EXERCISE DOES NOT ALTER OBJECTIVELY AND SUBJECTIVELY MEASURED SLEEP IN FAMILY CAREGIVERS: RESULTS FROM THE FITNESS, AGING, AND STRESS (FAST) RANDOMIZED CONTROLLED TRIAL

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Introduction: Family caregivers experience greater exposure to daily stressors, amplifying their risk of mental and physical health conditions. Sleep is a process that influences the experience of stressors, with higher quality, more efficient sleep predicting better psychological health. Unfortunately, caregivers are also more likely to experience sleep disruptions. Since physical activity and exercise have been linked to improved sleep, we examined whether an exercise intervention improved caregivers' self-reported sleep quality and objectively measured sleep from baseline to post-intervention.

Method: This study includes secondary analyses of data from the Fitness, Aging, and STress (FAST) randomized controlled trial, which featured the delivery of a 24-week aerobic exercise training program to underactive family caregivers. The FAST trial included 68 participants who were randomized to either a 24-week aerobic training program (N = 34) or waitlist control group (N = 34). Objective (e.g., efficiency, duration, with wrist-worn actigraph GT3X) and subjective (i.e., quality) measures of sleep were assessed for 7 consecutive days both at baseline and post-intervention.

Results: Multilevel modeling analyses revealed null effects for the exercise intervention for all sleep parameters (objective and subjective).

Discussion: Our findings are in contrast to previous research suggesting exercise can improve sleep. It is possible that caregivers' exposure to nightly disruptions by the person for whom they provide care are beyond the caregivers' control and thus, their sleep is less modifiable by exercise. Future research can examine the effects of exercise on disrupting associations between sleep and daily affective and cognitive states.

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THE FEASIBILITY OF A CULTURALLY TAILORED FAMILY INTERVENTION ON INCREASING CULTURAL IDENTITY, RACIAL SOCILIZATION, AND HEALTH OUTCOMES IN OVERWEIGHT AFRICAN AMERICAN ADOLESCENTS

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Background: Black youth and families experience racial stressors and discrimination that can lead to poor health outcomes. Growing evidence suggests that strengths-based culturally tailored resilience interventions improve coping skills and capacity, however, few existing resilience interventions have targeted health promoting behaviors as outcomes.

Purpose: The purpose of this study was to evaluate the feasibility of a cuturally tailoring family intervention compared to a health education program on improving cultural assets for coping with racial stressors and health-related outcomes (physical activity; PA).

Methods: Black parent/adolescent dyads (n = 25) were randomized to either a 10-week online culturally tailored family intervention or an online health education comparison program (Adolescents: Mage = 14 ± 2; M BMI Percentile = 98; Parents: Mage = 46 ± 8; MBMI = 42 ± 7). Both the intervention and comparison groups met the a priori goal of > 75% of families in attendance each week.

Results: Feedback from participants (parents/adolescents) in the intervention revealed high acceptability of intervention program elements, including using positive self-statements about Black identity, and cultural strength-based coping skills (e.g. spirituality, support) to address racial stressors and discrimination. Adolescents in the online intervention also demonstrated a larger increase in daily minutes of PA (baseline: M = 6 ± 2; post-intervention: M = 22 ± 12) than adolescents in the online comparison program (baseline: M = 10 ± 4; post-intervention: M = 15 ± 8). Adolescents and parents in the intervention also reported more positive improvements in well-being, perceived stress, family connectedness, daily hassles, and daily uplifts relative to the comparison program.

Conclusions: These findings have important implications for future health promotion programs and suggest that integrating cultural components for coping with racial stressors may be critical.

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ADOLESCENTS' WEIGHT AND MENTAL HEALTH STATUS IS ASSOCIATED WITH PARENTAL USE OF FOOD PARENTING PRACTICES

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Background: Food parenting practices (FPP) are known to shape youth's weight-related outcomes, but few studies have explored mental health factors associated with FPP.

Objective: This study examined whether adolescents' weight and mental health status (weight concerns, self-esteem, and anxiety) were associated with FPP among grade 8 students and their parents.

Methods: A cross-sectional sample of 300 Canadian parents (78% mothers) of grade 8 youth (46% girls) completed a validated FPP item bank and youth self-reported their weight and height, weight concerns, self-esteem, and anxiety. Covariate-adjusted regression models, stratified by adolescents' sex, evaluated the association of weight status and mental health indicators with FPP.

Results: Among girls, overweight and obesity were associated with lower use of accommodating practices around food. Among girls, weight concerns were positively associated with autonomy supportive FPP, involvement in food-related decisions and accommodating FPP. Weight concerns were positively associated with healthy eating opportunities among both boys and girls. Greater self-esteem was associated with higher use of healthy eating opportunities among both boys and girls, lower use of coercive control practices and less accommodating practices among girls. Finally, among girls, higher anxiety was associated with lower use of nondirective support, coercive feeding, rules and limits and accommodating FPP.

Conclusion: FPP are associated with adolescents' weight and mental health indicators, though these associations differ by sex. These findings highlight the need for further analyses to look at these associations longitudinally.
Keywords: food parenting practices, adolescents' weight, weight concerns, self-esteem, anxiety, sex differences.

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CHARACTERISTICS OF STIMULANT USE AND STIMULANT USE DISORDER AMONG CANADIAN UNIVERSITY STUDENTS

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Background

Stimulant use is prevalent among post-secondary students however data on the demographics of students who meet stimulant use disorder criteria is lacking.

Purpose

What are the demographics of non-medical stimulant use and stimulant use disorder among Canadian university students?

Method

Data was obtained from weekly cross-sectional surveys of probabilistic samples of students from a Canadian university. Demographic data were analyzed descriptively. Ordinal data was analyzed using medians and interquartile ranges.

Results

14,108 participants responded to our survey. 764 participants (5.42%) indicated that they had used either stimulant medication (466, 3.30%) or illicit stimulants (549, 3.89%) for non-medical recreational purposes. Median age was 25 (IQR: 9). 301 participants (39.4%) were cis-men, 423 (55.4%) were cis-women and 40 (5.24%) were Trans or another gender.

Among the 764 participants who had used stimulants for non-medical purposes, symptoms of stimulant use disorder were present for a median of 1 month (IQR: 5) in the preceding 12 months. The median number of years during which participants met this criteria was 5 (IQR: 6). 102 students (13.4%) endorsed symptom(s) of stimulant use disorder in the past 30 days.

259 students (33.9%) used more than one substance concurrently. Of those students, 228 (88.0%) indicated that stimulants were most responsible for their symptoms related to substance use disorder.

Conclusions

Our study shows that more than 13% of students with lifetime use of stimulants endorse symptoms of stimulant use disorder, which places them at risk of disability and death in the context of Vancouver's fentanyl contaminated drug supply.

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PURPOSE AFTER SERVICE THROUGH CONNECTIVITY AND EXERCISE (PACE): A GENDER-SENSITIZED PROGRAM TO SUPPORT THE WELL-BEING OF MILITARY VETERAN WOMEN

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Background: Women are a small but important proportion of the Canadian military and face unique challenges during their time in service, including gender inequalities, and harassment or assault. The transition to civilian life can bring about substantive challenges for military veteran women, including a loss of identity, loneliness, and adapting to civilian life more broadly. Social connectivity has been highlighted as an important mechanism for supporting the well-being of veterans, and thus represents a key target for intervention.

Purpose: The purpose of this gender-sensitized study was to examine the feasibility and acceptability of an online group-based physical activity program, Purpose After service through Connectivity and Exercise (PACE), underpinned by the social identity approach (Haslam et al., 2018).

Method: Nine PACE participants (Mage = 39.33, SD = 10.32, Myears of service = 13.89, SD = 7.88) took part in semi-structured interviews to share their perspectives of and experiences in the program. Interviews were analyzed using reflexive thematic analysis.

Results: Participants' narratives highlighted intersecting identities of being an exerciser, a woman, and a military veteran. Participants expressed a desire to connect with other veteran women due to a sense of shared experiences, but reported a lack of connection in PACE due to the online format. Participants described injuries (mental and physical) as barriers to physical activity and identified ways in which the program served as a "springboard back into health".

Conclusions: PACE was reported as feasible and acceptable, but requires amendment to better promote social connectivity among military veteran women.

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EFFICACY OF ACT-BASED TREATMENTS FOR DYSREGULATED EATING BEHAVIORS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Acceptance and Commitment Therapy (ACT) is a mindfulness-based therapy that is receiving increasing support for the treatment of dysregulated eating behaviors (i.e., emotional eating and binge eating).

Purpose: Given the increasing number of publications on the effects of ACT-based treatments on eating behavior, this meta-analysis aimed to estimate their cumulative effects on emotional eating and binge eating outcomes, and on a theoretical ACT mechanism of change (psychological flexibility).

Methods: A systematic literature review was conducted using various databases. Within- and between-group effect sizes were computed and the effects of moderators (e.g., study quality, treatment length) were tested.

Results: Twenty publications (N = 1, 269) were included. Pre-post and pre-follow-up results showed moderate effects of ACT treatments on measures of dysregulated eating (Hedge's g = 0.56 – 0.66). Small effects were found in RCTs in favor of ACT compared to inactive control groups at post-treatment and follow-up. No significant differences were found between ACT and other active treatments. Effects were similar for face-to-face, Web-based, and self-help book interventions. Comparable effects were found for measures of psychological flexibility. Changes in eating behaviors were positively associated with treatment length but not with study quality or changes in psychological flexibility.

Conclusions: These findings support the efficacy of ACT-based treatments in reducing emotional eating and binge eating, and in increasing psychological flexibility. Web-based and self-help interventions may be promising treatment modalities for dysregulated eating. More evidence is needed to support the theoretical role of psychological flexibility as a mechanism of change.

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OPIOID USE AMONG CANADIAN UNIVERSITY STUDENTS

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As the opioid crisis continues to grow in Canada driven by an increase in prescription opioid (PO) misuse (i.e., oxycodone, codeine) and illicitly manufactured fentanyl (IMF) use, youth is the fastest-growing population requiring overdose-related hospitalization. Youth Opioid-Use Disorder and Overdose have been associated with several risk factors such as age, ethnicity, childhood trauma, depression, suicide ideation, binge drinking, and substances misuse. Our aim is to understand opioid use prevalence, initiation patterns, and risk factors for street opioid use (i.e., IMF, heroin) among university students. We analyzed data from a cross-sectional student mental health and substance use survey administered at the University of British Columbia ($N = 15{,}058$) using descriptive statistics and generalized linear regression models adjusted for age, ethnicity, gender, and sexual orientation. We observed 15.5% lifetime PO use as prescribed, 3.8% PO misuse, and 1.1% street opioid use. Compared to students that were never prescribed PO, those who used PO as prescribed had, on average, 14.3 times higher odds of using street opioids and 7 times higher odds of misusing PO. Students who reported PO misuse had 156 times higher odds than those who never misused PO. Looking at students' opioid initiation reasons, 72.6% first used opioids for medical reasons and 11.2% for non-medical reasons. Students who initiated use for non-medical reasons had 34.7 times higher odds of using street opioids. Our findings highlight the role of prescription opioids in opioid misuse and identify risk factors associated with street opioid use that could be used to inform health policies and interventions.

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A FEASIBILITY STUDY OF AN ONLINE, PHYSICAL ACTIVITY INTERVENTION FOR YOUTH WITH LOW MOOD AND/OR MILD TO MODERATE DEPRESSION ENGAGED IN COMMUNITY AND PRIMARY CLINICAL CARE

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Background: Exercise is now recommended as a frontline treatment for depression (DS) in Canada. Implementation is an ongoing challenge.

Purpose: The aim of this study was to evaluate the feasibility of a novel, online, physical activity (PA) intervention for youth with DS.

Methods: Study 1: Semi-structured interviews were conducted with end-users to evaluate an existing alpha-intervention and inform intervention changes. Study 2: This study was a randomized, feasibility pilot trial of a 10-week, online, PA beta-intervention designed using the Multi-Process Action Control (M-PAC) framework with a waitlist control. Youth aged 19–30 with mild to moderate DS not meeting Canada PA guidelines were recruited via community clinics and social media. Primary feasibility outcomes were recruitment rate, retention rate, and acceptability. Planned analyses included a qualitative thematic analysis, frequency counts and multiple one-way, between-groups ANCOVAs.

Results: Study 1: Thematic analysis of seven participants' interview data determined good initial acceptability, demand, and practicality. Five change ideas were integrated within a beta-intervention for trial. Study 2: Low rates of recruitment ($N = 26$, 21.7% total; 3.8% clinical), retention ($N = 16$, 61.5%), and acceptability ($n = 11$, 64.0%) were found. Secondary outcomes of PA ($\eta p^2 = 0.55$) and DS ($\eta p^2 = 0.18$), as well as tertiary M-PAC behavioural variables: behavioural regulation ($\eta p^2 = 0.46$) and identity ($\eta p^2 = 0.20$), all favored the intervention group.

Conclusions: Despite initial evidence of acceptability and demand, this trial is not recommended for RCT; rather further pilot research is required including rigorous targeting of the online materials and multisite approaches to bolster recruitment.

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EVALUATING THE EFFECTIVENESS OF A FAMILY-BASED VIRTUAL CHILDHOOD OBESITY MANAGEMENT PROGRAM DELIVERED DURING THE COVID-19 PANDEMIC IN CANADA

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Background: Generation Health (GH) is a 10-week family-based lifestyle program designed using the multi-process action control framework. GH uses blended (10 weekly in-person and online lessons) and a virtual delivery format. However, the effectiveness of these GH delivery formats has not been examined.

Objective: To compare the effectiveness of the virtual GH program delivered during the COVID-19 pandemic with that of the blended GH program delivered prior to the pandemic for changing child lifestyle behaviors and parental support–related behaviors.

Methods: Families with children aged 8–12 years and considered overweight or obese were recruited in British Columbia, Canada. Participants completed pre and postintervention questionnaires to assess the children's PA, dietary and sedentary behaviors, screen time, and the parent's support behaviors.

Results: Both the virtual ($n = 90$) and blended GH ($n = 102$) programs improved children's moderate-to-vigorous PA ($P < 0.001$; $\eta p2 = 0.07$) and reduced screen time ($P = 0.003$; $\eta p2 = 0.06$). However, vegetable intake was significantly greater in the virtual GH group than in the blended GH group ($P < 0.001$; $\eta p2 = 0.004$). Parents in both groups showed significant improvements in support behaviors for children's PA ($P = 0.02$; $\eta p2 = 0.002$) and healthy eating ($P < 0.001$; $\eta p2 = 0.01$). There were no significant differences in attendance for the weekly in-person or group video sessions; however, portal usage was higher in the virtual GH than in the blended GH.

Conclusions: Virtual GH program was as effective as the blended program for improving child lifestyle behaviors and parental support–related behaviors. The virtual program has the potential to improve flexibility and scalability.

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DIGITAL TECHNOLOGY ACCESS AND HEALTH-RELATED INTERNET USE AMONG HOMELESS PERSONS IN HUNGARY: A QUALITATIVE SURVEY

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BACKGROUND: In the last years, research has shown that digital health technologies have the potential to enable vulnerable social groups, including those who are homeless, to better access health services.

Purpose: As part of a series of studies conducted by the Digital Health Research Group at Semmelweis University in cooperation with the Hungarian Charity Service of the Order of Malta, this study aims to assess existing technological resources available for and health-related internet usage characteristics of homeless populations in Budapest to set the ground for potential health policy interventions with the aim to enable homeless populations to better access health services via strengthening digital components.

Method: Between 19 April and 11 August 2021, 662 people in 28 institutions providing social services for homeless people in Budapest were surveyed about access to digital tools, as well as internet usage patterns. For selected questions, responses from a representative sample of the Hungarian population were used for comparison. Chi-squared test and logistic regression analyses were used for identifying variables affecting internet use for health-related reasons.

Results: The results demonstrate significant internet usage statistics in the homeless population. 52.9 percent said they used the internet in the past 6 months. 69.6 percent of the homeless group said they have a mobile phone, 39.9 percent added it has a smartphone function, and 34.6 percent even use the internet for medical purposes.

Conclusion: The idea of involving homeless populations in the digital health ecosystem of Hungary is viable, especially if barriers to access are systematically reduced.

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EFFECTS OF GENERAL VACCINATION ATTITUDES AND TRUST IN GOVERNMENT ON UPTAKE OF A COVID-19 VACCINE BOOSTER DOSE AND THE MODERATING ROLE OF PSYCHOLOGICAL REACTANCE: AN OBSERVATIONAL PROSPECTIVE COHORT STUDY IN HONG KONG

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Background: The COVID-19 pandemic is posing a serious threat around the world. Receiving a booster dose of COVID-19 vaccine is effective in preventing infection and severe consequences caused by COVID-19. Few studies have examined the predictors for uptake of a COVID-19 booster dose and identified potential moderators using a longitudinal design.

Purpose: The present study examined the effects of general vaccination attitudes and trust in government on uptake of a COVID-19 booster dose, as well as the moderating role of psychological reactance to vaccination messages in Hong Kong.

Method: An observational prospective cohort study using online survey was conducted among 264 adults. The baseline survey was conducted from June 2021 to August 2021. The follow-up survey was conducted from April 2022 to May 2022.

Results: Findings showed that general vaccination attitudes and trust in government were significant predictors for uptake of a COVID-19 booster dose after adjustment for significant background characteristics. In addition, the association between general vaccination attitudes and uptake of a COVID-19 booster dose was significantly weaker among those who reported a higher level of psychological reactance.

Conclusions: The present study highlight the importance of improving general vaccination attitudes and building trust in government. However, it should be noted that dealing with psychological reactance should also be paid attention to.

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CARE PATHWAYS AND TREATMENT OUTCOMES FOR PEOPLE WITH PHYSICAL LONG-TERM CONDITIONS ACCESSING PSYCHOLOGICAL THERAPY

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BACKGROUND: Fifteen million people in England live with one or more long-term medical conditions (LTCs), with 30% presenting comorbid mental health conditions. Healthcare services prioritised the integration of mental and physical health services called LTC-tailored Improved Access to Psychological Therapy (LTC-IAPT) in response to a 2018 UK policy document.

Purpose This report aims to evaluate mental health treatment outcomes for people with Long-Term Conditions, pre-integrative policy.

Methods: We will report the outcomes of 115,779 patients referred to 7 healthcare services using iaptus management system. A Mixed-effects Regression analysis compared treatment engagement and categorical binary outcomes measures: Reliable recovery, Reliable improvement, and Reliable deterioration between those with LTC and those without LTC. Controlled covariates include Index Multiple Deprivation, Ethnicity and Gender, and LTC-IAPT services were imputed as a random effect.

Results: Baseline Findings indicate that self-reported LTC (85%) engaged at the same level as those without LTC (83.3%) (OR = 1.20, p-value = < 0.001). LTC status decreased the likelihood of

Reliable recovery (OR = 0.80, p = < 0.001) and Reliable improvement (OR = 0.87, p = < 0.001) compared to those without. LTC status increased the likelihood of Reliable deterioration (OR = 1.16, p = 0.000284). Findings suggest that people with LTC accessing LTC-IAPT had higher post-treatment distress scores than those with LTC accessing normal IAPT (p = < 0.001).

Conclusions: Mixed Effect model clarifies the influences covariates have on treatment engagement and outcomes within IAPT. LTC status remains a significant predictor for post-treatment distress, despite accessing LTC-IAPT or normal IAPT before introducing integration guidelines.

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IMPLEMENTATION OF AN EVIDENCE-BASED BEHAVIORAL MEDICINE PROGRAM FOR PATIENTS LIVING WITH CHRONIC HEALTH CONDITIONS IN PRIMARY CARE: THE B-WELL PROGRAM

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The Canadian Medical Association recommendations that patients living with obesity be given evidence-based treatment that addresses the root drivers of obesity. Moreover, in 2022 the Canadian Government established a national framework for the prevention of and treatment of diabetes – with a focus including on tailoring interventions to reduce health inequities. Small Changes is a comprehensive evidence-based tailored intervention program that focuses on supporting people to make changes in their lives relative to their current life circumstances and patterns. Small Changes has been proven to be effective in multiple RCTs, including with Black Americans, Veterans, patients with Diabetes, those with comorbid depression, distress, and using insulin. Across one year, we established, hired, trained and implemented the B-Well program within 3 primary care networks in British Columbia (N = 60 practices). The program is delivered by behavioral health coaches under the supervision of a psychologist. Since the launch of the program in 2020, 350 patients have been referred, 250 patients are currently in treatment, with 75 patients with outcome data. Patients were middle aged (M = 51.08 + 14.60) men (34%) and women (66%), from diverse backgrounds (50% Caucasian) living with an average of 3 chronic health conditions. Analyses showed showed significant decreases in weight, significant increases in physical activity, and significant decreases in symptoms of depression and anxiety following an average of 18 virtual calls across one year. All findings were significant at the $p < 0.001$ level with moderate to large effect sizes (d = 0.68–1.01). Patient & physician satisfaction along with widespread implementation potential will be discussed.

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CHALLENGES FACED BY HEALTHCARE PROFESSIONALS WHEN COMMUNICATING WITH FAMILIES OF YOUNG PEOPLE WITH A HARD-TO-TREAT CANCER

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Background: Hard-to-treat childhood cancers are those where there is < 30% chance of survival, and where standard treatment options do not exist. Healthcare professionals (HCPs) are responsible for communicating with families about prognosis and treatment options for hard-to-treat cancers, and managing families' distress.

Purpose: To identify key challenges that HCPs face when communicating with families about hard-to-treat cancers.

Method: We interviewed Australian HCPs who had direct responsibilities in managing children/adolescents with a hard-to-treat cancer within the past 24 months. Interviews were analysed using reflexive thematic analysis.

Results: Nine oncologists, 7 nurses, 3 social workers and 1 research fellow participated in the interviews. HCPs identified several challenges for communication with families including: balancing realistic information provision with maintaining hope; families finding treatment information online; and nurses and social workers being underutilised during conversations with families, despite widespread preferences for multidisciplinary approaches to communication. Though oncologists lead the conversations with families about prognosis and treatment options, they commonly reported receiving no specific training in such communication. Nurses, social workers, and junior oncologists more commonly reported seeing value in the development of training resources for HCPs to assist communication with families than senior oncologists.

Conclusion(s): With a growing number of complex treatment options, and easy-access to information online, resources are needed which support HCPs to communicate with families. Such resources may be particularly beneficial for junior oncologists during their training, and should aim to prepare them for the typical challenges they will face, and to foster greater collaboration with nurses and social workers.

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A MULTINATIONAL SURVEY OF INFORMAL CAREGIVING MOTIVATIONS, PERCEPTIONS AND OUTCOMES

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Background: Given the increased prevalence of community-managed chronic health conditions further understanding of informal, family caregiver motivations, perceptions and values is needed to inform policies and interventions that enable maintenance of informal caregiving at less psychosocial cost to the caregiver.

Methods: A multinational longitudinal study examined informal caregiver experiences. The online ENTWINE iCohort study was conducted in Germany, Greece, Ireland, Israel, Italy, the Netherlands, Poland, Sweden, and the United Kingdom. Baseline quantitative data regarding caregiver motivations, willingness to care, illness perceptions, and caregiver outcomes (wellbeing, burden, depression) is presented.

Purpose: The aim of the current paper is to investigate whether any influence of cultural, personal, and psychological factors on caregiver outcomes was mediated by caregiver motivations, choice, or willingness to provide care.

Results: 946 caregivers completed the relevant assessments. Caregivers in countries typified by individualism reported lower familism, higher self-enhancement values, and greater perceived illness threat compared to more collectivist countries. At the individual level, familism, self-enhancement values, and the presence of meaning had mostly positive and mediated effects on caregiver outcomes, whereas self-transcendence values, the search for meaning and illness threat mainly associated with negative outcomes, mediated also via motivations and/or willingness to care. Perceived choice in taking on the caregiving role did not moderate any associations.

Conclusions: Caregiver motivations play an important role in caregiver outcomes, mediating the impact of caregiver values, sense of meaning, perceived illness threat and mitigating against negative emotional outcomes. Theoretical models of caregiving stress need to better incorporate such factors.

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GAINING ACCOUNTS OF CARERS' EXPERIENCE USING IPA AND PHOTOGRAPH ELICITATION: A TALE OF TWO STUDIES

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Background: Family caregiving in the context of illness and disability is often taken for granted. In an ageing society with health and social care resources stretched, better understanding of the factors that motivate and sustain informal caregiving is required.

Methods: Two studies employ interpretative phenomenological analysis of data; one uses a longitudinal case study design with three participants interviewed at three timepoints; another interviews 8 caregivers in depth at one timepoint. To facilitate storytelling caregivers were asked to take and bring photographs of their caregiving experiences to interview(s).

Purpose: To gain detailed insight into caregivers' experiences and explore the perceptions, meanings, and relational experiences underpinning caregivers' motivations and caregiving experience.

Results: Longitudinal- caregiver experience over time was themed as: Consuming the role highlighting motivations for caregiving and consequent caregiving behaviours; Feeling Consumed highlighting carers' descriptions of the causes and impact of feeling overwhelmed, strained and restricted by caregiving; Letting go describing carers' perception of "letting go" either purposively to gain independence or as required when their recipient deteriorates.
Cross-sectional- caregiving motives were ascertained as arising Out of Affection; As Reciprocity; or As Obligation, and derived from Family or Cultural Values, Gender roles, and Relationship Quality. Finding Meaning in the Role, Caregiver Experience, and Care Recipient Gratitude mitigated against negative outcomes.

Conclusions: Cross-sectional retrospective accounts and longitudinal accounts offer novel insights into the motivational, self-regulatory and coping processes undergone by family caregivers. Personal and interpersonal characteristics further impact the changing and complex array of caregiver needs that society should address.

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CAN INFORMAL CAREGIVING SUPPORT SUCCESSFUL AGEING?: A LONGITUDINAL ANALYSIS OF THE ASSOCIATION BETWEEN CAREGIVING PERFORMANCE AND PERCEPTIONS OF AGING, AND THE ROLE OF CAREGIVERS' AGE AND GENDER

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Background: Caregivers' perceptions of aging can impact their own successful aging and that of their care recipient. These perceptions of aging by caregivers could be related to the intensity and variety of caregiving activities.

Purpose: We therefore analyzed these associations and whether they differed as a function of caregivers' age and gender.

Method: Informal caregivers (≥ 40 years), surveyed with the population-based German Ageing Survey (2014, 2017), were questioned about burden, range of care tasks and care time, and about attitudes towards one's own age (ATOA), subjective age and onset of old age. Linear Fixed Effects regression analyses with cluster-robust standard errors adjusted for sociodemographic and health-related factors were conducted. Gender and age were used as moderators.

Results: Care time was significantly associated with higher subjective age. Care tasks were significantly associated with improved ATOA and lower onset of old age. Age moderated the association between burden and ATOA. Gender moderated the association between care time and ATOA and between care tasks and subjective age. Age- and gender-stratified analysis indicated further differences.

Conclusions: All aspects of informal care were associated with changes in perceptions of ageing, and this pattern differed according to age and gender of the caregiver. To support successful aging by preventing a deterioration of perceptions of ageing the findings recommend reducing care time, especially among older and female caregivers. However, performing a variety of care tasks seems to benefit female caregivers, while male caregivers may need more training to benefit from variety in care tasks as well.

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IMPlementing IMProved Asthma Self-Management as RouTine (IMP2ART) IN UK PRIMARY CARE: INTERNAL PILOT FOR A CLUSTER RANDOMISED CONTROLLED TRIAL

Dr. Kirstie McClatchey[1], Dr Jessica Sheringham[2], Dr Atena Barat[3], Ms Brigitte Delaney[4], Ms Barbara Searle[3], Ms Viv Marsh[1], Dr Vicky Hammersley[1], Dr Liz Steed[3], Prof Stephanie Taylor[3], Prof Hilary Pinnock[1]

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Background: IMP2ART is a multidisciplinary, theoretically-informed strategy to improve implementation of supported asthma self-management in routine practice. The strategy includes: patient resources to support self-management, professional asthma self-management education for general practice staff, organisational strategies (asthma review template, audit/feedback).

Purpose: This pilot, internal to a cluster randomised controlled trial, aimed to test trial processes and recruitment feasibility, and to understand practices' likely engagement with the IMP2ART strategy.

Method: A mixed-method pilot was conducted in 12 general practices (May–September 2021). Practices were randomised to the IMP2ART implementation arm (n = 6), or usual care control (n = 6). Recruitment and set-up processes were monitored, with quantitative data analysed on key aspects of delivery (asthma review template uploads, audit/feedback reports sent, IMP2ART workshops held) and practice response (website views, education module completion). 10 qualitative interviews were conducted with implementation arm practice staff and IMP2ART facilitators (who delivered the strategy). Interviews were analysed using framework analysis.

Results: We delivered the IMP2ART strategy largely as planned; the asthma review template was successfully uploaded, annual asthma audit reports were sent, and workshops were held in all implementation practices (attendance ranged from 7–31 staff). There were minor delivery delays for monthly audit/feedback reports. The resource website received ≈450 unique page views, and 100% of practices completed the team education module. Interview data were largely positive, with examples of how practices were using IMP2ART.

Conclusions: The IMP2ART trial processes were successful and required only minor changes. Practices engaged with the strategy and its resources, suggesting that IMP2ART is acceptable and feasible.

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EXPLORING BARRIERS AND STRATEGIES FOR THE ADOPTION OF A PLANT-BASED DIET AMONG US HISPANICS AT RISK FOR DEVELOPING T2 DIABETES

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Background. Incidence of type 2 diabetes (T2D) is at its highest among US Hispanics; but culturally tailored interventions for this population are scarce. Plant-based diets (PBD) have been shown to improve metabolic control and may be an ideal intervention for a Hispanic cultural adaptation that fosters heritage via adaptation of traditional recipes with plant-based substitutions.

Purpose. To explore the barriers and strategies for the adoption of a plant-based diet among US Hispanics that may be at risk for developing T2D.

Methods. Participants (N = 17; self-identified as Hispanic with at least one risk factor for developing T2D) completed a 30-min semi-structured zoom interview. Participants were asked to describe the different barriers and strategies to adopt and successfully maintain a PBD. Discussions were recorded, transcribed verbatim, coded, and analyzed for themes.

Results. Participants were from a variety of backgrounds (e.g., US-born/foreign born, different generations). Major themes that emerged were: 1) Hispanics do not rely on Hispanic recipes alone but instead regularly explore new flavors and dishes from different cuisines (e.g., India, Japan), 2) First-generation Hispanics may perceive greater barriers when first adopting a PBD, and 3) Social support and careful planning are key factors for the adoption and maintenance of a PBD.

Conclusion. Overall results of this study indicate that having a Hispanic background does not represent a barrier for the adoption of a PBD, which supports the potential of a T2D prevention intervention that does not require major cultural adaptations for the current US Hispanic population (majority US-born, English speakers, internet users).

POSTER PRESENTATIONS

1

THE WORLD HEALTH ORGANIZATION'S FIRST VIRTUAL HUMAN HEALTH WORKER FOR TOBACCO CESSATION SUPPORT DURING THE COVID-19 PANDEMIC: DEVELOPMENT AND USER EVALUATION

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Background: Virtual humans (VH) are artificially intelligent conversational agents with a realistic, humanlike appearance that are presented on a computer screen. VH health workers may be a socially engaging way to expand the reach of tobacco cessation support, especially when face-to-face services are restricted. Florence, a VH health worker, was developed in collaboration with the World Health Organization (WHO) during the COVID-19 pandemic to provide evidence-based information and quit plans, and direct people to local tobacco cessation support.

Purpose: (1) To describe the development of Florence, a VH health worker for tobacco cessation; and (2) to conduct a preliminary evaluation of Florence, the program content, and effects on making quit attempts.

Method: An international, anonymous online survey with 115 participants used 1-item self-report measures to assess user experience quality, information quality, helpfulness with making a quit plan, and intention to try the resources. Qualitative feedback were collected and analysed using reflexive thematic analysis.

Results: Overall, Florence was found to have a good user experience (M = 3.17/4, SD = 0.81), and good information (M = 3.21/4, SD = 0.92). Most felt that she helped (43.5%) or maybe helped (32.5%) to make a quit plan, and most users planned (43.5%) or maybe planned (42.6%) to try the resources. Qualitative feedback revealed Florence's strengths (informative, social connection, clear communication, useful) and areas to improve (aspects of VH design, cessation program, interface).

Conclusion: VH health workers are a promising innovation for expanding the reach of tobacco cessation information and support. Trials are needed to evaluate acceptability and effectiveness in diverse populations.

3

SHORT-TERM OVERFEEDING INDUCES METABOLIC AND MUSCLE MICROVASCULAR INSULIN RESISTANCE IN HEALTHY INDIVIDUALS

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High-calorie high-fat (HCHF) diets disrupt skeletal muscle insulin signaling, insulin action and glucose homeostasis in animals and in humans in as early as 3 days. It is not known if this impaired glucose homeostasis induced by HCHF feeding is linked to impaired muscle microvascular blood flow (MBF) in humans. The aim of this study was to investigate whether muscle MBF, insulin action and glucose tolerance in response to a mixed meal challenge (MMC) is impaired after 3 and 7 days of HCHF feeding in healthy individuals. Eight healthy participants, aged 18–45 years were recruited for this study after an eligibility screening. Participants were placed on a high calorie (+ 50%), high fat diet (30% CHO, 50% fat, 20% Protein) intervention for a total of 7 days. Overnight fasted participants attended the clinic on day 0, then after day 3 and day 7 of the feeding intervention for metabolic (blood glucose and plasma insulin) and muscle MBF (contrast-enhanced ultrasound) assessment before and during a MMC. The results showed that there were no differences in the glucose area under the time curve (AUC) in response to MMC during 3 or 7 days of HCHF feeding. However, the insulin AUC during the MMC significantly increased (+ 26%) after day 3. There were corresponding impairments in muscle MBF on day 7 in seven out of the eight participants. Our preliminary results suggest that HCHF feeding causes acute whole body insulin resistance within 3 days followed by muscle MBF insulin resistance within 7 days in healthy individuals.

4

THREAT, COPING, AND VACCINE HESITANCY DURING THE COVID-19 PANDEMIC

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Background: The COVID-19 pandemic has brought to light the importance of identifying factors associated with vaccine hesitancy. Disease threat and coping responses are central to health behavior engagement and present potential alterable targets for intervention.

Purpose: To examine the roles of perceived threat of COVID-19 and coping in vaccine hesitancy, we examined how coping strategies involving approach and avoidance interact with perceived threat of COVID-19 to predict vaccine hesitancy.

Methods: We used data from 1,570 North American participants who reported their vaccine hesitancy as part of a longitudinal study assessing psychosocial responses to the pandemic. We used logistic regression models and mean scores of perceived threat of COVID-19, approach coping, and avoidance coping from prior timepoints to predict vaccine hesitancy in December 2020, when COVID-19 vaccines were first being approved for use in North America.

Results: Low perceived threat of COVID-19 was associated with greater likelihood of being vaccine hesitant. However, approach coping moderated this association, such that people who engaged in more approach coping were less likely to be vaccine hesitant even when they did not feel personally threatened by COVID-19. In contrast, avoidance coping was associated with greater likelihood of vaccine hesitancy regardless of perceived threat of COVID-19.

Conclusions: Our results illustrate the contributions of approach and avoidance coping to vaccine hesitancy and in doing so, provide preliminary evidence for coping behavior to serve as a target for intervention to reduce vaccine hesitancy.

7

RELIABILITY AND VALIDITY OF INTERVENTION CHARACTERISTIC MEASURES FOR USE IN IMPLEMENTING EVIDENCE-BASED PRACTICE

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Background: Assessing barriers before implementing an evidence-based practice can increase the chances of successful implementation.

Purpose: This project tested item banks of intervention characteristics that could affect implementation: evidence strength and quality; relative advantage; adaptability; trialability; complexity; design quality and packaging; perceived cost; compatibility; observability; risk; and burden.

Methods: Item banks (109 items total) for each intervention characteristic were developed in a previous study, using prior measures, and expert feedback. A sample ($n = 175$) of healthcare personnel implementing a new practice were recruited to complete two online surveys, one month apart. Participants completed the intervention characteristic item banks, measures of intentions and use of the evidence-based practice. Reliability, validity, and receiver operating curve (ROC) analyses were conducted. For ROC analyses, areas under the curve (AUC) should be over 0.5.

Results: All item banks had Cronbach's alphas over 0.7 (range: 0.700–0.932) indicating good reliability. All item banks were associated with intentions cross-sectionally at survey 1 (r range: 0.124–0.312, p's < 0.05). All item banks were associated with intentions longitudinally at survey 2 (r range: 0.231–0.404, p's < 0.02) except cost and burden. AUCs ranged from 0.541 (relative advantage) to 0.716 (observability) for predicting 90% or higher adherence on the first survey and from 0.542 (risk) to 0.753 (relative advantage).

Conclusions: This preliminary test of item banks to assess determinants of implementing evidence-based practice supports the validity and reliability of these tools. Additional studies are needed to further test the psychometric properties of the item banks and develop short forms of each intervention characteristic measure.

8

HOW PATIENTS WITH HYPERTENSION AND DIABETES PERCEIVED THEIR MEDICAL SERVICES DURING THE COVID-19 PANDEMIC: QUALITATIVE RESULTS IN A COLOMBIAN CITY

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Background: Hypertensive and diabetic patients require constant control of symptoms and monitoring of compliance with treatment. Due to the pandemic, changes were made to medical services and teleconsultation was implemented. However, the lack of knowledge in handling cell phones and applications, advanced age and connectivity problems constitute barriers to access to health services.
Objective: Identify perceptions about access to medical services during the pandemic in patients with hypertension and diabetes.

Method: 40 participants with hypertension and diabetes, 20 men and 20 women with an average age of 63 years, participated in semi-structured interviews. Analysis with the grounded theory procedure.

Result: Participants consider that the quality of medical services decreased with the pandemic because teleconsultation does not allow close interaction with the doctor. Some patients increased their use of electronic devices as sources of information about medical conditions and alternative treatments. The participants do not expect to see a doctor, they search directly on the Internet and believe the information that reaches them through various sources without checking its reliability.

Conclusions: Teleconsultations are safe and effective; however, participants prefer face-to-face care. Use of natural or alternative medicines was increased on the recommendation of sources of information other than the treating physician. According to the COM-B model, its necessary to increase the psychological capacity to discern what information is adequate, to intervene in the social opportunity to prevent false information about care from being shared and to prevent it from affecting the motivation to carry out behaviors associated with therapeutic adherence.

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INTERVENTION DEVELOPMENT FOR COMMUNITY-BASED, SELF-REFERRED SOCIAL PRESCRIBING

Dr. Kerryn Husk[1], Dr Emma Hazeldine[1], Ms Sophie Westwood[1], Dr Stephanie Tierney[2], Dr Mohammad Hassannezhad[3]
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Background:
Social prescribing assists people with non-medical problems, linking individuals to social interventions for health and wellbeing, and has significant policy and health service traction. Most of the current evidence relates to social prescribing delivered mostly through the health-service; little is understood about how the community who are delivering activities are impacted. A whole-system approach is necessary to understand how the different organisations, individuals and groups can work together to deliver social prescribing without health service ‘scaffolding’.

Purpose:
To produce detailed system maps of non-NHS social prescribing, informed by stakeholder and qualitative evidence; and programme theory for the proposed pathway and interventions.

Method:
Three stages: (i) mapping review of non-NHS social prescribing pathways, (ii) stakeholder engagement sessions, (iii) interviews and focus groups with service providers, and community experts. These are combined into a complex system map detailing both nodes and links between nodes.

Results:
Alongside our evidence review, we held two rounds of stakeholder consultation; conducted 42 interviews; and three iterations of our complex-system map. We present these maps alongside key recommendations for developing such programmes in the future.

Conclusions:
NHS and non-NHS pathways for social prescribing exhibit differences with more breadth and flexibility often built into non-NHS pathways. However, they do not exist in isolation and are fundamentally overlapping and intertwined. Policy and practice should focus on where these pathways intersect and prioritise intersectoral/ nter-organizational working to facilitate success. The move, in England, to Integrated Care Systems may provide an opportunity to integrate these broader social prescribing discussions robustly.

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REACTIONS TO BEING ALLOCATED TO A WAITING LIST CONTROL GROUP IN A DIGITAL ALCOHOL INTERVENTION TRIAL

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Background: An essential part of interpreting findings from andomizat controlled trials is the design of the control condition. A commonly used control design in behavioural research is delayed access to the treatment under study, i.e., placing control group participants on a waiting list. Allocating participants to a waiting list may have unintended consequences since it may not be congruent with participants’ expectations and intentions for enrolling in the trial. How participants react to being allocated to the control group is underexplored, yet it may have consequences for our ability to validly interpret reported effects.

Purpose: To explore reactions and associations between reactions and alcohol consumption of control group participants in a trial of a digital alcohol intervention.

Method: Multiple choice questions and free-text comments assessed reactions, four months post andomization.
Result: Of 1066 control group participants, 572 (54%) responded to the questionnaire. Being made to wait for the digital alcohol intervention revealed that 38% were interested sufficiently to look at the information while 42% felt frustration, irritation, or disappointment about having to wait. Approximately 55% responded that they decided to reduce their drinking whilst 17% stated that they continued to drink as usual, and 11% gave up on the idea of reducing their drinking. The two latter groups reported markedly higher alcohol consumption at follow-up in comparison to the former.

Conclusion: Being made to wait may invite negative research participation effects and uncertainty may arise regarding interpretations of reported effects and what they represent.

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PSYCHOLOGICALLY INFORMED HEALTH CARE

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Background.
The term 'psychologically informed health care' refers to the comprehensive integration of psychological principles into health care. Psychologically informed health care has the potential to lead to a transformation of care, resulting in truly transdisciplinary care.

Purpose.
To facilitate its future development, we discuss key characteristics of psychologically informed health care.
Method and Results.
Key characteristics include the direct mode (psychologists assessing and treating patients themselves) and indirect mode (psychologists working through other health care providers) of integrating psychological principles into healthcare; the range of health domains targeted using this approach; transdisciplinary care, transcending traditional disciplinary boundaries; and the positioning of care. We describe a framework for transdisciplinary care, which we refer to as the Framework for Catalytic Collaboration. This framework comprises six dimensions: setting, disciplines, patients/clients, mode of psychological care, primary components of care, and primary targets of care. We also provide four brief illustrations of psychologically informed health care.

Conclusion.
The framework presented offers support in the further development of psychologically informed health care. It encourages future developers to consider a range of health domains as primary targets of care, to develop truly transdisciplinary care transcending traditional disciplinary boundaries, and to consider both the direct and the indirect mode when integrating psychological principles into health care.

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CAN UPRIGHT POSTURE IMPROVE RECALL FROM A MEDICAL CONSULTATION? A RANDOMISED TRIAL

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Background
Prior research has shown that adopting an upright posture can increase positive valence and arousal, improve cognitive performance and enhance recall of positive emotion memories, compared to a slumped posture.

Purpose
This is the first study to investigate whether an upright or slumped posture can affect the recall of health information. This is important as patients tend to recall only a small percentage of information from consultations.

