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REVIEW ARTICLE

A scoping review exploring stigma associated with postpartum urinary incontinence

Jordyn M. Cox[1] · **Miguel Sánchez-Polán**[2] · **Patrícia Mota**[3,4] · **Ruben Barakat**[2] · **Taniya S. Nagpal**[1]

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Abstract

Introduction and hypothesis Postpartum urinary incontinence (UI) is prevalent, yet health-seeking behaviours for prevention and treatment are markedly low. Health-related stigma refers to conditions that may be socially devalued and considered deviating from "expected norms" and is a barrier to equitable health care. It may be plausible that stigma is associated with postpartum UI and leads to avoiding health-seeking behaviours, which this scoping review sought to examine and summarize.

Methods The Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for scoping reviews was followed. The following keywords were used to develop a search strategy: Postpartum, Urinary Incontinence and Stigma. The search was carried out on PubMed, PsycInfo, Scopus, CINAHL, Web of Science and ProQuest Dissertation and Theses Global. All study designs (clinical trials, observational studies, qualitative studies) were eligible for inclusion. Data were extracted and mapped to identify causal factors of postpartum UI stigma and implications for outcomes and behaviours.

Results Twelve studies were included. Most studies utilized questionnaires assessing constructs related to quality of life that also captured potential stigma, or interviews. Sources of postpartum UI stigma included community values surrounding UI and self-stigma, whereby participants directed stereotypes associated with urinary leakage towards themselves. Implications of postpartum UI stigma included negative mental emotions such as shame and embarrassment, which led to avoiding situations where they needed to disclose symptoms, including in health care environments.

Conclusions Future research requires a purposeful assessment of postpartum UI stigma to learn from lived experience how to mitigate stigma and improve quality of care.

Keywords Postpartum · Urinary incontinence · Stigma

Introduction

Approximately 30–40% of pregnant individuals experience postpartum urinary incontinence (UI) [1, 2], and this has been associated with poor quality of life and maternal mental health [3]. Morphological and physiological adaptations in pregnancy result in a higher frequency of micturition, such as the increase in uterine weight, hormonal changes, and later in gestation as the fetus grows and descends there may be further bladder compression [4]. Postpartum UI can develop because of uterine prolapse causing an obstetric fistula or as a result of weakening pelvic floor muscles, which consequently may be related to bladder-neck/urethral hypermobility and to intrinsic sphincter deficiency [4].

Positively, several studies have demonstrated effective physical therapy conservative treatments to prevent and manage postpartum UI, including pre- and postnatal pelvic floor muscle training [5–8], electrical stimulation [5, 9], and biofeedback [9]. However, despite the availability of prevention and early treatment options, health-seeking behaviours for postpartum stress UI such as pelvic floor muscle training are reportedly low [10], and a potential rationale may be the social stigma surrounding urinary leakage.

✉ Taniya S. Nagpal
tnagpal@ualberta.ca

[1] Kinesiology, Sport and Recreation, University of Alberta, 116 Street and 85 Avenue, Edmonton, AB T6G 2R3, Canada

[2] AFIPE Research Group, Faculty of Physical Activity and Sport Sciences-INEF, Universidad Politécnica de Madrid, Madrid, Spain

[3] H&TRC- Health & Technology Research Center, ESTeSL- Escola Superior de Tecnologia da Saúde, Instituto Politécnico de Lisboa, Lisboa, Portugal

[4] Univ Lisboa, Fac. Motricidade Humana, CIPER, LBMF, 1499-002 Lisboa, Portugal

Stigma refers to an attribute or situation that a person may have that is devalued primarily because it deviates from social norms and ideals [11]. Health-related stigma implies negative associations or stereotypes attached to a specific health condition that then leads to poor assumptions made about the person [12, 13]. Several studies have documented that health-related stigma is a key barrier to health-seeking behaviours and equitable access to health resources [13–15]. Regarding UI, research outside of the pregnancy and postpartum period has suggested that stigma arises from associating the condition with factors such as uncleanliness, loss of bodily control, and potential frequent interruptions to use the bathroom that then affects social interactions and fosters uncomfortable environments [16].