Method
One hundred and twenty-eight healthy adults were randomly allocated to sit in either an upright or slumped posture by discreetly altering the height of a computer screen. Participants watched an eight-minute mock dermatological consultation on the screen, and the primary outcome was free recall of information from the consultation. Secondary outcomes included visual analogue measures of valence and arousal, and Linguistic Analysis and Word Count software was used to assess participants' use of positive and negative emotion words, use of first-person singular pronouns, and insight words.

Results
The manipulation of posture was successful, with greater head and neck angles in the slumped than the upright condition. The upright condition recalled significantly more health information, reported significantly greater positive valence, and used significantly more first-person singular pronouns than the slumped condition. There were no significant differences in other outcomes.

Conclusion
These results support embodiment theories, and suggest that adopting an upright posture in a consultation may improve mood, self-focus, and recall of health information. This may have implications for improving patient education, but needs to be replicated in a patient population.

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THE EFFECT OF 24-HOUR MOVEMENT BEHAVIOUR COMPOSITION ON MENTAL HEALTH IN NON-CLINICAL POPULATIONS

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Movement behaviours (sleep, sedentary/screen time, physical activity) are known to impact health. However, our time in the day is finite and increasing time in one activity necessitates a reduction in another. Therefore it is important to consider these behaviours together within the frame of our 24-h limit. Findings regarding the impact of the composition of movement behaviours across the day on physical health have led to the development of 24-h movement guidelines to provide scientifically led guidance on how a physically healthy day should look. However, although each behaviour separately has established effects on mental health, the research into the effects of their composition across the day on mental health is still in its infancy. A systematic literature search found 53 eligible studies, ranging from 2014 to 2022, highlighting the emerging nature of the field. Of these, 24 were on adults, 21 included adolescents and 12 included children. Two of the studies were andomized controlled trials and the remainder were observational. In children 8/12 studies found at least one significant positive relationship between movement behaviour and mental health, in adolescents 22/22 and in adults 23/24 studies. Overall, the review identified that the studies were extremely heterogenous in nature and more controlled studies are needed to make causal conclusions between daily movement and mental health. However, it is evident that the composition of movement behaviours across the day affects mental health and these effects are differentially manifested in different subgroups of the population. This has implications for daily mental health maintenance.

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BIRTHING PARENT ADVERSE CHILDHOOD EXPERIENCES AND RISK OF ATOPIC DISEASES IN 5-YEAR-OLD CHILDREN

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Atopic diseases are the most common chronic conditions in childhood and can significantly impact health throughout life. Previous findings from the All Our Families (AOF) cohort study demonstrated birthing parents' history of childhood abuse was associated with asthma and allergy among their children at two years of age. The current follow-up study investigated whether the relationship between birthing parent history of adverse childhood experiences (ACEs) and child atopic disease, including asthma, allergy, and eczema, persisted when children were five years old. Participants completed the ACEs scale, validated questionnaires of anxiety and depression symptoms, and reported on their and their children's atopic disease history. Archival analyses of AOF data (N = 3387) was conducted using logistic regression and path analysis with counterfactually based indirect effects. Birthing parent history of ACEs was associated with an 18% increased risk of child allergy at five years (OR = 1.18, 95% CI: 1.09, 1.20). Exploratory path analyses indicated a significant indirect effect of ACEs through birthing parent history of atopy on child asthma, allergy, and eczema at five years. There were no significant indirect effects through birthing parent symptoms of anxiety or depression during pregnancy, at two or five years postpartum. Birthing parent history of ACEs, combined with birthing parent history of atopy, may elevate the risk of child atopy. This presents an opportunity for early intervention for children at risk of atopic disease.

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PARTICIPANT EXPERIENCES OF THE BUILDING EMOTIONAL AWARENESS AND MENTAL HEALTH MHEALTH INTERVENTION

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Mothers with young children were disproportionately impacted by the COVID-19 pandemic. During the pandemic, rates of clinically significant depression rapidly increased in this population while mental health services simultaneously became less accessible. In response, we designed a novel mobile health (mHealth) intervention called Building Emotional Awareness and Mental Health (BEAM) to address mental health concerns and promote supportive parenting in mothers. Following completion of the program, participants who expressed interest in telling us more about their experience in the BEAM program attend focus groups (N = 11) and answered open ended survey questions (N = 40). The current study qualitatively analyzed the experiences of mothers in the BEAM program through a thematic analysis to better understand participant perspectives of the program and to guide future steps needed to improve mHealth programs overall. Emergent themes demonstrate ways in which participants were supported and benefited from the BEAM program (e.g., connection with other mothers, learning mental health and parenting strategies) and participant perspectives on program improvement are discussed. Findings highlight the acceptability of the BEAM program and can inform the development of future mHealth programs and services.

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LONGITUDINAL INVESTIGATION OF RISK FACTORS FOR PRE-SARCOPENIA IN MID-LIFE

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Objective: To determine whether risk factors for pre-sarcopenia can be identified earlier in the lifecourse in a birth cohort of middle-aged adults.

Methods: Longitudinal data from the Dunedin Multidisciplinary Health and Development Study (N = 899) were used to investigate the relationship between pre-sarcopenia at age 45 and selected early markers at age 26, 32 and 38. Pre-sarcopenia was defined as low relative appendicular lean mass index assessed by dual energy x-ray absorptiometry, and low strength assessed by grip strength. Logistic regressions described the association between selected markers at age 26, 32 and 38 and pre-sarcopenia at age 45.

Results: Higher body mass index (BMI) at age 26, 32 and 38 was associated with lower risk of pre-sarcopenia at age 45, in both sexes (OR range 0.43 – 0.60). Higher age-normative grip strength at age 38 in sexes (OR range 0.89 – 0.93) and higher VO2max (OR 0.88) at age 26 in females was also associated with lower risk for pre-sarcopenia. Higher triglyceride levels in females at age 32 (OR 1.83) and lower self-perceived fitness level in males at age 38 were associated with an increased risk of pre-sarcopenia at age 45 (OR 10.32).

Conclusion: Higher BMI, strength and VO2max were associated with lower risk of pre-sarcopenia during middle-age. While higher risk of pre-sarcopenia was associated with sex-specific lower self-rated physical function and higher triglyceride levels. These modifiable biomarkers may serve as targets for clinical screening and early intervention aimed at slowing or preventing progression to sarcopenia in older age.

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ACCURACY OF SELF-RATED DIABETES KNOWLEDGE: THE DUNNING-KRUGER EFFECT AND IMPACT ON DIABETES MANAGEMENT

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The Dunning-Kruger Effect (DKE) indicates that individuals frequently incorrectly estimate their own knowledge about a topic. Recent research has linked the DKE to health literacy in a community sample, suggesting that individuals with low health literacy do not recognize this deficit (Canady & Larzo, 2022). The present study examines the DKE in a clinical population of individuals with diabetes. While data collection is continuing, the present sample (N = 54) includes individuals with Type 2 diabetes recruited from a general internal medicine practice. Participants were administered a brief demographics measure, the REALM, the Diabetes Knowledge Test, and the Diabetes Distress Scale, with the most recent HgA1c extracted from the medical chart. Preliminary results support the presence of a DKE, with individuals with lower diabetes knowledge rating their belief in their knowledge about diabetes (t = -1.24, p = 0.11) and confidence in managing diabetes (t = -1.30, p = 0.09) as similar to individuals with higher diabetes knowledge. Individuals with greater diabetes knowledge had lower HgA1c scores (m = 7.89, SD = 1.93) than those with lower diabetes knowledge (m = 6.98, SD = 1.20; t = 1.81, p = 0.038). No differences emerged in reported distress associated with diabetes (t = 0.67, p = 0.25). Overall, despite poorer diabetes management, individuals with lower diabetes knowledge did not differ from those with higher knowledge in distress associated with diabetes. Individuals may not be fully aware of the limits of their diabetes management and may not experience distress which would motivate improvement.

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ASSOCIATIONS BETWEEN PARTNER RELATIONSHIP QUALITY AND ANXIETY: EXPLORING THE IMPACT OF ASSESSMENT APPROACH

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A review by Ross et al. (2019) hypothesized that how positive and negative relationship aspects interact to predict health depends on the assessment approach: ambivalent (high positive, high negative) relationships predict poor health when using support-seeking approaches (help and upset when seeking support), and indifferent (low positive, low negative) when using broad approaches (overall support and conflict).

Purpose: To determine whether how positive-by-negative interaction terms predict anxiety differ depending on assessment approach (support-seeking vs. broad).

Methods: Baseline data from a longitudinal study of social connections and mental health during COVID (Apr-Jul 2020) was used. Participants in partner relationships (N = 206) reported on partner help and upset during support seeking, overall partner support and conflict, and anxiety. Two linear regression models tested associations between positive and negative quality and the positive-by-negative interaction with anxiety for support-seeking and broad approaches. Covariates were sociodemographics, pre-pandemic mental health, and pandemic-related factors.

Results: For the broad approach, a significant support-by-conflict interaction emerged predicting anxiety, b(SE) = 0.550(0.255), p = 0.032. When partner conflict was low (< 0.51SD), lower partner support was associated with higher anxiety, b(SE) = -0.868(0.440), p = 0.05, consistent with "indifference." For the support-seeking approach, a significant help-by-upset interaction emerged predicting anxiety, b(SE) = 0.541(0.251), p = 0.033. When partner caused high upset during support seeking (> 1.14SD), higher partner helpfulness was associated with higher anxiety, b(SE) = 0.648(0.329), p = 0.050, consistent with "ambivalence."

Conclusion: Assessment approach affects how positive and negative relationship aspects interact to predict anxiety: "ambivalence" emerges for support-seeking approaches and "indifference" for general approaches. This will impact our understanding of how relationship quality could predict health.

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WORKING TOWARDS DE-IMPLEMENTING ANDROGEN DEPRIVATION THERAPY BEFORE SURGERY IN HIGH-RISK LOCALISED PROSTATE CANCER PATIENTS

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Background
Clinical practice guidelines recommend not offering neoadjuvant (before surgery) Androgen Deprivation Therapy (ADT) in high-risk prostate cancer. Despite this, the literature suggests that guideline adherent ADT use remains variable.

Purpose
To understand determinants of urologists' ADT prescribing in high-risk localised prostate cancer patients in two European countries to understand how best to de-implement this low-value practice.

Methods.
An interview study was conducted with urologists in Italy and the UK. Codes generated by inductive analysis were mapped to the Theoretical Domains Framework (TDF) and key influences were identified. The context was described through the conceptual framework of context by Squires et al., (2019).

Results
Twenty-two Urologists, 12 UK- and 10 Italy-based were recruited. During COVID, ADT was used inappropriately to buy time and 'control' cancer, although evidence does not support this. Appropriate practice resumed once surgery capacity was re-established. Across both countries, influences impacting ADT prescribing related to eight TDF domains, including Environmental context and resources, Behavioural regulation, Belief about consequences and Emotion. Contextual features, including prioritisation of other cancers and a drop in referrals, were noted, especially in the UK. Changes to referrals, diagnoses, MDT and treatment processes were also identified.

Conclusion(s)
The accelerated transition away from inappropriate practice was driven by knowledge of clear guidance, reduction of COVID

restrictions and perceived consequences of neoadjuvant ADT. These results inform a positive deviance approach to understand how appropriate practice was realigned with the evidence base and how best to de-implement unnecessary neoadjuvant ADT in future.

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SOCIAL SUPPORT, DEPRESSIVE SYMPTOMS, STRESS AND COGNITIVE IMPAIRMENT IN OLDER AFRICAN AMERICAN ADULTS WITH TYPE 2 DIABETES

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Background: Diabetes is a major risk factor for physical and cognitive decline. Especially vulnerable to decline are African American adults with diabetes; little is known about mediating factors.

Purpose: To examine associations among social support and engagement, depressive symptoms, stress, and cognitive impairment among African American adults with diabetes.

Methods: We conducted a secondary data analysis of 171 African Americans with diabetes, using the National Social Life and Health Aging Project database. Psychometrically sound measures were used for all variables. Descriptive statistics and multiple regressions adjusting for age, gender, and comorbidities were used.

Results: Average age was 66 (SD = 10.26) years with 58.5% females. More than half (50.3%) had some college or higher education. Duration of diabetes was 15.28 (SD = 8.41) years. Regression models indicated an overall model of independent variables (social support and social participation) was significantly associated with a) depressive symptoms ($R2 = 0.17$, $R2adj = 0.14$, $F (6,164) = 5.72$, $p < 0.001$) and b) cognitive impairment ($R2 = 0.13$, $R2adj = 0.10$, $F (6,164) = 4.16$, $p < 0.001$). Lack of perceived social support and active social participation in organizations were the strongest predictors of depressive symptoms. Increasing age and lack of social participation are the strongest predictors of cognitive impairment.

Conclusion: The findings demonstrated that social support and social participation in organizational activities are important factors contributing to psychological well-being and cognition among older African American adults. Interventions targeting social support and engagement for African Americans need to be developed to improve psychological well-being and diabetes control.

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UNIVERSITY STUDENTS' BALANCING ACT OF FINDING THEIR WAY TO HEALTH, WELL-BEING, AND BEHAVIOR CHANGE

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Background: Becoming a university student often involves changes to one's way of living and, for some, this includes developing or sustaining unhealthy lifestyle behaviors.

Purpose and method: This qualitative study, using interviews with 24 students from different faculties, investigated university students' experiences of health, health-related behaviors, and the barriers and facilitators for behavior change. The interviews were transcribed verbatim prior to a qualitative analysis of lived experience, inspired by phenomenological hermeneutics.

Results: Our interviews showed that student life is associated with new health-related challenges. For example, study-related stress and procrastination leads to a lack of energy to engage in healthy routines such as physical activity, and a limited budget affects food choice. Junior students adapt and want to become part of the student community, for instance by consuming alcohol at parties, and new student-related challenges such as living on a limited budget are faced. As students progresses in academic life, health becomes more holistic, which influences the choice of strategies used to maintain and improve health, and students becomes less influenced by peers, social networks, and by society in general.

Conclusions: Experiences of health while becoming and being a university student can be described as a transition – a balancing act of walking a slack line – during which students seek to manage a healthy balance. Over time, they build a toolbox with health behavior change strategies and become more self-reliant and independent.

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FAMILY FUNCTIONING AND EXECUTIVE FUNCTIONS AMONG ADHD CHILDREN

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Background: ADHD is one of the most frequently diagnosed neurodevelopmental disorders and affects the daily functioning of families raising children with this condition. Among the symptoms typical for ADHD, low effectiveness of executive functions can determine the quality of family life.

Purpose: This study aimed to specify whether family communication and satisfaction as reported by a parent are predictors of a child's executive functioning quality and whether ADHD severity lies on the pathway between the two. Moreover, the child's sex effect was checked.

Method: The study included 200 Polish participants (nGirls = 56) from the NeuroSmog project aged 10–13 diagnosed with ADHD according to the ICD-11. Stanford-Binet 5 Intelligence Scale, PU1 Cognitive Diagnosis Battery, Conners 3 ADHD Diagnosis Questionnaire, and the FACES IV Questionnaire were used to derive needed information. Structural equation modelling (SEM) was applied to test the hypotheses.

Results: The quality of family communication and satisfaction did not predict the child's executive functioning of ADHD children and ADHD severity did not play a mediating role. No differences by sex were observed. We only found a significant effect between IQ and executive functioning level in the general sample (standardized $\beta = X$, $p = Y$) and in girls (-0,24, 0,007).

Conclusions: These results contrast with previous studies from other cultural contexts that have shown the existence of the hypothesized interrelations. Further research should confirm or refute these observations.

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INFORMING BEHAVIOUR CHANGE INTERVENTION DESIGN USING SYSTEMATIC REVIEW WITH BAYESIAN META-ANALYSIS: PHYSICAL ACTIVITY IN HEART FAILURE

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Background: The Medical Research Council (MRC) framework for designing complex interventions urges researchers to consider evidence from diverse sources when developing interventions. Several methods have been proposed, including the use of mixed-methods studies where one type of evidence (e.g., qualitative) informs the research design of the complementing study (e.g., quantitative). However, it is less clear how to compare findings from a broad range of studies (qualitative and quantitative) and how to estimate uncertainty in the evidence. The Bayesian approach presents a unique opportunity for research informing complex intervention development by providing a workflow and analysis equipped to combine different evidence and evaluate uncertainty in the evidence.

Purpose: to illustrate applications of the Bayesian approach in informing behaviour change interventions using a systematic review.

Methods: Qualitative evidence was annotated using an expert elicitation task. The maximum aposteriori probability (MAP) was calculated as a summary statistic for estimating the relationship between physical activity and each determinant, according to qualitative evidence alone, quantitative evidence, and qualitative and quantitative evidence combined.

Results: Self-reported symptoms (MAP = −0.48;95%CrI:[−0.40;−0.55]) were suggested as barriers to physical activity with low uncertainty (0.19). Modifiable barriers were symptom distress (MAP = −0.46;95%CrI:[−0.68;−0.24],SD = 0.36), and negative attitude (MAP = −0.40;95%CrI:[−0.49;−0.31],SD = 0.26). Modifiable enablers were social support (MAP = 0.56;95%CrI:[0.48;0.63],SD = 0.26), self-efficacy (MAP = 0.43;95%CrI:[0.32;0.54],SD = 0.37), positive physical activity attitude (MAP = 0.92; 95%CrI:[0.77;1.06],SD = 0.36).

Conclusions: The Bayesian approach enabled comparative predictions about barriers and enablers, helped evaluate the extent of uncertainty in the evidence and enabled the combination of qualitative and quantitative evidence in a single synthesis.

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REGIONAL DIFFERENCES IN EXERCISE HABITS AMONG JAPANESE ADULTS: A TIME-SERIES ANALYSIS USING NATIONALLY REPRESENTATIVE DATA

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Background:
Although there are regional differences in exercise habits, limited data is available on how these differences have changed over time.

Purpose:
We examined time trends in the prevalence of exercise habits among Japanese adults from 1995 to 2019 using nationally representative data.

Methods:
An individual-level data from the National Health and Nutrition Surveys Japan (NHNSJ) conducted between 1995 and 2019 were analyzed. Participants were 50,902 men and 68,511 women (54.6 ± 16.6 years) who participated in physical examination conducted every November. Exercise habit was defined as exercising ≥ 30 min/day, ≥ 2 days/week, for ≥ 1 year. Regions were categorized into 3 groups based on population: G1) 12 large cities and 23 wards in Tokyo, G2) population ≥ 50,000, G3) population < 50,000 or towns and villages. Regression models were used to estimate the age-adjusted mean exercise habit prevalence.

Results:
The prevalence of exercise habits differed by regions, with more populated areas having a higher proportion (men; G1: 37.7%, G2:33.5%, G3:27.9%, women; G1:31.6%, G2:28.5%, G3:24.9%). Age-adjusted prevalence of exercise habits has not increased over time, regardless of gender and region. For women in particular, age-adjusted prevalence had decreased and regional differences tended to widen.

Conclusion:
Age-adjusted prevalence of exercise habits has not increased over the last 25 years, particularly among women, with a declining trend and an increasing regional difference.

Conflict of interest statement:
The authors declare no relevant conflict of interest in relation to this work.

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ILLUSTRATING THE PATHWAY FROM AFFECT TO SOMATIC SYMPTOM: THE AFFECTIVE PICTURE PARADIGM

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Background: Somatic symptom experience represents a complex constructive cognitive process. The Affective Picture Paradigm measures the effects of negative and neutral pictures on somatic symptom reports, thus shedding light on how affectivity influences the perception of bodily signals.

Purpose: In three studies, we aimed to compare different versions of the Affective Picture Paradigm and find the most effective one. Additionally, we wanted to investigate important correlates and differences between high and low habitual symptom reporters (HHSR and LHSR).

Method: Studies 1 (N = 130) and 2 (N = 71) had a 2*2*2 (order * block length * presence of verbal nocebo) between * 2 (valence) within design. t-tests and ANOVAs were used to find these differences. The third study replicated these results in a large-scale community sample (N = 254). Studies 1 and 2 were conducted online, Study 3 was in person. The PHQ-15 served as a measure of habitual somatic symptom distress levels.

Results: Significant medium-sized correlations (between $r = 0.342$ and $r = 0.631$; all $p < 0.001$) were observed between affective and symptom perception measures across all studies. HHSR reported more induced symptoms than LHSR, but there were no differences between the groups in perceived valence and arousal. HHSR showed more difficulties identifying feelings.

Conclusion: The Affective Picture Paradigm is a feasible, valid tool for inducing symptoms, both in an online and in a lab setting. The results provide further support for the Predictive Processing Model of symptom perception. The differences between HHSR and LHSR point to interesting new directions for functional disorder research.

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MENSTRUAL CYCLE RELATED ASSOCIATIONS OF PSYCHOLOGICAL TRAIT AND STATE RISK FACTORS WITH DAILY AFFECT AND CORTISOL IN WOMEN WITH AND WITHOUT PREMENSTRUAL DYSPHORIC DISORDER

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Background. Premenstrual Dysphoric Disorder (PMDD) is characterized by cyclical symptoms. Previous research provides limited and inconsistent findings on possible menstrual-cycle-related endocrinological and psychological mechanisms, which can be ideally captured using Ambulatory Assessment (AA).

Purpose. We aimed to compare affective and cortisol cyclicity in women with PMDD and healthy controls (HC), and to assess effects of habitual and momentary mindfulness and rumination on affect and cortisol across the cycle in both groups.

Methods. Women with PMDD and HCs (n = 60 each) completed baseline-questionnaires on habitual mindfulness and rumination. Momentary mindfulness, rumination, positive and negative affect, and saliva-cortisol were assessed using an AA-design over four consecutive days during the follicular and late-luteal-phase each.

Results. Women with PMDD showed affective cyclicity with mood worsening while HCs showed cortisol cyclicity indicating decreasing cortisol levels towards the late-luteal-phase. In women with PMDD, higher habitual mindfulness and lower habitual rumination predicted better mood only during the follicular phase whereas higher momentary mindfulness and lower momentary rumination predicted better mood in both phases indicating weaker mood-cyclicitiy. No effects on cortisol activity were detected. In HCs, habitual mindfulness predicted higher positive affect during the late-luteal-phase, and higher momentary mindfulness and lower momentary rumination predicted stronger cortisol reduction towards the late-luteal-phase.

Conclusions. The lack of cortisol cyclictiy might represent a specific endocrinological marker for PMDD. While favorable habitual psychological factors may not protect against premenstrual mood deterioration, respective momentary cognitions may reflect possible protective factors, suggesting a potential role of micro-interventions directly targeting late-luteal-phase-specific state processes in PMDD.

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ASSOCIATIONS OF COGNITIVE EMOTION REGULATION STRATEGIES WITH MOOD AND CORTISOL IN DAILY LIFE IN WOMEN WITH PREMENSTRUAL DYSPHORIC DISORDER

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Background. Psychological risk factors of Premenstrual Dysphoric Disorder (PMDD) are not fully uncovered, but initial evidence from mainly cross-sectional studies points to a potential role of unfavorable cognitive emotion regulation (ER-) strategies. Ecological Momentary Assessments allow to measure psychological and physiological microprocesses across the menstrual cycle.

Purpose: This study examines habitual ER-strategies in women with PMDD and their predictive value for the course of mood and basal cortisol across the cycle in affected women.

Methods. Women with and without PMDD (n = 61 each) were compared regarding their habitual mindfulness, reappraisal, and repetitive negative thinking (RNT). Momentary affect and saliva cortisol were assessed over two consecutive days per cycle phase (menstrual, follicular, ovulatory, late luteal).

Results. Women with PMDD reported lower mindfulness, less use of reappraisal and stronger RNT than healthy controls. Multilevel-analyses revealed that in women with PMDD, higher mindfulness and reappraisal and lower RNT predicted lower negative and higher positive affect across the menstrual cycle. However, women with more favorable ER-strategies displayed stronger mood cyclicity, resulting in stronger mood worsening during the late luteal phase, thereby resembling those with more unfavorable ER-strategies toward the end of the cycle. Lower mindfulness predicted lower cortisol in the menstrual phase in women with PMDD.

Conclusions. Protective ER-strategies appear to be generally linked to better momentary mood in women with PMDD, but do not seem to protect affected women from premenstrual mood worsening. Mindfulness, in turn, seems to buffer blunted cortisol in women with PMDD, especially during the menstrual phase.

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THE SITUATION OF SCHOOL STUDENTS WITH DEVELOPMENTAL DISORDERS IN PUBLIC MIDDLE SCHOOLS IN JAPAN

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Purpose

The purpose of this study was to elucidate the situation of school students with developmental disorders or with suspected developmental disorders in public middle schools in Japan.

Methods.

Random sampling was employed to select 1,000 public middle schools from all middle schools in Japan. Subsequently, a mail-back questionnaire was distributed to the principals of these middle schools to give to a school nurse teacher. The surveillance period was from September to October 2020.

Results

Of the 1,000 questionnaires, 193 were assessed, thus yielding a response rate of 19.3%. The results revealed that while students suspected with a developmental disorder were enrolled in 170 (88.1%) middle schools, those diagnosed with a developmental disorder were registered in 186 (96.4%). In relation to schools' special support education systems, individual guidance plans were designed in 54.8% and individual education support plans in 46.8% of the schools. In 79.8% of the schools, a special support coordinator was nominated and special support cooperation meetings organized in 45.1% of the schools. Visiting the infirmary afforded school nurse teachers the most frequent opportunity to work with students with developmental disorders.

Conclusions

This study suggests the need for increasing social capital and fostering a community that supports the education system, especially in middle schools, to provide equal education for both students with and without developmental disorders.

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SCHOOL NURSE TEACHERS' REASONABLE ACCOMMODATION OF STUDENTS WITH DEVELOPMENTAL DISORDERS IN PUBLIC MIDDLE SCHOOLS IN JAPAN

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Purpose

The purpose of this study was to clarify school nurse teachers' reasonable accommodation of students with developmental disorders and suspected developmental disorders in public middle schools in Japan.

Methods.

Random sampling was employed to select 1,000 public middle schools in Japan. Subsequently, a mail-back questionnaire was distributed to the principals of the selected schools who were then expected to give the questionnaire to a school nurse teacher. The surveillance period was from September to October 2020.

Results

Of the 1,000 distributed questionnaires, 193 responses were assessed, thus yielding a response rate of 19.3%. Factor analysis (principal component analysis, varimax rotation) of 10 questions related to reasonable accommodation practiced by school nurse teachers was conducted. Three factors were extracted: support according to the degree of cognition and understanding, support during medication instruction and health checkups, and health instruction in interpersonal skills. In addition, data from 105 (52.5%) were analyzed qualitatively for free descriptions of the innovations that the school nurse teacher made when providing support. The most common responses were devising ways of speaking and explaining (40%), involvement in raising self-esteem (16.1%), cooperation with teachers and staff (9.1%), and support in relation to characteristics (5.7%).

Conclusion

The results suggest that understanding developmental disorders and learning specific support methods in relation to these students' characteristics are important as a foundation for providing them with the necessary support.

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SHARING THE MOTHERLOAD: A REVIEW AND DEVELOPMENT OF THE CO-PARENT MODEL FOR PREVENTION OF EARLY CHILDHOOD OBESITY

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Background: The first 2000 days, from conception to age 5, is a critical period for childhood obesity prevention. Fathers remain underrepresented in childhood obesity research and interventions, despite growing evidence that paternal behaviours are implicated in offspring health from preconception to the early childhood years.

Purpose: We strengthen the narrative for early childhood obesity prevention by ecognizing the key role of fathers and present the 'CO-Parent' (Childhood-Obesity-Parent) conceptual model to describe contributions of paternal weight-related behaviours and wellbeing in the preconception, pregnancy, and postpartum (PPP) periods to child weight-related behaviours and weight up to five years of age.

Method: 'CO-Parent' is underpinned by couple interdependence theory and a socioecological framework. It was informed by a narrative synthesis of literature, incorporating evidence of the highest quality to support model development.

Results: 'CO-Parent' illustrates the interdependent and independent effects of maternal and paternal weight-related behaviours (diet, physical activity, sedentary behaviour, sleep) and wellbeing, across PPP, on child weight-related behaviours and weight up to age five. Public policy, social, environmental, economic, community, and complex mediating factors are acknowledged as important contributors to the effects identified in the model.

Conclusion: 'CO-Parent' is the first conceptual model to empirically present fathers' influence on both mother and child specifically across PPP, thus emphasizing the fundamental, not optional, role of fathers in childhood obesity prevention. It provides the foundations necessary for future research to advance this nascent field. Hence, 'CO-Parent' will guide thinking and research toward more effective and sustainable whole-of-family focused childhood obesity prevention interventions.

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A LARGE SCALE WORKING PANEL SURVEY TO EXPLORE THE MECHANISMS OF SOCIAL GRADIENT OF HEALTH: COHORT PROFILE

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A large-scale working panel was created to explore the mechanisms of social gradient of health. Totally 14,388 workers were registered until 2018, and an unbalanced panel dataset (n = 11,799, T = 4) of workers aged 18–69 years were created. Social class were categorized in terms of three relevant socioeconomic indices—occupation, education, income. Relevant psychosocial job characteristics were evaluated using the established scales, and stress-related biomarkers were measured, in addition to conventional cardiovascular risk factors. Morbidities were defined based on questionnaire and health examinations. Baseline analyses (9,848 workers) showed some unfavorable profiles were associated with upscale, and the associations were different by socioeconomic indices and genders. In men, upscale workers work longer than downscales, at all socioeconomic indices. Adverse psychosocial job characteristics, smoking and sedentary lifestyle were prevalent among downscales. Hypertension, dyslipidemia and current alcohol drinking were prevalent among less-educated men. However, diabetes, dyslipidemia and alcohol drinking were prevalent among higher-income men. IL-6 was higher among lower-income men. DHEA levels were higher among less-educated but higher-income men. Upscale women of any indices work longer. Smoking and sedentary lifestyle were prevalent among downscales and less-educated workers were hypertensive. Women with lower occupational and educational classes were more obese than the respective counterparts. Dyslipidemia was prevalent among lower occupational class. Homocysteine levels were higher among downscale women. However, upscale women were more likely to be exposed to effort-reward imbalanced and higher occupational class women were psychologically distressed. The database has potential for secondary analysis and is planned for as an open source.

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PSYCHOLOGICAL AND PHYSIOLOGICAL RESPONSES TO ACUTE PSYCHOSOCIAL STRESSORS FOLLOWING SINGLE BOUTS OF EXERCISE: A SYSTEMATIC REVIEW OF EXPERIMENTAL STUDIES

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Background: Regular exercise improves physiological and psychological functioning in individuals with high levels of chronic stress. The immediate effects of exercise on acute stress responses, however, are not fully understood.

Purpose: To understand how a single exercise bout may affect psychological and physiological responses to a subsequently induced psychosocial stressor.

Methods: MEDLINE, Embase, Scopus, CINAHL, SPORTDiscus, and PsycInfo were searched for relevant articles. Experimental studies exposing participants to an acute bout of exercise within the laboratory followed by a psychosocial stressor on the same day were eligible. Psychosocial stressors were tasks involving an element of social evaluation or uncontrollability. Risk of bias was assessed using the Cochrane Risk of Bias Tool.

Results: Of the 7,333 articles screened, 20 were eligible. Sample sizes ranged from 18–64 participants with a mean age from 20–32 years. The majority (90%) of studies assigned aerobic exercise and stressors involved public speaking and arithmetic. Most studies that explored heart rate (9 of 12), cortisol (6 of 9), alpha amylase (2 of 3), perceived stress (4 of 6), and negative affect (2 of 3) found no significant differences between exercise and control groups. Results for blood pressure (5 of 10) and anxiety (2 of 4) were inconsistent. Studies were of moderate to low risk of bias.

Conclusions: It is unclear whether exercise may have immediate effects on acute stress response. More experimental studies are needed to determine how effects may differ based on exercise type, frequency, intensity, and duration, and time between exercise and stressor.

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PREDICTING STRESSOR APPRAISALS THROUGH THE LENS OF THE SELF

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Background: Individual differences in interpretations of stressful situations (stressor appraisals) can result in positive or negative stress-related outcomes for mental and physical health. As such, it is important to identify factors predicting individual differences in stressor appraisals to minimise the negative stress-related health outcomes. Self-compassion and self-criticism, both associated with stress-related health outcomes, have not been explored in relation to stressor appraisals.

Purpose: This study explored the association between self-compassion and self-criticism with primary appraisals (appraisals of the stressor) and secondary appraisals (appraisals of one's resources to cope).

Method: 193 general population participants completed an online survey containing demographic information, momentary stress, and measures of self-compassion as well as self-criticism forms (inadequate self, hated self, and reassured self) and functions (self-correction and self-persecution). Participants then read and imagined themselves to be in a stressful scenario before reporting the perceived stressfulness of the scenario and stressor appraisal measures about the scenario.

Results: Regression analyses highlighted that self-compassion and self-criticism significantly predicted stressor appraisals. Challenge appraisals ('this stressor is good') were positively predicted by greater self-compassion, self-correction, and the reassured self. Greater threat appraisals and primary appraisals ('this stressor is bad') were predicted by higher inadequate self and lower hated self levels. Finally, secondary appraisals ('I can cope with this stressor') were weakened by self-persecution and strengthened by the reassured self.

Conclusion: These findings highlight that self-compassion and self-criticism can predict individual differences in stressor appraisals.

Future research should experimentally explore the implications of this association on mental and physical health.

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“MY OPINION OF VACCINES DEPENDS HEAVILY ON WHICH ONE”: PERSONALITY PREDICTORS OF ATTITUDES TOWARD CHILDHOOD, FLU, COVID, AND GENERAL VACCINES

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Background: With vaccination as the main recommended preventative action against COVID-19, it is important to understand the underlying motivators of vaccine attitudes. Among other factors, personality and thinking styles may be key predictors of these attitudes.

Purpose: This study aimed to extend our understanding of vaccine attitudes by considering the role of personality, sense of self (one’s perceived knowledge of who they are), thinking style (critical/logical or intuitive thinking style), and gullibility in predicting vaccination attitudes in four contexts: childhood vaccine safety, flu shots, a hypothetical COVID vaccine, and general vaccine attitudes.

Method: The 231 participants completed online self-report measures of demographics, gullibility, Big-5 personality (Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Intellect/Imagination), sense of self, thinking style, and four measures of attitude vaccinations capturing attitudes to vaccinations generally, as well as COVID19, flu, and childhood vaccinations.

Results: Regressions revealed more positive general vaccination attitudes were associated with more positive attitudes toward all three vaccines. Additionally, greater extraversion was associated with more positive attitudes toward flu shots, and greater agreeableness was associated with greater attitudes toward a COVID vaccination. There were no additional predictors of childhood vaccination safety and no predictors of general vaccination attitudes.

Conclusion: These results suggest that vaccination uptake research should consider not only the role of general vaccination attitudes, but also those personality factors that are associated with specific types of vaccines.

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A SCOPING REVIEW OF STRESS IN YOUTH RESIDENTIAL WORKERS

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Background: Youth residential workers provide 24-h care for young people living in residential settings. These workers are faced with exposure to violence, lack of resources, and heavy workloads. Consequently, they report high levels of stress and stress-related outcomes such as burnout.

Purpose: This scoping review aimed to collate the current research on stress in youth residential workers and synthesise the findings and gaps in the research.

Method: APA PsycInfo, CINAHL Complete, MEDLINE Complete, SCOPUS, and Social Work Abstracts databases were systematically searched with a comprehensive search strategy. Papers were included if they were peer reviewed articles written in English, and measured stress in adult youth residential workers currently working in a residential setting.

Results: Of the identified 3680 papers, 25 met inclusion criteria. These papers reported on outcomes including burnout, compassion fatigue, secondary traumatic stress, post-traumatic stress symptoms, hair cortisol concentration, perceived stress levels, and compassion satisfaction. There were many predictive factors related to these stress outcomes, however the most consistent findings were that more negative stress-related outcomes were associated with greater neuroticism and work pressure, lower manager support, and lower sense of coherence and self-care.

Conclusion: While considerable gains have been made to understand the psychosocial predictors of stress-related outcomes in youth residential workers, this body of work has largely overlooked the experience of stress itself.

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WHAT HAPPENS AFTER WE EAT WHEN EXPERIENCING STRESS?

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Background: Emotional eating is an emotion-based coping strategy used in response to stress. Emotional eating is associated with feelings of guilt and shame, which are associated with rumination. Rumination is the persistent focus on negative thoughts and may interfere with a person’s ability cope with their emotions. Whilst rumination can negatively affect mental-wellbeing, self-compassion may moderate the relationship.

Purpose: The aim of this study was to investigate if emotional eating was associated with rumination and if self-compassion can moderate the relationship between emotional eating and rumination.

Method: Participants ($N = 103$) were recruited via social media advertisements. Participants were over 18 years, had engaged in emotional eating due to stress in the past week, and lived in Australia. Following consent, participants completed a self-report demographics survey, followed by measures of one’s perceived stress in the past week, emotional eating, rumination, and self-compassion.

Results: Regression analysis were conducted to explore the moderating effect of self-compassion between emotional eating and rumination. There was a significant positive association between emotional eating and rumination. Secondly, while self-compassion did not moderate the association between emotional eating and rumination, however, there was a significant main effect of self-compassion. This suggests that, at any one point of emotional eating, individuals with greater self-compassion had lowered rumination.

Conclusions: Our findings indicate that despite self-compassion not moderating the relationship between emotional eating and rumination, there was evidence that self-compassion still had a protective effect on rumination. These findings encourage future research to explore whether improving self-compassion inimizes rumination following emotional eating.

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TOWARD A TRANSDIAGNOSTIC COGNITIVE MODEL OF DEPRESSION AND ANXIETY IN ENDOMETRIOSIS – PRELIMINARY FINDINGS

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Background: Depressive and anxiety symptoms are prevalent among persons living with endometriosis (plwE) and negatively impact prognostic outcomes. The cognitive factors underlying depression and anxiety are unknown. Evidence and process-based perspectives propose a common set of cognitive factors underpinning emotional disorders in non-medically-ill populations, including personality, anxiety sensitivity (AS), rumination, emotion dysregulation (ER), psychological inflexibility (PF), distress intolerance (DT) and intolerance of uncertainty (IU).

Purpose: Test a longitudinal (0-6mths) transdiagnostic cognitive model predicting depression and anxiety, examining the relationships of plausible transdiagnostic cognitive factors (i.e., neuroticism, AS, rumination, ER, PF, DT, IU).

Methods: Initially, 459 plwE completed an online survey at baseline (T1) assessing variables including depression (CESD-R) and anxiety (GAD-7), and neuroticism (BFI), psychological flexibility (DFlex-24), anxiety sensitivity (ASI-3), intolerance of uncertainty (IU-27), distress tolerance (DTS-15), emotion regulation (DERS-26) and rumination (RRS-10).

Results: Mean age was 32.24 (SD 7.57) and a majority were diagnosed with endometrioma(s) (37.7%) and deep-infiltrating endometriosis (32.5%). A majority self-reported clinically significant symptoms of anxiety (59%) and depression (55%), suggesting a clinical picture of moderate severity in both symptom clusters (10 ± 5.4; 31.82 ± 16.50). Elevated levels of all cognitive factors were identified and factors significantly predicted depression, and anxiety apart from psychological flexibility (cognitive-rigidity $b = 0.07$, 95% CI:0.00, 0.14; attention-to-detail $b = 0.06$, 95% CI: -0.01, 0.11) and factors were all inter-correlated (r 0.46 to 0.72, $p < 0.001$).

Conclusions: Findings highlight the salience of cognitive factors for depression and anxiety in plwE and provide justification for inclusion into a longitudinal structural equation model, to be additionally presented.

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THE EFFECTIVENESS OF ANIMATIONS TO IMPROVE HEALTH-INFORMATION RECALL IN PATIENTS WITH LOWER BACK PAIN: A QUASI-EXPERIMENTAL STUDY

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Background: Globally, low back pain (LBP) is the leading cause of disability. Clear communication between citizens and health-professionals is essential to improve health outcomes lower the costs of health services and plays a central role in avoiding fragmented LBP care. Commonly, information is provided verbally or in written text, which may require a high level of health literacy to comprehend. Research suggests that animations can increase the acquisition of information in patients with low health literacy.

Purpose: To explore the effectiveness of animations to deliver information about LBP and LBP management compared with usual practice in patients with LBP.

Method: The study uses a quasi-experimental pre-/post-cohort design. It included 502 adult patients with LBP recruited from 11 units across seven general practices, one hospital and three municipalities, of which 250 (49,8%) constituted the pre-cohort. The pre-cohort exclusively received the usual information whereas the post-cohort in addition watched two animations about LBP, developed for the study. Data on Sociodemographic factors and health literacy were collected. The primary outcome was information recall regarding LBP. Secondary outcomes were the number of healthcare contacts, pain perception, and physical function. All outcomes collected through self-reported questionnaires. Outcomes were measured at 3, 12 and 26 weeks after inclusion.

Results: Follow-up rate was 394 (78,5%). Analyses are ongoing and will be presented at the conference.

Conclusion: We expect the study will indicate whether animations are an effective means to deliver health information to citizens with LBP, and further, increase our understanding of factors affecting the outcome.

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CONSTRUCT VALIDITY AND RELIABILITY OF THE PATIENT ACTIVATION MEASURE MENTAL HEALTH SCALE IN OUTPATIENT SETTINGS: PRELIMINARY FINDINGS

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Background: Patient activation is knowledge, skills and confidence that enable patients to actively participate in their treatment. Patients with high activation have fewer mental symptoms, better adherence to treatment and faster recovery. To measure patient activation in mental health settings, the Patient Activation Measure Mental Health (PAM-MH) was adapted from the Patient Activation Measure (PAM-13) in the US. However, the validity of the PAM-MH has yet to be compared with the gold standard PAM-13.

Purpose: To assess the construct validity and reliability of PAM-MH in a Norwegian outpatient setting, evaluating the correlation between PAM-MH and gold standard PAM-13, and internal consistency of PAM-MH.

Method: PAM-MH and PAM-13 were collected between 2016 and 2018 as part of a more extensive multimethod study to enhance patient activation. To determine the construct validity of the PAM-MH, correlation coefficient between two PAM-scales was calculated (Pearson r). In addition, Cronbach's α was calculated for internal consistency.

Results: We got a strong correlation between PAM-MH and PAM-13 (Pearson $r = 0.77$, $p < 0.001$) and good internal consistency (Cronbach's $\alpha = 0.871$).

Conclusion: Based on our preliminary findings, the PAM-MH was found to be a valid self-reported scale in mental health settings.

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A PSYCHODIAGNOSTIC COGNITIVE ANALYSIS OF PERIODONTAL PATIENTS DURING SUPPORTIVE TREATMENT – 'RISK PROFILING' IN THREE YEARS CLINICAL EXPERIENCE

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Background:
In 2003, WHO defined patient compliance as "willingness to take medicine, follow nutrition or lifestyle recommendations and follow doctor's instructions." Lack of awareness, fear and anxiety influence compliance, but the impact of patients' personalities and cognitive status on periodontal compliance / oral health maintenance is unknown.

Purpose:
The purpose of this study was to assess relationship between personality traits and patient compliance, as well as impact of cognitive ability on periodontal health maintenance.