Addressing and mitigating health-related stigmas are essential to empowering patients to seek and receive person-centred and effective care [13, 14]. In order to address health-related stigma, health and stigma frameworks recommend that initial steps include understanding and conceptualizing stigma from lived experience [13, 17]. Conceptualizing stigma can include identifying common sources, root causes, and implications on health outcomes and behaviours [17]. Postpartum UI stigma may be unique as it appears that complaints of urinary leakage in pregnancy are normalized, but post-delivery symptoms may be negatively perceived [15]. As postpartum UI has a detrimental impact on quality of life [18], it is necessary to identify opportunities to increase accessibility to preventative and treatment resources which may include mitigating stigma. As a first step to examining postpartum UI stigma, this scoping review is aimed at scanning and summarizing the existing literature that has documented lived experiences. Through thematic and narrative synthesis, this scoping review identifies potential causes of postpartum UI stigma, its impact on health-seeking behaviours, and gaps in research that need to be addressed to better understand lived experiences and develop strategies to mitigate stigma. Scoping review methodology was selected as this type of review is recommended when synthesizing a novel phenomenon and analysis would be best interpreted thematically to provide overarching summaries and future directions [19].

Materials and methods

This scoping review was completed in accordance with the 2020 Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for scoping reviews (checklist available in Supplementary Material 1) [19]. The main objective of this review was to map the existing literature on stigma related to postpartum UI, including identifying potential sources of stigma, the impact on health-seeking behaviours, and recommendations for future research and strategies to mitigate stigma.

Search strategy

A search strategy was developed with the keywords “postpartum”, “urinary incontinence”, and “stigma” (the search strategy for PubMed is presented in Table 1). The following databases were screened and the search strategy was modified accordingly: PubMed, PsycInfo, Scopus, CINAHL, Web of Science and ProQuest Dissertation and Theses Global (PQDT). This search was carried out on 3 November 2022 with no date or language restrictions in place during the search; however, only English-language articles were accepted.

Inclusion and exclusion criteria

To be included in this review the following criteria were to be met:

1. Postpartum population
2. Urinary incontinence
3. Stigma included (e.g. as an outcome, as a finding or theme)

The postpartum period was not specifically defined in terms of length, as long as the study was referring to after pregnancy and we accepted the author's definition of postpartum. We accepted any type of study design including qualitative investigations, cross-sectional and cohort

Table 1 Search strategy for PubMed

Keyword	Search	Items retrieved
Postpartum	“Postpartum Period” OR “Puerperium” OR “Post-Delivery” OR “After Delivery” OR “Post-Pregnancy” OR “After Pregnancy” OR “Mother” OR “Motherhood”	419,349
Urinary incontinence	“Urination Disorder” OR “Urinary Stress Incontinence” OR “Urinary Urge Incontinence” OR “Leakage” OR “Urinary leakage” OR “Involuntary leakage”	124,276
Stigma	“Social stigma” OR “Bias” OR “Embarrassment” OR “Shame” OR “Guilt” OR “Self-consciousness” OR “Unpleasant” OR “Self-criticism” OR “Rejection” OR “Non-acceptance” OR “Negative attitudes” OR “Disgust” OR “Disapproval” OR “Offensive”	549,062
	All above searches added with AND	77

studies, controlled trials, and reviews as long as stigma was included in the interpretation of the findings. Editorials, commentaries, protocols, opinion papers, and animal studies were excluded. In addition, we did not include any study where it was not clear if the included population or findings were specifically referring to the postpartum stage.

Screening process

After the search was carried out, all retrieved articles were transferred to EndNote™ (Clarivate Analytics, version 20). Using EndNote's automatic feature, duplicate articles were removed. Remaining articles were transferred to Covidence software for further screening. First, two independent reviewers (JC, TSN) screened titles and abstracts for inclusion. Following this, the remaining articles were assessed in their full text. At either stage if there were any discrepancies they were resolved by discussion, and a third reviewer was available to make a final decision (MSP).

Data extraction

Included studies underwent data extraction onto a standardized Excel spreadsheet. The following data were extracted to describe the study: country of study, year published, methodology, measurement tools used, sample size, type or cause of postpartum UI, and whether stigma assessment was a main objective. For measurement tools, we extracted data specifically for how UI stigma was assessed. We then extracted findings related to stigma as reported by authors. All extractions were completed by one reviewer (JC) and checked in full by a second reviewer (TSN).

Data mapping

A deductive approach was taken to map the findings to meet the review objectives. We grouped extracted data for stigma as

1. Identified sources of UI stigma
2. Tools or methods used to evaluate stigma
3. Implications of UI stigma on health outcomes and behaviours
4. Suggestions for future directions

The data were presented narratively under each group, such that findings present a summary of each category. We also presented a quantitative value for the percentage of studies where stigma was included as a main objective. Data were mapped collaboratively by two reviewers (JC and TSN), and then checked for clarity and correctness by three reviewers (MSP, RB, PM).

Results

A total of 97 papers were retrieved, and after the removal of duplicates, 96 underwent title and abstract screening. Following this stage, 46 papers were reviewed in full and finally, 12 met all the eligibility criteria and were included in the review. A flow chart of the studies included with reasons for exclusion is presented in Fig. 1. Of the papers included 1 was a randomized controlled trial [20], 1 was a mixed-methods study [21], 5 were qualitative studies [22–26], and 5 were observational studies [27–31]. Given that the studies varied

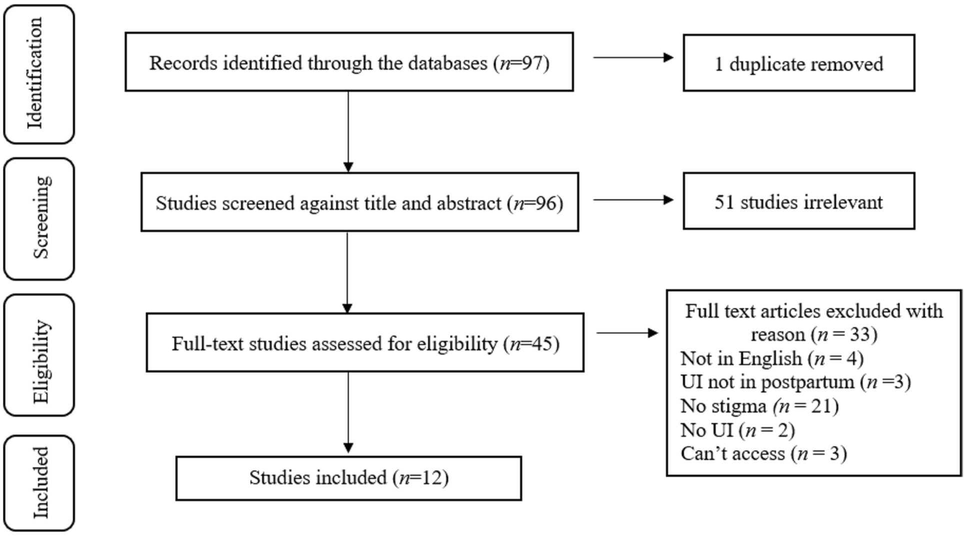

Fig. 1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram. *UI* urinary incontinence

in terms of causes of postpartum UI (e.g. because of vaginal delivery, pelvic organ prolapse etc.) and type, we have included this detail in Table 2 and in our narrative synthesis. In terms of stigma assessment, none of the included studies specifically had an objective or aim to measure stigma but this emerged as a finding. Study findings specific to postpartum UI stigma are summarized in Table 2.