Methods:
72 patients with Generalized Stage 2 Grade B Periodontitis were included. The periodontal parameter was Community Periodontal Index of Treatment Needs (CPITN), the cognitive assessment was using Montreal Cognitive Assessment (MOCA), and personality trait was using Leonard—Smishek Characterological Questionnaire and Multidimensional Health Locus of Control Scales. After periodontal therapy patients scheduled for 3-monthly recall visits from 2019 to 2021 were evaluated at baseline, 12 and 24 months.

Results:
Correlograms were created for each parameter of CPITN, MOCA and personality trait using Student's t test. Patients with an external locus of control and hyperthymic type had higher periodontal destruction ($p < 0.05$). Patients with a MOCA score less than 10 had improved periodontal parameters ($p < 0.05$). Female patients with an internal locus of control had higher 3-month periodontal recall compliance up to 24 months.

Conclusion(s):
The study found that personality traits influence compliance after active periodontal therapy & cognitive ability was linked to periodontal health. This allows precise patient management based on 'individualistic, psychodiagnostic, periodontal risk profiling,' improving compliance and reducing disease burden.

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CHILDHOOD MALTREATMENT AND LEUCOCYTE TELOMERE LENGTH: PARASYMPATHETIC CARDIAC ACTIVITY DOES NOT CROSS-SECTIONALLY MEDIATE THE RELATION IN OLDER ADULTS

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Background: Childhood maltreatment is associated with shorter telomere length (TL) in adults who are healthy or suffering from health conditions. Underlying mechanisms remain to be determined, though dysregulated parasympathetic nervous system (PNS) activity may play a role.

Purpose: This study examined whether cardiac PNS activity at rest and in response to stress cross-sectionally mediates the relationship between childhood maltreatment and TL, and whether this differs according to sex or coronary artery disease (CAD) status.

Method: Men and women ($N = 1179$; aged 65 ± 7.2 years) suffering from CAD or other non-cardiovascular chronic disease reported on childhood maltreatment and participated in an anger recall protocol while ECG was monitored. Root mean squared successive differences between normal heartbeats (RMMSD) and high frequency heart rate variability (HF-HRV) measures of PNS were obtained at rest, during stress, and during recovery. TL was measured using qPCR techniques. Analyses included bivariate correlations and linear regressions, controlling for medical, sociodemographic, and lifestyle variables.

Results: Childhood maltreatment was associated with shorter TL ($r = -0.064$, $p = 0.029$). Baseline, stress reactivity (stress-baseline), and recovery (recovery-baseline) change scores for RMMSD and HF-HRV did not mediate this relation (confidence intervals included 0), nor did results differ as a function of sex ($ps > 0.162$) or CAD status ($ps > 0.264$).

Conclusion: Among older individuals suffering from a chronic disease, parasympathetic cardiac activity did not cross-sectionally mediate the relation between childhood maltreatment and TL. Further research is required to examine this relation longitudinally, and to examine other potential pathways.

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THE RELATIONSHIP BETWEEN THE INCIDENCE OF MAJOR DEPRESSIVE DISORDER AND FAMILY FUNCTIONING IN COLLEGE FRESHMEN: FINDINGS FROM A COHORT STUDY

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Background

This study aimed to explore the relationship between family functional characteristics and the risk of the first occurrence of MDD within one year and investigate the role of different population characteristics, baseline depression, and baseline anxiety in this relationship.

Methods.

A one-year cohort study of first-year students from two medical universities was conducted and divided into two groups for statistical analysis. The differences in family function between college freshmen with new onset of MDD and those without MDD were analyzed, and the risk of family function for MDD was evaluated by logistic regression.

Results

College freshmen in the new-onset MDD group had significantly higher FAD scores on other subscales except for Problem Solving and Behavior Control ($P < 0.05$). Except for Behavior Control and General Functioning, the proportion of new-onset MDD freshmen with family dysfunction is significantly higher than that of non-MDD freshmen ($P < 0.05$). For freshmen, Communication ($OR = 1.236$, 95% OR: 1.012–1.508) and Affective Responsiveness ($OR = 1.145$, 95% OR: 1.047–1.252) were significant risk factors for major depressive disorder.

Conclusions

Family dysfunction, especially communication and emotional response, is a risk factor for the occurrence of major depressive disorder in college freshmen. It is essential that family therapy within the family culture of China be applied to prevent MDD.

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USING CONSOLIDATED FRAMEWORK FOR IMPLEMENTATION RESEARCH TO INVESTIGATE FACILITATORS AND BARRIERS TO IMPLEMENTING ALCOHOL SCREENING AND BRIEF INTERVENTION AMONG PRIMARY CARE PHYSICIANS AND NURSES IN HONG KONG, CHINA: A MIXED-METHOD STUDY

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Background: Alcohol screening and brief intervention (SBI) is an evidence-based intervention. No study looked at the actual implementation in primary care settings in China

Purpose: This study aimed to investigate the facilitators and barriers of SBI implementation among primary care physicians and nurses in the public and private sectors in Hong Kong, China

Methods: This was a mixed-method study guided by the Consolidated Framework for Implementation Research (CFIR). Semi-structured face-to-face interviews were conducted among 21 physicians and 20 nurses. Based on the qualitative findings, a cross-sectional survey was conducted among 282 physicians and 295 nurses.

Results: Among participants of the survey, 34% and 22% had ever screened alcohol consumption and offered brief intervention in the past year. Facilitators and barriers of SBI implementation identified by the survey echoed most of the qualitative findings. Barriers of implementation included doubts about the efficacy of SBI, perceiving SBI to be complex, time consuming, of low priority for the organization and lack of policy support. Participants who perceived a lack of knowledge, self-efficacy, or planning to perform SBI were also less likely to do so. Availability of referral services for alcohol-related problems was found to be a facilitator to implement SBI. Subgroup analysis found some unique factors applied to participants in public and private sectors.

Conclusions: There was a significant gap between SBI implementation and the recommendation in primary health settings in Hong Kong, China. CFIR is a useful framework to understand the facilitators and barriers of SBI implementation and to inform implementation intervention.

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COMPASSION MATTERS: THE ROLES OF DIABETES-SPECIFIC SELF-COMPASSION, SELF-EFFICACY, AFFECT BALANCE, AND PERCEIVED SOCIAL SUPPORT IN PSYCHOLOGICAL DISTRESS AMONG TYPE 2 DIABETES PATIENTS IN HONG KONG

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Background. Patients with Type 2 diabetes (T2DM) are vulnerable to criticize themselves when targets for self-management behaviors are not reached. From the perspective of the Self-Regulation Resource Model, self-compassion (i.e.,extending compassion to oneself during sufferings) is found to promote chronic disease adjustments through enhancing self-regulation resources (e.g., self-efficacy, affect, social support). However, relevant research on Chinese T2DM patients' adjustments is limited.

Purpose. This study examined the associations between positive/negative aspects of diabetes-specific self-compassion and psychological distress among T2DM patients in Hong Kong, plus explore the mediating roles of self-care self-efficacy, affect balance (how positive affect outweighs negative affect), perceived social support in such associations.

Method. T2DM patients ($N = 363$) recruited from public hospitals in Hong Kong (mean age = 66.1; 49.5% male) completed a cross-sectional survey measuring the aforementioned variables.

Results. Controlled for the covariates, multiple mediation model results indicated that self-care self-efficacy ($\beta = -0.04$; 95%CI = -0.07,-0.02), affect balance ($\beta = -0.06$; 95%CI = -0.10,-0.03), and perceived social support ($\beta = -0.02$; 95%CI = -0.04,-0.001) significantly mediated between positive self-compassion to lower psychological distress. Similarly, self-care self-efficacy ($\beta = 0.02$; 95%CI = 0.001,0.05) and affect balance ($\beta = 0.08$; 95% CI = 0.04,0.12) significantly mediated between negative self-compassion and higher psychological distress. After considering the mediators, negative self-compassion was still associated with higher psychological distress ($\beta = 0.40$, $p < 0.001$), whereas positive self-compassion was not ($\beta = 0.00$, $p > 0.05$).

Conclusions. Diabetes-specific self-compassion could be associated with psychological distress through self-care self-efficacy, affect balance, and perceived social support among T2DM patients in Hong Kong. Interventions guiding patients to practice self-compassion, develop skills for self-care and affect regulation, plus facilitate social support could improve those patients' psychological distress.

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DESIGN AND IMPLEMENTATION OF SPEAKERS FOR PATIENTS WITH HYPERTENSION BASED ON ARTIFICIAL INTELLIGENCE QUESTION ANSWERING SYSTEM

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Background: The ability of self-management among patients needs to be highly improved. However, the knowledge is trivial and huge, and the traditional intervention methods are difficult to match the personalized needs of patients.

Purpose: To explore the needs of self-management among patients with hypertension, and to design and implement an artificial intelligence speaker for home-based disease management.

Method: Semi-structured interview was used to explore the demands of patients with hypertension for artificial intelligence speakers. We designed the scenes of hypertensive patients using the speaker and the corresponding functions. Knowledge graph of hypertension self-management was constructed as the underlying data to support the Questions Answering(Q&A) system, and Frequently Asked Questions (FAQs) were arranged as the supplement of the Q&A system.

Results: A total of 25 patients with hypertension or patients' close relatives were interviewed. We summed up the basic needs, management needs and decisive demand as the three core requirements. Based on the requirements, we designed four functions of speaker, including reminding, consulting, recording and entertainment, meeting the needs of home-based disease management. The knowledge graph consisted of 1561 nodes and 824 relationships, and each node had 3–6 attributes. 73 intention templates were extracted to support the Q&A system.

Conclusion: This study summarized the requirements for artificial intelligence equipment of patients with hypertension, and successfully designed a speaker with four functions. Patients can instantly and quickly obtain knowledge that meets their own needs, which is conducive to self-active management playing an important role in disease management.

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STRESSFUL LIFE EVENTS AND DEPRESSION: THE CHAIN MEDIATING OF BORDERLINE PERSONALITY TRAITS AND RUMINATION VIA STRUCTURAL EQUATION MODEL

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Background: Stressful life events are predictors of depression. However, the mechanism of stress events leading to depression is still unclear. The aim of this study instituted an inquiry into the chain mediation role of borderline personality traits and rumination in the development of depression caused by stressful life events.

Methods: 8079 Chinese freshmen participated in the survey in 2018. PROCESS macro 3.3 with SPSS 24 and Amos 24 was used to construct the Structural Equation Model via intermediary effect analysis among stressful life events, borderline personality traits, rumination, and depression.

Results: The prevalence of borderline personality disorder in freshmen was 15.43%. The overall effect of stressful life events on depression was 0.61 (95% CI: 0.33, 0.38), in which borderline personality traits played a partial mediating effect, with the size of 0.27 (95% CI 0.02, 0.03) accounting for 44.26% of the effect. Rumination also partially mediated the effects between them with a mediating effect of 0.14. A chain mediation model (stressful life events → borderline personality traits → rumination → depression) was constructed and the effect size was 0.05, accounting for 8.19% of the total effect.

Conclusions: Part of the causes of depression caused by stressful life events are borderline personality traits and rumination. This would provide a perspective to explain the mechanism of depression and a new insight into clinical intervention for depression.

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ADDRESSING ALCOHOL CONSUMPTION DURING PRE-CONCEPTION AND EARLY PREGNANCY CARE: CURRENT PRACTICES AND OPPORTUNITIES

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Background: Clinical guidelines recommend health professionals (HP) who see women during pre-conception and pregnancy assess alcohol consumption, provide brief advice and offer referral.

Purpose: To describe women's attendance at HP during pre-conception and early pregnancy and determine receipt of care addressing alcohol consumption and whether care is related to women's characteristics.

Methods: A survey with women attending antenatal clinics in a health service in New South Wales, Australia. Descriptive statistics and multivariate logistic regression were undertaken.

Results: Of 2,825 participants, 23% reported seeing a HP for pre-conception care. These women were slightly older (OR1.08, 1.06–1.10, $p < 0.001$), had higher education (OR0.42, 0.31–0.56) $p < 0.001$), and were more likely in their first pregnancy (OR2.08, 1.67–2.59, $p < 0.001$). During these visits, 51% were asked and 40% advised about alcohol consumption, 33% advised of the risks, and 0.8% offered referral. A higher proportion of women from rural (41%) compared to urban (31%; (OR1.79 95% CI 1.16–2.76, $p = 0.009$)) areas received advice. Almost all (98%) reported seeing a HP in early pregnancy: 49% were asked and 33% advised about alcohol consumption, 27% advised of the risks, and 0.7% offered referral. Women with lower education, who had previously been pregnant, had their first visit at earlier gestation, had fewer visits before attending the hospital clinic, were older, and did not identify as Aboriginal or Torres Strait Islander had lower odds of receiving care addressing alcohol consumption ($p < 0.01$).

Conclusion: There is need to improve the limited and variable care women currently receive regarding alcohol consumption during preconception and early pregnancy.

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AVAILABILITY OF OPPORTUNITIES FOR PHYSICAL ACTIVITY IN RURAL AND URBAN AREAS

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Physical activity is widely recognized as a key health promoting behavior, though nearly half of adults and three-quarters of children in the US do not meet CDC recommendations for physical activity. While physical activity guidelines can be met through a variety of activities, organized activities or activity-related businesses are popular resources for many people to meet physical activity guidelines. However, nearly 20% of the US population lives in rural areas, where access to a variety of resources can be more limited. The present study explores differences in availability of organized physical activities or activity-related businesses in both rural and urban areas throughout the US. 64 urban and 64 rural zip codes were randomly selected. Online searches using Google and YellowPages.com were conducted to determine availability of a range of physical activity-related activities and businesses (e.g., gyms, dance studios, sports leagues) for each zip code (data collected prior to March 2020). Results indicate differences in availability between rural and urban zip codes. Rural residents experience unique health disparities, and increasing access to physical activity opportunities is key to support health.

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THE CHINESE VERSION OF THE SUBSTANCE USE RISK PROFILE SCALE: FACTOR STRUCTURE, RELIABILITY, AND VALIDITY IN CHINESE UNIVERSITY STUDENTS

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Background: The wide use of tobacco among a substantial portion of university students could foreshadow an increase in overall adult tobacco use in the future. The purpose of this cross-sectional study was to explore the impact of smoking intention on each of the subscales in a sample of Chinese university students and examine factor structure, reliability, and validity of the Substance Use Risk Profile Scale (SURPS).

Methods: A cross-sectional survey was conducted in this study. Data were collected from a randomly selected sample that consisted of 2864 students in five universities in China. 2700 university students (53.4% females, mean age 20 years). Factor analysis and correlation coefficient were used for the validity of the SURPS, Cronbach's alpha was used for the reliability of the SURPS, and the confirmatory factor analysis (CFA) was used for the psychometric properties of the SURPS.

Results: CFA result supported the original four theoretical models of SURPS. The factor analysis of construct validity identified four dimensions of the SURPS, explaining 56.07% of the total variance. Good internal consistency and adequate concurrent validity were found in four subscales of the SURPS. Significant group differences were found on the Impulsivity, Anxiety sensitivity, and Sensation Seeking subscales, with substance-dependent groups scoring higher than controls.

Conclusions: Our findings demonstrate SURPS can be usefully applied in China, especially in respect of the risk assessment of substance use from individual characteristics in China. It also has the potential to implement early intervention for reducing substance use among university students.

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HOW DO MID-TO-OLDER AGED LIFE TRANSITIONS INFLUENCE PHYSICAL ACTIVITY AND SOCIAL CONNECTEDNESS? IMPLICATIONS FOR SYSTEMS INTERVENTION DEVELOPMENT

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Background:
Interventions promoting the mutually reinforcing relationship between physical activity (PA) and social connectedness (SC) can support healthy ageing. Mid-to-older age life transitions (e.g. retirement; bereavement) are important intervention targets, as they may positively or negatively influence PA and SC. However, further systems-orientated research will ascertain how interventions can account for interactions between, and people's experiences of, transitions, place and broader contextual factors to influence PA and SC.

Purpose:
Using a systems lens, we explored experiences and priorities related to PA and SC among adults aged 55–75 with recent life transitions, to identify potential intervention leverage points.

Method:
Semi-structured interviews with 25 men and women, with primarily low socioeconomic status (therefore increased risk of low PA or SC) and who had retired, relocated, been bereaved or become a carer in the last 2–5 years, were analysed using a thematic framework approach.

Results:
Participants described multifarious experiences of PA and SC throughout life transitions, which occurred within complex contextual and life-based circumstances. Informed by transitions-related theories (e.g. Schlossberg's theory; aging in place; social gerontology), five potential leverage points were identified to harness systemic enablers, support coping and promote PA and SC amid transitions: 1) Investing in nature; 2) Growing local assets; 3) Creating a function and enjoyment-orientated mindset; 4) Setting incidental PA goals; 5) Fostering intergenerational connections.

Conclusion(s):
Preventative PA and SC interventions for healthy ageing would benefit from systems-orientated approaches that prioritise identified leverage points, and consider how factors associated with coping throughout life transitions interact with broader systemic factors.

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HOW COMMUNITY RESOURCING FOR EDUCATION HAS IMPROVED SCHOOL ENROLMENTS AND PERFORMANCE FOR VULNERABLE CHILDREN IN AKWA IBOM STATE, NIGERIA

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Introduction: Over ten million school-age children in Nigeria are out-of-school. Akwa Ibom accounts for 5.7% out-of-school children despite the extant policy of free and compulsory basic education. Children in households vulnerable to HIV face difficulties attaining quality education across enrolment, retention and progression.

Methods: CCCRN adopted a multi-pronged approach to address schooling gaps viz: Onsite education barrier assessments of children in vulnerable households; resource mobilization drive to buy scholastic materials; need-based home lessons to beneficiaries; community dialogues with caregivers to address misconceptions about schooling; engagement of community members enforce enrolment and retention.

Results: The assessment of 2,068 children revealed that 558 (27%) were in school; 517 (25%) were not; 413 (20%) could not progress to the next class and 580 (28%) likely to drop-out from school. These results guided education support interventions for vulnerable children. Two Million Naira (USD 4,819.28) worth of scholastic materials mobilized from individuals from the communities and distributed to children according needs. Within six months, all the out-of-school children re-enrolled: 425 of them into 32 primary schools and 15 secondary schools and 92 adolescents enrolled in vocational training. Also, 380 (92%) performed above 70% and 525 (91%) kept in school.

Conclusions: Multilayered interventions in education involving relevant stakeholders is likely to improved school enrolment and performance among children in vulnerable households. More research needs to be done to study the models of interventions that are more effective within specific populations in Nigeria. Sometimes, other incentives might be more appropriate to improve school outcomes.

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LET'S GET TO THE HEART OF THE MATTER: DO LONG-TERM MARRIED ADULTS AGED 50–75 YEARS HAVE HEALTHIER BEHAVIOURS FOR REDUCING THEIR CARDIOVASCULAR RISK?

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Background: Married individuals generally have better cardiovascular outcomes, which are related to preventative behaviours. A limitation to previous studies is that marital status is often measured at one time point, or is focused on one marital transition. An alternative is sequence analyses that capture dynamic marital status trajectories over the adult life course.

Purpose: To explore associations between longitudinal patterns of marital status and health behaviours related to cardiovascular risk.

Methods: This study used life history data from the English Longitudinal Study of Ageing, which documented marital status from age 18 years to the current age of 6,067 adults between 50 and 75 years of age. Optimal matching analysis measured differences in marital status sequences, which were then clustered with ward's linkages. Clusters were entered into gender-stratified logistic regression models predicting five self-reported health behaviours related to cardiovascular risk: smoking, fruit and vegetable consumption, sedentary behaviour, physical activity, and attending blood pressure checks.

Results: Six marital clusters were identified, and the "long-term married" cluster was used as the reference category. Most clusters were not significantly related to heart healthy behaviours, except for smoking where most clusters were significantly more likely to smoke compared to our reference cluster. Women in the "long-term single/late marriage" cluster also tended to be more sedentary, while men in this cluster were less likely sedentary compared to our reference cluster.

Conclusions: Generally, we did not find that heart healthy behaviours were consistently more prominent among the long-term married for both genders – other than smoking abstinence.

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AGE DISPARITIES IN UNMET NEED FOR CONTRACEPTION AMONG ALL SEXUALLY ACTIVE WOMEN IN COLOMBIA: DEMOGRAPHIC HEALTH SURVEY 2015

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The Unmet need for contraception increases unintended pregnancies and jeopardizes women's health and reproductive rights. Social determinants are associated with an unmet need for contraception. Still, it is unclear if age is a social determinant of disparities in reproductive health-related outcomes in all Colombian women regardless of marital status. This study aims to measure the inequality in the unmet need for contraception by age groups among women of reproductive age (13–49 years) in Colombia.
This study used the 2015 Colombian Demographic and Health Survey to determine the unmet need for contraception among 24,245 sexually active women aged 13–49. Age was associated with the unmet need for contraception using a multivariate analysis.
Absolute and relative inequalities were estimated using differences in prevalence and odds ratios, respectively. The prevalence of unmet need for contraception was significantly higher in married women aged 13–19 years old (19.8%) than their unmarried counterparts (16.8%), and all older age groups either married or unmarried. Women 13–19 years old [OR = 2.98 (2.49–3.57)] and 20–29 years old [OR = 1.71(1.48–1.97)] are more likely to have an unmet need for contraception than those 40–49 years old.
Age disparities are barriers to attaining the Sustainable Development Goals for sexual and reproductive health. Cultural, social, and access barriers demand societies to tailor health care services to meet younger women's needs to narrow the age gap. The results assert the need to include sexually active women of reproductive age in the sexual health indicators regardless of their marital status.

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ATTITUDES, PERCEPTIONS, AND KNOWLEDGE ON FOOD POLICIES IN COLOMBIA: A CROSS-SECTIONAL STUDY

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Background: High consumption of ultra-processed food has been associated to obesity and other non-communicable diseases. 75% of school children (5–12 years old) consume at least one sugar-sweetened drink per day and 24.4% of the same age group have overweight. Control of the obesity epidemic requires States implement policies that promote healthy food environments including front-of-package warning labelling, taxes to unhealthy food, restriction for advertising, and school food environment.

Purpose: This study aims to describe attitudes, perceptions, and knowledge on four food policies in Colombia.

Method: A cross-sectional study was conducted in the main geographical regions of the country. The sample design was non-probabilistic and included 803 women and men between 18 and 70 years old.

Results: Participants perceived that low cost (61.4%, easy access (68.6%), and early consumption (74.6%) have a high influence on frequent eating of ultra-processed food. Moreover, parents reported in their children's schools there is no availability of fruits, vegetables, or salads (51%) nor free drink of water (59%). In overall, the participants had attitudes in favour of implementation food policies including front-of-package warning labelling (88.3%), taxes to sugar-sweetened beverage (64.4%), forbidding the advertising of ultra-processed food targeted to children (73.4%) and forbidding the advertising of ultra-processed food in schools (74.7%).

Conclusion: This study evidences civil society support for implementing food policies in Colombia. These policies contribute to reducing health inequalities and reaching Agenda 2030 because evidence has demonstrated that children and deprived populations are the most affected by malnutrition in all its forms.

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A CRITICAL REVIEW AND USER'S GUIDE FOR CONDUCTING FEASIBILITY AND PILOT STUDIES IN THE PHYSICAL ACTIVITY DOMAIN

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Background: It has long been recommended for feasibility and/or pilot studies to be conducted prior to larger scale randomized controlled trials in physical activity intervention research. They can identify intervention or study protocol limitations that need modification prior to scaling up. There are several misinterpretations amongst available feasibility and pilot studies, such as an erroneous focus on underpowered treatment effects and variable sample sizes, indicating a need for standardized guidance.

Purpose: To critically review current evidence on planning, conducting, and reporting feasibility and/or pilot studies with the goal of developing best practice recommendations for physical activity researchers.

Methods: We conducted a comprehensive search of literature using key words "feasibility" or "pilot" and critically synthesized the findings with the following themes: terminology, methodology, and analytical concepts. The most up-to-date recommendations were used to inform a guide for physical activity researchers.

Results: We synthesized 32 publications and proposed a 7-step guide to conducting pilot and/or randomized feasibility trials: 1) design a study protocol that follows CONSORT guidelines, 2) choose process criteria necessary for a successful larger trial, 3) determine process criteria success indicators, 4) calculate sample size using the traffic light method, 5) run the trial, 6) analyze quantitative data with descriptive statistics and qualitative data with appropriate synthesis, and 7) review process criteria outcomes to determine whether proceeding to a larger trial is indicated or if modifications or further feasibility testing is needed.

Conclusion: This guide provides a clear, evidence-based framework of necessary steps for conducting pilot and/or randomized feasibility trials.

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SCALE-UP OF PUBLIC HEALTH INTERVENTIONS: WHAT FACTORS ARE ASSOCIATED WITH IT?

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Background: It is essential to successfully implement and scale up beneficial public health program to achieve population health benefits.

Purpose: To describe how often preventive health behaviour interventions are reportedly implemented and scaled-up, to describe adaptations made as part of this process and, to examine association between trial characteristics and intervention scale-up.

Methods: A 2018 survey of authors who reported on trials assessing the effects of health behaviour interventions was conducted. Respondents were asked to report on the implementation and scale-up of their intervention, adaptations made, and research dissemination strategies employed. Information was extracted from published reports of the intervention trial (undertaken prior to implementation or scale-up) including assessments of intervention effectiveness, and risk of bias.

Results: Authors of 104 trials completed the survey. Almost half of the interventions tested were implemented following trial completion and 54% of those implemented were adapted prior to doing so. The most common adaptations were adding intervention components, and adapting the intervention to facilitate fit within the local service setting. Scale-up occurred in 33% of all interventions. There were no significant associations between research trial characteristics such as intervention effectiveness, risk of bias, setting, involvement of end-user, and incidence of scale-up. However the number of research dissemination strategies employed was positively associated to the odds of an intervention being scaled-up (OR = 1.50; 95% CI: 1.19, 1.88; $p < 0.001$).

Conclusions: Approximately half of the included interventions were delivered in the community following the completion of a research trial.

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SCHOOL-BASED NUTRITION INTERVENTIONS IN CHILDREN AGED 6 TO 18 YEARS: AN UMBRELLA REVIEW OF SYSTEMATIC REVIEWS

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Background: Children and adolescents globally do not meet dietary intake recommendations. Schools are identified as a key setting to influence children and adolescent's healthy eating. To identify which school-based nutrition interventions should be prioritised for investment, policymakers and practitioners require high quality synthesis of all available research evidence from the most robust trials.

Purpose: This umbrella review synthesised evidence from systematic reviews of school-based nutrition interventions designed to improve dietary intake of children aged 6–18 years.

Method: Adopting Cochrane methodology, systematic reviews that included randomised controlled trials (RCTs) of school-based nutrition interventions aimed to improve children's dietary intake in children and adolescents aged 6–18 years were included. We undertook a narrative synthesis of reviews by diet outcome and intervention type: categorised according to the World Health Organisation Health Promoting Schools (HPS) framework domains: nutrition education; food environment; all three HPS framework domains (i.e. education, environment and partnerships); and other (to capture results outside of the HPS domains).

Results: Thirteen systematic reviews were included. Overall, the findings suggest that school-based nutrition interventions, including nutrition education, food environment, those based on all three domains of the HPS framework, and eHealth interventions, can have a positive effect on some dietary outcomes, including fruit, fruit and vegetables combined, and fat intake.

Conclusions: School-based healthy eating strategies can lead to children and adolescents eating more fruit and vegetables and less fat. However, the limitations of this umbrella review also highlight the need for a comprehensive and high quality systematic review of primary studies.

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MATERNAL COPING STRATEGIES MODIFY THE MEDIATING EFFECT OF PARENTING PRACTICES BETWEEN LIFE STRESSORS AND CHILD SCREEN-TIME

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Background: Media parenting practices (MPP) and adolescents' screen-time worsened during the pandemic; however, whether this is associated with parents' inability to cope with life stressors remains unknown.

Purpose: This study examined associations between life stressors and adolescents' screen-time, and whether these associations were mediated by maternal MPP and/or differed by maternal coping styles.

Methods: In the spring of 2020, 286 mother-adolescent dyads (mothers' aged 46 ± 5 years; adolescents' aged 13 ± 0.3 years & 54% girls) in British Columbia, Canada, self-reported their maternal cumulative life stressors (financial insecurity & presence of health conditions), MPP, maternal coping strategies, and adolescents' screen-time. Structural equation modeling was used to perform mediation analyses stratified by maternal coping strategies.

Results: Maternal stressors were associated with less healthful MPP and this association differed by coping strategies. Specifically, mothers with better coping strategies reported significantly better MPP than mothers with poorer coping strategies when the stressor levels were low-to-medium. However, for higher stressor levels, MPP were more similar between mothers with different coping strategies. In addition, MPP mediated the relationship between stressors and adolescents' screen-time, but only among mothers with better coping strategies. Among mothers with poorer coping strategies, stressor levels were associated with more screen-time among adolescents regardless of their mothers' MPP.

Conclusions: Maternal life stressors were associated with greater adolescents' screen-time, but both positive MPP and good coping strategies could alleviate this impact. Our findings highlight the post-pandemic need to support families to positively influence adolescents' behaviors.

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SUPPORTING THE TRANSITION OF CHILDREN WITH DEVELOPMENTAL CONCERNS FROM KINDERGARTEN TO PRIMARY SCHOOL THROUGH COOPERATION BETWEEN EDUCATION, HEALTH AND WELFARE IN ISLAND AREAS

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Introduction:
In this study, a school transition support sheet (STSS) was prepared as a tool to support the transition from kindergarten to elementary school, a behavior observation to kindergarten as a system, and a transition support meeting after entering elementary school. The study examined what outcomes and challenges existed in including pediatrician and psychologist as members of the transition support system.

Method:
The subjects were parents of children whose children had been found at the 5-year-old and preschool checkups, parents who had completed the STSS (8 parents), elementary school homeroom teachers (12 teachers), and their children's kindergarten teachers (4 teachers). The questionnaire was created using our own google form to make it easy to answer.

Result:
The overall response rate was 14 (58.3% response rate). Both parents and elementary school teachers were satisfied with the STSS tools and the support conference system, as well as the collaboration between the two, with "very well (75%)" and "fairly well (25%)". From the free descriptions, it was found that they sought advice from pediatrician and psychologist a lot.

Discussion:
A transition support system was established with the addition of a pediatrician and psychologist. This increased the satisfaction of parents and elementary school teachers with the transition support. On the other hand, it was found that there were some issues from the elementary schools that they were concerned about the guidance and handling of their children, and they were looking for support from specialists to back them up.

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DEVELOPING A THEORY OF CHANGE OF DIGITAL MENTAL HEALTH AND PEER SUPPORT THROUGH STAKEHOLDER CO-PRODUCTION

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Background: Digital mental health (DMH) delivered via peer support is of increasing interest following the pandemic. Such approaches have the potential to alleviate demand and increase access to support. However, little is known about the process of change while using these platforms from initial inputs to long-term impact.

Purpose: This project used co-production to develop a Theory of Change (ToC) to understand the inputs, processes, outcomes, and impact of these platforms according to stakeholders.

Methods: A series of semi-structured focus groups were held with stakeholders (n = 23) in DMH peer support. Focus groups were guided by the ToC approach. Data were analysed using a thematic framework approach to allow comparisons to be made between stakeholder groups.

Results: The ToC generated 3 different pathways: platform, commissioners, and members. Each pathway supported member's use of the platform through increasing engagement or maintaining resources. Stakeholders identified multifarious inputs, outcomes, and impact of the platform. These included increasing mental health literacy, improving self-management skills, and preventing worsening mental health. Insight into the processes of the platform was limited, although variations in member types and the role of user expectations were highlighted. Key risks, barriers, and how platforms fit into the wider mental health landscape were also reported.

Conclusion: The ToC harnessed stakeholders understanding of DMH and peer support. Further research the active ingredients of a platform and how these effect members behaviour and mental health is needed.

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ADAPTATION OF THE RECREOVÍA DURING COVID-19 LOCKDOWNS: MAKING PHYSICAL ACTIVITY ACCESSIBLE TO OLDER ADULTS IN BOGOTÁ, COLOMBIA

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The community restrictions during the COVID-19 pandemic adversely impacted older adults, resulting in reduced physical activity levels and quality of life. This convergent mixed-methods study assessed the adaptation of the Recreovía, a community-based physical activity program in Bogota, characterized physical activity levels among older adults participants, and described their experience and perceptions.
A cross-sectional survey was conducted among 90 users of indoor and outdoor intervention. In addition, in-deep interviews were conducted with 5 older adults and 3 developers of the program.
Our results showed how a program with a history of more than 25 years of implementation, was adapted during the pandemic to continue promoting physical activity, through indoor and outdoor strategies. During this time, 72 to 79% of the older adults attending the different strategies of the adapted program met the World Health Organization recommendations of physical activity for health. Older adults had positive experiences and perceptions of the Recreovía program related to their health and social wellbeing. Even though the older adults prefer being outdoors, the adapted program allowed participants to continue with their physical activity routines as much as possible during the pandemic.
Behavioral community interventions were resilient during the COVID-19 pandemic to promote active living among vulnerable populations according to the health sector recommendations based on the progressive evidence about transmission. This study allowed us to identify contextual characteristics that influenced the implementation interventions during a public health emergency and assess the behaviors of older adult users of the program.

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ASSOCIATIONS BETWEEN DIFFERENT INTENSITIES OF PHYSICAL ACTIVITY AND MAGNITUDE OF IL-6 CHANGES IN RESPONSE TO ACUTE PSYCHOLOGICAL STRESS

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Background: Both physical activity (PA) and psychological stress are risk factors for cardiovascular disease (CVD). PA can buffer against exaggerated cardiovascular reactivity to acute psychological stress, and is inversely related to resting inflammation. However, little is known about the effect of PA on inflammatory stress responses.

Purpose: To examine the associations of different intensities of PA on inflammatory responses to stress.

Methods: Healthy adults (n = 61, mean (SD) age = 25.69 (8.86) years, 52.5% female, BMI = 24.38 (4.20) kg/m2) undertook seven days of device-based (wrist-worn ActiGraph) measurement of habitual levels of physical activity, including light (LPA), moderate-to-vigorous (MVPA) and inactivity. Participants underwent stress reactivity testing (20-min rest, 8-min mental arithmetic stress task, 45-min recovery). Plasma interleukin-6 (IL-6) was measured as a biomarker of chronic inflammation.

Results: Higher LPA was associated with a reduced IL-6 response immediately post-stress (B = -0.326, 95% CI = -0.588 – -0.064, p < 0.015), and changes 45 min post-stress (IL-6: B = -0.724, 95% CI = -1.102 – -0.347, p < 0.001). No associations were observed for MVPA at either stress-related time-point. Associations between inactivity and changes in IL-6 immediately post-stress (B = 0.326, 95% CI = -0.064 – 0.588, p = 0.015) and changes at 45 min post-stress (B = 0.784, 95% CI = 0.347 – 1.102, p < 0.001) were seen. No associations were observed between PA and IL-6 under resting conditions.

Conclusions: Higher volumes of daily LPA were associated with smaller IL-6 changes under psychological stress. Further research should investigate the potential clinical applications, such as whether increasing LPA lowers the risk of stress-induced CVD events via immune stress-response pathways.

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THE RELATIONSHIP BETWEEN ELECTRONIC HEALTH LITERACY AND FRAILTY AMONG CHINESE OLDER ADULTS MEDIATED BY GENERAL SELF-EFFICACY: A THREE-WAVE LONGITUDINAL STUDY

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Background: The importance of electronic health (eHealth) literacy has been increasingly emphasized in this digital age. However, few studies have examined its relationships with health outcomes, including frailty — one of the most pressing issues facing older adults.

Purpose: To examine the impact of eHealth literacy on frailty among Chinese older adults and test the mediating role of self-efficacy.

Methods: A three-wave longitudinal study was conducted among older adults in Jiangxi Province, China, from February to November 2022. Data were collected at baseline, 3-month follow-up, and 6-month follow-up by online self-reported questionnaires. The 18-item Digital Health Literacy Instrument (DHLI), 6-item general self-efficacy scale, and 15-item Tilburg Frailty Indicator (TFI) were used to measure eHealth literacy, self-efficacy, and frailty, respectively. A hierarchical linear mixed model was employed to test the impact of eHealth literacy on frailty after accounting for self-efficacy and covariates. Cross-lagged mediation analysis was used to test the mediating effect of self-efficacy on the relationship between eHealth literacy and frailty.

Results: A total of 464 participants completed the three-wave surveys. In the fixed effect model, participants with higher DHLI scores showed lower TFI scores (β coefficient -0.73, 95% CI [-1.00, -0.47], p < 0.001) after accounting for significant socio-demographic variables and self-efficacy. Cross-lagged mediation analysis revealed that self-efficacy mediated the indirect pathway from eHealth literacy to frailty (indirect effect: β coefficient -0.06, 95% CI [-0.13, -0.02], p = 0.031).

Conclusions: The findings highlighted the importance of eHealth literacy and self-efficacy in decreasing the frailty of Chinese older adults, providing evidence for future interventions.

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CHANGE IN EXERCISE IDENTITY AMONG NEW EXERCISERS: AN APPLICATION OF THE PHYSICAL ACTIVITY SELF-DEFINITION MODEL

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Background: Exercise identity, which refers to the integration of exercise participation as part of one's self-concept, is a robust predictor of exercise behavior, and has been identified as an intervention target in physical activity promotion. Therefore, there is a need to examine how exercise identity changes across time, particularly among initially low-active individuals.

Purpose: Using the physical activity self-definition (PASD) model as a guiding framework, we investigated how exercise identity changes over time among low-active adults (≥ 18 years).

Methods: Using a nine-week prospective observational design, participants (N = 74, Mage = 37 years, SDage = 9.63, 72% female) who reported being inactive for a minimum six months prior to study enrollment completed measures of affective attitudes, perceived capability, commitment, and exercise identity at four separate occasions in three-week intervals. Hierarchical linear modelling was used to analyze change in exercise identity, and whether affective attitudes, perceived capability, and commitment, operationalized by the PASD model, could explain inter-individual change in exercise identity.

Results: Change in exercise identity was better modelled by a quadratic growth function compared to a linear growth function. Affective attitudes explained significant variation in linear (b = 0.17, p < 0.01) and quadric (b = -0.02, p < 0.01) slopes for exercise identity, whereas perceived capability had a small effect on the linear slope (b = 0.03, p < 0.05).

Conclusion: Exercise identity changes in a non-linear fashion over time among initially low-active individuals. Affective attitudes are a viable target to promote identity change in exercise interventions.

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REGIONAL DIFFERENCES IN THE NUMBER OF HEALTH-RELATED QUESTIONS AND COMPLAINTS FROM PATIENTS AND THEIR FAMILIES AT PUBLIC SERVICE CENTERS FOR PATIENT ADVICE, SUPPORT, AND INFORMATION IN JAPAN

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Background:
Municipalities with public health centers in Japan provide public services for patient advice, support, and information (PASI) to improve patient safety. However, the data on the regional differences in the volume of health-related questions and complaints filed in PASI centers are limited.

Purpose:
To identify regional differences in the number of health-related questions and complaints from patients and their families placed in PASI centers across Japan.

Methods:
We analyzed data from a national comprehensive PASI survey conducted in 2021. The questionnaire survey included the number of health-related questions and complaints placed in PACI centers, as well as the operational structure of these centers. Of the 450 PASI centers, 47 (100% response rate) in prefectures, 110 (100%) in greater municipalities, and 20 (77%) in smaller municipalities with public health centers returned the questionnaires. Using the survey data, we compared the numbers of health-related questions and complaints divided by the estimated number of patients per 1,000 population for each prefecture.

Results:
The number of health-related questions and complaints divided by the estimated number of patients per 1,000 population varied widely between prefectures, with the highest number at 45.1 (Kochi prefecture) and the lowest at 3.7 (Tokushima prefecture) (mean: 15.9, standard deviation: 8.8). The proportion of health-related questions and complaints placed in PASI centers in prefectures and greater and smaller municipalities with public health centers also differed.

Conclusion:
Regional differences were observed in the number of health-related questions and complaints placed in PASI centers, suggesting the need to reduce performance gaps.

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ANXIETY AND DYSPNEA OF PATIENTS WITH LUNG CANCER ADMITTED TO A PALLIATIVE CARE UNIT

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Background: Psychological wellbeing is an emphasized area in cancer patients. Although anxiety is known to be associated with dyspnea, few reports have described their association in lung cancer patients admitted to a palliative care unit.

Purpose: This study was conducted to evaluate anxiety experienced by patients with lung cancer and to explore its associated factors including dyspnea.

Method: This is a retrospective observational study. Advanced cancer patients admitted to a palliative care unit during August 2018 – November 2019 were assessed. According to medical records, data for the patient background, Support Team Assessment Schedule Japanese version (STAS-J), Palliative Prognostic Index (PPI), and their progress of medical care were collected.

Results: 293 patients including 52 patients with lung cancer were assessed. In lung cancer patients, dyspnea tended to be experienced more frequently on admission ($p=0.059$). However, there was no significant difference in anxiety level in lung cancer patients and others ($p=0.497$). There was no significant difference in the PPI total score and survival period ($p=0.777$ and 0.600). No significant difference was found in scores for pain and other physical symptoms, or for Palliative Performance Scale (PPS) on admission ($p=0.568$, 0.731 and 0.925).

Conclusion: Lung cancer patients tended to experience dyspnea more frequently, however their anxiety level was not higher than patients with other cancer. General conditions, severity of physical symptoms and disability of daily living were also not significantly different from other cancer group. Patients' decision making toward palliative care may influence cause of anxiety and moderate its severity.

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LEARNING HEALTH SYSTEMS: A PATHWAY FOR RAPID IMPROVEMENTS IN PUBLIC HEALTH

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Background: Learning health systems use data driven approaches to achieve continuous improvement and innovation, where "…best practices seamlessly embedded in the delivery process and new knowledge captured as an integral by-product of the delivery experience". While they have been lauded as a transformative approach to healthcare, few examples of the application of learning health systems for the improvement of preventative health services exist.

Purpose: To describe the application of learning health system principles to andomiz the impact of prevention services by a health promotion unit in Australia.

Methods: Embedded within an improvement framework and as part of learning service improvement processes of a local health promotion unit, we conducted a series of sequential andomized trials of strategies to improve the implementation of evidence-based prevention services in schools in Australia. At each phase between trials, modifications were made to implementation strategies to improve their effects or efficiency.

Results: The processes yielded significant improvements in the impact of prevention services. For example, in each case meaningful improvements at implementation were achieved at less than 50% of original service implementation model. The approach also led to jurisdiction, wide adoption of the implementation model within 6 years – halving the average time to large scale adoption suggested for prevention initiatives in the literature.

Conclusion: Application of learning health system principles has the potential to transform the impact of health promotion services, and rapidly generate evidence to support better implementation of such interventions.

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FACTORS ASSOCIATED WITH SURROGATE FAMILIES' LIFE-SUSTAINING TREATMENT DECISION-MAKING FOR PATIENTS AT HOME OR IN A GERIATRIC HEALTH SERVICE FACILITY

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Backgrond/Purpose: Recently, end-of-life preference in palliative care has been gaining attention in Japan. The Ministry of Health, Labor, and Welfare established the Japanese basic policy in November 2018. Patients' decision-making is recommended; however, patients with dementia or other disorders cannot make such decisions by themselves. Thus, health care providers may contact surrogates and consider their backgrounds for better decision-making. Hence, the preferences of home caregivers' and geriatric health service facility (GHSF) residents' families on patient life-sustaining treatment (LST) was investigated.