Objective 1: identifying sources of postpartum UI stigma

The two main sources of postpartum UI stigma identified were community values and self-stigma. Community values include perspectives, principles, standards, and beliefs held by interpersonal networks (i.e., family, friends) and the surrounding society. In a few studies, participants explained that their families and community members would consider UI as an unacceptable complaint postpartum [21], and it was a private problem that should not be openly discussed [22]. For example, Shrestha et al. described that there is a "culture of silence" that the participating women need to uphold with regard to discussing reproductive problems that are meant to be personal and therefore hidden [21]. Similarly, Jarvis et al. and Mwini-Nyaledzigbor et al. explained that participants felt ridiculed and judged by their families for not having bodily control [22, 26]. It was also described that in the postpartum period, UI is expected, and that the mother is solely responsible for managing symptoms [22, 29]. Jarvis et al. suggested that UI related to postpartum urogenital fistula might lead to deviating from societal gender norms of being a woman who is supposed to be "clean" and "put together" [22]. Notably, cultural expectations were also observed. For example, a study conducted in Nepal identified culturally specific norms that exacerbate UI-related stigma from uterine prolapse, including the expectation that reproductive-related concerns are meant to be private and not shared with family members [21]. Two studies completed in Ghana described that Ghanaian women are expected to be in control and held to a high standard of hygiene, and consequently, having UI related to uterine prolapse leads to difficulty being accepted in the community postpartum [22, 26]. It is important to highlight that the studies included in this review spanned several geographic locations (Table 2). In total, 8 of the studies were conducted in high-income economies compared with 4 in countries with lower-middle incomes. However, community values are still presented as a shared theme, recognizing that the values themselves vary based on several factors in those geographic areas (e.g., cultural norms) and this is an area that requires further inquiry, perhaps with a systematic review specifically examining cultural and economic nuances that may impact stigma.

Moreover, community values may be perceived by the individual as well and is therefore appropriate to be classified as an example of self-stigma as well. Perceived social expectations led to the second source of stigma identified, self-stigma, where participants seemed to be directing stereotypes and misconceptions surrounding UI toward themselves. This includes viewing themselves as "dirty" and constantly worrying about what others may think of them, and accordingly, actively trying their best to hide any possible symptoms such as smells and leakages [24, 26]. Participants referred to themselves as shameful, having low self-esteem, and having lost their dignity [27]. In one study, participants even said that they felt like babies because they required sanitary napkins [23]. The self-stigma greatly impacts their lives as they may resort to self-isolation, feel pathetic because they believe they should not participate in daily social activities with their families [26, 29], and have an overall loss of self [29].

Objective 2: tools or methods used to evaluate stigma

Of the included studies, six used interviews that captured examples of stigma [21, 22, 24–26, 28]. Stigma-related examples or themes captured through interviews focused on embarrassment regarding having the condition or feeling shame when having to disclose information to their health care providers [21, 22, 24–26, 28]. One study generated themes regarding postpartum UI experiences from blog posts [23]; using grounded theory one of the emerging themes from public posts was stigma itself, where the participants expressed feeling stigmatized in several settings including socially and in health care. Finally, five studies used questionnaires that captured stigma-related constructs [20, 27, 29–31]. The most commonly used questionnaire was the Incontinence Impact Questionnaire, which is a 30-item self-report form intended to measure quality of life with UI [27, 30, 31]. Another study designed its own questionnaire where the focus was addressing a number of social and emotional issues in relation to both incontinence and dyspareunia [29]. The final questionnaire-based study used a four-point response scale to gauge participants' embarrassment levels about UI-related vaginal examinations [20].

Objective 3: implications of stigma for health and behavioural outcomes

All of the studies emphasized that UI was associated with feelings of embarrassment and shame coming from the symptoms (e.g. odour, feeling wet, visible leakages, physical discomfort) and social perceptions. Participants expressed feeling constantly stressed about symptoms [24], and this led to social withdrawal, decreased participation in physical activities, and isolation, which are further detriments to mental health [20, 26]. Participants also reported an increase