Methods: This l study involved home caregivers' and GHSF residents' families in Japan. We distributed 925 self-reported questionnaires comprising items, such as the number of people living together, care duration, comprehension of doctor's explanations, the Patient Health Questionnaire (PHQ)-9 and Short Form (SF)-8, and families' LST preference for patients.

Results: In all, 619 valid responses were obtained [242 men and 377 women (309 in the HOME Caregivers Group; 310 in the GHSF Group)]. LST preference was significantly associated with sex, number of people living together, care duration, and comprehension of doctors' explanations in the HOME Caregivers Group but was not significantly associated in the GHSF Group. Further, PHQ-9/SF-8 scores were not significantly associated with LST preference.

Conclusions: There were many differences in opinions about LST decision-making between HOME caregivers' and GHSF residents' families. The results suggested that the burden of nursing care was greater and harder in home caregiver families, and these factors may be related to the LST preference for a patient.

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CREATING A GENDER INDEX AND MEASURING ITS ASSOCIATION WITH CARDIOVASCULAR DISEASES RISK FACTORS AND THE 24-YEAR INCIDENCE OF CARDIOVASCULAR DISEASES: THE SECONDARY DATA FROM THE PROQ-STUDY

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Background: Cardiovascular diseases (CVD) are the leading cause of morbidity and mortality worldwide. After a CVD, women tend to face poorer prognosis than men. Examining gender (socio-cultural) in addition to sex (biological) differences is required to untangle socio-cultural particularities reflecting either within- or between sex inequities.

Purpose: This study aimed to develop and validate a gender index, and to examine the associations between this gender index, sex and CVD risk factors and incidence.

Method: 9,188 women and men were recruited in 1991–93 and followed 8- and 24-years later. Data collections included a self-administered questionnaire and an extraction of medical-administrative CVD incident cases. Prevalence ratios (PR) of CVD risk factors and 95% confidence intervals were modelled using Poisson regressions. Cox models used to calculate hazard ratios (HR).

Results: Fifteen variables were included in the gender index. Sex and gender were partly independent, as discordances were observed in the distribution of male and female across the gender score continuum. A higher gender score increased the prevalence of obesity PR = 1.32 (1.09–1.60), smoking PR = 3.69 (2.43–5.59), alcohol consumption PR = 0.42 (0.31–0.55), physical inactivity PR = 1.68 (1.38–2.03), diabetes PR = 1.94 (1.43–2.63), cholesterol PR = 1.13 (1.02–1.26), hypertension PR = 1.14 (1.00–1.29), and antihypertensive medication PR = 1.21 (1.04–1.41). Moreover, male sex and feminine characteristics were associated with an increased risk of CVD Incidence HR = 1.42 (1.16–1.73).

Conclusions: Our results suggest that male sex and feminine characteristics might be associated with CVD risk factors and incidence, highlighting the importance of primary prevention strategies considering both sex and gender.

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HAVE PSYCHOSOCIAL STRESSORS AT WORK INCREASED THE PREVALENCE OF MORAL INJURY DURING THE COVID-19 PANDEMIC? A CROSS-SECTIONAL STUDY IN HEALTHCARE WORKERS IN CANADA

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Background: Healthcare workers (HCWs) on the frontline of the COVID-19 pandemic exhibit a high prevalence of mental health problems resulted from moral injury (MI). MI occurs when perpetrating, failing to prevent, or bearing witness to acts that transgress deeply held moral beliefs and expectations. Since the start of the pandemic, psychosocial stressors at work (PSWs) might have been exacerbated and led to an increased risk of MI in HCWs. Considering that these stressors are frequent and modifiable occupational risk factors, they may constitute promising prevention targets.

Purpose: This study aimed to evaluate the associations between PSWs and MI in HCWs during the third wave of the COVID-19 pandemic in Quebec, Canada, and to explore potential differences between urban and non-urban regions.

Method: The study sample consisted of 572 HCWs and leaders from Quebec province. Prevalence ratios (PR) of MI and their 95%

confidence intervals (CI) were modelled using Poisson regressions. Several covariates were considered, including age, sex, gender, socioeconomic indicators, and lifestyle factors.

Results: Results indicated HCWs exposed to PSWs were 2.22 to 5.58 times more likely to experience MI. Low ethical culture had the strongest association (PR: 5.58, 95% CI: 1.34–23.27), followed by low reward (PR: 4.43, 95% CI: 2.14–9.16) and high emotional demands (PR: 4.32, 95% CI: 1.89–9.88). In addition, workers from non-urban regions were less likely to report MI (11% versus 16%).

Conclusions: Identifying predictors of MI could contribute to the reduction of mental health problems and the implementation of targeted interventions in urban and non-urban areas.

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MINDFUL SELF-COMPASSION AS AN INDIVIDUAL COPING SKILL REDUCING MORAL INJURY IN CANADIAN HEALTHCARE WORKERS FACING THE COVID-19 PANDEMIC

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Background: The health crisis caused by COVID-19 is harmful to the mental health of healthcare workers (HCWs). A less documented yet severe and preoccupying mental health consequence of the pandemic is the increased risk of moral injury (MI). MI can arise from having to deal with the risk of being infected or infecting close ones. Individuals' stress coping strategies could be powerful tools to face these challenges. Mindful self-compassion (MSC) reduces one's state of distress following highly stressful or traumatic situations and might reduce adverse stress responses associated with MI.

Purpose: This study aimed to examine the association between MSC and MI in the COVID-19 crisis among frontline HCWs.

Method: 572 HCWs and leaders were recruited in province of Quebec, Canada. Data collection was performed through an online questionnaire. MSC referred to one's ability for self-compassion questionnaire and was measured using the validated 'Self-Compassion Scale' (Neff, 2003). Prevalence ratios (PR) of MI and their 95% confidence intervals (CI) were modelled using Poisson regressions. Models were adjusted for age, sex, gender, being part a minority, socioeconomic indicators and lifestyle factors.

Results: Our results illustrated that MSC might be protective factor for MI. Workers reporting high self-compassion had a 93% lower prevalence of MI compared to workers with low self-compassion (PR: 0.07, 95% CI: 0.03–0.19).

Conclusions: Our findings suggest that MSC strongly reduces the prevalence of MI. Individual interventions promoting MSC might help reducing MI by preventing the adverse stress responses among frontline HCWs facing crises comparable to the COVID-19 pandemic.

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FACTORS ASSOCIATED WITH CHILD AND ADOLESCENT E-CIGARETTE USE: A SCOPING REVIEW

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Background
In response to rise in child and adolescent e-cigarette use, (inter) national agencies have called for health promotion programmes to supplement policy and legislative approaches. Factors associated with use must first be identified in order to inform the development of such programmes.
This scoping review aimed to identify and broadly synthesise factors associated with child and adolescent e-cigarette use.

Methods.
A scoping review was conducted in accordance with JBI best practice guidance. A search of four databases was conducted in May 2022. Non-experimental studies that provided descriptions of factors associated with child and/or adolescent e-cigarette ever or current use were eligible. Two review authors screened title/abstracts, full text articles and extracted data. Factors were categorised according to the domains of the Theory of Triadic Influence (biology/personality; social context; and broader environment), and further categorised into sub-domains developed by the researchers.

Results
A total of 5400 articles were screened, with 285 studies eligible for inclusion. Studies were predominately conducted in the U.S (n = 191). All studies examined adolescents, with five studies examining factors associated with use in children. Studies reported examining a range of factors associated with child/adolescent e-cigarette use, with the majority of factors categorised within the biology/personality domain (n = 209), followed by the social context (n = 143) and broader environment (n = 92). Data on the factors reported by sub-domain will also be presented.

Conclusion
In order for health promotion programmes to be effective in combating e-cigarette use in youth, a broad range of modifiable factors must be deliberately targeted in health promotion efforts.

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A PRELIMINARY STUDY OF APPLYING A HEALTHY EATING REPORT CARD AMONG PRE-SCHOOL CHILDREN IN HONG KONG

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Background: A country/region-level report card to report the prevalence of health behaviours is an effective way to reveal how well people adhere to specific health behaviours in society raising public awareness.

Purpose: This cross-sectional study focuses on developing the first Report Card on healthy eating to preliminarily reveal its prevalence among pre-school children in Hong Kong.

Methods: Nearly 540 parent–child dyads from Hong Kong kindergartens were recruited and asked to complete a parent-report questionnaire aligning with the Report Card items. The Healthy Eating Report Card comprised two indicators for children's eating behaviours (i.e., (1) children's dietary patterns and (2) children's mealtime behaviours) and three indicators for family home food environment (FHFE) (i.e., (3) parental food choices and preparation, (4) avoidance of unhealthy foods, and (5) family mealtime environment). Each indicator was assigned a letter grade (i.e., A (≥ 80%) = excellent; B (60–79%) = good; C (40%-59%) = fair; D (20%-39%) = poor; F (< 20%) = failing and including the plus (+) and minus (-) suffixes) representing the percentage of participants who met the predetermined benchmarks.

Results: Overall, the indicators for children's eating behaviours were assigned an averagely lower grade ©, compared to a grade for FHFE (B). The indicator grades of children's dietary patterns (C +), children's mealtime behaviours (C), parental food choices and preparation (C +), avoidance of unhealthy foods (B), and family mealtime environment (A-) ranged from "C" to "A-".

Conclusion: The Healthy Eating Report Card could be considered an effective awareness-raising tool. Further studies will examine young children's healthy eating across different countries/regions.

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WEB-BASED SELF-CARE ALLEVIATED CHANGED DEFAULT MODE EEG IN ADOLESCENT FEMALE IBS

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Irritable bowel syndrome (IBS) occasionally exhibits specific abdominal symptoms, including abdominal pain associated with brain activity patterns. As a treatment strategy for IBS, maintaining the rhythm of life and improving lifestyle by using e-health system can help reduce mild IBS symptoms. The e-health system we developed consists of five chapters that encourage symptomatic patients to practice a lifestyle that improves IBS symptoms through self-learning. We investigated the effects of an 8-week self-care intervention on 40 adolescent female subjects with IBS. E-health group received Web-based e-learning, while the control group was given an information leaflet on IBS and allowed to live naturally. The resting EEG of all subjects pre and post the intervention was measured, and the EEG pre and post the intervention was frequency analyzed to examine the power values of alpha and beta waves, and the two groups were compared. EEG data were examined to confirm the absence of biological artifacts and sudden EEG abnormalities, and then analyzed using the EMSE application (EMSE Suite; Source Signal Imaging, San Diego) implemented on a computer. The locomotor activity and eating habits of the subjects were also investigated. E-health group's EEG components were modified in the default mode network when the subjects were asked to self-manage IBS symptoms. There were no differences in walking volume and eating behavior between the groups, and the results of IBS self-care using the e-health system showed changes in the brain. E-health can play an important role as a tool to prevent IBS and its severity.

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THE IMPACT OF NARCISSISTIC PERSONALITY TRAITS ON THE FIRST-ONSET OF MAJOR DEPRESSIVE DISORDER IN CHINESE FRESHMEN

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Background: Narcissistic personality (NP) was correlated with major depressive disorder (MDD). However, few studies have discussed their causal relationships.

Purpose: The objective of this study was to investigate the causal relationship between NP traits and the 1-year risk of first onset of MDD.

Methods: A 1-year longitudinal study was conducted in 8079 Chinese university freshmen. The Chinese version of the Composite International Diagnostic Interview (CIDI-3.0) was used for MDD screen and NP traits were measured by 11 items. Stata 16.0 Version was used for Stepwise logistic regression modeling to estimate the association.

Results: The prevalence of NPD and the incidence of MDD among freshmen were 6.18% (95% CI:5.67%, 6.72%), 2.26% (95%CI: 1.94%, 2.64%), respectively. Entitlement (OR = 5.83, 95%CI: 1.36, 24.95), Exploitation (OR = 2.24, 95%CI: 1.20, 4.18), Arrogance (OR = 2.40, 95%CI: 1.14, 5.04) of NP traits were significant risk factors for MDD. There was a dose–response relationship between the number of NP traits and MDD. The interactions between baseline depressive symptoms and entitlement (OR = 0.89, 95%CI: 0.80, 0.99), arrogance (OR = 0.89, 95%CI: 0.81, 0.97), and between lifetime severe traumatic events and exploitation (OR = 0.77, 95%CI: 0.61, 0.98) were also significantly associated with MDD.

Conclusions: NP traits increase the incidence of MDD in freshmen. While keeping an eye on freshman MDD, we should also pay more attention to NP traits and take corresponding prevention and intervention measures among college students.

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WHEN INTERNET-GAMING TIME MAY INCREASE INTERNET GAMING DISORDER SYMPTOMS OF ADOLESCENTS: APPLICATION OF SELF-DETERMINATION THEORY

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Background: Internet gaming disorder (IGD) has been an increasingly significant mental and behavioral health issue for adolescents. While Internet gaming time is a prominent predictor of IGD symptoms, the magnitude of association may depend on adolescents' psychosocial characteristics.

Purpose: Grounded in the uses and gratification theory and self-determination theory, we tested whether psychological needs-related factors (i.e., perceived parental psychological control, interpersonal conflicts, perceived social support, self-esteem, and perceived academic stress) moderated the association between Internet gaming time and IGD symptoms differentially in female and male adolescents, respectively.

Method: Data were collected from a large and representative sample of Chinese secondary school students in Hong Kong (n = 7,651) from November 2020 to January 2022 (49.3% males; mean age = 14.5 years old).

Results: Of all the participants, 34.8%, 35.6%, and 28.1% spent ≤ 3 h, > 3–14 h, and > 14 h per week on Internet gaming and 13.8% of the participants were identified as having probable IGD. Almost all main effects of Internet gaming time and psychosocial status remained significant among males and females. Moderation models showed that the association between Internet gaming time and IGD symptoms was stronger in females who perceived higher parental psychological control, more relationship conflicts, higher academic stress, or lower social support and self-esteem. While only perceived academic stress was a significant moderator in the association between Internet gaming time and IGD symptoms among males.

Conclusions: The findings are important to help researchers and mental health professionals identify high-risk gamers and develop sex-tailored services for early identification and treatment for IGD.

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IMPACT OF COVID-PANDEMIC-RELATED RESTRICTIONS OF SOCIAL LIFE ON GRIEF AND HEALTH OF BEREAVED PEOPLE

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Background: The COVID-pandemic has led to a substantial increase in stressful death circumstances and an omission of resources, potentially raising the likelihood of prolonged grief disorder.

Purpose: To investigate bereavement in individuals who lost a significant other during the COVID-pandemic with regard to death circumstances and incidence of severe grief symptoms.

Methods: We conducted an online survey with two measuring times of individuals who lost a significant other during the COVID-pandemic (n(t0) = 491, n(6 months later) = 99). We specifically focused on COVID-specific stressors that might impact adaptation to grief. Further items explored grief symptoms (TRIG-D, IPGDS-B-GER, UGRS), stress level (PSS-10), mental health (WHO-5), social support (F-SozU K-6) and resilience (BRS).

Results: At both measurement time points, a noticeable proportion of participants met criteria for prolonged grief disorder (t0 = 22,5%, t1 = 26,6%). The number of risk factors met emerged as the most relevant predictor of grief at t0. At t1, however, acute grief was the most relevant predictor of prolonged grief. On average, grief and mental health improved over time. There were significant differences in resilience and mental health at t0 between the resilient participants and the participants who experienced prolonged grief.

Discussion: The pandemic-related changes in daily life may have exacerbated the burden of acute grief, but most of the affected people adapted well over time. In situations with limited means, providing low-threshold services to at least loved ones with significant acute grief and a variety of challenging death circumstances could make an important contribution.

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CHARACTERISTICS OF PSYCHOEDUCATION FOR ADULTS WITH ADHD: A SCOPING REVIEW PROTOCOL AND PRELIMINARY FINDINGS

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Background

Psychoeducational interventions have shown promising results and are increasingly being used as an alternative or supplement to pharmacological treatment for adults with ADHD. A preliminary search was conducted in six databases, and there have been no previous attempts to map its evidence and role in treating ADHD in adults.

Purpose

This scoping review aims to do a thorough investigation, mapping, and presentation of the current literature on psychoeducation interventions for adults diagnosed with ADHD.

Methods.

The framework developed by Arksey and O'Malley will be used as a guide in this scoping process. A search strategy with broad searching terms will be conducted in Ovid MEDLINE, Embase, PsycINFO, Web of Science, Cochrane CENTRAL, AMED, and ClinicalTrials.gov. The databases will be searched for trials from 1946 to Mai 2022. Two or more reviewers will be included every review step of analysis. The review will use the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) checklist when reporting its results.

Results

Preliminary results from this scoping review are expected to provide an overview of existing psychoeducation studies. The review process itself will be visualized in a flowchart, and descriptive information will be presented in tables. The content of the psychoeducation interventions will be thematically organized, synthesized, and visually presented.

Preliminary conclusion.
The results could be valuable for researchers and help to guide future research and implementation of interventions in clinical settings.

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AMBULATORY ASSESSMENT OF STRESS- AND RESILIENCE-RELATED MECHANISMS IN EVERYDAY LIFE OF CAREGIVERS OF PEOPLE LIVING WITH DEMENTIA (EMA-DEM)

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Background: Although the majority of informal caregivers (ICs) of people living with dementia (PwD) experiences chronic stress, many remain healthy. Individual variances in the ratio of stress and resilience factors might account for these differences.

Purpose: To explore biopsychological mechanisms underlying stress and resilience in the daily life of ICs of PwD.

Method: A total of 20 ICs of PwD (currently $n = 19$, survey end: 31.12.2022) are examined on 14 consecutive days. At the beginning of the study, ICs complete a scale that assesses the stress:resilience ratio (ResQ-Care). Then, six times per day, they are asked for self-reports on stress, caregiver burden, resilience and characteristics of the PwD. Each assessment is accompanied by the collection of a saliva sample for the analysis of cortisol and alpha-amylase.

Results: The individual stress:resilience ratio predicts differences in almost every item of daily life. When resilience > stress, ICs report less stress, less caregiver burden and better self-care. Concerning dyadic aspects, resilience > stress is associated with less time spent together with the PwD, more positive interactions and fewer behavioural symptoms of the PwD. Descriptively, diurnal profiles of cortisol vary depending on the ratio with steeper CAR when stress >/= resilience.

Conclusions: This study provides insights into potential predictors of stress and resilience of ICs in daily life. We highlight the notion to not consider stress isolated but to also evaluate resilience factors. This knowledge will help to identify Ics at risk, which is relevant for taking preventive action against adverse health effects.

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TOWARDS IMPLEMENTATION OF THE BLENDED PSYCHOLOGICAL SWORD INTERVENTION FOR FEAR OF CANCER RECURRENCE: FEASIBILITY, EFFECTIVENESS AND COSTS IN REAL-WORLD PSYCHO-ONCOLOGY PRACTICE

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Background: Evidence-based interventions for fear of cancer recurrence (FCR) have been developed, but few are implemented. Understanding their feasibility in real-world settings is crucial to bridge this research-practice gap. This study investigated feasibility, effectiveness and costs of the evidence-based blended SWORD intervention in real-world practice.

Method: SWORD was offered as standard care for high FCR in an academic hospital, general hospital and psycho-oncological center for 15 months. Anonymous data was collected for all referred patients to determine actual use. Patients following SWORD that gave consent for study participation completed questionnaires at baseline and post-treatment assessing effectiveness (CWS-6), self-rated improvement, acceptance, usability, therapeutic alliance and costs. Qualitative interviews and one focus group assessed patients' and psychologists' experiences and factors affecting implementation.

Results: Of 644 referred patients, 81 were eligible, 63 accepted SWORD (among whom 59 were study participants), 61 started and 47 completed all sessions. The average baseline FCR level for study participants was 17.39 ($SD = 2.59$) with no significant difference in FCR severity between settings. 90% reported reduced FCR and 88% improved control over FCR. Overall satisfaction with SWORD was high (8.2/10). Qualitative data suggested that SWORD was highly accepted and fitted well into practice in the diverse settings. Reluctance on organizational level to contract new eHealth providers was the most important barrier for future implementation.

Conclusion: Results suggest that SWORD is feasible in different real-world settings, but also highlight challenges. This study informs a national implementation strategy for SWORD and may help other researchers to translate evidence-based care to practice.

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NEW FEATURES OF fNIRS IMPROVED ACCURACY OF MACHINE LEARNING IN IDENTIFYING MAJOR MENTAL DISORDERS

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Background: The clinical symptoms of mental disorders are complex and diverse, and there is a lack of objective biomarkers, which makes it be difficult to diagnose mental disorders. Recent research suggests that functional near-infrared spectroscopy (fNIRS) combined with machine learning may be one of the solutions to the difficulties in the differential diagnosis of mental disorders.

Purpose: fNIRS combined with machine learning to screen new features of fNIRS for mental disorders, and construct differential diagnosis models of major mental disorders.

Method: Three groups of subjects (n = 339) were recruited, including schizophrenia, bipolar disorder, and healthy controls. Brain activation and functional connectivity were analyzed based on hemoglobin concentrations by fNIRS. The fNIRS features of the three groups were reconstructed from the data of abnormal brain activation and functional connectivity, and the differential diagnosis model of these diseases was constructed by combining machine learning.

Results: The accuracy of the differential diagnosis model constructed in this study to identify schizophrenia, bipolar disorder and healthy controls was 88.10% (AUC = 0.9107), and the accuracy on the independent validation set was 80.95% (AUC = 0.8600). The accuracy of the model was constructed based on traditional features and the same approach to identify schizophrenia, bipolar disorder, healthy controls was 40.00% (AUC = 0.5597). Overall, new features and new machine learning architecture proposed in the study improved the accuracy by 44.10% and AUC by 0.3510.

Conclusions: New features of fNIRS improved accuracy of machine learning in identifying schizophrenia, bipolar disorder, and healthy controls.

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BEHAVIOURS OF CANADIANS AROUND RAPID ANTIGEN TESTING: RESULTS FROM THE iCARE STUDY

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Background: Health authorities have recommended rapid antigen testing to help identify positive cases of COVID-19 in the community and help people make informed decisions about engaging in various virus transmission prevention measures (e.g., isolation, masking). However, these benefits are dependent on people actually using rapid antigen testing.

Purpose: This study examined Canadians' attitudes, behaviours, and intentions surrounding rapid antigen testing.

Method: We examined four rounds of Canadian representative sample survey data from the iCARE study (http://www.icarestudy.com), which was collected via an online polling firm (Leger©) between September 10, 2021 and June 3, 2022, and included 12,111 Canadians aged 18 +. Participants self-reported their attitudes, behaviours, and intentions towards rapid antigen testing, and their intentions to report positive results.

Results: Nearly 45% of participants had engaged in rapid antigen testing at least once in the preceding month, with 37% always reporting their positive results (but most [44%] don't report it). Participants reported being 'extremely likely' to use rapid antigen testing for themselves (43%) and others (37%) in their household. Most participants reported being 'strongly in favour of rapid antigen testing in schools (59%) and workplaces (54%). Rapid antigen testing was more frequent when COVID-19 infection rates in the population were higher.

Conclusion: Results suggest that Canadians are in favor of rapid antigen testing and use it more frequently when population COVID-19 infection rates are higher. Messaging on the potential benefits of self-testing for reducing transmission during outbreaks as well as in between outbreaks could be strengthened.

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PRELIMINARILY EFFECTS OF A LAUGHTER YOGA PROGRAM ON THE MOOD, ANXIETY, AND LONELINESS AMONG ADOLESCENTS WITH INTELLECTUAL AND PHYSICAL DISABILITIES IN A SPECIAL SCHOOL: A PILOT RANDOMIZED CONTROLLED TRIAL

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Background: People with disabilities are prone to negative feelings and emotions. Laughter yoga therapy is a complementary medicine technique using breathing techniques as laughter leads to deep breathing.

Purpose: To preliminarily evaluate the effects of an 8-session laughter yoga programme on the mood, anxiety and loneliness among adolescents with intellectual and physical disabilities in a special school in Hong Kong.

Methods: A pilot randomized controlled trial was adopted. A total of forty adolescents with intellectual and physical disabilities were randomly allocated into either the intervention group participating an 8-session laughter yoga programme or the routine care control group in a 1:1 ratio based on computer-generated random schedule. Informant-rating scales for pre- and post-tests had been designed to measure a range of behaviors including mood, emotion, anxiety and loneliness among adolescents with physical and intellectual disabilities after participated 8-session laughter yoga program.

Results: Forty participants (52.5% female, mean age = 14.56, SD = 12.12) were recruited into intervention group (n = 20) to participate an 8-session laughter yoga programme. Most of them (> 70%) were diagnosed with cerebral palsy. Following the laughter yoga session, significant improvements in positive mood change and reductions in anxiety symptoms were reported. Importantly, change in mood and reduce in anxiety were positive to wellbeing for this vulnerable group with somatic symptoms of depression.

Conclusions: Laughter yoga programme shows promise as an effective intervention to improve social and behavioral wellbeing of people with disabilities. It hopes that health planners may consider integrating laughter yoga programme into routines of adolescents with disabilities.

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THE ROLE OF THE MEAN DIFFUSIVITY OF THE AMYGDALA IN THE PERCEPTION OF EMOTIONAL FACES IN 8 MONTHS OLD INFANTS

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Background
Attentional preference for social stimuli such as faces is an important part of the development of humans' behavioral and emotional health. Infants, demonstrate a predilection for faces and tend to sustain visual attention on them over non-social stimuli immediately after birth and throughout infancy. Infants begin to identify facial expressions and emotions around the age of 6 to 8 months. Studies have shown that the amygdala plays an important role in infants' attentional bias towards faces and fear processing.

Purpose
The goal of this study was to examine how infants' amygdala mean diffusivity (MD) relates to 8-month facial expression bias.

Method
The study included 40 infants (50% males). All infants completed an MRI scan at 2–5 weeks gestation and an eye-tracking assessment at 8 months old. We investigated the associations between the right and left amygdala MD metrics and the probability of disengagement from control, neutral, happy, and fearful faces by using multiple linear regression models.

Results
The infants were less likely to disengage from fearful than happy, neutral, or control faces. In the overall sample, the higher the right amygdala MD metrics, the lower the probability to disengage from fearful face was observed.

Conclusions
This study is the first to look at amygdala MD metrics and infants' attentional bias for fearful facial expressions. This study links amygdala diffusivity with infants' emotional and behavioral traits possibly during childhood, adolescence, and adulthood. Further research into the mechanisms of this link and its long-term mental health implications is required.

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DOWN-REGULATION OF MKP-1 IN HIPPOCAMPUS PROTECTS AGAINST STRESS-INDUCED DEPRESSION-LIKE BEHAVIORS AND NEUROINFLAMMATION

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Background: Chronic stress is the primary environmental risk factor for major depressive disorder (MDD), and there is compelling evidence that neuroinflammation is the major pathomechanism linking chronic stress to MDD. Mitogen-activated protein kinase (MAPK) phosphatase-1 (MKP-1) is a negative regulator of MAPK signaling pathways involved in the cellular stress responses, survival, and neuroinflammation.

Purpose: The purpose of the current study was to examine if aberrant MKP-1 activity contributes to depression-like behavior.

Method: We examined the possible contributions of MKP-1 to stress-induced neuroinflammation and MDD by comparing depression-like behaviors (anhedonia, motor retardation, behavioral despair) and hippocampal neuroinflammatory marker expression levels among rats exposed to chronic unpredictable mild stress (CUMS model), rats overexpressing MKP-1 in hippocampus, and CUMS-exposed rats underexpressing MKP-1 in hippocampus.

Results: Rats exposed to CUMS exhibited MKP-1 overexpression, greater numbers of activated microglia, and enhanced expression of neuroinflammatory markers (interleukin IL-6, IL-1β, tumor necrosis factor TNF-α) in hippocampus as well as anhedonia in the sucrose preference test, motor retardation in the open field, and greater immobility (despair) in the forced swimming tests. These signs of neuroinflammation and depression-like behaviors were also observed in rats overexpressing MKP-1 without CUMS exposure, while CUMS-induced neuroinflammation, microglial activation, and depression-like behaviors were significantly reversed by MKP-1 knockdown. Moreover, MKP-1 knockdown promoted the activation of the MAPK isoform ERK.

Conclusion: These findings suggest that hippocampal MKP-1 is an essential regulator of stress-induced neuroinflammation and a promising target for antidepressant development.

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ANTIMICROBIAL RESISTANCE AND VACCINE HESITANCY IN VIETNAMESE FISH FARMERS

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Antibiotic (AB) over-use in food animals is a significant contributor to antimicrobial resistance (AMR) in humans. Aquaculture is the fastest growing food production sector world-wide and Vietnam is one of the world's largest producers of fish for human consumption. The use of the same Abs in both human and fish medicine means that AMR can readily spread from fish to humans.Vaccination can reduce the inappropriate and ineffective over-use of AB treatment. However, little is known about fish farmers' attitudes and beliefs about AB and vaccine usage in aquaculture. We used the necessity/concerns framework from human adherence research to guide our research and assessed disease and treatment perceptions in 400 Vietnamese farmers of Pangasius catfish. 86.5% reported having used Abs on their farm. Knowledge and attitudes towards vaccination were generally positive, with views of its necessity outweighing concerns. However, if available, only 67.6% said they would definitely use vaccines in the future. Farmers were more likely to use vaccines if they reported having fewer problems with fish disease, felt that any concerns about vaccines were outweighed by their perceived benefits, had less mistrust of vaccination, and had fewer concerns about commercial profiteering. Interventions that highlight concerns about continued antibiotic use, reduce vaccine concerns, particularly about commercial profiteering and increase the perceived necessity of vaccines combined with greater availability of vaccines may be the most effective way of overcoming vaccine hesitancy and increase appropriate use of antibiotics and vaccines by Vietnamese fish farmers and thus reduce transmission of harmful AMR to humans.

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THE CONTRIBUTION OF EARLY RISK FACTORS IN EXPLAINING THE ASSOCIATION BETWEEN EDUCATION AND EARLY LABOR MARKET EXIT

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Background: Socioeconomic inequalities in labor market participation are well established. However, we do not fully know what causes these inequalities, and factors from before labor market entry may be important.

Purpose: The present study aims to examine to what extent risk factors in childhood and adolescence can explain educational differences in early labor market exit among older workers.

Method: All men born in 1951–1953 who underwent conscription examination for the Swedish military in 1969–1973 (n = 133 100) were followed from 50 to 64 years of age regarding early labor market exit (disability pension (DP) and early old-age retirement). Early life factors, such as cognitive ability, and parental socioeconomic position, were obtained from national registers and the conscription examination.

Results: A graded relationship between education and early exit was found. The lowest educated men had a 2.5-fold increased risk of DP and a 1.5-fold increased risk of early old-age retirement compared to the highest educated men. Risk factors from childhood and adolescence explained a large part of the educational differences in DP but not for early old-age retirement. Cognitive ability and stress resilience were particularly important explanatory factors for DP.

Conclusion: The association between education and DP was to a large part explained by risk factors from early life. However, this was not seen for early old-age retirement. Even though educational differences remained after the adjustments, these results indicate the importance of taking a life-course perspective when examining labor market participation in later working life.

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A MENTAL HEALTH AND WELLBEING INTERVENTION FOR LOW-AUTONOMY, HIGH-DEMAND WORKPLACES DESIGNED USING NOVEL PARTICIPATORY SYSTEMS MAPPING

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Background: Although relatively well-paid, call centre work in the Philippines involves low autonomy, high performance demands, irregular and unpredictable shift patterns, and emotionally demanding duties. These conditions can be detrimental to mental wellbeing.

Purpose: To develop a systems-informed workplace intervention to promote mental health and wellbeing among call centre workers in the Philippines.

Method: We facilitated 11 online participatory mapping workshops with call centre agents, team leaders and managers across three call centre sites (two companies). Participants discussed key issues affecting workplace mental wellbeing, their causes and effects. We created one aggregated systems map (causal loop diagram) per company. In 3 subsequent workshops (1 per site), we validated the maps with employees and discussed solutions.

Results: The five issues voted as most important were: performance pressures; constantly shifting work schedules; poor work-life balance; unhealthy relationships with colleagues; poor self-care. Potential solutions were discussed with company management. Based on map findings and existing evidence, coaching on ‘supportive supervision’ for Team Leads was agreed as the intervention approach and self-determination theory provided a helpful theoretical framing for the theory of change. The intervention was piloted in iterative cycles alongside ormativee evaluation focused on feasibility and acceptability (online questionnaires and interviews).

Conclusions: This novel approach to intervention design enabled employees to be meaningfully involved in identifying issues and shaping workplace-based solutions to mental health improvement. The maps supported understanding of how causes and effects are linked within the workplace system. Company managers were supportive of using mapping approaches to learn from employee feedback.

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GRANDPARENTS AND DOMESTIC INJURY PREVENTION FOR INFANTS AND TODDLERS: A TEST OF AN INTEGRATED PSYCHOLOGICAL MODEL

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Background: Infants and toddlers (0- to 4-year-old children) have the highest risk and mortality rate of domestic injuries compared to children in other age groups. While grandparents are often one of the important caregivers of infants and toddlers, it is important to examine the psychological process that underpins their commitment to the prevention of domestic injury.

Purpose: This longitudinal study applied the integrated model of self-determination theory and the theory of planned behavior to understand the motivational and belief processes underlying childhood domestic injury prevention among grandparent caregivers.

Methods: The participants were 299 grandparents of 0- to 2-year-old infants and toddlers. They reported their perceived psychological need support, autonomous motivation, perceived behavioral control (PBC), social norms, attitude, intention and adherence with regard to domestic injury prevention for their children at two time points (T1: baseline, T2: 4-month follow-up).

Results: Structural equation modeling showed that the integrated model yielded an acceptable fit with the data: $\chi 2 = 905.09$ (df = 531), CFI = 0.94, TLI = 0.93, RMSEA = 0.05, and SRMR = 0.078. The pathways of the model also showed significant and positive associations between (1) psychological need support from family and autonomous motivation; (2) autonomous motivation and social cognitive beliefs, social cognitive beliefs and intentions, and (4) intention and behavioral adherence.

Conclusion: Our study provides initial evidence that a psychological need-supportive climate is essential for promoting autonomous motivation, which in turn relates to better attitude, social and control beliefs that facilitate intention formation and behavioral adherence to childhood domestic injury prevention.

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THE ROLE OF COMPETENCE IN MOTIVATIONAL AND SOCIAL COGNITIVE PROCESSES OF SWIMMING

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Background and Purpose: Two large-scale studies examined whether children's competence in swimming moderated the pathways and psychological variables within the integrated model of self-determination theory and the theory of planned behavior.

Methods: Study 1 was a cross-sectional survey among 4959 young children (a sample representative of primary school students in Hong Kong) who were asked to complete established scales of the model variables and their competence in swimming. Study 2 was a prepost-test quasiexperiment in which 1609 primary school children who gained swimming competence in a learn-to-swim program completed the same measures of Study 1. Structural equation modeling examined the hypothesized moderating effects of swimming competence at the cross-sectional level (Study 1) and change-score level (Study 2).

Results: In Study 1, swimming competence correlated positively with all the model variables ($\beta = 0.061$ to.330, $p < 0.05$) except intention ($\beta = -0.009$, $p > 0.05$). The proposed moderating effects of competence on the model parameters were either in small magnitudes or not statistically significant at the cross-sectional level. In Study 2, improvement of swimming competence was positively linked with the change scores for all the model variables ($\beta = 0.046$ to.230, $p < 0.05$) except subjective norms ($\beta = 0.049$, $p > 0.05$). The hypothesized moderating effects of competence were not statistically significant at the change-score level ($p > 0.05$).

Conclusion: Swimming competence was associated with higher autonomous motivation, social cognition variables, and intention. The pathways of the integrated model appear to be robust against children with high or low swimming competence.

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PSYCHOSOCIAL OUTCOMES FROM THE PERSPECTIVE OF ADVANCED CANCER PATIENTS RECEIVING ONGOING SYSTEMIC TREATMENT AND THEIR PARTNERS: AN INTERVIEW STUDY

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Background

The psychosocial impact of extended life expectancy due to novel systemic treatments for advanced cancer patients is expected to be considerable for both patients and their significant others. However, research is limited.

Purpose

This interview study aimed to identify the psychosocial outcomes of living long-term with advanced cancer receiving ongoing systemic treatment from the perspective of patients and their partners.

Methods.

Patients were purposively sampled from the Medical Psychology and Medical Oncology departments, or via self-referral from May-December 2020. Partners were asked to participate jointly. The in-depth semi-structured interviews contained open questions regarding diagnosis and treatment; psychological aspects; social aspects; and impact of COVID-19. The interviews were audio-taped, transcribed verbatim and analyzed using Atlas.ti, following thematic analysis. Codes were clustered into overarching psychosocial themes.

Results

Fifteen patients and seven partners participated in interviews via video calls or phone due to current COVID-measures. Emerging themes were cyclical uncertainty; finding new meaning and purpose in life; and the profound impact on the patient-partner-relationship, and relationships with others. Partners in particular tend to decipher themselves, while experiencing an emotional and psychological burden of adapting their lives to the uncertain future perspective of their significant others for long periods of time. However, attention for psychosocial wellbeing is often lacking.

Conclusion

Living long-term with advanced cancer receiving ongoing systemic treatment brings significant psychosocial challenges for patients and their significant others. Increasing knowledge is vital for health care professionals to guide them and to ameliorate their psychosocial well-being in a context of enduring uncertainty.

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FACING OBSTACLES WITH EQUANIMITY: TRAIT EQUANIMITY ATTENUATES THE POSITIVE RELATIONSHIPS BETWEEN VALUES OBSTRUCTION AND DEPRESSION, ANXIETY, AND STRESS

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Background: Previous research indicates that individuals who experience greater obstruction to valued living report higher levels of psychological distress. Equanimity, which involves a calm and balanced mental attitude towards all experiences, is thought to protect against mental health problems and may be particularly helpful for navigating obstacles to valued living.

Purpose: The present research examined dispositional equanimity as a moderator of the positive relationships between values obstruction and various indicators of psychological distress, namely depression, anxiety, and stress.

Methods: A representative sample of American adults was recruited (N = 401; 50% women, age range = 18–82 years) and completed measures related to equanimity (English version of the Equanimity Scale and Equanimity Scale-16), values obstruction (Valuing Questionnaire), and psychological distress (Depression, Anxiety, and Stress Scale).

Results: As hypothesized, trait equanimity moderated the relationships between values obstruction and all three indicators of psychological distress, such that the positive relationships between values obstruction and psychological distress were attenuated when individuals reported higher levels of equanimity. Results were consistent across two different measures of equanimity. This research is limited by its cross-sectional design and the use of self-report measures only.

Conclusion: The present research offers preliminary evidence that dispositional equanimity attenuates the psychological distress that is typically associated with values obstruction. Future research can investigate whether cultivating an equanimous disposition allows individuals to respond more adaptively to obstacles and ultimately reduces suffering.

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EXAMINING DYADIC PROCESSES IN A PERSON-CENTRED INTERVENTION TO INCREASE OUTDOOR WALKING AFTER STROKE

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Background

People with stroke spend > 80% of waking hours sedentary. Social support can influence the uptake and maintenance of PA. Dyadic interventions involve two people working together to support behaviour change.

Purpose

To examine dyadic process in relation to increasing walking as part of the We Walk intervention; a theory-based, person-centred 12-week dyadic behaviour change intervention to promote outdoor walking.

Methods.

A single-arm observational pilot study with qualitative process evaluation. Participants were community-dwelling ambulatory people with stroke and walking buddies. We Walk involved facilitated face-to-face and telephone sessions over 12 weeks. Interview data examining dyadic processes were collected through semi-structured interviews and were analysed alongside field notes using thematic analysis.

Results

Overall, 21 dyads were recruited (15 male and 6 female people with stroke) and their walking buddies, who were either family members (n = 17) or volunteers (n = 4). Ten dyads fully completed We Walk before UK government-imposed COVID-19 lockdown. Despite lockdown, 18 dyads completed exit interviews. Four major themes were identified: 'Communication' which helped dyads to adapt to their physical and social environment, deepened relationships and promoted mutual understanding, 'Motivation' which was increased by encouragement, seeing improvement, obtaining mutual benefit and forming of routines, 'Confidence' stemming from improved ability, a sense of comfort and independence and 'Enjoyment' through reconnecting with the partner and the community.

Conclusion

The dyadic structure of We Walk gave rise to several dyadic processes perceived to be beneficial for initiating and maintaining behaviour change. Identified processes might be useful to help ptimize future intervention content and delivery.

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GOOD SLEEP MAY IMPROVE WORK ENGAGEMENT AMONG WORKERS IN JAPANESE SMALL AND MEDIUM-SIZED ENTERPRISES

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Background: Although 99.7% of Japanese firms are comprised of small and medium-sized enterprises (SMEs), studies examining the positive work behaviors/attitudes (i.e., work engagement) and sleep quality among this population are limited.

Purpose: The purpose of this study was to investigate the relationship between work engagement and sleep quality among workers in Japanese SMEs.

Method: We conducted an online health survey in November 2021. The targeted population was full-time workers in SMEs, aged 18 years or older. Work engagement was assessed with the Japanese version of the 9-item Utrecht Work Engagement Scale (UWES-J). Sleep quality was assessed by a question; "How was your sleep quality in the past month?" with four answering choices ranging from "1 = not good" to "4 = very good". We performed multivariate logistic regression analysis with UWES-J, which was divided into two groups (low/high) as the dependent variable, and sleep quality (not good (reference)/not so good/good/very good) as the independent variable, controlling for sociodemographic and occupational characteristics.

Results: Of the 1730 participants, those with “very good” sleep quality showed higher odds for high work engagement (adjusted odds ratio (aOR) 4.39, 95% confidence interval 2.51–7.66, $p<0.001$) compared to those with “not good” sleep quality. The aOR for those with “good” sleep quality was 2.42 (1.49–3.09, $p<0.001$) and for those with “not so good” sleep quality was 1.68 (1.16–2.42, $p=0.006$).

Conclusions: Better sleep quality was significantly associated with higher work engagement in this population. Improving sleep quality and maintaining good sleep may consequently improve work engagement among workers in Japanese SMEs.

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POSSESSING AN INHALED PLACEBO ANALGESIC OIL ENHANCED PHYSIOLOGICAL PAIN RESPONSES SIMILAR TO INHALING THE PLACEBO ANALGESIC OIL

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Purpose

Analgesic placebo research shows that people enjoy pain reduction after using a placebo analgesic. The recently emerged possession-based placebo studies document that sometimes possessing a placebo analgesic induces placebo analgesia (Yeung et al., 2019; 2020; 2021; 2022). These prior studies proposed that expectancy of obtaining benefit from the owned analgesic is the underlying mechanism of the possession-based placebo effect. We aim to examine whether (1) possessing a placebo analgesic oil is as effective as using it; (2) expectancy is the underlying mechanism of possession-based placebo analgesia.

Method

Healthy participants ($N=119$) learned that a blended essential oil (in fact, placebo oil) can effectively block pain upon nasal inhalation. They were randomized to either the PU (Possess & Use), PA (Possess & Anticipate its benefit), P (Possess only), or A (Anticipate only) condition. Participants did a cold-pressor-test to experimentally induce pain to their non-dominant hand. Their physiological pain responses (pain threshold and tolerance) and psychological pain perception (pain intensity, severity, quality, unpleasantness) were recorded. Comparing data of PU and PA conditions allows us to examine the effect of use, while comparing data of PA and P (A) conditions enables us to investigate the effect of expectancy (possession).

Results

Both PA and PU groups performed equally well (use = possess + anticipate) and reported having greater pain threshold than P and A groups, $F(3, 115)=5.14$, $p=0.002$, $\eta p^2=0.12$. No significant group differences in psychological pain perception.

Conclusion

A placebo effect can be achieved without using a placebo, by inducing a positive expectancy upon placebo possession.

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PATIENT PREFERENCES FOR LIFESTYLE MANAGEMENT IN A MULTI-SITE RANDOMIZED TRIAL FOR REMISSION OF THE METABOLIC SYNDROME

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Background: Randomized behavioral clinical trials are the gold standard for evaluating efficacy of a behavioral treatment. However, because participants are generally unblinded to treatment, preference for a specific treatment option can lead to biased results and/or reduced treatment efficacy.

Purpose: The purpose was to describe the prevalence and predictors of patient preference for either an in-person group-based, or a remote self-directed, lifestyle treatment prior to randomization to one of these treatments.

Methods: The Enhanced Lifestyles for Metabolic Syndrome (ELM) trial is a multi-site behavioral clinical trial that compares efficacy of a group-based to a self-directed approach to lifestyle change on two-year remission of the metabolic syndrome. Prior to randomization, participants were asked whether they had a preference for a particular treatment and, if so, which approach they preferred. Baseline data were used for a series of logistic regression models to determine behavioral predictors of treatment preference independent of socioeconomic factors.

Results: Of the 331 participants, 131 (39.6%) had no preference for either treatment. Among the 200 with a preference, 56 (28.0%) preferred the self-directed program. Strength of a pre-existing habit of eating vegetables on most days was an independent predictor of no preference (adjusted OR: 1.27, 95% CI:1.01–1.61, $p=0.03$) and preference for self-directed program (adjusted OR: 1.55, 95% CI: 1.09–2.22, $p=0.01$).

Conclusion: Pre-existing habit of eating vegetables was associated with no preference and preference for a less intensive lifestyle treatment. Post-treatment follow-up of the trial results will determine if concordance between preference and treatment assignment influences outcomes.

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CHILDHOOD MALTREATMENT AND LEUCOCYTE TELOMERE LENGTH: PARASYMPATHETIC CARDIAC ACTIVITY MODERATES THE RELATION IN OLDER ADULTS

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Background: Childhood maltreatment (CM) is associated with shorter leucocyte telomere length (LTL) in healthy adults and those suffering from chronic disease. Whether cardiac parasympathetic activity influences this relation is unknown.

Purpose: To evaluate whether cardiac parasympathetic activity at rest and in response to stress moderates the relationship between CM and LTL.

Method: Individuals ($N=1179$; aged 65 ± 7.2 years; 61% men) with chronic disease reported on CM and underwent a standardized stress protocol. High-frequency heart rate variability (HF-HRV) was assessed in both absolute and normalized units (nu). Reactivity (stress-baseline) change scores were calculated. LTL data was measured using qPCR.

Moderation analyses predicting LTL were performed, with interaction terms $p < 0.10$ considered significant.

Results: Significant interactions emerged between CM and baseline ($p = 0.024$), as well as stress reactivity ($p = 0.081$) HFnu (but not with absolute HF-HRV). Specifically, CM was associated with significantly lower LTL among those with baseline HFnu at ($b = -0.018$, $p = 0.003$) or below the mean ($b = -0.031$, $p < 0.001$), but not among those with higher baseline HFnu. Moreover, CM was associated with significantly lower LTL only among participants who showed either blunted ($b = -0.017$, $p = 0.005$) or increased HFnu ($b = -0.028$, $p = 0.002$.) responses to stress but not in those with decreased HFnu.

Conclusion(s): CM was associated with significantly lower LTL in older adults who showed a distinct parasympathetic cardiac profile at baseline and in response to stress, the implications and correlates of which remain to be determined.

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ACCESSING HEALTHCARE: A SCOPING REVIEW OF EXPERIENCES OF WOMEN OF THE DIASPORA BACKGROUND FROM KOREA

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Background: Over the past 100 years, Korean people have migrated abroad from their home country due to historical and social reasons. Among diaspora Koreans, women have particularly experienced difficulties in obtaining a better life and health due to discrimination and prejudice abroad, in addition to the Korean culture of patriarchy. However, few studies have clarified diaspora Korean women's healthcare access in terms of intersectionality.

Purpose: The purpose of this study was to integrate the existing literature offering insight into the specific experiences of women of diaspora background from Korea, accessing healthcare and intersectional factors which may influence these experiences.

Method: A scoping review was conducted following Arksey and O'Malley framework, with an intersectional lens. Three comprehensive databases, MEDLINE, CINAHL, and CiNii, were searched for both quantitative and qualitative studies.

Results: A total of 625 studies were found, and 27 of these studies were included. We found that Korean diaspora women made their health transition 'invisible' while putting family members' needs, especially male members' needs, ahead of their own under the strong influences of their patriarchal cultural heritage, in addition to language, health literacy, and socioeconomic barriers.

Conclusions: We found that the experience of accessing healthcare among women of diaspora background from Korea was influenced by a combination of factors including the Korean culture, gender-based biases, language, health literacy, and socioeconomics. It is important for medical professionals to understand the cultural values specific to Korea, especially the background of Korean women, to best provide appropriate healthcare.

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CHILDREN'S MENTAL HEALTH: DISCREPANCY BETWEEN CHILD SELF-REPORTING AND PARENTAL REPORTING

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Background: Discrepancies between children's self-reports and their parents' reports on mental health indicators are associated with measurement errors or informant bias. However, they are a valuable tool in understanding the course of child psychopathology. This study aims to determine the level of discrepancies between parents' perceptions and children's self-reports in mental health indicators in Northern Chile.

Methods: A System of Evaluation of Children and Adolescents self-report (Sistema de Evaluación de Niños y Adolescentes, SENA) was responded to by 408 students between 8 and 13 years old and their parents.

Results: Children reported a significantly higher frequency of emotional problems, defiant behavior, and executive functions as compared to their parents' responses.

Conclusions: There is a disjunction between the report of parents and children, which could originate in poor family communication.

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PERCEIVED POSSESSION OF A FICTITIOUS PAIN-REDUCTION APP INDUCED POSITIVE EXPECTANCIES

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Purpose

Prior analgesic placebo research suggested three expectancies underlying placebo analgesia. First, self-related expectancy (expect the self has efficacy to tackle pain). Second, task-related expectancy (expect the cold-pressor-task is easy). Third, object-related expectancy (expect the placebo is highly effective). Recent research reported that possessing a placebo analgesic could sometimes induce placebo analgesia (Yeung et al., 2019; 2020; 2021; 2022), and proposed that such possession-based placebo effect could be due to object-to-self expectancy (expect the owned placebo can benefit the self). We examine whether perceived possession of a pain-reduction object induces these four expectancies.

Method

Participants completed an online survey and were introduced to a mobile app claimed to adopt binaural beats to achieve pain reduction. One group of participants believed that they would receive the app as a gift (perceived possession condition, n = 34), while the other group of participants did not (no-possession, n = 41). All participants imagined engaging in a cold-pressor-task and rated their expectancies: self-related, task-related, object-related, and object-to-self expectancies.

Results

Participants in the possession (vs. no-possession) condition reported higher self-related expectancy: perceived the self can control the app, p = 0.03; and have efficacy to tackle pain, p = 0.04. They also have higher task-related expectancy: perceived the cold-pressor-test to be easier, p = 0.04. Moreover, they have higher object-related expectancy: expected the app to be effective, p = 0.02, and fast to reduce pain, p = 0.05. Lastly, they reported greater object-to-self expectancy: expected the app to benefit the self, p = 0.02, and reported higher reward response, p = 0.01.

Conclusion

Perceived possession of a fictitious pain-reduction app induced positive expectancies.

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A SCOPING REVIEW EXPLORING STIGMA ASSOCIATED WITH POSTPARTUM URINARY INCONTINENCE

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Background: Postpartum urinary incontinence (PUI) occurs in 30–33% of individuals after their pregnancy, and has a detrimental impact on quality of life. Although common, PUI carries social stigma and this can affect patient behaviours, including not revealing symptoms and seeking appropriate care.

Purpose: To summarize the causes of PUI stigma and implications on health behaviours and outcomes.

Methods: A scoping review was performed. The search was carried out on multiple search engines focusing on the postpartum period, urinary incontinence and stigma. Data were extracted and mapped to identify causal factors of postpartum UI stigma and implications on outcomes and behaviours.

Results: Twelve studies were included in this review. The main sources of PUI stigma were community values that negatively perceive urinary leakages as unclean and as lacking bodily control, along with self-stigma where participants seemed to be directing stereotypes and misconceptions surrounding PUI towards themselves. All studies emphasized that PUI was associated with feelings of embarrassment and shame, and this decreased the likelihood to discuss care options with healthcare providers.

Conclusions: Moving forward, it is necessary to further understand PUI stigma from lived experience, including applying an intersectional approach to capture potential cultural nuances. Healthcare providers should be aware that PUI stigma could reduce patient communication, and therefore, the provider may need to initiate an effective and sensitive dialogue.

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A PILOT TRIAL OF A SMARTPHONE-BASED SLEEP APNEA SELF-MANAGEMENT SUPPORT (4S) PROGRAM IN ADULTS WITH SLEEP APNEA IN HONG KONG

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Purpose

This study evaluated the feasibility and preliminary evidence of a 16-week one-group pilot trial of the smartphone-based sleep apnea self-management support programme (4S).

Methods

Despite the third wave of COVID-19, we recruited overweight subjects with moderate to severe sleep apnea to join a 16-week one-group pilot trial of the 4S in July 2020, immediately before all clinical recruitment was restricted. The intervention included a 25-min interview session and 16-week daily video messages co-designed by our multi-disciplinary team. The content and format of our intervention were grounded on the feedback from the needs assessment survey of OSA subjects. We collect both quantitative and qualitative feedback from participants.

Results

Nine OSA subjects (mean age: 57.3 years; male: 78%; BMI: 31.69; severe sleep apnea: 66%) were recruited. They agreed that the content of the 4S program applied to real life (mean score 4.1 out of 5), enhanced OSA knowledge (4.7), improved exercise (4.3) and dietary (4.1) habits. Short (around 2 min) video messages were well-accepted with suitable duration (4.6) and contents (4.2). Increased self-efficacy in health self-management, physical activity, reduced body weight, and less daytime sleepiness were reported.

Conclusions

Smartphone-based self-management program is acceptable and feasible to provide patient-centred care and continuous support in OSA and co-morbidity management. Regular contact with patients via phone and messaging can support them in maintaining healthy behaviours and treatment adherence. A larger and longer-term andomized controlled trial should be conducted to assess the long-term effects and sustainability of the program.

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INTEGRATING SELF-COMPASSION AND POSITIVE PSYCHOLOGY INTO A BEHAVIOURAL INTERVENTION FOR WEIGHT MANAGEMENT: FEASIBILITY & UTILITY OUTCOMES FROM THE “INSPIRE” RANDOMIZED CONTROLLED TRIAL

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Background: Obesity is associated with increased presence and severity of comorbid illnesses and reduction in quality and quantity of life. Small Changes is a cognitive behavioural weight management approach encouraging modest, sustainable changes to nutrition and physical activity. INSPIRE is a novel, group-based intervention that builds on Small Changes by integrating evidence-based techniques from positive psychology and self-compassion at treatment outset, before behavioural changes to nutrition and physical activity were introduced.

Purpose: To determine the feasibility and acceptability of INSPIRE compared to Small Changes.

Method: Fifty-eight female community members with obesity (MBMI = 34.47; SD = 3.40; MAge = 52, SD = 9.00) were randomly assigned to INSPIRE or Small Changes. Feasibility was demonstrated if attendance and homework completion was greater than 70% across all sessions. Acceptability was demonstrated if mean ratings of utility and likelihood of continued use were greater than 3.0.

Results: Average INSPIRE attendance was 80.8%; attendance was higher when including make-up sessions (92.8%). Small Changes had a 79.9% average attendance rate (87.9% including makeup sessions). All except one INSPIRE session had greater than 70% homework completion. Comparatively, six Small Changes sessions had less than 70% homework completion. All sessions had mean perceived utility and continued use ratings greater than 3.0 for INSPIRE (MUtility = 4.20; MContinuation = 4.28) and Small Changes (MUtility = 4.16; MContinuation = 3.83).

Conclusion(s): Acceptability and feasibility of INSPIRE was demonstrated. More broadly, results suggest that behavioural interventions addressing subjective well-being may foster improved treatment engagement compared to those that do not.

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PERCEIVED STRESS IN THE HUNGARIAN POPULATION: RESULTS FROM THE HUNGAROSTUDY 2021

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Background: During COVID-19 pandemic prevalence of mental health disorders increased globally.

Purpose: To compare perceived stress scores in 2021 and in 2013.

Method: Structured interview was conducted with 7,000 people during the Hungarostudy 2021 national survey. The sample was representative according to gender, age groups, educational level and type of residence. The 2013 representative survey included 2,000 respondents and used similar methodology. The questionnaires used were: Perceived Stress Scale (PSS10), short Beck Depression Scale (BDI), short WHO Well-Being Inventory (WHOWB), Subjective Somatic Symptoms (PHQ15). For statistical analysis ANOVA, Pearson's correlation and independent sample t test were used.

Results: PSS10 score was slightly higher in women (14.2 ± 6.9) than in men (13.7 ± 6.6), which values were lower in both sexes than in 2013. Perceived stress level increased with age. In terms of education, among men those with university degree had the lowest stress score, while among women those with high school degree. Regarding work status, unemployed had the highest PSS10 score (18.5), while public employees and civil servants had the lowest (12.5). Financial status showed J shape association, those who could save smaller amount were the least stressed (12.3 ± 6.7). PSS10 showed close correlation with BDI (r = 0.518), PHQ15 (r = 0.237) and WHOWB (r = -0.392). In multivariate analysis, perceived stress was the most significant predictor of subjective somatic symptoms.

Conclusion: Overall perceived stress scores were lower in 2021 summer, after the third wave of the COVID-19, than in the 2013 survey. The most significant decrease in PSS10 scores were found among women and people with lower education.

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SNACKING BEHAVIOURS AMONG YOUNG ADULTS AND FOOD ENVIRONMENT CONTEXT

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Background: Young adults gain most weight per annum and demonstrate eating behaviours resulting in poor quality diets. Snacking behaviour may contribute to excess calories and consumption of unhealthy foods. The immediate food context at the time of snacking might determine food choice and be amenable to change.

Purpose: The aim of this study was to examine the food environment context and snack types consumed.

Methods: A cross-sectional survey conducted in 18 to 30-year-olds residing in New South Wales, the most populous Australian state, who consumed at least one meal/snack prepared outside home. They were recruited during 2017 to end of 2018 (i.e. pre-covid lockdowns). For three days all food consumed, and source of procurement was recorded in a purpose-designed app. Snacks contributing most to calorie intakes and the context from which the food was sourced were determined.

Results: Among 1001 participants, 889 consumed at least one snack during the recording period with more than 70% of snacks consumed or procured from home. Snacks making the largest contribution to calorie intakes were cakes/muffins/doughnuts/pastries (17% of snacking calories) followed by chocolate (11%), fruit (8%) and potato chips/extruded savoury snack products (7%). The cakes food category was purchased outside the home for 46% of the snacking occasions whereas the other snacks were mostly procured at home—fruit (88%), chocolate (79%) and potato chips (75%).

Conclusion: Both healthy and unhealthy snacks were present inside young adults' homes, but cakes/muffins/pastries were more likely to be purchased for consumption outside home than other snacks.

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CHILDHOOD MALTREATMENT AND BODY MASS INDEX IN OLDER ADULTS WITH CHRONIC ILLNESS

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Background: Childhood maltreatment (CM) increases the risk of obesity in younger to middle-aged adults. However, there is limited data on this association among older individuals, nor are potential sex differences and underlying mechanisms well understood.

Objectives: Evaluate whether (1) CM is associated with higher body mass index (BMI) at baseline and 5 years later among older adults with coronary artery disease (CAD) or other chronic illnesses; (2) sex and/or CAD status influence these results; and (3) symptoms of psychological distress (anxiety, depression, and perceived stress) mediate this association.

Methods: Participants ($N = 1232$; aged 61 ± 7 years; 60% men) completed validated questionnaires on CM and psychological distress. BMI (kg/m2) was calculated. Analyses included bivariate correlations, hierarchical regressions, and moderation/mediation analyses.

Results: CM was not associated with BMI at baseline (all $p \geq 0.32$) or at follow-up (all $p \geq 0.20$), nor did results differ as a function of sex and/or CAD status. Individuals with obesity reported significantly more mean CM compared to those with lower BMI (37.40 vs 35.39, $p = 0.005$). While CM was associated with significantly greater psychological distress at baseline (all $p < 0.001$), the latter did not mediate the CM-BMI relation.

Conclusion: CM was not associated with BMI at baseline nor with BMI five years later, though individuals with obesity did report slightly more CM. Reasons for discordance between these results and existing literature are unclear but may relate to developmental shifts in emotional regulation, confounding with illness and its treatment, and/or survivor effects.

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OVEREATING AND POSITIVE PSYCHOLOGICAL FUNCTIONING IN MEXICAN PEOPLE: A PRELIMINARY STUDY

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Background. Overeating implies the presence of habits, thoughts, and attitudes that cause overweight or obesity. Overweight and obesity have been a public health problem in Mexico for the last decades. The relationship between overeating and psychopathological variables is regularly studied; however, with the emergence of positive psychology, it is relevant to investigate whether some variables of this discipline could also be related. So from positive psychology arises the construct of positive psychological functioning, which is made up of 11 psychological resources: self-esteem, resilience, curiosity, optimism, autonomy, vitality, mastery of the environment, purpose in life, humor, enjoyment, and creativity.

Purpose. To identify the relationship between overeating and positive psychological functioning in Mexican people.

Method. A correlational study of 28 employees (16 men, 12 women) of a mining company with a mean age of 38.85 ($SD = 10.22$) was conducted. The Overeating Questionnaire and the Positive Psychological Functioning Scale were used to measure the study variables.

Results. Overeating is related to positive psychological functioning ($r = -0.580$, $p < 0.001$). Also, the three factors of overeating are also related to positive psychological functioning: 1) gourmet eater ($r = -0.468$, $p < 0.05$); 2) dietary restriction due to body image discomfort ($r = -0.410$, $p < 0.05$); 3) affective disturbance ($r = -0.638$, $p < 0.001$).

Conclusion. Larger sample studies are feasible to assess the consistency of the relationship between overeating and positive psychological functioning.

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MENTAL HEALTH AND QUALITY OF LIFE FOR THE HEALTH CARE WORKER IN A UNIVERSITY HOSPITAL OF KOREA UNDER COVID-19

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Objective: The aim of this study was to assess the psychosocial characteristics of the employees working at a university hospital and investigated the factors affecting their quality of life (QOL) under COVID-19.

Methods: This study enrolled 1,191 healthcare workers from a university hospital, including doctors, nurses, administrative officer and technicians. Besides demographic information, depression, anxiety, somatization, insomnia, resilience, and QOL were assessed.

Results: The nurses presented significantly higher scores for anxiety, depression and showed significantly higher insomnia scores and significantly lower resilience scores. The occupations showed significant differences in the QOL and sub-groups, including the overall quality of life and general health ($F = 4.774$, $p < 0.001$), psychological domain ($F = 6.230$, $p < 0.001$), and environment domain ($F = 5.254$, $p < 0.001$). There was a positive correlation between the QOL and resilience ($r = 0.608$, $p < 0.01$). However, depression ($r = -0.502$, $p < 0.01$), anxiety ($r = -0.425$, $p < 0.01$), somatization ($r = -0.364$, $p < 0.01$), and insomnia ($r = -0.385$, $p < 0.01$) showed negative correlations with the QOL. Resilience was the most important factor influencing the QOL.

Conclusion: The results of this study showed that low resilience adversely affected the QOL and the mental health of the healthcare workers, which consequently had a direct effect on the quality of medical care given to patients.

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PRIORITY INTERVENTION COMPONENTS TO IMPROVE PHYSICAL ACTIVITY AND NUTRITION OUTCOMES FOR SECONDARY SCHOOL STUDENTS

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Background: Insufficient activity and poor nutrition in adolescence can persist into adulthood and increases the lifetime risk of developing a range of chronic diseases. Secondary schools are ideally placed to address physical activity and nutrition-related behaviours among adolescents. However, many school-based interventions are complex and multi-component.

Purpose: This research aimed to identify the discrete and effective components of evidence-based interventions targeting nutrition and physical activity that could be implemented in secondary schools.

Method: Randomised-controlled trials included in three high quality systematic reviews (Cochrane review of school-based physical activity interventions, Umbrella review of school-based nutrition interventions, and an update of a Cochrane review of obesity prevention interventions) were assessed to identify interventions conducted in secondary schools. The discrete components of interventions were coded and exploratory analyses conducted to assess their potential effectiveness on physical activity and nutrition outcomes.

Results: Of the studies included in the reviews, only a small proportion had been tested and found to be effective in secondary schools. Twenty-nine discrete school-based intervention components were identified. Of the eight components targeting nutrition, five were found to be effective. Of the nine components targeting physical activity, six were found to be effective. Of the remaining twelve components that targeted nutrition and physical activity combined, all were found to be effective in improving student nutrition or physical activity outcomes.

Conclusion: This analysis provides a useful guide for researchers and policymakers regarding which intervention components could be implemented in secondary schools to generate the greatest impact on adolescent physical activity and nutrition.

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CHANGING SYMPTOM MINDSETS: DEVELOPING A BRIEF INTERVENTION TO IMPROVE PATIENTS' EXPERIENCE OF A FIRST-LINE INFLAMMATORY ARTHRITIS MEDICATION (METHOTREXATE)

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Background

Patient expectations about medication can influence side-effects and adherence. Many medications produce troublesome side-effects, fostering poor persistence and diminished treatment outcomes. Interventions encouraging adaptive mindsets about medication may reduce concern about side-effects and improve outcomes.

Purpose

To determine the feasibility and impact of a brief mindset intervention encouraging patients to see non-severe side-effects of methotrexate as positive signals of medication efficacy.

Method

Two studies recruited patients prescribed methotrexate to treat autoimmune-based inflammatory arthritis. Patients were randomised to watch a mindset intervention video, or a standard side-effects information video. Study one was a cross-sectional evaluation, utilising patients with experience taking methotrexate (n = 30). Measures included opinion of study videos, emotional response, symptom expectations, and methotrexate anxiety.
Study two was a pilot randomised clinical trial (RCT) with 4-week follow-up, with patients starting methotrexate (n = 18). Measures included methotrexate and symptom burden, and adherence.

Results

In study one the intervention was rated more understandable (p = 0.043) and convincing (p = 0.037) than the standard-information. Intervention participants reported lower anxiety, expectation of side-effects and severe reactions than standard-information participants. In study two, intervention participants had higher motivation to take methotrexate, belief of medication effectiveness and belief in side-effects as positive signals, as well as lower symptom burden and expectation of severe reactions compared to standard-information participants.

Conclusions

These are the first studies testing a 'symptoms as positive signals' intervention in adult patients taking a medication with bothersome side effects. Findings illustrate the potential of brief medication-mindset interventions and support testing with a fully-powered RCT and diverse clinical populations.

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FACILITATORS AND BARRIERS TO INTEGRATED MALARIA PREVENTION IN WAKISO DISTRICT, UGANDA: A PHOTOVOICE STUDY

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Background

Malaria continues to cause significant morbidity and mortality particularly in Sub-Saharan Africa. Integrated malaria prevention, which promotes the use of several malaria prevention methods holistically, is being explored.

Purpose

The aim of the study was to explore facilitators and barriers to using integrated malaria prevention in Wakiso District, Uganda.

Method

The qualitative study employed photovoice among 20 community members in Kasanje Town Council, Wakiso District. The photos taken by participants for a period of 5 months using smartphones were discussed monthly with the researchers. The discussions were audio-recorded, and resulting data analysed using thematic analysis with the support of NVivo (2020).

Results

Various conventional and non-conventional measures were being used for preventing malaria such as: insecticide treated nets; draining stagnant water; mosquito coils; smoldering of cow dung; spraying insecticides; plant repellents; as well as early closing of doors and windows. Facilitators to using several malaria prevention methods holistically included: low cost and convenience of some methods such as slashing overgrown vegetation; and support provided for certain methods such as receiving free mosquito nets from the government. Barriers to using several malaria prevention methods holistically included: inadequate knowledge of some methods such as housing improvement; allergic reactions to chemical-based methods such as insecticide treated nets; unaffordability of some methods such as insecticide sprays; and inaccessibility of certain methods such as body repellents.

Conclusion

Several barriers to using integrated malaria prevention were identified. These barriers need to be addressed so as to contribute to malaria prevention efforts in endemic communities.

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DEVELOPING A 24-HOUR MOVEMENT INDEX: EXPLORING ACCEPTABILITY AMONG THE CANADIAN POPULATION

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Background: Canada has developed the 24-Hour Movement Behaviour Guidelines that focus on the integration of movement behaviors (sleep, sedentary behavior, physical activity) throughout the day. As a knowledge translation tool, a novel Movement Index is being created which will help individuals track their movement behaviors but also display how a change in time reallocation of different movement behaviors is associated with changes in health outcomes. To inform the development of the Index, the purpose of this study is to assess the acceptability of the Index among the general public.

Methods: This study used a cross-sectional online survey design with a representative Canadian sample of 1025 adults (M age = 36.4, SD = 4.7; 46% male), with a subset of 305 parents. Participants completed items assessing the acceptability, appropriateness, and feasibility of the proposed Index, and intention to use. Descriptive analyses were conducted.

Results: Over half of the participants agreed the proposed Index would be acceptable (52%), appropriate (51%), and feasible (51%), while less than half intended to use it (47%). Responses were higher for females, younger adults, higher income, and higher education populations. Trends were similar for the subset of parents. However, female parents reported higher agreement on all items compared to females in the general population.

Conclusions: There is some support for the proposed Movement Index with more significant support among parents and females in particular. Future research will continue to examine the acceptability, appropriateness, and feasibility once wireframes of the Index have been created.

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RISK PERCEPTIONS AND ATTITUDES RELATED TO E-CIGARETTE USE AMONG YOUNG ADULTS AND PUBLIC HEALTH PROFESSIONALS IN GERMANY: RESULTS OF QUALITATIVE FOCUS GROUPS

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Background: In 2020, 19% of German young adults reported ever e-cigarette use and 56% vaped with nicotine. Surprisingly little is known about factors influencing initiation and use of e-cigarettes in this population.

Purpose: To examine risk perceptions and attitudes regarding e-cigarette use from the perspectives of young adults and public health professionals.

Methods: In Fall 2021, two focus groups were conducted with young adults enrolled at one vocational school (in-person, n = 12: 50% users; 58% female; age: 17–18 years) and one with national public health professionals working in the area of prevention (MS Teams, n = 5). Following a structured focus group guide, participants discussed risk perceptions and attitudes related to e-cigarette use. Verbatim transcripts were analysed via structured qualitative content analysis.

Results: Regardless of age, use, and social position, students described the availability of various aromatic liquids and e-cigarette products as positive and perceived e-cigarettes as less harmful than smoking tobacco. Social motives were identified as key drivers of initiation and use (e.g., peer influence in the school environment). From the student perspective, social media were deemed irrelevant, but were viewed as relevant for initiation by public health professionals. However, both groups regarded social media as a key channel for preventive messages.

Conclusion: Young adult e-cigarette use is influenced by peer social norms, low perceived health risk, and the ability to vape with different aromatic liquids. While e-cigarettes are promoted as a smoking cessation method, young adults are not vaping to quit smoking cigarettes. Monitoring e-cigarette use in young adults is warranted.

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TYPE 1 DIABETES PATIENTS' PSYCHOLOGICAL SUBTYPES AND THEIR ASSOCIATION WITH HbA1c

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Background: Type 1 diabetes (T1D) patients must manage their glycemic conditions through self-care behaviors. Previous studies and treatments on T1D have focused on maintaining and improving patient adherence. However, specific patients who maintain an appropriate glycemic condition have high diabetes distress levels, a diabetes-related negative emotion.

Purpose: We designed this study to investigate T1D patient subtypes based on adherence and psychological factors and identify differences in glycemic control (HbA1c) based on these subtypes.

Method: T1D patients (N = 42, 18 years or older) participated in this study. We collected data on demographic information, HbA1c, Self – Care Inventory – Revised Japanese Version for Children(Sasaki et al., 2011), and Short Self-Efficacy for Diabetes Self-Management Japanese Version(Sekiguchi et al., 2013), and "Feelings About Type-1Diabetes" Scale(Takehana et al., 2010).

Results: We conducted a hierarchical cluster analysis using adherence, self-efficacy, and negative affect and classified the results into three clusters: "Stable treatment group" (high adherence/self-efficacy and low negative affect), “Relaxed treatment group” (low adherence and negative affect/slightly higher than average self-efficacy), and the “High burden group” (moderate adherence, and low self-efficacy/increased negative affect). Results of an ANOVA indicated that the High burden group had higher HbA1c than the Stable treatment group ($p < 0.01$) or the Relaxed treatment group ($p < 0.05$).

Conclusions: We suggest that healthcare providers in clinical situations consider the possibility that T1D patients’ poor HbA1c is related to their negative affect on diabetes care.

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WHAT HAPPENS TO PUBLIC HEALTH PROGRAMS WHEN IMPLEMENTATION SUPPORT STOPS?

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BACKGROUND: Less than 20% of chronic disease prevention (CDP) interventions are sustained once implementation support is removed. Of those that do sustain it is unknown if this is related to the characteristics of the CDP itself, the strategies used to support their initial implementation or both.

PURPOSE: We will present a series of case studies from > 15yrs of school-based research to explore the contexts and circumstances where CDP interventions have continued or ceased once implementation support has stopped.

METHODS/RESULTS: Example 1: Crunch&Sip’ – teachers provide a time in class for children to eat a piece of fruit/vegetables that they have brought from home. The program was first introduced in 2006 and achieved a high level of implementation across a large population of Australian schools (pprox.. 80%) following an initial 11–15 month implementation period. 10 yr longitudinal data from a population monitoring survey found the program continued to be implemented in > 90% of schools that had initially implemented it.
Example 2: A 12-month multi-strategy intervention was undertaken to support NSW schools’ implementation of a mandatory physical activity policy. Overall 400 teachers provided primary outcome data. Immediately following the intervention, intervention teachers recorded a greater increase in weekly minutes of physical activity than control (approximately 44.2 min). At longer term follow-up the effect size had significantly dropped 27.1 min.

CONCLUSIONS: Policy makers and practitioners will, through case study analysis, identify characteristics of interventions, contexts and initial implementation support strategies that influence CDP to sustain or are at risk of failing.

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PATIENTS WITH FUNCTIONAL DISORDERS – IS SOCIODEMOGRAPHIC AND HOSPITAL CHARACTERISTICS DIFFERING BETWEEN THOSE NOT TREATED AND THOSE TREATED AT THE CLINIC FOR FUNCTIONAL DISORDER? – A REGISTER-BASED STUDY

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Background
Functional somatic syndrome (FSS) reduces functionality and life quality, which cannot be attributed to a known somatic disease. Around 16% of the general population in Denmark suffer from FSS. Patients with FSS have greater risk of sick leave and unemployment compared to healthy controls and is associated with greater health care costs.

Purpose
How does patients referred to specialized treatment (Clinic for Functional Disorder; CFD) differentiate from those not referred to specialized treatment in terms of diagnoses, contacts to healthcare providers and work participation 12 months and 60 months prior to being diagnosed with a functional disorder.

Method
The study was a register-based study of patients discharged from hospital with functional disorders in the northern part of Denmark between 2019–2021. Sociodemographic variables, work ability and hospital contacts from up to 5 years before were identified from registers.

Results
We identified 6,831 patients discharged with FSS between 2019–2021. Of these 160 were referred and treated at CFD. Being female, having multiorgan FSS, having a reduced or no attachment to the workforce and being treated as outpatient increased the likelihood of being referred to CFD. However, having a somatic and psychiatric co-morbidity did not increase the likelihood of being referred to CFD. All patients developing FSS increased their contacts to the hospital the proceeding 5 years prior being discharged with FSS.

Conclusion
Patients with FSS were more likely to be referred to CFD if they were female, had multiorgan FSS, reduced or no attachment to the workforce and treated as outpatient.

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SUPPORTING GPs AND PEOPLE WITH HYPERTENSION TO MAXIMISE MEDICATION USE TO CONTROL BLOOD PRESSURE: PROTOCOL FOR A PILOT CLUSTER RCT OF THE MIAMI INTERVENTION

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Background
A landmark study of twelve high income countries from 1976–2017 concluded that hypertension ‘control rates have plateaued in the past decade, at levels lower than those in high quality hypertension programmes’. International comparisons suggests that in Ireland there are relatively low levels of awareness of hypertension and relatively poor levels of control and suboptimal treatment. Recent international guidelines have stated that ’poor adherence to treatment – in addition to physician inertia—is the most important cause of poor blood pressure (BP) control’. The ‘MaxImising Adherence, Minimising Inertia’ (MIAMI) intervention, which has been developed using a systematic, theoretical, user-centred approach, aims to support general practitioners (GP’s) and people with hypertension to maximise medication use.

The Behaviour Change Wheel and Collective Intelligence methodology were used in development.

Purpose
To provide feasibility data to allow us to (1) refine the MIAMI intervention, and (2) determine the feasibility of a definitive RCT.

Method
A pilot cluster RCT with an intervention arm and a control arm. The intervention arm is the MIAMI intervention and the control arm is usual care. Eligible patients are those aged over 65 years with a confirmed diagnosis of hypertension, on at least two hypertensive medications and whose blood pressure readings are not at target.

Results
Five out of six general practices have been recruited and patient recruitment to a target of 60 patients has now begun.

Conclusion(s)
This feasibility study will inform the decision as to whether a full definitive trial is both warranted and feasible.

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MIRROR, MIRROR, ON THE SCREEN: CODESIGN OF A BREATHING RETRAINING AVATAR INTERVENTION

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Background:
Breathing pattern disorder (BPD) affects roughly 10% of the UK population with similar estimations worldwide. Symptoms can include air hunger and hyperventilation. Breathing retraining is the most effective treatment however has suboptimal adherence. This study describes the use of the Capability, Opportunity and Motivation (COM-B) framework with co-design to co-develop a digital avatar (twin) to strengthen clinic-based breathing retraining.

Method:
Intervention development included iterative mixed methods: 1) A targeted scoping review was undertaken to identify effective intervention characteristics. 2) People with BPD participated in workshops exploring BPD and treatment experience and to codesign the avatar 3) A workshop with clinicians discussed treatment procedures and avatar integration. Data was analysed thematically using the COM-B Framework to propose the theoretically informed digital intervention.

Results:
The review revealed limited literature on digital breathing retraining interventions. Current barriers to breathing retraining noted by clinicians and patients was poor self-efficacy and low understanding of diaphragm control. During periods of distress, patients struggled to remember breathing exercises. Patients and clinicians believed avatar use could strengthen association between observable body movement and physiology and may assist self-efficacy, provide positive reinforcement and act as a visual aid to strengthen post-clinic practicing. Clinicians wanted an adaptable system for the wide range of individual needs that could increase understanding and minimise risk of information overload.

Conclusions:
The codesign process along with a theoretical framework was successful in producing a proposal for an individualized digital avatar that may assist in building motivation through strengthening interoceptive awareness and supporting capability.

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ONLINE VS IN-CLASS EDUCATION ON HEALTH COMMUNICATION SKILLS FOR UNIVERSITY STUDENTS: A PILOT STUDY IN JAPAN

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Background: Online educations are already a common method of teaching university students, however little is known about the impact on practical skills such as health communication.

Purpose: This study aimed to determine whether online health communication exercises for university students utilizing a counseling video are as effective as in-class exercises in improving comprehension and confidence.

Method: The study programs were conducted in 2020 (online) and 2021 (in-class) for attaining a license of clinical psychologists, physical therapists, occupational therapists, speech therapists, or orthoptists. The students watched an e-learning program (30 min) and undertook practical communication exercise using a counseling video (90 min). The video was developed to make students think about the counselors' responses to the client's problems. A self-completed questionnaire included the visual analogue scale of comprehension and confidence related to health communication and the listening skills scale, and measured before e-learning, after e-learning, and after the lecture.

Results: One hundred and thirty-nine students participated in online lecture and 136 students participated in in-class lecture. The online group significantly improved the comprehension and confidence scores across the three points ($MD = 8.54$; $MD = 7.30$). However, there was no significant difference in the listening skills score across these points ($MD = 2.57$).

Conclusion: Our findings suggest that online health communication exercises utilizing a counseling video contributes to the promotion of comprehension and confidence of university students as well as in-class exercises. Interactive, student-directed exercises would be especially useful in online health communication education.

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PREOPERATIVE OPTIMIZATION OF CARDIAC VALVE PATIENTS' EXPECTATIONS: THE ValvEx-TRIAL (RCT)

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Background: Recovery after surgery depends on psychological factors such as expectations. Prior studies have shown that a preoperative psychological intervention aiming at optimized expectations (EXPECT) can improve postoperative outcomes in bypass patients. Implementing the intervention into daily clinical practice has been difficult due to the additional appointments required.

Purpose: This multi-center study aims to i) adapt the effective EXPECT-intervention to make it brief enough to be easily integrated into the clinical setting and ii) to expand this approach to heart valve patients to improve their recovery.

Method: In two German hospitals, N = 89 patients undergoing valvular surgery are randomized into two groups after baseline assessments. One group participates in EXPECT in addition to standard medical care. Both groups have assessments again the evening before surgery, 4–6 days, and 3 months after surgery. Primary outcome is illness-related disability (PDI). Secondary endpoints are health-related quality of life (SF-12, MLHFQ), rehospitalization rate, and others.

Results: N = 89 patients have been included [M(age) = 61.77, SD(age) = 10.65, range(age) = 32–98; 31.6% female]. The study demonstrated high feasibility and utilization by patients. Three months after surgery, patients report a substantial benefit as a result of the expectation-optimizing intervention. Especially the positive-realistic view on activities and side effects, as well as the best possible self had helped them to feel strengthened and encouraged.

Conclusions: The ValvEx-trial has the potential to reveal the effects of EXPECT on heart valve patients' recovery process. It could further pave the way for integrating a preoperative psychological intervention into the daily hospital routine for patients undergoing valvular surgery.

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DESIGNING A CO-CREATED INTERVENTION TO PROMOTE MOTIVATION AND MAINTENANCE OF TIME-RESTRICTED EATING IN INDIVIDUALS WITH OVER-WEIGHT AND TYPE 2 DIABETES

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Background: Time-restricted eating (TRE) is an intermittent fasting regimen limiting the con-sumption of food and beverages to the same daily time window suggested to improve glycemic control and body weight. Adoption and maintenance of TRE in daily living is important for investi-gating the effects of TRE and also, for the potential of TRE as a possible treatment strategy in the future.

Purpose: To design an appealing TRE intervention by exploring behavioral and social mechanisms impacting TRE adoption and maintenance among people with type 2 diabetes (T2D) and over-weight.

Method: Intervention development combined empirical data and the sense of coherence theory. Empirical data sources included seven workshops and eight semi-structured interviews with people with T2D and overweight, their relatives, and healthcare professionals (HCPs) based on theoretical and empirical assumptions about how the intervention will work. Descriptive qualitative data anal-ysis was conducted.

Results: The analysis suggested designing the TRE intervention in two phases: a short period with strict TRE, followed by a longer period focusing on adapting TRE to individual needs with support from HCPs, relatives, and peers. To reinforce TRE motivation and maintenance, HCPs should adopt a whole-person approach incorporating a focus on participants' previous experiences and every-day life.

Conclusion: The findings serve as basis for formulating design features and content of TRE interventions. Applying this knowledge, future TRE interventions targeting people with T2D and overweight are likely to have improved retention rates and adherence to the target eating window.

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PUBLIC POLICIES FOR HYBRID CARE SYSTEM IN MENTAL HEALTH

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Background: Mental disorders are a severe social problem, affecting a significant percentage of the population and constituting the primary source of disease burden. The COVID-19 pandemic impacted mental health and positioned digital health as an effective complement to care modalities to mitigate the consequences of face-to-face care suspension. In this scenario, telehealth has the potential to mitigate diverse barriers to mental health care access in Chile.

Purpose: To propose guidelines for a hybrid care policy in mental health.

Method: Qualitative study based on a review of the evidence. Twenty semi-structured individual interviews with professionals at the central, regional and local levels, and individual and group interviews with ten users were performed. The data was analyzed with a content analysis method.

Results: Professionals agree that suspension of mental health care precipitated the use of hybrid mental health in Primary Care without technical guidance from the central level, leading to self-management process for implementing modalities for rescuing, monitoring and control of patients. New practices were introduced progressively in a vast repertoire of remote care. Users highly evaluated the Hybrid Mental Health care experiences, giving it the same value as face-to-face care. Eight guidelines for implementing a hybrid mental health public policy in Chile are proposed based on the identified gaps.

Conclusion(s): Telehealth is a relevant strategy to improve mental health services at the primary care level and may reduce barriers to availability, acceptability and accessibility. It is recommended to consider the gaps identified for implementation and contemplate additional resources for mental health.

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DEPENDENT ADULTS. QUALITATIVE STUDY

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Background: Aging is associated with people's physical and mental health deterioration, related to functional dependence and the need for care and help. In Chile and the rest of the region, this mobilizes governments to generate policies and strategies that respond to the challenges faced by caregivers of older adults with some degree of dependency.

Purpose: To identify the perception of formal and informal caregivers and program managers who work with dependent elderly regarding the perceived needs around care.

Method: Qualitative descriptive study. Twenty-three semi-structured interviews were carried out, fourteen with informal caregivers, four with formal caregivers, and five with public and private organizations managers. Data analysis follows the principles of Grounded Theory.

Results: Findings show that the perception of formal and informal caregivers and program administrators are similar regarding the resources available for care, the caretaking family's role, and mental health consequences for the elderly and caregiver. Everyone perceives that, although there is support from the State, this offer is insufficient, especially in the mental health area. At the level of the caregivers is verified a perception of abandonment and vulnerability in their work. The role of the service manager versus a decision maker around home care programs is discussed.

Conclusion: The different social actors are aware of the precarious conditions that home care programs have to respond to the needs of the dependent elderly. The challenge is how to mobilize economic decision authorities to account for a condition that includes the mental health needs of formal and informal caregivers.

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THERAPEUTIC ALLIANCE IN PHYSICAL THERAPY UNDERGRADUATE TRAINING

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Background: Therapeutic Alliance contemplates relevant clinical skills for interaction with people and agreement on health intervention objectives and modalities. It has shown positive effects on several health outcomes. Physiotherapy international associations recommend including therapeutic alliance as a basic skill in educational and undergraduate curricula.

Purpose: To evaluate which dimensions of Therapeutic Alliance are taught, trained and/or evaluated in preclinical and clinical courses in undergraduate physiotherapy training.