Table 2 Main findings related to postpartum urinary incontinence and stigma

Reference	Study location	Total, *N*	Type of study	Type of UI addressed	Main findings related to experiencing stigma
Perera et al. [28]	Sri Lanka	400	Cross-sectional	SUI	The main reason for not obtaining treatment for UI was feeling embarrassed to consult a doctor (33.3%)
Jarvis et al. [22]	Ghana	99	Qualitative	Obstetric fistula	Women who reported experiencing mild UI post-repair obstetric fistula hid that fact from others
Clarkson et al. [29]	UK	470	Cross-sectional	Varied	Few women reported seeking professional advice for UI even if they reported suffering from an physical or social/emotional concerns. It was also suggested that painful intercourse and UI problems are still considered to be taboo areas which can also have negative implications on partner relationships and feeling embarrassed to be intimate.
Hermansen et al. [27]	Denmark	75	Cross-sectional	Not specified	Participants indicated that having UI affected the way they dressed and that fears of odour and embarrassment restricted their activities. Women described losing their dignity and sense of self-esteem and feeling like social outcasts, both at home and in the community. Leaking urine and its permeating odour were constant sources of worry, embarrassment, and humiliation, and, despite coping strategies to control odour and maintain cleanliness, the participants felt they were often unable to keep clean
Du et al. [23]	USA	118	Qualitative	Not specified	The first theme was a general sense of initial embarrassment. Users were at first highly self-aware of their new incontinence and felt self-consciousness and embarrassment. They were embarrassed to discuss their condition with friends and family.
Van Brummen et al. [30]	Netherlands	344	Prospective cohort	OAB	Dry OAB had no negative effect on the QoL whereas wet OAB compromised QoL both during and after pregnancy, mainly in the mobility and embarrassment domains.
Shrestha et al. [21]	Nepal	115	Mixed methods	Uterine prolapse	A “culture of silence” and “laaj” (i.e. shame about reproductive health) restricts women from talking about pregnancy and its related problems, and it also leads to delaying care.
Mason et al. [24]	UK	42	Qualitative	SUI	Of the range of feelings and emotions that were described in connection with stress UI, the three most common were a worry, a constant awareness of the condition, and embarrassment. They gave reasons such as the fear that the UI was not going to get any better or was going to become worse in the future, and the fear of leaking, particularly at an inappropriate time or place.

Table 2 (continued)

Reference	Study location	Total, *N*	Type of study	Type of UI addressed	Main findings related to experiencing stigma
Chiarelli et al. [20]	Australia	720	RCT	Not specified	6% of women reported that embarrassment was a barrier to self-care practices to manage symptoms of UI in physiotherapy
Hagen et al. [25]	UK	24	Qualitative	Varied	Women reported anxiety and/or embarrassment about having to undergo vaginal examination. Some women also reported embarrassment and a lack of privacy about using biofeedback
Mwini-Nyaledzigbor et al. [26]	Ghana	10	Qualitative	Obstetric fistula	Participants described in detail the stigma of UI and the resultant odour, which led to ostracism and social isolation. They reported receiving derogatory remarks and being ridiculed, and even their children were sometimes insulted. Stigma often led to self-isolation in order to avoid embarrassment and humiliation
Van Brummen et al. [31]	Netherlands	344	Prospective cohort	Varied	Many women believed that UI is a normal consequence of vaginal delivery, thereby denying themselves treatment.

OAB overactive bladder, *QoL* quality of life, *UI* urinary incontinence, *SUI* stress urinary incontinence, *RCT* randomized controlled trial

in anxiety in social settings, including in health care facilities especially when they need to undergo a vaginal examination [25]. Constantly being self-conscious owing to fear of being condemned in their community or receiving any negative judgement caused a significant mental strain [21, 26, 27]. Clarkson et al. also noted that UI affected partner relationships, including reduced frequency or avoidance of intercourse and feeling uncomfortable around their partner [29]. Authors postulated that experiencing UI in the postpartum period can be harmful to intimate relationships owing to the stigma, which may manifest as embarrassment and discomfort [29].

The most common behavioural outcome reported as a result of experiencing stigma attached to postpartum UI is avoiding seeking any care and support. Participants expressed that they did not seek treatment as that required acknowledging and discussing symptoms and elicited feelings of embarrassment [24, 28]. There was also fear of others finding out about the issue, and as such, participants preferred not sharing any of their concerns with family members or health professionals [24]. In fact, Perera et al. identified that the most common reason for not seeking UI-related treatment in the postpartum was indeed feeling embarrassed [28]. Chiarelli et al. found that when women were offered appropriate support and training for self-assessment they were adherent; however, if they felt embarrassed then even on their own they did not engage in self-care behaviours [20]. Finally, the stigma associated with UI also affected their communication with providers as they did not openly discuss their concerns and consequently would not necessarily receive all the care they need [26].

Objective 4: suggestions for future directions

Several studies concluded that there is an urgent need to improve health education on UI, both for clinicians and for postpartum patients [20, 22, 27–29]. Increasing knowledge about postpartum UI and treatment options may not only change perceptions that patients have but may also increase care-seeking behaviours and thus lead to an improved quality of life [29]. As postpartum individuals are often embarrassed about UI, it is also recommended to educate health care professionals on how to bring up UI in a sensitive and respectful way to encourage the patient to be open and comfortable sharing their concerns and symptoms [20, 27]. Notably though, none of the included studies had a primary objective to explore and document lived experience of the stigma associated with postpartum UI and this is a critical gap identified in this scoping review. Therefore, a direction for future research also includes a purposeful understanding of the stigma attached to postpartum UI from lived experience and testing of effective strategies to mitigate stigma to improve accessibility to management and prevention options.

Discussion

This scoping review sought to summarize literature that has assessed and addressed stigma attached to postpartum UI by identifying sources, measurement methods, implications for health behaviours and outcomes, and mapping directions for future work. The two main sources of stigma attached to postpartum UI were community values and self-stigma. To measure and understand stigma, the majority of the studies used interview methods and thematic analyses; however, none of the studies explicitly stated that assessing stigma was an objective of their research. Overall, postpartum UI stigma appears to have a negative effect on mental health and reduces the likelihood of seeking care or disclosing symptoms. Moving forward, it is necessary to increase education on postpartum UI for patients and equip health care professionals with the skills to sensitively discuss the issue and offer treatment options.

Health-related stigmas arise from social misconceptions surrounding the condition that depicts it as deviating from the norm and as a trait that is discredited and unwanted [11]. With UI, the stigma develops from social stereotypes surrounding urinary leakages, which are associated with a lack of cleanliness and bodily control [16]. Unfortunately, these social misconceptions or the person's perception of them can cause self-stigma whereby the person directs these ideologies at themselves [13]. Problematically, self-stigma can worsen health conditions as it leads to avoiding seeking health care and negatively affects one's mental health by reducing self-esteem and self-worth [13]. Previous studies have documented that postpartum UI is associated with a poor quality of life and negative mental health outcomes such as increased anxiety [3, 18]. It may be plausible that the detrimental impact on mental health and well-being is rooted in the stigma that is experienced, and the consequential self-stigma. It was evident in the studies included in this review that self-stigma associated with postpartum UI is apparent and is impacting mental well-being, as participants reported engaging in social withdrawal, decreased participation in sports and recreational activities, and increased isolation.

Postpartum UI is described as bothersome; however, if individuals are not seeking support owing to the stigma they are experiencing, then this blocks their opportunity to receive the effective care that they need. The true prevalence of postpartum UI is difficult to establish and is likely underestimated [5]; therefore, it is necessary to implement strategies to mitigate stigma and remove it as a barrier to care for everyone. For example, supervised physical activity programs led by exercise and pelvic floor experts may be able to cultivate safe spaces to promote social inclusion among postpartum individuals with shared experiences, and simultaneously offer pelvic floor muscle training [32]. Importantly, standardized assessment of or inquiry regarding postpartum UI by health care professionals may help to identify individuals who require management support [17]. For health professionals, it is necessary to understand patient experiences with stigma so that they can offer resources and support to overcome barriers and deliver sensitive care [13]. In this review, it was evident that many participants chose not to disclose UI for fear of judgment. As such, perhaps it is necessary to train health care professionals to discuss UI with their patients and nurture an environment that promotes comfort and safety to further share symptoms and concerns. In fact, Wagg et al. interviewed women of older age who had UI to determine what resources they need to improve their quality of care and they found that participants preferred their provider to initiate discussions about leakages and then empowered them to continue the dialogue [33]. Therefore, future research and implementation initiatives may include designing conversation tools for health care professionals to discuss postpartum UI and help the patient to navigate care options. Additionally, resources directed at patients are also needed that acknowledge the high prevalence of UI and treatment options, so that we can lessen the taboo nature of the condition and promote care-seeking behaviours. Given the sensitive nature of stigma and the fact that those who experience it may conceal their symptoms, the magnitude of the stigma is likely to be underestimated, as not everyone will come forward [12]. Therefore, effective tools that may encourage conversation, even with health care providers, may assist individuals to receive integral care options. Another possible tool that can be used to reduce stigma and encourage conversation associated with postpartum UI is leveraging social media in countries and communities, where possible, to generally increase awareness of this issue. Sharing realities associated with stigmatized issues in public domains with a wide reach is a way of promoting relatability for people who may identify with them, educating the public more broadly to improve inclusive attitudes, and enhancing advocacy efforts for mitigating stigma and access to health resources [13, 17].