Method: Mixed method study. A scoping review was carried out. Learning objectives, contents and teaching activities related to therapeutic alliance skills training were identified in programs and calendars of undergraduate courses. The degree of knowledge about therapeutic alliance was identified in 19 preclinical teachers and 17 clinical tutors through surveys, interviews and focus groups.

Results: Three thematic lines were identified that congregate theoretical concepts and skills described in the literature. Clinical tutors reported not formally knowing the concept, while preclinical teachers reported having a relatively accurate idea. Both groups of teachers correctly mentioned some skills and theoretical concepts of the therapeutic alliance. Some teaching activities related to effective communication were identified but were not included in course programs and calendars. In addition, they are not conceptualized from a theoretical framework. Teachers acknowledge the need to include Therapeutic Alliance in the training of undergraduate students.

Conclusion(s): The degree to which Therapeutic Alliance is present in the curriculum and the degree of knowledge teachers at all levels was described. This will contribute to strengthening the implementation of these concepts and skills in the new physiotherapy curriculum.

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EXPERIENCE IN THE USE OF VIDEOS FOR THE PROMOTION OF PHYSICAL EXERCISE AT HOME IN ONLINE MODE IN OLDER ADULTS IN CHILE DURING THE COVID-19 PANDEMIC

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Background: Quarantine during the COVID-19 pandemic affected the population over 60 years of age due to their greater vulnerability and social isolation associated with the suspension of private and public activities. Sedentary habits because of confinement cause relevant deleterious effects on the health condition of the elderly. Physical activity and exercise are a strategy to prevent loss of functionality, preserving and improving functional independence and survival, and the use of videos for exercising at home has shown benefits in functional parameters and quality of life.

Purpose: Describe usability, actionability and understanding of videos to promote exercise at home during confinement, analyzing the population characteristics, satisfaction, adherence, and barriers to physical exercise.

Method: A cross-sectional design study. Home-based videos of physical exercise and education about pain were created for people over 60 years old and distributed in the Metropolitan Region (Chile) between October to December 2020. Participants had to use these videos independently at home for four weeks. A voluntary sample who received these videos was surveyed.

Results: Thirty-four participants rated the videos as understandable and actionable. Usability was lower in people who perceived a lower level of technological management. Average adherence was two days a week for 2.5 weeks. The main perceived barrier was the lack of will in people who used to perform group physical exercise.

Conclusion(s): Videos were well-evaluated by the elderly population. The technological gap can be a limitation for easy use. Interventions that favour social interaction should be considered to promote interpersonal motivation.

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NATURE-RELATED HABITS AND THEIR DEVELOPMENT AND RELATION TO MENTAL HEALTH OUTCOMES DURING THE COVID-19 PANDEMIC: A POPULATION-BASED STUDY IN SWEDEN

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Background
Mental health disorders represent a major public health concern, and significantly contribute to the global burden of disease. The Covid-19 pandemic posed additional challenges for mental health. Spending time in natural environments has been linked to numerous health benefits.

Purpose
Therefore, the present study investigated the role of different types of nature-related habits for symptoms of depression, anxiety, and loneliness, and their development during the pandemic 2019–2022, in Sweden. Further, we investigated whether nature habits could buffer negative effects of major life events on mental health outcomes (MHO).

Method
Different types of nature-related habits, symptoms of depression, anxiety, loneliness, major life events, and control variables were assessed via self-report measures, in a sub-sample of respondents to the Swedish Occupational Survey of Health, in 2021 (n = 1 896), and 2022 (n = 1 579). Sequential linear regressions were conducted to analyze relationships between nature-related habits and MHO, while controlling for demographics, SES, relationship status, and pre-pandemic MHO.

Results
Spending time in nature was consistently associated with fewer symptoms of depression, anxiety, and loneliness during the pandemic after adjusting for control variables. Especially spending time in forest and garden environments were associated with better mental health. Spending time in garden environments buffered effects of major life events on symptoms of depression and anxiety, but not loneliness. Increased nature habits during the pandemic related to improved MHO.

Conclusions
Spending time in natural environments during the Covid-19 pandemic led to better MHO, with implications for urban development and public health promotion.

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THE ROLE OF RESIDENTIAL GREENSPACE QUALITIES AND IT'S CLOSENESS FOR MENTAL HEALTH AND SLEEP OUTCOMES: RESULTS FROM LONGITUDINAL STUDIES ON NATIONWIDE POPULATION-BASED COHORTS IN SWEDEN WITH FINE-GRAINED ASSESSMENTS

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Background:
Mental health and sleeping problems are public health concerns associated with vast costs for society and individuals.
Exposure and access to natural environments in terms of greenspace (vegetation) are associated with a range of benefits such as enhanced affect and cognition, and decreased stress. However, population-based studies investigating high-resolution, individual-level residential greenspace are yet lacking, as population-based studies have mainly assessed greenspace at the level of larger areas rather than the individual level. Furthermore, studies on residential greenspace and sleep are scarce.

Objective & methods:

Thus, in a set of large-scale population-based longitudinal studies, on nationwide cohorts in Sweden, objective high-resolution individual-level residential greenspace land cover assessments were made and the role of different greenspace qualities were investigated longitudinally for: 1) self-reported sleeping problems (n = 19 375), 2) objective prescription medication purchase in terms of a) insomnia medications and b) antidepressants (n = 99 036), while controlling for individual and neighbourhood confounders. Multilevel and generalized estimating equation models were conducted to estimate effects.

Results:

Results across studies showed that more residential greenspace primarily in the immediate residential surrounding (50 m and 100 m buffer zones around home) is associated with 1) less sleeping problems, and 2) lower risk of purchasing insomnia and antidepressant prescription medications. Furthermore, among physically active, greenspace further from home also associated with less sleeping problems.

Conclusions:

Results highlight the role of greenspace in the immediate residential surroundings for mental health and sleep outcomes, and the importance of integrating health-, environmental-, urban development- and greening policies, also mitigating climate change.

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EFFECTS OF DIFFERENT ASPECTS OF ATTENTION CONTROL AND MALADAPTIVE EXECUTIVE PROCESSING ON DAILY SOCIAL FUNCTION

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BACKGROUND

A common abnormality of information processing in psychiatric disorders is the attention control impairment and the use of maladaptive executive processing (i.e., CAS). Attention control is hypothesized to be divided into two components: attention control ability (e.g., sustained attention, attentional shift), which is a cognitive ability, and attentional strategies, which are active strategies in everyday situations. In addition, CAS includes maladaptive attentional strategy for threat. This maladaptive attentional strategy is assumed to differ from active attentional strategies.

AIM

This study examined differences in CAS, attention control ability, and attentional strategies, and their effects on social function.

METHODS

Forty-eight undergraduate and graduate students were asked to perform an emotion interference task measuring sustained attention and a conflict adaptation task measuring attentional shifts. They were also asked to respond to ecological momentary assessment (items related to CAS, attentional strategies, and social function) for one week.

RESULTS

Multilevel correlation analysis revealed weak correlations between CAS items and attention control ability ($r = 0.32 \sim 0.41$) and attentional strategies ($r = 0.01 \sim 0.36$). While the attentional strategies were correlated with both self- and task-focused attention, the CAS items were correlated only with self-focused attention. Hierarchical linear models with each item transformed into quartiles as the independent variable and social function as the dependent variable revealed significant group differences between the highest and lowest groups in attentional strategies and attentional shifts.

CONCLUSIONS

Although some associations were found between CAS, attention control ability, and attentional strategies, from a treatment perspective, it may be useful to discriminate and target interventions.

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ARE CANADIANS OPEN TO RE-INTRODUCING MASK MANDATES TO PREVENT FURTHER RESPIRATORY ILLNESS?

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Background: As of Fall, 2022, several countries, including Canada, are facing a triple threat of respiratory illness (i.e., COVID-19, influenza, and respiratory syncytial virus) that is placing a significant burden on health systems. Although health authorities recommend wearing masks indoors, no mandates to do so have been re-introduced since they were lifted in March 2022.

Purpose & Methods: This study assessed population attitudes towards the re-introduction of mask mandates in Canada, and their socio-demographic predictors. As part of the iCARE study (http://www.icarestudy.com) we analyzed data from a representative sample of Canadian adults (N = 3,015) recruited online between September 5 and 12, 2022.

Results: Most Canadians reported being in favor of re-introducing indoor mask mandates (70%). Positive attitudes towards re-introducing indoor mask mandates were associated with being a woman (OR = 1.32; 95% CI 1.08–1.62), having a graduate or postgraduate degree (OR = 1.62; 95% CI 1.28–2.05), having a chronic disease (OR = 1.31; 95% CI 1.06–1.62), being fully vaccinated (OR = 1.67; 95% CI 1.23–2.30), and receiving a COVID-19 vaccine booster dose (OR = 6.04; 95% CI 4.61–7.91). Being currently employed (OR = 0.73; 95% CI 0.58–0.92) and having recovered from a COVID-19 infection (OR = 0.64; 95% CI 0.52–0.79) were associated with lower odds of favoring the re-introduction of such mandates.

Conclusion: Findings suggest that most Canadians would favor the re-introduction of mask mandates if the pandemic situation worsened. Support is particularly strong among people who received a booster dose. Should authorities seek to re-introduce mandates, it will be important to examine ways to garner support from the remaining 30% of Canadians.

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USING ROUTINELY-COLLECTED HEALTH DATA TO INVESTIGATE AUTOMATICITY IN CLINICAL BEHAVIOUR: A SCOPING REVIEW

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Background: Clinician behaviour change interventions often focus on reflective determinants of behaviour while ignoring automaticity. Routinely-collected health data may provide new opportunities to explore the impact of automaticity on real-world clinical behaviours.

Purpose: Conduct a scoping review mapping how routine data has been used to investigate automaticity in clinical behaviour.

Method: MEDLINE, EMBASE, CINAHL, and PsycINFO were searched. Two independent reviewers screened records. Extracted data covered clinical contexts (setting, clinical behaviours), routine data sources, automatic processes investigated, and findings. Data are being narratively ynthesized.

Results: Searches identified 17,696 records; we included 44 studies. Studies were published 1990–2021; 73% took place in the USA, 75% in hospital settings; and 70% focused solely on physicians. Clinical behaviours included screening/testing, prescribing, diagnosing, and triaging. Routine data sources included patient health records, and insurance and population-based health databases. Many studies explored specific manifestations of automaticity (e.g. demonstration of the availability heuristic whereby rare adverse responses to medications reduced the likelihood of future appropriate prescribing). Others explored predisposing conditions to automaticity (e.g. reduced incidence of cancer screening ordering over a clinic day as demonstration of decision fatigue); investigated the accuracy of automaticity (e.g. assessing intuition regarding the likelihood of negative patient outcomes and comparing this to subsequent occurrence); or capitalized on automaticity to optimize interventions (e.g. modifying default selections within electronic order sets).

Conclusions: We identified a range of ways in which automaticity may be investigated using routine data; this is an under-utilized approach that can support the development of automaticity-informed clinical behaviour change interventions.

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A MULTIGROUP PRAGMATIC RANDOMIZED CONTROLLED TRIAL EXAMINING EFFECTS OF APP-BASED AT-HOME EXERCISE ON PSYCHOLOGICAL FUNCTIONING AND PHYSICAL HEALTH: SECONDARY ANALYSES FROM THE COVID-19 PANDEMIC AND EXERCISE (COPE) TRIAL

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Background: Exercise has numerous physical and mental health benefits. However, with the rapid rise in mental health problems and the shutdown of fitness facilities early in the pandemic, there emerged an urgent need to explore safe, innovative exercise intervention approaches to support psychological functioning.

Purpose: Exploring the secondary outcomes from this randomized trial that investigated the effects of six weeks of at-home, app-based, exercise on measures of mental and physical health during the early stages of the COVID-19 Pandemic. Primary outcomes are reported elsewhere.

Methods: The COPE Trial (May – Sept 2020) was a six-week app-based (Down DogTM), at-home, exercise intervention with 334 participants randomized to one of four arms: High-intensity interval training (HIIT), Yoga, HIIT + Yoga, or a waitlist control. Secondary outcomes included factors associated with psychological health (e.g., flourishing, life satisfaction, resiliency, psychological distress). Effect sizes were calculated using Feingold's method.

Results: Participants in the HIIT + Yoga group (vs. waitlist) experienced improvements in flourishing (d = 0.36), life satisfaction (d = 0.35), self-reported mental health (d = 0.39), resiliency (d = 0.30), and positive affect (d = 0.58), but not negative affect, chronic burden, and psychological distress. Participants in the HIIT and Yoga groups had less consistent effects on psychological functioning, likely a function of the lower adherence in these two groups compared to the combined group.

Conclusion: At-home exercise, especially when variety is provided, improved positive facets of psychological functioning during the early months of the pandemic. Promotion of app-based exercise may provide a crucial resource for psychological functioning during the later stages of the pandemic.

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UNDERSTANDING TRENDS IN STUDENT MENTAL HEALTH: IMPACT OF COVID-19 ON CANADIAN UNIVERSITY STUDENT WELLBEING, SENSE OF NORMALCY, AND TREATMENT SEEKING BEHAVIOUR

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Background: Previous studies have highlighted stigma and embarrassment, poor mental health literacy, and preference for self-reliance and existing social support networks as key barriers to help-seeking amongst adolescents and young adults with mental health problems (1–2). COVID-19 added an additional stressor for students. Early studies have found that students experiencing increased stress during this time engaged in fewer coping strategies (3), experienced increased anxiety and fear (4–5), and a loss of control (6).

Purpose: Our aim is to better understand how the pandemic has impacted students' wellbeing, sense of normalcy, and help-seeking behaviour.

Method: Analysis was performed on data from Sept 2020 to Sept 2022 (N = 12,376) from a repeated cross-sectional student mental health and substance use survey administered weekly at the University of British Columbia.

Results: Overall, 63.4% of students reported being unaffected by the COVID-19 pandemic or affected but able to manage. Students indicated that they found life moderately disrupted compared to the 'norm' prior to the COVID-19 pandemic. When thinking about the month they were most affected by COVID-19, most students indicated 'severe' or'very severe' stress due to concerns about the health of their loved ones and their own increasing social isolation.

Conclusions: The COVID-19 pandemic affected the wellbeing of a majority of students, with a large portion able to manage or find help. Better understanding of the impact of the COVID-19 pandemic on student mental health and treatment seeking can help inform much-needed structures and supports in situations of larger systemic stress.

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CO-DEVELOPMENT OF MINDER: A COMPREHENSIVE MENTAL HEALTH AND SUBSTANCE USE MOBILE APPLICATION FOR CANADIAN UNIVERSITY STUDENTS

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Background: E-interventions have the potential to provide prevention and early intervention for various mental health and substance use issues in a low-cost, scalable manner. However, many e-tools fail to engage and retain users. Co-developing interventions has been previously suggested as a way to better meet the needs of the targeted population.

Purpose: Our objective is to co-develop a mental health and substance use mobile application for Canadian university students.

Methods: We engaged stakeholders in a multi-methods approach, including forming a Student Advisory Committee (n = 26), engaging student-staff and volunteers (n = 44), and receiving feedback from end-users through an online bootcamp (n = 40), pilot study (n = 101), and focus groups (n = 14). Throughout this process, we have made continuous improvements which have resulted in the current version of the Minder application.

Results: We have produced a comprehensive e-intervention to support university students with their mental health and substance use (alcohol, cannabis, opioids, stimulants). It includes four main components: a chatbot delivering evidence-based activities (CBT, DBT, MCT, Mindfulness and psychoeducation), a services matching tool, a directory of community groups, and trained peer coaches. The activities contain content for University Life, Wellness, Stress & Anxiety, Sadness, Relationships, and Substance Use.

Conclusions: This process has allowed us to gain invaluable feedback from a variety of stakeholders and highlights the importance of considering the credibility, appearance, and ease-of-use in designing e-interventions in order to improve engagement. Using various approaches to engage stakeholders should be considered in further e-mental health research to better understand and address the needs of the population.

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SEX DIFFERENCES IN WEIGHT SELF-EFFICACY AND POST-SURGICAL WEIGHT LOSS IN BARIATRIC SURGERY PATIENTS

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Background: Though bariatric surgery is the most effective treatment for severe obesity, there is individual variability in clinical key outcomes, e.g., weight loss and reduced comorbidities. Differences in outcomes have been observed between sexes, including weight self-efficacy- an individual's ability to adhere to healthy eating behaviours when facing obstacles. Sex differences in the associations between weight self-efficacy and surgery-induced weight loss have yet to be explored.

Purpose: To evaluate the association between baseline weight self-efficacy and post-surgical weight; and explore the impact of biological sex on this relationship.

Methods: A total of 263 participants (212 female, 51 male) undergoing bariatric surgery completed the 20-item Weight Efficacy and Lifestyle (WEL) Questionnaire pre-surgery, with height and weight assessed pre-(baseline) and 6-months (FU) post-surgery, with body mass index (BMI), % total body weight loss (%TBWL), and % excess body weight (%EBW) calculated.

Results: Multiple linear regressions found no significant associations between baseline WEL scores and FU weight. However, there were significant interactions between sex and WEL subscales for %EWL ($F = 6.44–14.34$, $p < 0.05$). In males, the WEL subscales were negatively associated with %EWL. In females, there were no significant associations between WEL scores and %EWL. There were no other significant interactions.

Conclusion: Greater baseline weight self-efficacy was associated with less weight loss in males, but not in females. This work provides initial insights into the potential future development of sex-specific interventions.

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THE IMPACT OF COLLEGE EDUCATION ON SMOKING BEHAVIOR: AVERAGE AND HETEROGENOUS EFFECTS

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Background: Smoking initiation and cessation jointly determine the prevalence of smoking, which is harmful to public health. Thus, figuring out the determinants of smoking onset and quitting is important. Despite substantial literature on the effects of education on smoking behavior, researchers have not examined the variation in effects by the probability of selection into college.

Purpose: This study aimed to figure out the average effect of college attendance on smoking initiation and quitting, as well as the variation in effects by the probability of selection into college.

Method: Data came from the National Longitudinal Survey of Youth 1997. The binary logistic regression analysis was used to estimate the average effect. As for the heterogeneous effect, the probit regression model was used to calculate propensity scores for each observation. Then we used binary logistic regression to estimate the treatment effects within each balanced propensity score group. Finally, we also summarized the trend in the variation of effects.

Results: The results revealed that college attendance could reduce the probability of smoking initiation and increase the likelihood of quitting in general. However, when disaggregating the effects of college attendance by propensity score strata, we found that as the propensity scores for going to college increased, the protective impact of college attendance on smoking initiation diminished, and there were no significant effects on quitting within each stratum.

Conclusions: This article enriched research on education impacts on smoking and had some implications for policymakers.

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THE ROLE OF CULTURE IN PSYCHIATRY: ADAPTING GRIEF ASSESSMENTS AND INTERVENTIONS FOR HUMANITARIAN MIGRANTS

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Prolonged grief disorder (PGD) is a new addition to the WHO ICD-11 and the DSM-5 TR disease classification system. As a new disorder, it stands to improve diagnostic precision, enhance communication among professionals and patients, and lead to improved treatments. However, it remains to be determined if the new PGD items are applicable to different cultural groups. Here we develop and validate an adaptable scale, based on the ICD-11 PGD criteria, specifically for humanitarian migrants. 121 migrants completed the new measure online in two parts. Part one included the standard ICD-11 criteria and part two adapted grief items for migrants. Psychometric analysis confirmed excellent reliability for both scales. The method for adaptation is described and the implications for intercultural research and clinical consultation are discussed. An assessment measure that can validly assess core symptoms of grief as well as preserving the unique and personal experience of grief will improve diagnostic precision and treatment planning.

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DEATH NOTIFICATION IN CRITICAL CARE: TRANSFORMING AMBIGUITY INTO OBJETIVITY IN ADDRESSING THE TASK

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Background: Death notification is a frequent and stressful task in critical care medicine. Several studies have describe the implementation of training protocols that improve skills communication and self-confidence of physicians; nevertheless, descriptions of trained behaviors are ambiguous and unclear, which may lead to biases in evaluation of results and complicate their replicability.

Purpose: The aim of this study is to develop operational definitions of the behaviors and propose a death notification protocol that are clearly and objectively observable by independent observers.

Method: A task analysis was conducted to identify the target behaviors required in an adequate death notification via literature review, direct observation of the behavior in a real-world setting, and by consulting an expert. Then, a concordance study was conducted to assess the inter-rater reliability of defined behaviors by observing three videos of simulated death notifications.

Results: 19 operational definitions was created and added to an observational checklist of behavioral skills. In addition, a catalog of behaviors was developed with examples and counterexamples of performing behaviors. These instruments were sent to tow evaluators for a concordance study and we obtained the following values: Video 1: interobserver agreement = 0.7, Video 2: interobserver agreement = 0.9, Video 3: interobserver agreement = 0.8.

Conclusion: This study is the first phase of a death notification training protocol for physicians we are developing. In this important task, we seek to objectively assess skills, minimizing interpretation biases and improving assessment accuracy as well as the internal and external validity of data.

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DISCORDANT REASONS FOR DISCONTINUATION BETWEEN PATIENTS ON LONG-TERM OPIOID THERAPY AND THEIR OPIOID-PRESCRIBING CLINICIANS

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Background: Opioid prescribing in the U.S. reached its peak in 2012 and has had a steady decline in the past decade. Some have postulated that universal opioid deprescribing results in patient confusion about pain management directives.

Purpose: The purpose of this qualitative study was to examine patient understanding of the reasons for opioid discontinuation, relative to clinician reasons.

Method: Data from the current study are drawn from a national prospective cohort of 1,381 U.S. veterans on long-term opioid therapy.

Patients who discontinued opioids were invited to participate in a qualitative interview that ascertained patient understanding of reason for discontinuation. Trained coders abstracted reason for discontinuation from the electronic health record (HER) for all interviewed patients. We coded reasons for discontinuation as (1) Patient-Initiated, (2) Clinician-Initiated due to heightened risk, and (3) Clinician-Initiated due to system pressures.

Results: Thirty-two patients completed qualitative interviews (Mean Age = 60 years, 53% female, 47% BIPOC). Based on HER review, only 1/3 of patients (n = 11) discontinued due to system pressures. Contrast this to qualitative interview data which revealed that over ¾ (n = 25) stated system pressures were explained as the discontinuation reason by the clinician. One patient stated, "He [provider] said it was sort of a direction from the VA. It wasn't his choice, it was—he was being directed to."

Conclusions: According to patients, VA providers assign responsibility for opioid tapers and discontinuation to the system. While this approach has potential to spare the patient-provider relationship, it may undermine trust, openness, and processes of shared decision making.

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MOTIVATION, INJURY PREVENTION, AND THE INCIDENCE OF SPORTS INJURIES: A THREE-WAVE LONGITUDINAL TEST OF SELF-DETERMINATION THEORY

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Background:
Sports injury is a common cause of unintentional injuries in adolescents. The effectiveness of sports injury prevention depends largely upon individuals' long-term commitment. A better understanding of the psychosocial factors that underlie adherence to injury prevention is informative to future intervention design.

Purpose:
This study applied self-determination theory (SDT) as a psychological framework to examine whether psychological need support and autonomous motivation predict sports injury preventive behaviours and the incidence of sports injuries.

Method:
2042 secondary school students (mean age = 14.33, male = 44.3%) from China completed a survey of the study variables (using established scales) at three time points (baseline, 1-month follow-up, 3-month follow-up). Structural equation modelling examined the core tenets of SDT by testing if the change-scores of the SDT variables (i.e., psychological need support, motivation, and adherence) between baseline and 1-month follow-up, were predictive of sports injury incidence assessed at 3-month follow-up.

Results:
Our model demonstrated acceptable goodness-of-fit parameters (CFI = 0.97, TLI = 0.96, RMSEA = 0.03, and SRMR = 0.05). The relationships between psychological need support, autonomous motivation, and behavioural adherence were both positive and significant. These SDT variables predicted the future incidence of sports injuries.

Conclusion:
Our study provides evidence of the predictive power of SDT variables on sports injury preventive behaviours and the incidence of sports injuries: Students who perceive their PE teachers as psychological need supportive possess higher autonomous motivation and behavioural adherence towards sports injury prevention, and are also less likely to encounter sports injuries in the future.

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ADAPTATION AND VALIDATION OF THE WEIGHT EFFICACY LIFESTYLE QUESTIONNAIRE (WEL) IN A CHILEAN SAMPLE

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Self-efficacy is a cognitive-emotional factor that is consistently associated with behavioral change and, in particular, with changes in health behavior. The concept of eating self-efficacy, understood as adopting and maintaining behaviors such as controlling one's weight and trusting in one's ability to control one's eating behavior, has been proposed in managing obesity. The objective of this study was to analyze the psychometric properties of the Weight Efficacy Lifestyle Questionnaire (WEL) in a sampling of Chilean adults from the general population. the sample included 469 people from the general population in Chile (69.08% were female, mean age = 38,02; SD = 10,31). An instrumental design was used that was geared toward developing tests and psychometric instruments, including the adaptation of existing ones. Exploratory and confirmatory factor analyses were performed. The instrument version validated in Spain was applied in the study. From the analysis, an instrument of 12 items was obtained, with two factors: "Physical and emotional distress" and "External pressure". Significant correlations were found between the WEL scores and other variables that were hypothesized would be related to them. The scores of WEL also significantly correlated with the Eating Self-Efficacy Scale scores. The instrument presents adequate psychometric properties allowing its use in clinical and research contexts. It can be useful for evaluating obese patients and persons initiating or undergoing treatments for body weight loss.

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"ACTUAYA" A PROMISING INTERVENTION TO PREVENT CHRONIC DISEASE AND INCREASE HEALTH PROMOTION AMONG OLDER HISPANIC WOMEN 50 + YEARS OLD

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Background: Chronic diseases (CDs) are increasingly common in the aging population, representing significant disease prevention and health promotion challenges. Health disparities exist among CDs, such as hypertension, obesity, diabetes mellitus, and HIV infection, with ethnic minority groups such as Hispanics having a higher incidence and/or worse outcomes.

Purpose: To investigate the preliminary efficacy of ActuaYa, a culturally tailored chronic disease prevention and health promotion intervention for older Hispanic women 50 + years old (OHW).

Methods: A prospective, single-group, repeated measures design with 50 OHW was conducted in South Florida, U.S. Clinical measures and surveys were used to collect data at baseline, 3 -6 months follow-up. ActuaYa intervention was conducted in small groups of 6–8 participants in 3 weekly 2-h sessions. Data analysis included descriptive statistics, paired-samples t-tests, and McNemar tests.

Results: At baseline, more than half of the participants had a chronic disease. After the intervention at 6 months follow-up results showed a statistically significant decrease in participants' mean arterial pressure, body mass index, and glycated hemoglobin levels and a significant increase in self-efficacy for exercise and HIV knowledge at 6 months follow-up compared to the baseline data.

Conclusion: Results of this study support the preliminary efficacy of ActuaYa in preventing CDs and increasing health promotion. Prevention interventions like ActuaYa that are culturally appropriate for OHW can significantly impact individuals by empowering them to take control of their health, improving CDs, promoting healthy behaviors, and decreasing health disparities.

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SEIZING LIFE WITH BOTH HANDS: CHANGES IN GRIP STRENGTH AMONG INFORMAL CAREGIVERS INSIDE AND OUTSIDE THEIR HOUSEHOLD, AND THE SIGNIFICANCE OF AGE AND GENDER

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Background: Grip strength is an important indicator of morbidity, mortality, and successful ageing.

Purpose: This study aimed to analyze whether and how transitions into informal caregiving within and outside the household are associated with changes in grip strength, and if this varies, based on caregiver's gender and age.

Method: Data from the Survey of Health, Ageing and Retirement in Europe (SHARE) were used for longitudinal analysis with Fixed Effects regression analysis, including up to 63,842 participants aged 40 years and older from 10 European countries (pooled over waves 1, 2, 4, 5, 6). Grip strength was measured as maximum grip strength of both hands. Analyses were adjusted for BMI, health and sociodemographic factors. Age and gender were analyzed as moderators.

Results: Higher grip strength was found among those who transitioned into caregiving outside the household but not among those who transitioned into caregiving inside the household. With higher age, the association between caregiving outside the household and grip strength was stronger, and more pronounced among men. The transition into caregiving inside the household was associated with lower grip strength at older ages but was not dependent on caregiver gender.

Conclusion: The location of caregiving, and caregiver's age and gender play an important role for caregiver's grip strength. The findings suggest that caregiving outside the household may be encouraged, especially among older and male adults. Older caregivers inside the household, however, should receive more support to prevent further decline in grip strength.

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EFFECTS OF AN INTERNET-BASED COGNITIVE BEHAVIORAL THERAPY (iCBT) INTERVENTION AS A STRESS MANAGEMENT STRATEGY ON IMPROVING DEPRESSIVE SYMPTOMS AMONG NURSES IN JAPAN: A RANDOMIZED CONTROLLED TRIAL

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Background: Depression is a major health problem among nurses; hence, it is important to develop a primary prevention strategy to prevent depression among nurses.

Purpose: This randomized controlled trial aimed to investigate the effects of a newly developed Internet-based cognitive behavioral therapy (iCBT) program focusing on depressive symptoms at three- and six-month follow-ups, among nurses in Japan.

Method: The participants were recruited from 18 hospitals in Japan. The newly developed iCBT program for nurses consisted of six modules, which cover different components of CBT: self-monitoring, behavioral activation, cognitive restructuring, relaxation, and problem-solving. The outcome was depressive symptoms (BDI-II). A mixed model analysis was used to evaluate the intervention effect on an intention-to-treat principle.

Results: Nurses who met the inclusion criteria were randomized to either the intervention group or the control group (N = 105 for each group). At the three-month follow-up survey, 62 (59.0%) participants in the intervention group and 59 (56.2%) in the control group completed the survey. At the six-month follow-up survey, 53 (50.5%) participants in the intervention group and 52 (49.5%) in the control group completed the survey. The iCBT program failed to show a significant improvement in depressive symptoms at the three- and six-month follow-ups.

Conclusions: A serious limitation of this study was that the study could not fully verified the effectiveness of the iCBT program due to the small number of participants and high dropout rate. It is critical to improve the mode of content and homework delivery to enhance participants' involvement in program learning.

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DEVELOPMENT OF A PATIENT-CENTRED ASTHMA REVIEW TEMPLATE TO IMPROVE SELF-MANAGEMENT IN UK PRIMARY CARE

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Background: Supported asthma self-management (including regular clinical review, patient education, and asthma action plan provision) can improve asthma control and quality of life. Templates are frequently used in reviews to act as reminders and improve documentation, however, they can affect patient-centred care and opportunities for patients to discuss concerns and self-management.

Purpose: The IMPlementing IMProved Asthma self-management as RouTine (IMP2ART) programme aimed to develop a patient-centred asthma review template that encourages self-management.

Method: Aligned to the Medical Research Council complex intervention framework, the multidisciplinary team developed a review template in three phases: 1) Developmental phase (qualitative exploration with clinicians, a systematic review, and prototype template development) 2) Feasibility pilot phase (qualitative feedback from clinicians (n = 7)) 3) Pilot phase (delivering the template with the IMP2ART programme, incorporating patient and professional resources, and inviting feedback from clinicians (n = 6)).

Results: Template development was guided by the qualitative work that identified templates can be poorly integrated with IT-systems. The systematic review identified a need to be patient-centred and incorporate open-text options and self-management questions/education. The prototype template was developed for different IT-systems; with an opening question to establish agendas; refined content; links to patient information; a closing prompt to confirm action plan provision. The feasibility pilot phase identified refinements needed, including focusing the opening question to asthma. The pilot ensured the template integrated with the IMP2ART programme.

Conclusions: A multi-stage development process contributed to the development of the review template. IMP2ART is now being tested in a UK-wide cluster andomized controlled trial.

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THE EFFECTS OF A NON-PHARMACOLOGICAL INTERVENTION PROGRAM TO TREAT ANXIETY, STRESS AND SLEEP PROBLEMS IN PEOPLE WITH EARLY ONSET DEMENTIA

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Background: The prevalence of people with early onset dementia (EOD) (diagnosed < 65 years) is rising. When dementia kicks < 65 years, the symptoms often progress faster than is the case in regular dementia (diagnosed > 65 years). EOD often goes along with increased anxiety, stress and sleep problems, which in turn decrease heart rate variability and quality of life. Previous work in people with dementia already showed beneficial effects of educational sessions on anxiety, stress and sleep problems. Although people with EOD could also benefit from these interventions to treat anxiety, stress and sleep problems, research lacks interventions that examine these effects in this population.

Aims: The aim of this study is to examine the effects of a psycho-social intervention program on anxiety, stress and sleep problems in people with EOD in day care centers.

Methods: This randomized controlled trial (n = 90) consists out of an intervention (n = 45) and control group (n = 45). Participants in the intervention group will participate in a 12-week intervention program in which weekly sessions are organized. Participants in the control group will act as waitlist controls. All participants will be tested at baseline (week 0) and at posttest (week 12) using objective (Actigraphy; PPG Stressflow) and subjective measures (questionnaires).

Results: participants were very positive about their participation in this program. Subjectively, less anxiety, stress and sleep problems were reported. Although the measuring of concepts such as anxiety, stress and sleep in a population with cognitive decline need further research, this program can serve as a footprint for future interventions.

LATE-BREAKING POSTER PRESENTATIONS

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THE EFFECTS OF LAUGHTER YOGA INTERVENTION COMBINING WITH MINDFULNESS ACTIVITIES ON THE PSYCHOSOCIAL OUTCOMES IN ADOLESCENTS WITH INTELLECTUAL AND DEVELOPMENTAL DISABILITIES (IDD): A PILOT RANDOMIZED CONTROLLED TRIAL

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Background: People with disabilities are prone to negative feelings and emotions. Laughter yoga intervention is a complementary medicine technique.

Purpose: To preliminarily evaluate the effects of an 8-session laughter yoga intervention combining with mindfulness activities on mood, anxiety and loneliness levels in adolescents with IDD in special schools.

Methods: A pilot randomized controlled trial was adopted. A total of forty-five adolescents with IDD were randomly allocated to intervention (n = 22) and control groups (n = 23). Intervention group received a 20-min 8 sessions laughter yoga intervention combining with body scanning and deep-breathing technique. The control group received no intervention.

Results: Majority of participants were males (n = 29, 64%) aged 9–18 years old. The outcome measures of mood, anxiety and loneliness levels were assessed by the total scores of the mood scale, the State-Trait Anxiety Inventory and the UCLA Loneliness Scale across two study points (baseline-T0 and 2-week after laughter yoga intervention-T1). The effect sizes of laughter yoga intervention as estimated by the Hedges' g based on standardized mean difference of the mean changes at T1 with respect to T0 between intervention and control groups. It appears that intervention would have desirable effects on reducing trait anxiety symptoms (Hedges' g = 0.32; 95% CI:-0.28 to 0.92) and loneliness level (g = 0.47, 95% CI: -0.16 to 1.10).

Conclusions: Laughter yoga programme shows promise as an effective intervention to improve the people's psychosocial functions. It hopes that health planners and health educators may consider integrating laughter yoga intervention combining with mindfulness activities into school health policy for adolescents with IDD.

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SOME PRINCIPLES OF NATURE-BASED THERAPEUTICS: LESSONS LEARNED IN THE DEVELOPMENT OF A THEORETICALLY GROUNDED, INTEGRATED NATURE- AND MINDFULNESS-BASED HEALTH INTERVENTION

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Background: Nature-based therapies (NBT) draw increasing interest, not least since the pandemic when more researchers and laypeople noticed the health benefits of maintaining regular nature contact. Environmental psychologists have long studied how human-nature transactions aid stress-management and bolster adaptive capacities. However, exchange between environmental and treatment-oriented psychological research has been minimal.

Purpose: This presentation illuminates principles derived and applied over ten years' development and empirical testing of the Restoration skills training (ReST) course. ReST integrates theory and practical knowledge from nature-and-health research, health psychology and meditation science, aiming to 1) appeal to people with weak self-regulation capabilities (who risk non-compliance and hampered benefits in conventional programs); 2) develop their skills in drawing on available nature to prevent and recover from stress; and 3) facilitate their adoption of lasting practice habits that can yield long-term health benefits.

Methods: Over five small, consecutive RCT's mixing methods from otherwise disconnected fields, 83 students with stress or concentration problems went through five-weeks ReST while similar numbers attended different active and passive control conditions.

Results: Findings and experiences from the consecutive iterations informed theory integration and its practical application. ReST is an acceptable and promising health intervention, particularly for participants with weaker self-regulation capabilities. Restoration skills improved and practice habits and health improvements were sustained over six months.

Conclusions: Findings motivate and inform a forthcoming large-scale RCT to validate and extend an evidence-base for ReST. Its development process and principles can guide related NBT projects, furthering broad acceptance of integrated environmental and treatment-oriented health approaches.

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LITERATURE REVIEW OF OCCUPATIONAL STRESS RESEARCHES IN ASIA

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Objective.
With the increase in the number of overseas workers in Japan, there is an urgent need to promote the use of stress check systems for early detection of mental health problems among them. In this study, we will examine measures to support the implementation of stress checks for foreign workers in Japan by understanding the current status of the physical and psychosocial work environment and workplace stress management in Asian countries, which account for the majority of foreign workers, and by clarifying the findings of research on occupational stress.

Methods.
In August 2018, 146 papers were extracted by searching for the keywords "occupational stress" and "Asia" by the web version of the Igaku Chuo Zasshi (ICHUSHI) by the Japan Medical Abstracts Society (JAMAS). By country, Japan had the largest number of papers (57), followed by China (2 in Hong Kong and 1 in Shanghai) (21), South Korea (20), Taiwan (14), and India (12), while the other 9 countries had less than 5 papers. Excluding Japanese papers, 88 papers were included in the analysis.

Results.
In the Asian region, occupational stress research has made significant progress from country to country, and there are still only a few studies that focus on training for returning to work after a worker's absence from work and on responding to cases of mental disorders and symptoms.
In Japan, as a preparatory step for conducting stress checks for foreign workers, education on knowledge of the work environment and mental health and individualized responses are necessary.

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CARDIAC VAGAL IMBALANCE AND EMOTIONAL EATING: A THEORETICAL REVIEW

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Emotional eating is a maladaptive generalized behavior to regulate emotions as a momentary solution, and it is characterized by excessive food intake during states of emotional excitement or stress. The heart rate variability (HRV) as an evaluative parameter of emotional regulation indicates that the decrease of the vagal tone in the HRV is positively related to deficient self-regulation that might be associated with dysfunctional styles such as emotional eating. The explanatory emotional eating theory sustains this physiological mechanism by suggesting the sympathetic nervous system's activation and the existence of physiological incompatibilities between the action of eating and the presence of negative emotions which, instead of inhibiting the intake, boosts it. Nevertheless, evidence on the relation between the HRV and emotional eating demonstrates a predominance of the vagal response against the lower food stimulus under stress conditions. Current findings allow us to lay the foundations for the understanding of the mechanism through which HRV affects self-regulation that leads to food intake (Meule et al., 2012). This knowledge permits the diagnosis of emotional deregulations that leads to maladaptive eating behaviour such as emotional eating. Through the utilization of new technologies as machine learning sensors could be, effective methods are included to detect changes in HRV and the risk of episodes of emotional eating and maladaptive eating behaviours in real time. Besides, interventions such as hunger biofeedback can be designed and implemented as efficient coping strategies to enable people who display emotional eating behaviours to identify their physical craving sensations towards food.

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CLINICAL EFFECT OF ONLINE GROUP COGNITIVE BEHAVIORAL THERAPY FOR CHRONIC PAIN PATIENTS AND THE DEVELOPMENT OF ITS THERAPEUTIC ALLIANCE

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Aim

Chronic pain has been suggested that combined effects of psychosocial factors influence symptom formation, and Cognitive behavioral therapy (CBT) is thought to provide useful interventions to address such dysfunction. However, the insufficient accessibility of CBT has been suffering from many chronic pain patients, and much demand for remote access to psychological care has increased. We therefore tailored such online program based on our existing face-to-face CBT protocol and examined its effectiveness.

Methods

Twenty-one Japanese participants enrolled in a weekly 12 session group cognitive behavior therapy (GCBT). The primary outcome measure was pain intensity. Secondary outcome measures included pain catastrophizing and psychometric evaluations, including depression, anxiety, and quality of life. And we used short form version of Working Alliance Inventory (WAI-S) to assess the participant's awareness of their therapeutic alliance with the treatment staff. This protocol is approved by the Hiroshima University ethics committee (approved number; C2021-0321).

Results

We found that pain intensity, anxiety, depressive symptoms, and social functioning all significantly improved after treatment compared with the wait-list period, and these effect sizes were as effective as our previous face-to-face treatment. We also found that the WAI-S scores were significantly increased after treatment.

Conclusion

These results show that the present online GCBT program was effective for Japanese patients with chronic pain, similar to face-to-face GCBT. If online therapy is utilized effectively, it is possible to build a therapeutic alliance and achieve therapeutic effects, and we believe that this treatment method can be further developed in the future.

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THE EFFECTIVENESS OF GAME CODING EDUCATION IN MITIGATING PROBLEMATIC INTERNET GAMING

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Background

Problematic internet gaming in adolescents is associated with various negative outcomes, such as low self-esteem, depression, anxiety, and attention problems.

Purpose

We assessed that game coding education, by improving adolescents' self-esteem, would be more effective than game literacy education in mitigating problematic internet gaming.

Methods.

A total of 126 adolescents who voluntarily applied for the game coding education and game literacy education program of the "Visiting Game Class" project operated by the Game Cultural Foundation participated in this study. We collected data on demographics, gaming patterns, and psychological status, including positive or negative perceptions of online games, depression, and anxiety. We designated those with scores higher than 40 on Young's Internet Addiction Scale as the "problematic internet gaming" group.

Results

Only game coding education was significantly effective in decreasing internet use, lowering depressive symptoms, and improving self-esteem. In the hierarchical logistic regression analysis, more frequent education time, coding education, stronger negative perceptions of gaming, and high self-esteem predicted decreased internet gaming among participants exhibiting problematic internet gameplay.

Conclusions

Game coding education effectively mitigates problematic gaming by improving adolescents' self-esteem. Thus, it may be beneficial to increase education time and devise game education programs tailored to adolescents' psychological status.

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HERNIA ACTIVE LIVING TRIAL: FEASIBILITY STUDY OF AN EXERCISE INTERVENTION FOR PEOPLE WITH BOWEL CANCER OR IBD AND PARASTOMAL BULGING

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Background: Parastomal bulging is one of the most common complications associated with a stoma. For most cases non-operative self-management is recommended. The aim of this study was to assess the feasibility of an exercise intervention for people with parastomal bulging.

Methods: A single-arm trial followed by a feasibility RCT was conducted with a sample of 36 participants who perceived they had parastomal bulging were eligible. The intervention involved 12 sessions 1-to-1 with an exercise specialist. Surveys were conducted pre/post intervention which included quality of life and body image. Interviews with participants were conducted and thematically analysed. Researchers observed exercise sessions and scored them using the Interpersonal Support in Physical Activity Observational Tool and participants completed the Basic Psychological Needs in Exercise Scale.