A health condition that is stigmatized, such as postpartum UI, is a broad social issue and the first step to addressing this is to gather first-hand accounts through lived experiences and quantify or qualify stigma [17]. Next, lived experiences need to be shared with public and health care professionals to modify discourse [17]. As such, a key future direction identified through this review is the need to purposefully document the stigma attached to postpartum UI and learn directly from lived experience about what should be done to improve health care experiences and accessibility of treatment options. In addition, it is important to consider an intersectional approach when gathering information about the stigma attached to postpartum UI. We saw preliminary evidence in this review that there are cultural nuances in the experiences of women with postpartum UI stigma based on values and community practices. A limitation of this review, though, is the lack of delineation of findings specifically to cultural practices in various geographic locations, and this is an essential future direction. To do this, an intersectional lens may be appropriate as it is possible to understand multiple levels of stigma a person may be exposed to (e.g., by race, culture, and the health condition itself), and to offer a better patient-centred approach to their care [14].

Strengths of the present review include following a deductive approach outlined a priori, which allowed for a systematic method to identify gaps in the literature, organize data, and present future directions for postpartum UI stigma research. Limitations of a scoping review include a lack of quality assessment, and we did not capture or summarize quantitatively the direct impact that the stigma attached to postpartum UI has on outcomes. Moreover, postpartum UI may have been defined with different time frames or may have begun before or during pregnancy and therefore findings may broadly address UI and not specifically in the immediate postpartum period. It is also important to consider that the cause, severity, and type of postpartum UI may also impact the stigma experienced. As this was a scoping review we broadly mapped the literature on the stigma attached to postpartum UI; further specificity in prospective studies that gather patient experience would be helpful to capture nuances associated with physical factors of postpartum UI that then impact social variables such as stigma. Finally, the scales used to assess participant experience in these studies varied and were not specific to stigma and therefore findings should be interpreted with caution in lieu of measurement validity. A review of UI-related scales also revealed that available measurement tools lack stigma-specific measures and therefore a future direction may be to develop and validate a scale that could measure stigma associated with postpartum UI [17].

Conclusion

Stigma associated with postpartum UI may stem from variable community values that negatively perceive urinary leakage to be unclean and as lacking bodily control. Individuals who have postpartum UI may be at risk of engaging in self-stigma and this is a further detriment to their mental health. The stigma attached to postpartum UI reduces the likelihood of seeking health care for fear of having to disclose symptoms and experience negative judgment. Moving forward, it is necessary to further understand the stigma attached to postpartum UI from lived experience, including applying an intersectional approach to capture potential cultural nuances. Additionally, given that postpartum UI is very prevalent, health care professionals should be offered training and resources to support them with cultivating a sensitive environment where it is safe and comforting to share concerns, and receive appropriate UI treatment and management options.

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Authors' contributions J.C. and T.S.N. conceptualized the study. J.C. led the study methods, including screening and data extraction, with support from M.S.-P. and T.S.N.. J.C. led data interpretation, with support from all authors. P.M. and R.B. provided essential expertise on the health condition (urinary incontinence) and study population (pregnancy). J.C. and T.S.N. drafted the manuscript. All authors reviewed and approved the manuscript.

Declarations

Conflicts of interest None.

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