Results:

- No adverse events were reported.
- Completion rate of the prescribed exercises was 92%.
- Baseline and follow up distributions were within a typical range for the QoL measure (EQ-5D descriptive score).
- Qualitative interviews suggest participants experienced a reduction in the size of parastomal bulging, improvements in body image, mental wellbeing and QoL.
- Fidelity was high; mean number of exercise sessions delivered was 8 and mean duration was 48 min.
- Exercise instructors delivered the exercise sessions in accordance with the principles of self-determination theory.

Conclusions: The exercise intervention is feasible to deliver, safe and acceptable to participants with potential beneficial outcomes.

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BEHAVIOURAL SCIENCES CONTRIBUTION TO SUPPRESSING TRANSMISSION OF COVID-19 IN THE UNITED KINGDOM: A SYSTEMATIC LITERATURE REVIEW

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Background:
Governments have relied on their citizens to adhere to a variety of transmission reducing behaviours (TRBs) to suppress the Covid-19 pandemic. Understanding the psychological and sociodemographic predictors of adherence to TRBs will be heavily influenced by the particular theories used by researchers. This review aims to identify the theories and theoretical constructs used to understand adherence to TRBs during the pandemic within the UK social and legislative context.

Methods:
A systematic review identified studies to understand TRBs of adults in the UK during the pandemic. Identified theoretical constructs were coded to the Theoretical Domains Framework. Data are presented as a narrative summary.

Results:
Thirty-five studies (n = 211,209) investigated 123 TRBs, applied 13 theoretical frameworks and reported 50 sociodemographic characteristics and 129 psychological constructs. Most studies used social cognition theories to understand TRBs and employed cross-sectional designs. Risk of sampling bias was high. Relationships between constructs and TRBs varied but, in general, beliefs about the disease (e.g., severity, and risk perception) and about TRBs (e.g., behavioural norms) influenced behavioural intentions and self-reported adherence. More studies than not found that older people and females were more adherent.

Conclusions:
Behavioural scientists in the UK generated a significant and varied body of work to understand TRBs during the pandemic. However, more use of theories that do not rely on deliberative processes to effect behaviour change and study designs better able to support causal inferences should be used in future to inform public health policy and practice.

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LONG-TERM PSYCHOSOCIAL ISSUES AMONG COVID-19 SURVIVORS IN KATHMANDU VALLEY

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Since its emergence in December 2019, Corona Virus disease has impacted several countries, affecting many people. The first cases were recorded in Wuhan, China, between December 2019 and January 2020. Italy is one of the affected countries in Europe. The relations between India and Nepal have reverted to the pre-pandemic period as both countries have open borders.
The study focused on the overall psychosocial impact among covid-19 survivors in their life what are the changes they are facing after covid also how are their relations with friends and relatives after they have covid in different municipalities of Kathmandu valley, where people from different regions are living in rent and have their own houses.
Support from friends and family during a pandemic can prevent it if it is strong enough. Nonetheless, there were risk factors for psychosocial damage, including a lack of or insufficient family and social support, psychiatric assistance, and inadequate insurance or compensation. Poorer mental health outcomes were inversely correlated with social rejection or isolation.

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PERCEPTIONS RELATED TO COVID-19 AND SEASONAL INFLUENZA WERE INFLUENCING BEHAVIOURAL INTENTION TO RECEIVE SEASONAL INFLUENZA VACCINATION DURING THE COVID-19 PANDEMIC AMONG COMMUNITY-DWELLING OLDER ADULTS IN HONG KONG

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Background
Coinfection of seasonal influenza and COVID-19 is associated with higher mortality risk. Seasonal influenza vaccination (SIV) is proven to be highly effective to prevent the disease and safe for older adults, which is urgent especially during the COVID-19 pandemic.

Purpose
This study investigated factors associated with behavioural intention to take up SIV during the COVID-19 among older adults in Hong Kong.

Methods
A random telephone survey was conducted among 440 Chinese-speaking community-dwelling Hong Kong residents aged 65 years or above between November 2021 and January 2022. Logistic regression models were used for data analyses.

Results
Among the participants, 55.7% intended to receive SIV in the next year. After adjustment for significant background characteristics, perceived COVID-19 had higher infectivity than seasonal influenza and higher risk of co-infection with COVID-19 and seasonal influenza were

associated with higher intention to receive SIV. Those who had concerns that SIV would negatively affect the effectiveness of COVID-19 vaccination had lower intention to receive SIV. In addition, older adults who believed that seasonal influenza would have severe consequences, perceived more benefit of SIV, received more support from family doctors and family members, had higher self-efficacy to receive SIV, and perceived more peers would take up SIV had higher behavioural intention to receive SIV.

Conclusion

It is necessary to promote SIV among older adults during the COVID-19 pandemic. Perceptions related to COVID-19 and seasonal influenza were influencing older adults' decision to receive SIV. Modifying these perceptions may be useful to increase SIV coverage in this group.

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DEVELOPMENT OF THE WORKPLACE INTERPERSONAL PROBLEMS SCALE FOR CARE WORKERS (WIPS)

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Background: The turnover rate of care workers is high by global standards, and previous studies have shown that workplace interpersonal relations are associated with care workers turnover and turnover intentions. However, there is no quantitative tool for assessing of workplace interpersonal problems for care workers. This study aimed to develop the Workplace Interpersonal Problems Scale for care workers (WIPS) and to examine its reliability and validity according to the COSMIN guidelines.

Methods: A total of 476 care workers employed by elder care facilities participated in the study. Reliability was evaluated with Cronbach's α, test reliability with the standard error of measurement, and test–retest reliability with the intraclass correlation coefficient. Content validity, construct validity, and structural validity were examined as evaluation of validity.

Results: Cronbach's α coefficient was greater than 0.75 for both WIPS total and subscale scores, and test–retest reliability was high (ICC,0.75). Content validity showed an I-CVI of 0.90 or higher for all WIPS items, confirming 100% of the hypotheses for testing construct validity (correlations between the WIPS and scales measuring similar constructs were 0.52, and correlations with scales measuring related but dissimilar constructs ranged from 0.30 to 0.50). Confirmatory factor analysis showed an acceptable fit for the hypothesized six-factor construct (CFI = 0.92, TLI = 0.91, RMSEA = 0.07, SRMR = 0.05).

Conclusions: The WIPS was found to be a valid and reliable instrument. As the elderly population grows worldwide, the WIPS is expected to be used as a quantitative measure to assess workplace interpersonal problems that affect care workers in a variety of ways.

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THE SARS-COV-2 (COVID-19) PANDEMIC THREE YEARS IN: EXAMINING THE CHOICE NOT TO WEAR A FACEMASK IN THE ABSENCE OF A MANDATE IN THE UK

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By December 2022, no covid-related behavioural restrictions remained in the UK and the pandemic was mentioned infrequently in mainstream media, however cases continued to rise. When mandated behavioural constraints were in place, several studies highlighted that psychological reactance, the tendency to resist orders or advice, was an important factor in resistance to facemask wearing and other preventative measures. The present study examined whether this was still the case, or whether pandemic fatigue and apathy would explain more variance in the choice not to wear a mask. Participants from the UK public (N = 255), completed an online questionnaire to measure these factors, negative attitudes towards mask-wearing, the level of Covid-related media they consumed and how often they had worn a mask in public places over the previous month. Results showed that the unmandated choice to wear a mask is associated with active consumption of pandemic-related media information, while resistance is associated with perceptions that mask-wearing is difficult, and apathy towards Covid-19. Psychological reactance was not a significant factor. Understanding these issues is vital should the need for further behavioural regulation arise. Health communications will need to address apathy and support habit-forming, rather than focus on psychological reactance. Renewed messaging is recommended to remind the public of the continuing health risk.

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CHRONIC PAIN AND SEDENTARY BEHAVIOR – WHAT TO DO?

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Background: Chronic pain is a public health challenge causing absence from work, a high financial burden for society and individuals, and low health-related quality of life. Sedentary time has increased markedly during recent years Combining increased sedentary behaviour with low levels of physical activity is a high-risk factor for poor health and morbidity such as type 2 diabetes, metabolic syndrome, and cardiovascular diseases. Further, in a meta-analysis, there was a strong correlation between occupational as well as non-occupational sedentary behaviour and musculoskeletal pain (MSP) of several origins.

Purpose: The purpose of this presentation is to discuss the literature-identified differences and similarities in intervention strategies and motivational factors when decreasing sedentary behaviour versus increasing physical activity.

Method: The development of this position paper has been inspired by the realist review-method presented by Hunter et al. 2021, which is suitable to mirror all the results of complex behavioural interventions.

Results: The existing research states that interventions to increase physical activity are not sufficient in a sedentary behavior context. The interventions also need to be specifically aimed at reducing or preventing the onset of sedentary behaviour. Additionally, there are some differences as well as similarities in which factors motivate the change in sedentary behaviour versus physical activity. Motivation can include cognitive, emotional, reflective decision-making, and habitual processes that facilitate behaviour.

Conclusions: The similarities and differences in motivational factors when changing sedentary behaviour versus physical activity should be considered when planning interventions to decrease sedentary behaviour.

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EMPOWERING PACIFIC PATIENTS ON THE WEIGHT-LOSS SURGERY PATHWAY: A CO-DESIGNED EVALUATION STUDY SET IN AUCKLAND CITY HOSPTIAL, NEW ZEALAND

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Background: Health consumers of Pacific ethnicity in New Zealand face both the highest rates of obesity and type 2 diabetes, and conversely, the lowest valuation of weight-loss surgery by population. Systemic issues, gaps in patient knowledge of surgery benefits and risks, and lack of support from a cultural perspective have been identified as some of the factors contributing to Pacific-patients weight-loss surgery hesitancy.

Purpose: To develop and evaluate a co-designed Pacific-led preoperative weight-loss surgery support programme at Auckland City Hospital, New Zealand to determine if such a programme, a) Increases Pacific-patient retention for weight-loss surgery treatment and b) Improves quality of treatment experiences.

Methods: A prospective co-designed community-based weight-loss surgery preoperative programme valuation study. Outcome measures were pre/post quantitative and qualitative including well-being questionnaires, patient video diaries and qualitative feedback questionnaires.

Results: There was a higher Pacific-patient retention rate for the preoperative weight-loss surgery programme compared to the mainstream programme. A higher rate of weight-loss surgery completion was subsequently recorded. Additionally, qualitative feedback indicated that the patients found the programme to be informative, culturally anchored, supportive and enabled substantial mind shifts in relation to perceptions of bariatric surgery and preparing for their upcoming surgery.

Conclusions: The co-designed Pacific-led preoperative weight-loss surgery support programme empowered patients, and patients' families to engage with the treatment process resulting in higher overall retention rates and treatment satisfaction.

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COMMITMENT PROFILES AMONG NURSES: COMBINATIONS OF ORGANIZATIONAL COMMITMENT FORMS AND WORK ENGAGEMENT, PSYCHOLOGICAL DISTRESS, AND TURNOVER INTENTION

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A severe problem in the health care sector worldwide is that of the shortage of nurses. Organizational commitment, which refers to a worker's loyalty to their employer, predicts turnover; this psychological concept has been discussed for nurse turnover. To clarify the combined effect of the sub-factors of organizational commitment, this study examined the relationships between organizational commitment profiles and work engagement, psychological distress, and turnover intention among nurses. A cross-sectional survey was conducted; 455 nurses (38 men and 417 women) were included in the statistical analysis. Firstly, we conducted k-means cluster analysis and identified six groups: "Highly committed", "Affective-normative commitment dominant", "Continuance commitment dominant", "Lowly continuance committed", "Lowly affective-normative committed", and "Lowly committed". Secondly, a one-way analysis of variance and chi-square test were employed for work engagement, psychological distress, and turnover intention. Consequently, significant differences were found in work engagement and turnover intention (both $p < 0.05$), and no significant difference was found in psychological distress. These results indicate that nurses would be unable to separate emotional attachment from obligation, and that the significance of affective commitment and normative commitment in helping nurses work actively or energetically and preventing turnover. Additionally, no negative effects related to increases in continuance commitment were identified in this study, thereby the negative effects of increased continuance commitment on nurses' human resource management may not be worth noting.

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VIRTUAL CARE IN A MULTICULTURAL CANADA: A REVIEW OF CHALLENGES AND OPPORTUNITIES FOR IMMIGRANT, REFUGEE, AND INDIGENOUS COMMUNITIES

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Background: Roughly one in three Canadians identify as Indigenous or racialized. This includes 8.3 million landed immigrants, nearly 250 thousand new refugees, and 1.8 million Indigenous people. To improve the equitable design and implementation of virtual healthcare services within Canada, this review aims to synthesize evidence regarding (dis) advantages faced by immigrant, refugee, and Indigenous Canadians when using virtual care services.

Methods: A rapid review was conducted following published recommendations. Medline and CINAHL were searched for studies relating to virtual care and Canadian immigrants, refugees, or Indigenous peoples. Peer reviewed articles of any type were included so long as they included information on the experiences of virtual care service delivery in Canada among the above-mentioned groups.

Results: There is a paucity of evidence examining virtual care experiences of immigrant, refugee, and Indigenous Canadians. Of the 694 publications screened, 8 were included in this review. Two studies focused on immigrants and refugees in Canada with the remaining studies focusing on Indigenous communities. Results demonstrate that virtual care is generally accepted within these communities; however, cultural appropriateness/safety, and inequitable access to wireless services in certain communities were among the most cited barriers.

Conclusions: Little evidence exists outlining immigrant, refugee, and Indigenous perspectives on the landscape of virtual care in Canada. Development of virtual care programming should take into consideration the barriers, facilitators, and recommendations outlined in this review to improve equitable access. Further, developers should consult with local community members to ensure the appropriateness of services for immigrant, refugee, and indigenous communities.

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HEALTHCARE PROVIDERS AT YOUR FINGERTIPS: AN UMBRELLA REVIEW OF BARRIERS AND FACILITATORS FOR PATIENT-TO-PROVIDER MESSAGING USING THE THEORETICAL DOMAINS FRAMEWORK

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Background: Virtual patient-to-provider messaging (e.g., text messaging) has the potential to improve healthcare access; however, little research has used theory to understand the barriers and facilitators impacting uptake by patients and healthcare providers. This review uses the Theoretical Domains Framework (TDF) to explore barriers and facilitators of patient-to-provider messaging.

Methods: A rapid umbrella review method was followed. Medline and CINAHL were searched for reviews examining patient-to-provider implementation barriers or facilitators experienced by patients or healthcare providers. Two coders extracted implementation barriers/facilitators, and one coder mapped these barriers/facilitators on to TDF domains.

Results: The search resulted in 796 articles, 784 of which were excluded for not meeting eligibility criteria, leaving 12 reviews included. A total of 62 barriers/facilitators were extracted. The most frequently coded TDF domains relating to barriers were Environmental Context and Resources (n = 9 out of 31 total barriers; 29%), Beliefs about Consequences (n = 9; 29%), and Knowledge (n = 4; 13%). The most frequently identified TDF domains relating to facilitators were Beliefs about Consequences (n = 13 out of 31 total facilitators; 42%), Social Influences (n = 8; 26%), and Environmental Context and Resources (n = 4; 13%).

Conclusions: Patients and healthcare providers experience barriers to implementing patient-to-provider messaging. By conducting a TDF-based analysis of the implementation barriers and facilitators, this review provides a theoretical basis for researchers, healthcare systems, and policy-makers to design interventions that can effectively target these issues and enhance the impact and reach of virtual messaging systems in the future.

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DOES IT HURT? AND IS IT STRESSFUL? – PAIN PERCEPTION IN RESPONSE TO THE COLD PRESSOR TASK IN INDIVIDUALS WITH CHRONIC PAIN

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Background: Chronic pain is one of the most prevalent health conditions and yet there are still many unanswered questions. To study pain perception, study designs with experimental pain are often used. Previous studies suggested that the perception of experimental pain differs between individuals with chronic pain and control subjects, but the results are mixed. Some studies show that individuals with chronic pain are hyporesponsive to experimental pain and others show the opposite.

Purpose: We seek to investigate pain perception in response to the cold pressor task comparing individuals with chronic pain to controls and we also aim to compare the stress response to the cold pressor task.

Methods: We included 44 participants with chronic pain and 41 control participants. During the cold pressor task, pain intensity was measured with visual analog scales, and pain tolerance was measured by duration. In addition, participants rated their perceived stress on a visual analog scale before and after the cold pressor task. Physiological measures of stress response were also measured.

Results: We found no significant differences in perceived pain intensity or pain tolerance. Interestingly, individuals with chronic pain reported higher stress levels before ($p < 0.01$) and after the cold stressor task ($p < 0.05$). More detailed results will be available by the time of presentation.

Conclusions: A better understanding of the perception of experimental pain could help improve experimental designs to study pain perception in individuals with chronic pain. The association with stress and other moderating factors will be discussed.

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SEDENTARY BEHAVIOUR AND PHYSICAL ACTIVITY IN ADULTS WITH TYPE 2 DIABETES: A GROUNDED THEORY QUALITATIVE ANALYSIS

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Background: Better understanding the perceptions of adults living with type 2 diabetes' (T2D) with specific respect to their sedentary behaviour (SB) and physical activity (PA) and guidance for its reduction and promotion, respectively, could improve our success in changing these behaviours in this special population. Thereby, potentially improving their glycemic control and complications of their T2D.

Purpose: This study explored the perceptions of adults living with T2D' with specific respect to their SB and PA and guidance for its reduction and promotion, respectively.

Methods: Researchers followed a post-positivist grounded theory methodology. Semi-structured zoom interviews from ten adults with T2D (mean age: 60 years, female: 40%) were transcribed verbatim and coded independently by two researchers.

Results: The final substantive theory consisted of four main themes: 1) T2D has a significant impact on physical and mental health, 2) adults with T2D view PA, and to a lesser extend SB as important health behaviours to improve their physical and mental health, 3) adults with T2D have more barriers for increasing PA than decreasing/ breaking up SB, and 4) there is no one size fits all approach for increasing PA and decreasing/ breaking up SB.

Conclusion(s): Interventions that aim to change PA and SB in adults with T2D, whenever possible, should allow participants to choose which behaviour SB or PA they would like to target and how. However, targeting SB may be a better initial avenue, as there may to be less barriers for decreasing/ breaking up SB than increasing PA.

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LARGE LANGUAGE MODELS FOR PRIOR ELICITATION AND EVIDENCE SYNTHESIS TO INFORM BEHAVIOUR CHANGE INTERVENTIONS

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Bayesian statistical methods allow researchers to incorporate a priori theoretical or intuitive knowledge in inference. This is useful for integrating information stored in different formats such as qualitative and quantitative information. Typical practice involves aggregating expert knowledge to generate informative prior probability distributions to use in inference. However, human experts are not always good at assigning probabilities to their beliefs. Large language models (LLMs) like ChatGPT and Bard can be used to capture available knowledge and beliefs at scale, making them a cost-effective and efficient way to gain insights into human behaviour. In this study, we investigate the extent to which LLM outputs are qualitatively similar to beliefs about lived experiences shared by humans. The Theoretical Domains Framework (TDF) is used to structure qualitative analysis and facilitate the search for a broad range of domains perceived as relevant to physical activity. Here we compare LLM outputs to belief statements produced by human participants. We show that LLMs can be used to generate priors that are plausible, broad, and informative. This makes cumulative evidence synthesis more scalable. LLMs can also be used to generate hypotheses for quantitative studies aimed at investigating factors predicting successful behavior change. The article demonstrates a way of using LLMs to support Bayesian inference in the health sciences that is grounded in research and theory, and informed by diverse lived experiences.

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CAN HEALTH COACH-LED DIABETES EDUCATION EMPOWER PATIENTS TO SELF-ADVOCATE DURING CLINICAL ENCOUNTERS? RESULTS FROM A RANDOMIZED CONTROL TRIAL

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Background: Patient-provider communication is a key component of type 2 diabetes management and prevention of long-term complications. However, patients are often reluctant to openly share their concerns with providers.

Purpose: To assess the impact of a 12-week, health coach-led, Diabetes and Hypertension Self-Management Program (DHSMP) on patient self-advocacy and provider communication.

Methods: Ninety-eight adults with comorbid diabetes and hypertension were randomized to 3 arms: a 12-week DHSMP core lifestyle (Group A; $N = 33$), 12-week DHSMP core plus medication adherence (Group B; $n = 33$) or enhanced usual care (3 h of education; $N = 32$) in two West Virginia counties. Patient self-advocacy, provider communication, diabetes self-care, diabetes distress, and HbA1c were assessed at baseline, 12- and 24-weeks using validated measures.

Results: Participants were predominantly female (61%). Mean age and diabetes duration were 62.1 ± 11.5 and 11.3 ± 10.3 years, respectively. Patient self-advocacy was positively associated with diet self-care ($p = 0.013$) and blood glucose monitoring (0.018), and negatively associated with diabetes distress ($p < 0.001$). Provider communication was positively associated with diet and foot care and negatively associated with diabetes distress ($p < 0.001$). Overall, the intervention arms improved patient self-advocacy and provider communication quality at 12 weeks but was not sustained at 24 weeks. However, improvements for behavioral and clinical outcomes (diet, physical activity, diabetes distress and HbA1c) was observed at 24 weeks.

Conclusion: Diabetes education can improve patient self-advocacy and provider communication quality, both of which have been shown to be associated with improvements in self-care adherence and reductions in diabetes distress and HbA1c.

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AN EXPERIMENTAL STUDY DISCERNED WORDS ASSOCIATED WITH LONELINESS AMONG WORKERS

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Background

Given the recent proliferation of telework, there has been an increase in the prevalence of issues pertaining to loneliness among workers. As direct expressions of loneliness may potentially reflect social desirability biases, it is useful to employ words which are strongly associated with loneliness.

Purpose

The purpose of this study is to discern words which are closely associated with loneliness among workers, utilizing a modified version of the Stroop task. Our hypothesis is that words which are conceptually linked with loneliness, predominantly classified as negative valence stimuli, are anticipated to elicit prolonged reaction times in individuals with high levels of loneliness.

Method

A total of 106 participants with equal numbers of individuals exhibiting high and low levels of loneliness were instructed to respond rapidly and accurately to visual stimuli presented on a computer screen using a keypad. Differences in reaction time were examined between the high and low loneliness groups controlling for age, marital status, sleepiness, and fatigue.

Results

High levels of loneliness group significantly delayed reaction times to words possessing negative semantic content such as 'unnecessary', 'attic', 'end', and 'weakness'. In addition, reaction times to words such as 'heartwarming', 'cheerful', 'fun', 'full score', 'warm', 'spontaneity', 'pencil', and 'highway' were also significantly delayed in the high loneliness group.

Conclusions
Workers with high levels of loneliness may delay their response times not only for negative words, but also for some positive or neutral words.

Acknowledgement
This research was supported by JST Grant Number JPMJRX21K4, Japan.

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EXPERIENCES OF VIOLENCE AND HARASSMENT AMONG SEXUAL MINORITIES IN JAPAN

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Background: Although sexual minorities are at high risk of experiencing violence or harassment, research on workers in Asian countries remains scarce.

Methods: We analyzed data from an online cross-sectional survey of 28,630 general residents in Japan conducted in October 2022. We asked about sex, gender identity, sexual orientation, bullying and harassment at work, physical violence at work, and psychological violence at work, based on self-report. As covariates, we also asked about age, education, marital status, and occupation. We used Poisson regression analyses to calculate prevalence ratios.

Results: Results showed that 47% of respondents self-identified as cisgender men, 49.7% as cisgender women, 0.4% as transgender men, 0.3% as transgender women, and 2.7% as non-binary/questioning/others. 43.7% were heterosexual men, 45.7% were heterosexual women, 2.6% were gay, 2.2% were lesbian, 1.1% were bisexual, and 4.8% were questioning/others. Compared to cisgender men, cisgender women were less likely to experience workplace bullying/harassment, physical violence, and psychological violence at work. In contrast, transgender men and non-binary/questioning/others were more likely to experience all kinds of violence at work. Compared to heterosexual men, gay men, lesbians, and questioning/others were more likely to experience all types of workplace violence and harassment. There was no significant association between bisexuality and any type of violence, or between transgender women and workplace bullying or psychological violence.

Conclusions: Sexual minority workers experienced workplace violence more than cisgender or heterosexual workers. Although Japan does not have legislation against discrimination against sexual minorities, employers should provide policies and measures to protect them from workplace violence.

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ASSOCIATONS BETWEEN PERCEIVED NEIGHBORHOOD ENVIRONMENT AND YOUTH'S MENTAL HEALTH PROBLEMS ACROSS URBAN AND RURAL AREAS

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Background: Due to rising mental health problems in youth, it is important to identify contextual factors that influence youth's mental health based upon socio-ecological models of health and according to the Lancet Commission on Global Mental Health. However, few studies explored associations between neighborhood environment perceptions and youth's mental health problems, and even less so across the urban–rural gradient.

Purpose: Investigate associations between perceived environment and mental health across urban and rural areas.

Methods: Data were obtained from the Motorik-Modul (MoMo) Study 2018–2020 ($N = 2{,}276$, $M_{age} = 10.48 \pm 3.97$ years, age range 4–17 years, 48.2% girls). Mental health problems were assessed via the Strength and Difficulties Questionnaire, perceived neighborhood environment via twelve items, and urbanicity via the European Urbanization Degree (rural/towns/cities). All variables were entered in linear regression models stratified by urbanicity, controlling for socio-demographic characteristics.

Results: In rural areas, having other youth engaging in sports activity in the neighborhood was associated with less total, hyperactivity, and peer problems ($\beta = -0.08$- -0.11, $p < 0.05$). In towns, more cars were associated with more total mental health, conduct, hyperactivity, and peer problems ($\beta = 0.07$–0.10, $p < 0.05$), while more crime safety was associated with less total, conduct, and hyperactivity problems ($\beta = -0.09$- -0.12, $p < 0.05$). In cities, safe leisure facilities were associated with less total, emotional, and hyperactivity problems ($\beta = -0.14$- -0.17, $p < 0.05$).

Conclusions: Neighborhood environment perceptions were associated with behavioral and emotional problems in children and adolescents, but different aspects were important for urban and rural areas. These findings should be considered when targeting neighborhood environment changes to enhance mental health.

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THE EFFECT OF GROUP DANCE AND MOVEMENT THERAPY ON THE COGNITIVE FUNCTION, ANXIETY, DEPRESSION, AND QUALITY OF LIFE IN ELDERLY PATIENTS WITH ISCHEMIC STROKE

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Objective: This study aimed to determine the effects of group dance and movement therapy(GDMT) on cognitive function, anxiety, depression, and quality of life(QoL) in elderly patients with ischemic stroke.

Method: Among inpatients of first episode ischemic stroke in K medical center at the department of neurology, 30 patients were allocated to either an experimental group that received group dance and movement therapy (GDMT), which included 24 sessions of GDMT and medical treatment (pharmacotherapy and rehabilitation therapy) over 12 weeks, or a control group, which included just medical treatment. All participants were assessed at baseline and at 12 weeks. MMSE-K, BDI, STAI and SF-36-K were assessed.

Results: MMSE-K of both two groups was improved after 12 weeks, but there was no significant difference after 12 weeks between the two groups. State anxiety, trait anxiety, and depression of GDMT group were improved, but they were not improved for the control group. State anxiety and depression of GDMT group were more improved than the control group after 12 weeks. SF-36-K in GDMT group were improved after 12 weeks, but only the general health of SF-36-K in the control group was improved. General health, vitality, and mental health of the DMT group were improved than the control group after 12 weeks.

Conclusion: These findings demonstrate that GDMT can help improve anxiety, and depression, and increase the QoLin patients with ischemic stroke, especially in the mental domain. GDMT could be considered a treatment program for improving mental health in elderly patients with ischemic stroke.

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RELATING SELF-EXPANSION WITH PHYSICAL ACTIVITY IN RURAL ADULTS IN BERN, SWITZERLAND AND IDAHO, USA

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Self-expansion theory posits that people are motivated to pursue activities that include novelty, excitement, interest, and challenge. Self-expanding activities are associated with positive health behaviours including physical activity (PA). However, research to-date on self-expansion and PA has involved only urban samples within the USA. The objective of this cross-sectional study was to extend current knowledge by investigating the connection between self-expansion and self-reported PA levels in two independent rural samples, one in Bern, Switzerland (n = 69) and one in Idaho, USA (n = 45). Participants were adults' (≥ 18 years old) who completed online measures of PA, general self-expansion, and PA specific self-expansion. Both samples showed similar results and confirmed the hypotheses that self-expansion is positively related to PA; and that PA specific self-expansion exhibits a stronger relationship to PA compared to general self-expansion. Effect sizes with Cohen's f ranged from 0.22 to 0.44 in the Bernese sample and 0.45 to 0.64 in the Idaho sample. Effects were even stronger for moderate to vigorous physical activity (MVPA) and general self-expansion as well as PA specific self-expansion and MVPA with this relationship having the strongest effect for both independent samples. These two studies provide evidence that there is a medium to large relationship between self-expansion and PA. Future research including longitudinal and intervention studies and studies with larger samples in multiple countries are needed to test directionality of influence and whether leveraging existing intrinsic motivation via self-expansion could offer a novel approach to promoting PA.

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ASSOCIATIONS BETWEEN PHYSICAL ACTIVITY AND WEIGHT CHANGE IN INDIVIDUALS UNDERGOING BARIATRIC SURGERY

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Background: Bariatric surgery offers unprecedented weight-loss for individuals living with obesity. However, long-term weight maintenance (WM) is challenging. Physical activity (PA) has been shown to be a key component of WM in a number of settings, but our understanding of pre- vs. post-surgical PA levels in the context of bariatric surgery is less clear.

Purpose: Using a longitudinal cohort, the associations between patients' PA pre- and 6-months post-surgery and their weight change were explored.

Methods: A total of 111 patients undergoing bariatric surgery from a single hospital site (86% females; mean (SD) age and baseline BMI = 42 (10.3) years and 47.1 (7.17) kg/m2, respectively) participated. They completed the Godin Leisure Time Questionnaire (GLTQ) and had anthropometrics measured 6 months pre- and post-surgery (weight change = post–pre), excess weight loss (EWL) was calculated using standard methods. Due to skewness, participants were split by activity: GLTQ = 0 – sedentary (npre = 18, npost = 40), GLTQ > 0 – some PA (npre = 93, npost = 71).

Results: Adjusted GLM's (sex, age, ethnicity, baseline BMI, education, and income) found that there were no differences in weight change (p = 0.810) nor EWL (p = 0.771) between those who were sedentary vs. some PA pre-surgery. Adjusted GLM's (+ baseline PA) found trends for differences in weight change (p = 0.067) and EWL (p = 0.071): individuals who engaged in some PA post-surgery lost more weight vs. the sedentary group.

Conclusions: Results suggests post-surgery PA may be needed to enhance WM, independent of pre-surgery PA. Longer term follow-up and exploration of the nature of different PA regimens is needed to enhance practice.

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IMPACT OF CULTURALLY ADAPTED PSYCHOSOCIAL INTERVENTIONS ON PSYCHOLOGICAL OUTCOMES AND QUALITY OF LIFE FOR PATIENTS FROM RACIAL AND ETHNIC MINORITY BACKGROUNDS DIAGNOSED WITH BREAST CANCER: A SYSTEMATIC REVIEW

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Background: Numerous psychosocial interventions have been developed to improve psychological and physical health-related outcomes among breast cancer survivors (BCS). Given the longstanding racial and ethnic disparities in BC, culturally adapted psychosocial interventions aim to meet the unique needs of racial and ethnic minority BCS.

Purpose: This systematic review is the first to evaluate the efficacy of culturally adapted psychosocial interventions in improving psychological outcomes and quality of life for racial and ethnic minority BCS.

Method: Psychosocial interventions that included a control group, were conducted in the U.S., were culturally adapted for a racial or ethnic minority group, and included at least one of our target outcomes (distress, depression, anxiety, stress, mood disturbance, quality of life, coping, adjustment). Systematic searches were conducted using PubMed/MEDLINE, Scopus, CINAHL, and PsycINFO databases. The Effective Public Health Practice Project Quality Assessment Tool was used to evaluate risk of bias.

Results: Twenty-two studies met inclusion criteria. Interventions were adapted for Asian/Asian American, Latina, and African American/Black female patients, the vast majority of which were diagnosed with non-metastatic breast cancer. Most studies used methodology classified as "weak" and did not report significant improvements in target outcomes compared to the control group.

Conclusions: Future culturally adapted psychosocial interventions should include more diverse patient populations (e.g., race and ethnicity, gender identity) and more rigorous study designs. Review findings have important implications for future research and practice, as survivorship needs for BCS increase and notable disparities for racial and ethnic minority patients persist.

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SPILLOVER EFFECTS OF CHANGING TO AN ACTIVE LIFESTYLE IN MID-AGED WOMEN

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Background: The gateway behavior hypothesis has shown inconsistent findings in previous studies. We examined a potential spillover effect in women who complied with a supervised exercise program within a health promotion intervention for lifestyle modifications in early postmenopause, supplemented with an intervention for facilitating health-behavior change based on the Health Action Process Approach (HAPA) (i.e., new exercisers), and women who did not follow the exercise program. (i.e., sedentary women).

Methods: 300 middle-aged, generally healthy women (45–65, mean age = 56 ± 4 yr.) were divided into three groups: an intervention group (27%), a regularly active control group (38%), and a sedentary control group (35%). At the recruitment and postintervention phases, a multi-domain self-report on intentions and healthy behaviors was administered, covering a broad range of behaviors influencing middle-aged women's health. Using non-parametric Wilcoxon tests, pre-post data from the intervention and inactive groups were compared. Structural equation modeling was also used to evaluate the spillover effect.

Findings: Comparisons and path analyses showed that participants who received the exercise-focused intervention showed a substantially higher level of lifestyle behavioral change at post-intervention for both the targeted and untargeted habits ($p < 0.05$), whereas women who did not alter their sedentary activity did not alter their lifestyle in general ($p > 0.0.05$). The spillover effect was more manifested for some behaviors compared to others.

Discussion: Modifying a single aspect of lifestyle may aid in changing a variety of health-related behaviors. The spillover effect can guide initiatives for middle-aged women's health and well-being promotion.

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THE SPANISH VERSION OF THE MENOPAUSE REPRESENTATIONS QUESTIONNAIRE (MRQ): PRELIMINARY FINDINGS WITH SPANISH PERI- AND POSTMENOPAUSAL WOMEN

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Background: The Menopause Representations Questionnaire (MRQ) assesses personal cognitive-emotional appraisals about menopause in women transitioning to midlife and beyond. This study explores the psychometric properties of the Spanish version.

Purpose: To analyze the metric properties at item level, reliability, factorial validity and convergent validity of the Spanish version of the MRQ in a psychometrics-based sequential procedure.

Methods: A total of 81 peri- (43.2%) and postmenopausal (56.8%) 44–65 yr. old women (44.5% ≦10 yr. from FMP; 3.7% reporting previous/current use of hormone therapy) completed the Spanish version of the MRQ, a specific measure of menopause-related quality of life (Cervantes SF-R) and an indicator of perceived health status, as well as sociodemographic, lifestyle and clinical personal data. This is a cross-sectional, observational study with measurement validation purposes.

Results: Item metric (descriptives, skewness), reliability (internal consistency) and factorial validity (hierarchical, higher-order Confirmatory Factor Analysis) supported the appropriateness of the Spanish version. Nevertheless, an item demonstrated poorer properties. Good model-data fit with better results was obtained when a bidimensional structure (positive and negative representations) was tested; this structure is coherent with the rationale underlying the original measure and the contents of its items.

Conclusion: Our findings support the soundness of the Spanish MRQ to gather information on menopause representations, contributing to the evidence on the cross-cultural validity of the MRQ. As a woman's experience with her menopause is influenced by her constructions and attitudes, we encourage examining aspects such as the scale's predictive power and the efficacy of MRQ-guided interventions.

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PARENTS' DECISION-MAKING IN THE CONTEXT OF PEDIATRIC GENETIC TESTING: A REVIEW AND META SYNTHESIS ON PREDICTORS AND CONSEQUENCES

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Background: For an increasing number of diseases and disease predispositions, genetic causes have been identified. Particularly pediatric genetic testing provides parents with the possibility of learning more about hereditary predictors and genetic susceptibility for known disorders or clinical manifestations in their child, which would otherwise remain undetermined. However, probability scores resulting from genetic testing might be difficult to interpret and family decisions based on the results can have far-reaching consequences. This could increase the stress of the parents and suggests theory-based decision-making aids, as they are also used in other areas of behavioural medicine. Thus, identifying psychosocial factors that affect parents' decision-making about pediatric genetic testing is important.

Aim: We use systematic review and meta synthesis strategies to examine, which psychological predictors and anticipated consequences characterize parents' decision-making process in the context of pediatric genetic testing.

Methodology: We used PRISMA guidelines for systematic reviews to search for articles addressing parents' actual decisions regarding genetic testing of their child. Out of 5440 papers, approximately 75 met inclusion criteria, reporting on qualitative and quantitative datasets. Risk of bias is assessed through the Mixed Methods Appraisal Tool (MMAT).

Results: Most original studies examined the parents' pre-testing decisions and reasons (not) to test their child. Post-testing decisions included communication to family and child, carrier testing of family members, and reproductive decisions.
Expected benefits and outlook: Results are interpreted and discussed with regard to decision-making models and inform value and emotion-based decision aids in genetic medicine.

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BELIEFS ABOUT ANTIRETROVIRAL THERAPY: CHANGES OVER TIME AND ASSOCIATIONS WITH VIRAL LOAD SUPPRESSION

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Background: Suboptimal adherence to Antiretroviral Therapy (ART) results in poor clinical outcomes. Beliefs about ART have been shown to be associated with adherence.

Purpose: This study aimed to: (1) explore how beliefs about ART changed over time in people with HIV who were enrolled in a trial or an observational cohort, and (2) test the association between beliefs and viral suppression.

Method: Four groups of ART-naive patients were followed: (1) negative ART beliefs at baseline and randomised to Cognitive Behaviour Therapy (CBT); (2) negative ART beliefs at baseline and randomised to Care as Usual (CAU); (3) negative ART beliefs but declined trial participation ('decliners'); (4) positive ART beliefs at baseline and not eligible for the trial. All participants completed the Beliefs about Medicines Questionnaire (BMQ) at 0, 3, 6 and 12 months. Viral load was collected from clinical notes.

Results: Across the 12-month period, ART beliefs became more positive in all groups, but the improvements were significantly greater in the trial acceptors (CBT/CAU) than the trial decliners ($p < 0.001$). At 12 months, only 68% of decliners reached virological suppression, compared to 82–85% of the other groups ($p < 0.030$). Changes in ART beliefs predicted viral load suppression at 12 months independently of demographic characteristics.

Conclusion: The findings highlight the role of beliefs about ART in maintaining clinical outcomes and show that it is possible to improve ART beliefs in those that had negative attitudes towards treatment. Patients' beliefs should be assessed regularly throughout treatment to identify those at need of further support.

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PERSONALIZED JUST-IN-TIME ADAPTIVE INTERVENTION FOR INCREASING PHYSICAL ACTIVITY

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Background
The health benefits of physical activity (PA) are well-known, but adherence to regular PA programs remains a major challenge. Just-in-time adaptive intervention (JITAI) has been proposed as a novel intervention design to promote PA using the proper type and amount of support, at the right time, by adapting to an individual's lifestyle and physical capacity. However, most studies implementing JITAI have not tailored intervention criteria to the individual.

Purpose
This study examined the effectiveness of JITAI using Personalized vs. Uniform (across all participants) intervention criteria (PIC vs. UIC) for promoting PA.

Method
Twenty-nine young adults (ages: 18–23) wore a wrist activity monitor for two weeks. Participants were divided into two groups which received JITAI to promote PA according to either PIC or UIC. In the first week, mean distance moved and sedentary time per hour for each participant were calculated to derive PIC; PIC were averaged over all participants to obtain UIC. In the second week, JITAI prompts were sent every hour if either distance moved was shorter or sedentary time was longer than PIC/UIC. Effects of JITAI and PIC vs. UIC were analyzed using multilevel models.

Results
Significantly increased PA was found during the first hour after PIC-based JITAI, while no increased PA was found with UIC-based JITAI. Use of JITAI (both criteria) did not significantly increase PA above levels in the first week.

Conclusion(s).
JITAI based on tailored intervention criteria can transiently increase PA levels. Studies are needed to develop effective long-term intervention designs with sustained effects.

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EFFECTIVENESS OF A THEORY-BASED DIGITAL INTERVENTION (MYHT) TO SUPPORT BREAST CANCER SURVIVORS PRESCRIBED HORMONE THERAPY: A MULTICENTRE RANDOMISED CONTROL TRIAL FROM THE E-PATH STUDY

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Background: Hormone therapy (HT) significantly reduces mortality in oestrogen-receptor positive breast cancer, yet around 50% of women do not take the treatment as prescribed. myHT is an evidence- and theory-based digital intervention designed to improve adherence and symptom management.

Purpose: This study tested the effectiveness of the myHT digital intervention to improve HT adherence at 12-months.

Methods: Women > 18 years self-reporting low HT adherence were eligible. A two-armed, parallel group, multi-centre andomized control trial with 254 women was completed. Participants were randomly assigned to either the intervention or waitlist control. Follow-up was at 6-weeks, 6-months, and 12-months post-randomisation. Self-reported adherence (MARS), quality of life (FACT-G) and symptoms (BCPT) were measured. Intention to treat analysis was used.

Results: Adherence was significantly higher in the intervention group at 6-weeks ($g = 0.53$, $p < 0.001$), 6-months ($g = 0.51$, $p < 0.001$) and 12-months ($g = 0.27$, $p = 0.016$). 94% downloaded myHT and 82% completed the active intervention components. There was a moderate-large significant effect at all time points for satisfaction with information about treatment ($g = 0.42$–0.48, $p < 0.001$). Symptom burden ($g = -0.13$, $p = 0.018$) and quality of life ($g = 0.27$, $p = 0.016$) significantly improved in the intervention group and was sustained for 12-months.

Conclusions: The myHT significantly improves adherence to HT, with effects sustained for up to 12-months. Access, acceptability and satisfaction was high with participants continuing to use the techniques learnt. Additionally, symptom burden and quality of life were improved and maintained over 12-months. myHT is an effective intervention with low clinical burden and potential to improve survival and quality of life for breast cancer survivors.

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A MIXED-METHOD ANALYSIS OF INTERVENTION EFFECTIVENESS ON DIABETES DISTRESS, SELF-EFFICACY, AND SUPPORT AMONG RURAL ADULTS WITH TYPE 2 DIABETES

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Background: This mixed-methods study explored psychological factors and diabetes distress among participants of the 12-week Diabetes and Hypertension Self-Management Program ($n = 91$; 2-arm RCT) implemented in West Virginia churches.

Methods: Integrated analysis included 34 participants who completed semi-structured interviews. Quantitative measures included self-efficacy for diet and exercise, social support for diet and exercise, self-care, diabetes distress, and HbA1c collected at baseline, 12- and 24-weeks. Thematic analysis of the qualitative data was conducted. Themes were then integrated with quantitative data using MAXQDA software. Patients' experience of diabetes distress and coping strategies with low versus high self-efficacy and social support measures were explored using joint displays.

Results: Mean age and diabetes duration was 62.1 ± 12.4 and 12.6 ± 8.1 years, respectively. Four overarching themes coinciding with the theoretical domains of diabetes distress emerged: emotional burden, interpersonal-distress, provider-distress, and regimen-related distress. Participants with low self-efficacy and social support scores described higher emotional burden and regimen-related distress but not interpersonal-distress. When probed, many expressed negative emotions such as exhaustion, frustration and greater challenges and incompetence for daily regimen (e.g., carb counting, fear of finger pricks and injections) and medication/insulin adherence, and less coping strategies even after the program. Participants with higher self-efficacy/support expressed acceptance of diabetes and willingness for health behavior changes (e.g., mindful eating, taking care of self, staying motivated) and coping.

Conclusions: Our findings confirm the importance of diabetes interventions and program components that effectively address diabetes distress. Participation improved self-efficacy and peer-support for rural adults who are burdened by self-care regimen to improve diabetes outcomes.

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THE ROLE OF DIABETES DISTRESS, SELF-EFFICACY, AND SOCIAL SUPPORT ON SELF-CARE AND GLYCEMIC CONTROL IN RURAL ADULTS WITH TYPE 2 DIABETES

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Background: Few studies have tested the pathways through which self-efficacy, social support and diabetes distress impact self-care and glycemic control. We used structural equation modeling to examine whether improvements in self-efficacy, social support, and diabetes distress mediated the intervention's impact on self-care and glycemic control.

Methods: The sample included 91 community-dwelling rural adults with type 2 diabetes who participated in a 12-week Diabetes and Hypertension Self-Management program in West Virginia. Measures included self-efficacy for diet and exercise, social support for diet and exercise, diabetes self-care adherence and HbA1c. Structural Equation Modeling was used to explore predictive pathways between study variables and the outcome variable, HbA1c. Regimen-related distress, a subdomain of diabetes distress, was included in the model. Self-efficacy, social support and self-care were latent variables in the model.

Results: There were significant direct paths from self-efficacy ($\beta = 0.65$, $p < 0.001$), social support ($\beta = 0.62$, $p < 0.001$) and regimen-related distress ($\beta = -0.14$, $p = 0.029$) to diabetes self-care. All of them had an indirect effect on HbA1c. Additionally, program attendance reduced regimen-related distress ($\beta = -0.26$, $p < 0.001$) and indirectly improved HbA1c. Regimen-related distress mediated the relationship between self-efficacy, program attendance and HbA1c ($p < 0.001$). However, social support was not associated with regimen-related distress. The model's predictors accounted for 23% of the variance in HbA1c. The indices of fit for the tested model indicated a good fit.

Conclusions: Higher program attendance and self-efficacy were associated with reduced regimen-related distress, adherence to self-care behaviors and improved glycemic control.

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HOW HAS THE COVID-19 PANDEMIC AFFECTED DIABETES DISTRESS AMONG PATIENTS? A COMPARISON OF PRE-PANDEMIC VS. PANDEMIC RANDOMIZED CONTROL TRIALS

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Background: Type 2 Diabetes mellitus (T2DM) is a complex chronic condition that impacts patients' psychological well-being. T2DM patients experience diabetes distress (DD) i.e., emotional burden and worries from managing the disease, which is distinct from depression and anxiety.

Objective: To compare DD among participants of a 12-week Diabetes and Hypertension Self-Management Program (DHSMP) before (2018/19) and during the pandemic (2021/22) & assess program effectiveness for reducing DD.

Methods: DD (total, emotional, regimen-related, interpersonal, and physician-related distress) was assessed in two separate DHSMP randomized control trials (RCT) at baseline, 3- and 6-months. The 2018–19 RCT was a 2-arm, 6-month wait-listed DHSMP ($n = 91$) and the 2021–22 RCT was a 3-arm parallel DHSMP ($n = 98$, control group participants ($n = 32$) were excluded). The intervention provided 12 weeks of education and health coaching. Pre-pandemic versus pandemic DD and program effectiveness were assessed using Difference in Difference analysis.

Results: Two-fifths (40%) of pre-pandemic participants reported moderate to high total DD compared to 43.9% during the pandemic. Generally, participants experienced higher regimen-related distress (65%, both groups) and lower physician-related distress (9.3% vs. 21.2%) pre- and during the pandemic. DD was significantly associated with higher A1c and blood pressure but not with serum cortisol. Total DD reduced among participants pre-pandemic ($p = 0.025$) and during the pandemic ($p = 0.003$). However, the DHSMP was most effective in reducing regimen-related distress in both cohorts ($p < 0.001$) and interpersonal distress during the pandemic ($p = 0.013$).

Conclusion: Results demonstrate increased DD during the pandemic and the efficacy of a health coach-assisted intervention in reducing DD.

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THE CONTRIBUTION OF TERROR MANAGEMENT THEORY TO THE COVID-19 PANDEMIC

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As the COVID-19 pandemic emerged, mortality salience increased as the virus posed a threat to human survival and threatened our ability to engage in our typical styles of coping as they are in opposition of public health restrictions and recommendations. Based on terror management theory, this increase in mortality salience may result in increased death anxiety and impact willingness to adhere to recommended COVID-19 health behaviors. A survey consisting of a demographics questionnaire, Belief into Action Scale (BIAC), Rosenberg's Self-Esteem Scale (RSES), Templer's Death Anxiety Scale (DAS), Ibrahim & Heuer's Scale to Assess Worldviews (SAWV), and a measure created for this study referred to as the COVID-19 Attitude & Behaviors Scale was used to collect data from participants ($n = 917$) recruited on Amazon Mechanical Turk in October–November 2021. Preliminary results suggest that higher levels of death anxiety are associated with higher levels of COVID-19 concern ($r = 0.219$, $p < 0.001$), worry ($r = 0.344$, $p < 0.001$), belief that COVID-19 is dangerous ($r = 0.167$, $p < 0.001$), mask-wearing ($r = 0.109$, $p = 00.4$), sanitization ($r = 0.206$, $p < 0.001$), social distancing ($r = 0.139$, $p < 0.001$), and grocery pick-up/delivery ($r = 0.283$, $p < 0.001$) This study will further our understanding of the attitude and behavioral response to the COVID-19 pandemic seen in the United States as well as the relationship between self-esteem, religiosity, cultural worldview, and death anxiety.

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EXPLORING PERFECTIONISM AND SUFFERING ON THE THRESHOLD OF HIGH-PERFORMANCE SPORT

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Background: Sports contexts have acquired an extraordinary social dimension during the last decades. Achieving and excelling under the pressure of media visions, high economic and social interests, and competing against peers to be better appear under an endless way of perfection. Under such premises, young high-performance athletes and their environments configure desires, needs, realities, sufferings, or ways of facing and arguing the search for a path to success.

Purpose: To analyze the cognitive, emotional, behavioural, social, and perfectionistic personality trait effects of living with suffering as sources of adaptive/adaptive psychological response in different populations of elite athletes.

Method: Following a descriptive, cross-sectional, and non-randomized study designed throughout of an athlete's life in his/her leap to the pre-professional world (476 Spanish athletes) in sport technification stages (under-23). Perfectionism, coping, and threat perception questionnaires were administered.

Results: The established relationships showed high means in terms of suffering (high threat perception and low coping strategies) in those athletes who had higher cognitive-emotional perfectionistic tendencies, mainly when short-term success is sought.

Conclusion: Being perfectionistic is a trigger to suffer looking for success. If what is set to achieve "the perfect" is set by others (e.g., coaches, sponsors), it requires dealing with too many aspects beyond our control. What function does it give us to reach the highest level of sporting demand, under an engine of extreme suffering? The resulting model will describe some of the antecedents and perpetuating factors, as well as the behavioural and psychosocial consequences of perfectionism in high-performance sports.

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THE PERPETUAL TOGETHERNESS: AN INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS OF THE END-OF-LIFE CAREGIVING EXPERIENCE FOR PERSONS WITH COMORBID DEMENTIA AND CANCER

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Background
Family caregivers of persons with comorbid dementia and cancer (PwDnCs) face unique challenges due to the complexity of both conditions and the immediacy of death.

Purpose
This study aimed to explore the unique end-of-life caregiving experience of family caregivers of PwDnC.

Methods.
This study adopted an interpretative phenomenological analysis (IPA) approach. Purposive sampling was employed to recruit 21 family caregivers of 16 deceased PwDnC with diverse backgrounds from a palliative care unit. Eighteen semi-structured interviews were conducted, with some family caregivers being interviewed in pairs. The interviews were transcribed and analyzed in accordance with the principles of IPA. The findings presented in this presentation form only part of the data set, focusing on the unique end-of-life caregiving experience of PwDnC.

Findings.
Three themes that highlight participants' understanding of life, value and relationships were revealed: (1) Unforgotten precious memories, (2) Uncovered forgotten persons, (3) Unvoiced family connectedness. Family caregivers were too submerged in the ambiguous loss before cancer diagnosis. After cancer diagnosis of PwDnC, they found meaning in caregiving, focusing on relieving their loved one's suffering. This helped them reconnect with their loved ones and view their efforts as reciprocating the love and care received in the past, leading to a sense of perpetual togetherness.

Discussion.
The findings provide crucial information on how a reappraisal of suffering is transformed into a family caregiver's purpose and help the caregiver reconstruct their identity as a family. Interventions incorporating reappraisal strategies could be further explored and examined to promote a positive caregiving experience.

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FUTURE HOPES OR HOPEFUL FUTURES? PERSPECTIVES ON REHABILITATION POTENTIAL AMONG LONG COVID PATIENTS IN DENMARK

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Background: Long COVID turned life upside down for people worldwide and placed heavy demands on patients, relatives, and the healthcare system. The uncertain nature and progression of the condition leave patients in limbo without prospects for when, how, or if they will return to a life without illness.

Purpose: To understand how Long COVID impact patients' sense of self and potential for rehabilitation, we explored the everyday life of people with Long COVID.

Method: We conducted ethnographic interviews with 10 Long COVID patients from August 2022 to March 2023. Patients were recruited from a public Long COVID clinic in Denmark and purposefully sampled by age, gender, symptom duration, and employment status. The material was analysed using abductive thematic analysis.

Results: Long COVID disrupted everyday life and forced patients to reinvent themselves and their hopes for the future. Patients worried that they would never get better or return to everyday life before COVID-19, and they shifted between hopes of bettering and fears of worsening when symptoms improved, lingered, or reappeared. They all struggled to acknowledge the diagnosis and worried how their condition impacted work, family, and social life both in the present and the future.

Conclusion: Hopes and rehabilitation potentials are continuously transformed and negotiated in everyday life with Long COVID through entanglements with medical testing, rehabilitation, sickness and welfare benefits, and social relations. The case highlights the global challenge of post-acute sequelae and how patients fight to rebuild their lives and regain control over their health and future after infection.

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AN EXAMINATION OF PROCESS EXPECTATIONS OF PSYCHOTHERAPY IN JAPANESE UNIVERSITY STUDENTS

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Previous research has revealed that positive and realistic expectations about the outcomes and processes of psychotherapy are effective for clients. In Japan, however, few studies have been conducted on this topic. The purpose of this study was to examine the process expectations among Japanese university students. Specifically, we examined the relationship between the Japanese version of the EAPPS (The Expectations of Active Processes in Psychotherapy Scale) and various variables quantitatively, and open-ended descriptions regarding process expectations qualitatively.

A questionnaire was administered to university students (N = 238), that included their experience with psychotherapy, knowledge of psychotherapy, outcome expectations, the EAPPS Japanese version, the Big Five personality traits, and open-ended descriptions.

The results showed that the EAPPS Japanese version had a four-factor structure (self-understanding, therapeutic relationship, coping and resilience enhancement, and emotional engagement). Analysis of variance revealed that those expecting a positive outcome had higher EAPPS scores than those expecting a negative outcome.

Hierarchical cluster analysis was conducted on open-ended descriptions of process expectations using text mining techniques. Seven clusters were found for positive process expectations such as "problem solving through psychotherapy" and four clusters for negative process expectations such as "problem unresolved". The co-occurrence network suggested the presence of a bias that all those in the "problem unresolved" cluster had experienced psychotherapy.

These results indicate process expectations consistent with prior research. On the other hand, the results suggest that it is not the presence or absence of experience with psychotherapy, but rather the evaluation of experience that may influence process expectations.

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LOW SOCIOECONOMIC STATUS INCREASES THE RISK OF MULTIPLE CHEMICAL SENSITIVITY – RESULTS FROM THE DANISH STUDY OF FUNCTIONAL DISORDERS (DanFunD)

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Background Multiple chemical Sensitivity (MCS) is a multisystem and poly-symptomatic syndrome affecting between 0.5–6.5% of the population. Studies on the association between socioeconomic status and MCS range from convenience samples and small groups of MCS patients to relatively large population-based studies, with conflicting results. An ignored important factor is the substantial overlap in symptoms between MCS and other functional somatic disorder (FSD).

Purpose Based on the randomly selected population-based study DanFunD (9,656 participants aged 18–76 y), we investigated the association between four selected social factors (education, employment, cohabitation, and subjective social status) and MCS while distinguishing between MCS individuals with and without other FSD.

Methods 164 of 8800 individuals fulfilled questionnaire criteria for MCS of which 101 reported no comorbid FSD. We used adjusted logistic regression to calculate odds ratio (OR) and 95% confidence intervals (CI) of MCS and MCS without FSD comorbidities for each social variable separately with the remaining study population serving as controls.

Results Unemployment and low subjective social status was significantly associated with MCS (OR: 2.95, 95% CI: 1.75; 4.97, and OR: 2.00, 95% CI: 1.08, 3.70, respectively). At the same time, 4 years or more of vocational training were negatively associated with MCS (OR: 0.48, 95%CI: 0.25, 0.92). No significant associations were observed for cohabitation, nor among MCS individuals without comorbid FSD.

Conclusion Lower socioeconomic status was associated with MCS but only when FSD comorbidities were present. The cross-sectional design of the study prohibits us from solving the causal relation between social status and MCS.

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CREATING THE FUTURE TIME PERSPECTIVE SCALE IN THE CONTEXT OF EXERCISE

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Background. Future Time Perspective (FTP) has been used to predict various health behaviors, including exercise behavior. Various research focuses on different components of FTP and the varying operationalizations of FTP resulted in varied associations between health-behavioral outcomes and FTP. Furthermore, there has been a call for the necessity to creating the measure in the context of exercise, but no measure exists to this date.

Objective. We developed the FTP scale in the context of exercise. We hypothesized that this measure has an unique influential relation with exercise compared to other existing measures. The current project involves the development and construct validation.

Method. We developed the items of the scale and college students ($N = 373$) retrospectively reported their moderate to vigorous exercise frequency and volume in the past week and completed the various FTP measures and its related constructs (93.8% in 18–21 age group, 67.0% female, 79.4% White).

Results. Parallel analysis indicated one factor while principal component analysis indicated three factors. Linear regression indicated the new FTP scale explained 24.4% of the variance ($R2 = 0.246$, $F(1, 348) = 113.43$, $p < 0.0001$) while the other existing scales explained only 2.2% and 3.0% of the variance. It was found that the new FTP measure significantly predicted vigorous exercise volume ($\beta = 0.50$, $p < 0.0001$).

Conclusions. The new FTP measure has strong predictive validity compared to other measures. This highlights the importance of contextual measures, but more work needs to be done to develop the theoretical framework for the components of FTP.

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DEVELOPING A QUESTIONNAIRE FOR MENTAL HEALTH OF TELEWORKERS ASSESSING ITS RELIABILITY AND VALIDITY

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Background

Telework has been rapidly implemented to reduce the spread of COVID-19. Such an emergent change might affect mental health of employees.

Purpose

To develop a questionnaire for mental health of teleworkers and to assess its reliability and validity.

Method

A total of 1764 Japanese teleworkers (877 males and 887 females) completed a questionnaire including 20 items we developed for teleworkers' stress. To test its reliability and validity, they answered 4 existing reliable and valid questionnaires. Reliability was assessed using internal consistency indicated by Cronbach alpha coefficients and convergent validity was assessed using Pearson's correlation coefficients.

Results

The internal consistency (Cronbach alpha) of our four subscales ("loneliness", "support at work", "productivity" and "work engagement") were acceptable to good, varying from 0.77 to 0.83; 6 questions out of the 20 was excluded because of their significantly low consistency. The 4 subscales had significant correlations with the corresponding questionnaires, in both of men and women. The subscales of "loneliness" and "support at work" had significant correlations with COVID-19-related anxiety and stress, but "work engagement" did not. The presenteeism score of the existing questionnaire had significant correlation with the anxiety and stress but our subscale of "productivity" did not.

Conclusions

The newly developed questionnaire for mental health of teleworkers could be regarded as reliable and valid. The subscale of "productivity" might be a little different concept from presenteeism. Future studies are necessary to evaluate the predictive validity of the questionnaire.

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INTENSIVE TOBACCO CESSATION PROGRAM IN SUBSTANCE USE WITHDRAWAL TREATMENT: HOW TO MAKE IT WORK

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Background. More individuals with substance use disorders (SUD) smoke and have tobacco-related morbidity and mortality than the general population. Tobacco interventions are recommended and result in better SUD outcomes, yet few are integrated into practice.
Study objectives: 1) develop a tobacco cessation program integration model for an outpatient SUD withdrawal program; 2) measure tobacco use to assess tobacco intervention need; 3) measure tobacco cessation intervention uptake to assess receptivity; 4) calculate staffing resources to deliver the tobacco intervention.

Methods. Weekly healthy living interactive education and behaviour-change groups were developed. Sign-in data included age, gender, community, and tobacco-use. During group, participants could enrol in the one-on-one evidence-based, intensive, tobacco intervention. It included an initial 1-h planning session, counselling sessions scheduled 7, 14, 21, 30, 45, 60 days after the initial session, and longer-term follow-up at 3, 6, 12-months.

Results. Thirty-two groups were attended by 105 people from a rural municipality and 21 northern Indigenous fly-in communities; 56% were female, Mage = 31 (± 7.3), 86% smoked, and 38% enrolled in the tobacco intervention. The age-standardised tobacco use ratio was 2 × higher than would be expected in the general rural population; the rural rate was 2 × higher than age-stratified provincial averages. Average staff time to provide the intensive tobacco intervention was 1.5–2.5 h/week.

Conclusions. A healthy living group integrated into SUD programming provided a forum for behaviour change education and skills development, and increased access to an intensive tobacco intervention with only a few staff hours a week. High tobacco intervention enrolment demonstrated high receptivity.

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SEDENTARY BEHAVIOR AS AN ANTECEDENT FOR MOOD IN PERSONS WITH EATING DISORDERS – RESULTS OF A TIME SAMPLING STUDY

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Background: Patients with eating disorders (ED) often show unhealthy attitudes toward sports and problematic exercise behavior. Negative mood and dysfunctional cognitions have been identified as antecedents of exercise as a strategy to regulate adverse mood states.

Purpose: This study aims to explore how adverse mood states arise and whether prolonged sedentary leads to negative mood.

Methods: Twenty-nine outpatients with ED and 35 healthy controls (HCs) reported several times per day in real-time using electronic diaries on three basic affective dimensions: valence, energetic arousal, and calmness. Concurrently, they wore accelerometers for seven days.

Results: Across all participants, persons with ED showed significantly lower valence of affect (b =—18.75; $p < 0.001$), energetic arousal (b =—7.97; $p < 0.001$), and calmness (b =—18.03; $p < 0.001$) compared to HCs. Prolonged periods of sedentary behavior led to more negative mood (lower valence) in all participants (- 18.75; $p < 0.001$). This effect was even more pronounced in persons with ED (b =—0.10; $p < 0.050$).

Conclusion: The findings highlight the role of sedentary behavior in driving subsequent negative emotional states and illustrate how they develop over time in patients with ED in their everyday life. The finding that sedentary time plays a role in mood and affect regulation can be used for interventions for ED.

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EXAMINING RECIPROCAL RELATIONSHIP BETWEEN INCIDENTAL AFFECT AND PHYSICAL ACTIVITY: A DAILY DIARY STUDY

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Background: Previous research suggests that there is a bidirectional relationship between incidental affect (i.e., how one feels throughout the day outside the context of the target behavior) and physical activity; however, it is less explored whether these associations exist across days.

Purpose: The purpose of the present study was to examine the reciprocal association between incidental affect and moderate-to-vigorous physical activity (MVPA) among middle-aged and older adults using daily diary data.

Method: Data were drawn from the third wave of the National Study of Daily Experiences (NSDE). A sample of 1,166 middle-aged and older adults (Mage = 62.6; SDage = 10.2; 57% female; 82% white) completed telephone interviews across eight consecutive evenings. Physical activity was assessed using the International Physical Activity Questionnaires-Short Form (IPAQ-SF) adapted for daily use. Positive and negative incidental affect were assessed using items measuring the daily frequency of affect subscales. Multilevel autoregressive cross-lagged panel models were estimated to simultaneously address reciprocal influences of incidental affect and MVPA.

Results: Higher positive incidental affect and lower negative incidental affect were correlated with same-day engagement in MVPA. Higher positive incidental affect predicted next-day engagement in MVPA; however, engaging in MVPA did not predict next-day positive incidental affect. We did not find significant cross-lagged associations between negative incidental affect and engagement in MVPA.

Conclusion: Our results provide evidence on the benefits of positive incidental affect on physical activity behavior across days, highlighting that increasing positive affect could be potential target in interventions for promoting physical activity.

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THE EFFECT OF ENHANCED RECOVERY AFTER SURGERY PROTOCOLS FOR ELECTIVE SPINE CERVICAL AND LUMBAR SPINE PROCEDURES ON HOSPITAL LENGTH OF STAY: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Enhanced Recovery After Surgery (ERAS) Protocols are well established in many surgical fields. These protocols aim to reduce length of stay (LoS) after surgery by improving efficiency of care delivered throughout the patient surgical pathway. Hospital LoS is problematic for healthcare systems and patients, as LoS is associated with significant costs to healthcare systems, and each day in hospital increases patient risk for complications. It's unknown how effective ERAS is for elective surgeries for degenerative spine diseases.

Goal: To determine the effect of ERAS protocols on LoS for patients undergoing elective surgery for degenerative spine conditions.

Methods: A systematic review was performed according to the PRISMA guidelines. Patients with degenerative spine conditions were included, with other spine indications (tumor, deformity), or pediatric populations being excluded. Risk of bias was assessed with ROBINS-I, GRADE was used to assess the evidence, and a random effects model was used for the meta-analysis.

Results: Twelve studies were included in the review, with all studies being uncontrolled before and after studies. One study showed a moderate risk of bias, with the rest being subject to serious risk of bias. The meta-analysis showed low quality evidence that ERAS protocols for spine surgery could reduce LoS by 1.03 days, with no difference in re-admission to hospital at 30-, 60-, or 90-days.

Conclusion: Spine ERAS protocols may reduce LoS without increasing re-admission to hospital. Existing spine ERAS studies are at significant risk of bias, and better designed studies are necessary to research these pathways moving forward.

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WHAT BARRIERS PREVENT PATIENTS FROM BEING DISCHARGED FROM HOSPITAL FOLLOWING ELECTIVE SPINE SURGERY?

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Introduction: Length of stay (LoS) impacts both patients and healthcare systems. Prolonged LoS has been associated with significant costs to the hospital system, and increased risks to patients, specifically the development of hospital related adverse events1. We aimed to identify key factors which prevent patient discharge from hospital that can be targeted to facilitate more efficient discharge without compromising patient care.

Methods: Consecutive, admitted patients who received elective spine surgery over an 8-month period were prospectively approached to determine the specific reasons preventing their discharge from hospital. Daily, at 10:00am and 3:00 pm, the charge nurse would be interviewed for the top reason a patient remained in hospital. If a patient had a stay > 1 day, the patient was approached and asked why they thought they were still in hospital.

Results: A total of 102 patients were included in the analysis. The average age was 60.69, and 49 patients were women. The average LoS was 2.69 (± 3.52) days, with the median being 1 day. The most common reasons for delayed discharge were related to mobility (29.8%) and urinary retention (23.4%). The two most common reasons patients believed they remained in hospital was due to pain management (39.5%) and "Other" (28.9%).

Conclusion: Targeting healthcare resources towards mobilization and urinary retention could help facilitate faster discharge for patients who have a prolonged stay in hospital. Patients exhibit different priorities during their recovery than their healthcare team, specifically regarding pain management. Future work should address patient education and expectation setting during their recovery.

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DEVELOPMENT OF IMPROVED PATIENT EDUCATIONAL MATERIAL FOR ELECTIVE SPINE SURGERY: A PATIENT ENGAGEMENT INITIATIVE

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Introduction:
Patient education is a core component of the patient's surgical journey. Pre-operative education is important for managing patient expectations, and good education can reduce patient fear and anxiety surrounding their outcomes. Education programs should try to engage patients to be an active participant in their own care. We sought to work with patients to determine what components of education are important to them, and what educational tools may be beneficial to them.

Methods:
This study utilized a qualitative approach using semi-structured interviews with patient volunteers who have had lived experience with surgery. Two authors recorded patient partner responses, and used a thematic approach to analyze this information. Patients would be asked what components of education were helpful, and what material were cumbersome or frustrating. Patients also provided information on preferred education delivery mechanisms (such as videos, or classroom sessions).

Results:
A total of 5 patients provided their input in virtual meetings. Patients reported that education should be multi-modal, in that different resources are available to patients based on their learning needs. Optional education such as YouTube videos, or accessible nurse contacts to field questions about their surgery were considered desirable. Patients having a caregiver or relative participate in educational sessions was also viewed as beneficial.

Conclusion/Discussion:
Patient education is preferred to be offered as a personalized experience, however, limited healthcare resources makes tailored approaches to education difficult. Having a secondary person with the patient during educational sessions is beneficial to helping the patient manage expectations in recovery.

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EFFECTIVENESS OF AN INTENSIVE SMOKING CESSATION INTERVENTION IN NORTHERN REMOTE COMMUNITIES

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Objective. Moving On to Being Free, an evidence-based intensive smoking cessation program, was implemented into practice at a northern Ontario health centre to determine program effectiveness in rural and remote areas.

Background. The participating community hospital serves 33 northern remote communities and a rural municipality. The intensive Moving On to Being Free™ is an intensive, behaviourally-based smoking cessation intervention that has undergone 7 randomized trials and achieved consistently high one-year abstinence. The intervention is grounded in Bandura's (1986) self-regulation and self-efficacy theory, Marlatt & Gordon's (1985) relapse prevention model, and Skinner's (1938) operant conditioning.

Methods. Moving On was offered at bedside for inpatients and through outpatient programs. The initial 1-h session was followed by an 8-week program and follow-up at 3, 6, and 12 months. Patients received quit kit "gift bags". Pharmacotherapy was not provided.

Results. Enrollment included 125 patients from 37 northern communities—71% were from remote, fly-in communities; 89% were Indigenous; 60% were female; 43% had less than high school education; 50% were unemployed or disabled; and the majority had a chronic disease. Using intention-to-treat analyses, 50% were smoke-free at one-year; 38% were continuously abstinent for 6 months.

Conclusions. The intervention was extremely effective with this population from northern remote communities. The outcomes were substantially higher than the randomized trials. Future directions include expanding this intervention into more communities and developing additional supports for identified priority populations.

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PSYCHOLOGICAL INTERVENTIONS FOR THE MANEGEMENT OF BEHAVIORAL DYSREGULATION AND REDUCING THE NEED OF PHYSICAL RESTRAINT IN CHILD AND ADOLESCENT IN HOSPITALIZATION SERVICES

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Background: A pediatric hospitalization is a stressful event for children, with mental health consequences. When behavioral regulation becomes complex physical restraint is used, with the risk of an increase in mental symptoms, for what is important to use preventive psychological strategies to avoid its application.

Purpose: To evaluate the efficacy of psychological interventions to prevent behavioral dysregulation in hospitalized pediatric patients and the need for physical restraint.

Methods: Based on the PROSPERO and PRISMA guidelines, we systematically reviewed randomized controlled trials and quasi-experimental studies published up to March 2023 in PUBMED, CINAHL, PSYCINFO, WOS, and SCOPUS databases. In total, 3047 articles were retrieved, of which eighty-one were included. Additionally, quality and bias assessment was performed.

Results: Music therapy, playful interventions, animal-assisted therapy (dogs and goldfish) (AAT), mandala drawing, robotic game kit, storytelling, videos, puppetry, origami, art therapy, and humor therapy show significantly lower levels of distress compared with control groups. The AAT (dogs) also decreased the fear in schoolchildren and adolescents. Mandalas decreased global stress perception in adolescents.
Music therapy and storytelling were effective in the schoolchildren for reducing pain. In addition, humor therapy, AAT, play therapy, dish garden, and storytelling were effective in reducing biological stress markers (cortisol, blood pressure, and heart rate). Furthermore, storytelling increases oxytocin levels.

Conclusions: Psychological interventions are effective in reducing levels of distress, pain, and fear in pediatric hospitalizations. Is important the stage of development, as well as the type of intervention adapted to the hospital services. No study evaluated outcomes of physical restraint.

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EFFICACY OF PSYCHOLOGICAL STRATEGIES FOR THE MANAGEMENT OF PHYSICAL AND MENTAL SYMPTOMS WITH PEDIATRIC PATIENTS IN EMERGENCY DEPARTMENTS

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Background: Pediatric emergency department can be considered highly stressful for children. The empirical literature shows a significant prevalence of mental and physical symptoms, which can negatively impact the coping processes of current and future health care.

Purpose: To evaluate the efficacy of cognitive-behavioral strategies for managing physical and mental symptoms with pediatric patients in emergency departments.

Method: Based on the PROSPERO and PRISMA guidelines, we conducted a systematic review of randomized controlled trials published up to March 2023 in PUBMED, CINAHL, PsycINFO, WOS, and SCOPUS databases. In total, 1603 articles were retrieved, of which 22 were included. In addition, quality and bias assessment was performed.

Results: 14 different strategies were identified for managing anxiety, pain, and fear in patients between 0–17 years. Strategies were differentiated between distraction, preparation, and emotional support. Most of the studies used virtual reality, followed by music and clowns, with heterogeneous outcomes. The use of bubbles and buzzy had effects in the reduction of pain and fear. Interaction with a robot decreased cortisol levels, distress, and pain, and the cartoon video only on pain. Similarly, the use of toys showed lower pain and fear, and Ditto devices also reduced distress. Palm Stimulator added efficacy in pain management. Finally, parental emotional restraint training did not show differences in any of its outcomes.

Conclusions: The most frequent effective strategies were distraction type, mainly with the use of technology, requiring a cost-effectiveness analysis. Studies on the behavior of parents and health personnel were scarce, and future research is necessary.

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CULTURAL ADAPTATION OF THE CHRONIC PAIN ACCEPTANCE QUESTIONNAIRE-20 (CPAQ-20) FOR CHILEAN POPULATION

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Background

Chronic pain treatments have limited effectiveness, and patients may neglect important life goals in their pursuit of pain control. Pain acceptance has emerged as a relevant psychological process for understanding pain adjustment and has become a central therapeutic objective. In Chile, there are no instruments for monitoring pain acceptance levels. The CPAQ-20 is the most frequently used instrument for assessing pain acceptance and has extensive evidence of validity and reliability.

Purpose

This study aimed to culturally adapt the CPAQ-20 to the Chilean population.

Method

Eleven Chilean non-cancer chronic pain patients were interviewed by phone. They were asked to select the clearest introductory statement, response scale option, and each item among three existing Spanish versions of the questionnaire (Esteve, 2004; Rodero et al., 2010; Sánchez-Rodríguez et al., 2018). Participants were encouraged to express comments about items and report any expressions considered unclear or inappropriate in the Chilean context. A cognitive interview was conducted to obtain information about the response process. Qualitative information was processed by thematic analysis.

Results

The preferred instructions and response scale by 91% of participants were those present in Esteve et al. (2004), whereas the preferred items varied between the 3 versions. The preference of participants and the results of the thematic analysis were considered for selecting and modifying the items for the final version.

Conclusion(s)

The results of this study provide a valuable tool for assessing pain acceptance in Chilean chronic pain patients, but further research is needed to evaluate its psychometric properties.

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PSYCHOLOGICAL VARIABLES ASSOCIATED WITH FATIGUE IN HEMATOLOGICAL PATIENTS

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Background: Up to 90% of patients with hematological cancer experience fatigue related with cancer during treatment. Cancer-related Fatigue (CFR) is defined as a feeling of worry, subjective and persistent, of physical, emotional and cognitive tiredness, which is not proportional to the activity performed. CFR is associated with reduction in functional status and anxiety, depression and distress disorders.

Purpose: To evaluate the relation of fatigue with anxiety, depression and sleep quality.

Method: The design used was a cross sectional and correlational study. To evaluate fatigue we used the Functional Assessment of Chronic Illness Therapy – Fatigue (FACIT-F). Psychological variables includes in the study were measured trough the Generalized Anxiety Scale (GADI) for anxiety, the Patient Health Questionnaire (PHQ-9) for depression and the Pittsburgh Sleep Quality Index (PSQI) for sleep quality. All these instruments are validated in Mexican population. 56 patients were enrolled with a mean of 43 years old, 55.4% were male, 53.5% were diagnoses with lymphoma, 39.3% with acute leukemia and 7.1% with multiple myeloma.

Results: The mean for fatigue was 71.96% 96 (s.d. = 22.33), depression 4.73 (s.d. = 5.9) and sleep quality 10.67 (s.d. = 7.74). We found a positive and moderate correlation between fatigue and depression ($r = 0.551$, $p < 0.001$), with anxiety ($r = 0.609$, $p < 0.001$), and sleep quality ($r = 0.550$, $p < 0.001$).

Conclusions: Our findings reveal that fatigue associated with multiple psychological variables, therefore patients with fatigue must be attended in an interdisciplinary context in order to prevent or improve the global health.

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DOES EXPOSURE TO STRESSES OF DAILY LIFE INCREASE LEVELS OF DNA DAMAGE?

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Background: When cellular oxidative stress exceeds the capacity of antioxidant defense mechanisms to maintain intracellular equilibrium, DNA damage can occur. Repeated experiences of such damage can increase the risk of introducing mutations that elevate the risk of cancer over the long term. Acute psychological stress responses have been reported to increase oxidative stress and DNA damage levels in previous studies.

Purpose: Since work is a common source of repeated stresses in daily life, we tested the hypothesis that urinary levels of 8-hydroxy-2-deoxyguanosine (8-OHdG), a marker of cumulative oxidative DNA damage over the collection interval, would be higher on a workday than on a weekend day.

Method: Healthy, working (day shift), nonsmoking, premenopausal women were recruited. Participants ($n = 50$) collected timed urine samples during a workday and a weekend day. Mood was assessed by self-report with an ecological momentary sampling procedure. 8-OHdG levels were determined in frozen urine samples using a commercially available ELISA. Participants' workday and weekend urine samples were assayed concurrently by staff blinded to the study source of the samples.

Results: Participants' ratings of negative mood were significantly higher ($p < 0.05$) on their workdays compared to their weekend days, as expected. Levels of urinary 8-OHdG were also significantly higher on workdays, consistent with the study hypothesis.

Conclusions: Exposure to work stresses appears to result in increases in DNA damage. However, experimental studies are needed to confirm causal relationships. The biological significance of stress-induced increases in DNA damage and the underlying mechanisms should be investigated in future research.

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ADJUSTING TO A PARENT'S CARDIAC ILLNESS: A QUALITATIVE ANALYSIS OF THE CHALLENGES AND NEEDS OF CHILDREN

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Background: The psychosocial outcomes of children navigating parental illness are established in cancer, mental health, and substance abuse contexts, but children's adjustment to a parent's diagnosis of cardiovascular disease, a leading cause of deaths worldwide, remains unclear.

Purpose: Using a qualitative research design, this study investigated the challenges and needs of children as they adjusted to parental cardiac illness, from parents' perspectives.

Method: Patients diagnosed with a cardiac condition and their partners were recruited from a large tertiary care cardiac hospital. Participants completed a sociodemographic questionnaire and attended a 1.5-h focus group interview. Interviews were transcribed and underwent thematic analysis using an inductive approach.

Results: The sample consisted of 32 participants (24 patients; 8 spouses; 46% female; Mean age = 46) who partook in one of nine focus groups. Adjustment challenges included: (1) fears and uncertainty about the future; (2) limited developmentally appropriate and cardiac-specific resources; (3) disruption to family routines; (4) fluctuations in parents' emotional health; and (5) indirect or impartial communication from parents. Needs included: (1) developmentally appropriate educational messaging; (2) psychosocial support for the family, with an emphasis on enhancing communication; (3) access to a healthcare professional for reassurance; and, (4) strategies to support parents in their recovery.

Conclusion: Children confront several challenges and have unmet needs when adjusting to parental cardiac illness. Secondary prevention programming may do well by broadening the inclusion of children into the care plans. Subsequent research phases will involve consulting children, estimating the psychosocial impact using quantitative methods, and resource development and testing.

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DEVELOPMENT OF THE MYSHARE MHEALTH INTERVENTION TO PROMOTE CERVICAL CANCER PREVENTION AMONG WOMEN LIVING WITH HIV

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Cervical cancer (CC) is highly preventable but remains a leading cause of cancer death in women worldwide, with women living with HIV (WLH) at higher risk due to their impaired immune response to human papillomavirus (HPV). Health education programs, such as text-messaging interventions, can effectively improve CC and HPV knowledge and recommended screening.

This mixed-methods study describes the data-driven development of a four-week text-messaging intervention, My Self-Sampling, HPV Awareness, Results, and Empowerment (MySHARE), to improve CC and HPV prevention among WLH.

Surveys ($n = 81$) and focus group discussions (FGDs; $n = 39$) were conducted among WLH in the Washington-Baltimore metropolitan region, with findings informing the development of MySHARE.

While most WLH revealed that their usual sources of health information were through in-person group sessions, they pointed out that these were impractical due to the pandemic and that a text-messaging intervention would be feasible and acceptable. Survey findings determined the text-messaging intervention logistics/functionality while FGD participants' responses structured around the Protection Motivation Theory constructs informed the text-messaging library, covering topics such as CC and HPV knowledge, prevention behaviors, and HPV self-sampling.

This study underscored the importance of engaging the target population in intervention development, as they provided clear and actionable recommendations (alongside best practices in digital health technology) that were directly used to determine the intervention delivery platform, design the timing and frequency of messaging, and develop the text-messaging library. Low-cost and accessible interventions like MySHARE can significantly increase CC knowledge and awareness among historically hard-to-reach populations, especially during times of public health crises.

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COVID-19'S IMPACT ON COMMUNITY RESILIENCE PRACTICE: LESSONS LEARNED FROM AN ACADEMIC-COMMUNITY-GOVERNMENT PARTNERSHIP TO REDUCE HBV

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The global elimination of viral hepatitis requires guidance on how to coordinate and sustain community health efforts during public health crises. This study describes the innovative adjustments made by a community-based participatory research (CBPR)-driven academic-community-government (ACG) partnership during the earlier phases of the COVID-19 pandemic to provide continued prevention modalities and reduce hepatitis B virus (HBV) in at-risk communities in the Washington-Baltimore metropolitan region.

Key informant interviews with 15 (of 20) active partnership members were conducted to assess the facilitators and barriers in implementing hepatitis prevention efforts during the pandemic. Qualitative data analysis revealed emergent themes on the ACG partnership's capacity and barriers/challenges, and recommendations to overcome these were identified.

Despite the pandemic, partnership members remained agile and responsive to community needs. Three thematic categories about the pandemic's impact on the ACG partnership transpired: innovations in hepatitis screening, access and linkage-to-care, and collaborative leadership. Lessons learned included identifying gaps in care (e.g., catch-up vaccinations among high-risk groups), fostering a safe environment for patients and staff, and providing technical assistance to enhance health information technology and systems infrastructure.

To sustain effective ACG partnerships, prioritizing regular and transparent communication, shared decision-making, and telemedicine training is essential. Future CBPR hepatitis surveillance programs must consider the possibility of unexpected events causing disruptions in communication and screening programs. Preparation for such events can involve partnership members from diverse agencies/disciplines collaborating to brainstorm and develop solutions that include training organizational staff to provide linkage-to-care for patients who may become disconnected from care due to sudden changes.

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SEXUAL AND GENDER MINORITY COUPLES' EXPERIENCES RELATED TO ACHIEVING OR MAINTAINING THEIR HEALTH GOALS OVER TIME

Dr. Jason Mitchell, Christofer Rodriguez, Noel Singh.

Background: Despite known disparities, few studies have investigated sexual and gender minority (SGM) couples' health goals and their experiences toward achieving them (i.e., facilitators, barriers).

Purpose: The present study investigated SGM couples' experiences that centered on them working toward or maintaining their health goals over time.

Method: From a cohort study with SGM couples, a purposive sample of 40 couples was selected and interviewed over Zoom. Interviews were individual-level, semi-structured, and recorded. Thematic analysis was used to analyze the transcripts.

Results: Approximately half of the 40 couples identified as gay male couples, a third as lesbian couples, and about one-fifth as queer or gender minority couples. Top three reported health goals were 1) getting enough exercise, 2) managing anxiety, and 3) eating healthier. Healthy aging, weight loss, managing depression, and having a satisfying sex life were other commonly reported goals. Overall, most partners felt they made progress toward 2 of their 3 health goals within the prior 6 months. However, perceived health goal progress varied extensively between partners across couple groups. Facilitator-related themes about health goal progress included partner's support, routine, and having a healthy lifestyle. Barrier-related themes included time management, competing interests, inadequate healthcare access/options, and role of the partner.

Conclusion(s): With the exception of healthy eating, partner's support was vital toward someone working toward or maintaining their health goals. Findings suggest key areas to target in a future multiple health behavior change intervention to help SGM couples achieve optimal health.

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SEXUAL AND GENDER MINORITY COUPLES' EXPERIENCES RELATED TO ACHIEVING OR MAINTAINING THEIR RELATIONSHIP GOALS OVER TIME

Christofer Rodriguez, Noel Singh, **Dr. Jason Mitchell**

Background: Improving relationship dynamics positively impacts both partners' health among couples. However, few studies have investigated sexual and gender minority (SGM) couples' relationship goals and their experiences toward achieving them.

Purpose: The present study investigated SGM couples' experiences that centered on them working toward or maintaining their relationship goals over time.

Method: From a cohort study with SGM couples, a purposive sample of 40 couples was selected and interviewed over Zoom. Interviews were individual-level, semi-structured, and recorded. Thematic analysis was used to analyze the transcripts.

Results: Approximately half of the 40 couples identified as gay male couples, a third as lesbian couples, and about one-fifth as queer or gender minority couples. Top three reported relationship goals were 1) improving communication, 2) working on finances, and 3) enhancing intimacy. Feeling emotionally connected, career-related decisions, and improving sexual satisfaction were other commonly reported goals. Overall, most partners felt they made progress toward at least 1 of their 3 relationship goals within the prior 6 months. However, perceived relationship goal progress varied extensively between partners across couple groups. Facilitator-related themes about relationship goal progress included dyadic efforts, having a support system including professional help, and planning. Barrier-related themes included non-existent or minimal effort, different communication styles, employment and economical struggles, and competing life and health priorities.

Conclusion(s): Dyadic efforts and support systems were key toward someone working toward or maintaining their relationships goals. Findings suggest key relationship functioning areas to target in a future multiple health behavior change intervention for SGM couples.