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Poster Session - Public Health - Day 2 (Poster)

Effectiveness of hypoglossal nerve stimulation to treat obstructive sleep apnea:systemic review and meta-analysis

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Introduction: Multi-level airway collapse during sleep is a common cause of obstructive sleep apnea. Recently, a hypoglossal nerve stimulation was introduced to activate the genioglossus muscle and treat obstructive sleep apnea. The goal of this study was to perform a systematic review with metaanalysis to determine the efficacy of the hypoglossal nerve stimulation (HGS) treatment for treating obstructive sleep apnea until postoperatively 1 year

Method: Five databases (PubMed, SCOPUS, Embase, Web of Science, and the Cochrane database) were independently reviewed by two researchers, starting at the earliest timepoint recorded in the database to February 2023. Studies that measured the parameters, including apnea-hypopnea index (AHI), the oxygen desaturation index (ODI), and so on, in polysomnography and scored sleep apnea related to quality of life (Epworth Sleepiness Scale [ESS] and Functional Outcomes of Sleep Questionnaire [FOSQ]) postoperatively before and after HGS

Results: 45 studies (8546 patients) met the inclusion criteria. About forty seven percent of patients achieved a post-treatment AHI <5, 72% an AHI <10, and 82% an AHI <15, respectively. The rate of clinically success rate based on Sher criteria (a drop in postoperative AHI by 50% and to a value less than 20) following the treatment was reported with 79%

Conclusion: HGS could reduce QOL scores and PSG outcomes compared to preoperative status. More randomized clinical trials must be conducted to further verify the maintenance of effectiveness of HGS

Conflict of Interest: No.

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Self-perception of indoor air quality during sleep: preliminary findings from HypnosAir study.

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Introduction: Building occupants' comfort and health have been enhanced by Indoor Air Quality (IAQ). This concept has drawn increased attention in recent decades from the international scientific community, political institutions and environmental governances. Additionally, the traditional methods for assessing indoor air quality (IAQ) intended to reduce and control indoor air pollutants without considering the individual perception of occupants. Therefore, it is important to have an integrated approach that incorporates both quantitative and qualitative methodologies. Furthermore, the aim of the HypnosAir study is to investigate the environmental elements that influence sleep quality and assess the contribution that the sleeping environment plays in the daily integrated human exposure to air pollution.

Method: The HypnosAir study is divided in several tasks which include evaluating IAQ in bedrooms, identifying sources of fine aerosols ($PM_{2.5}$) and their levels during sleep, creating a national survey on Portuguese self-perception of air quality and sleep and comprehending environmental factors that impact sleep quality. The survey questions include the participants' perception of IAQ in general and during sleep. The questionnaire is available online until august and the preliminary results are presented in this article.

Results: Over a period of one month, 448 responses were obtained. A total of 363 participants were included with a mean age of 41,3 ± 15,6 years where 66,5% were female. The general perception of IAQ show that 75,8% of the participants rated the air quality in the dwelling and bedrooms as good or very good. Additionally, 78,8% and 86,5% don't feel affected by indoor or outdoor air quality (respectively). Regarding self-perception of sleep environment, the overall participants consider that, over the night, noise (81,3%), lightning (93,0%), temperature and humidity (83,6%) conditions are good or very good. In general, the participants don't feel heavy air (87,1%), dry mouth (74,3%), throat irritation (81,9%) or cough (97,9%) when they wake up. 61,4% feel comfortable for most of the year

Conclusion: According to the preliminary results, the Portuguese population consider having a good or very good IAQ. However, to determine if IAQ matches participant perception, it is important to determine the exposure components and their concentrations during sleep

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Optimising sleep diary recording: REMCare Mobile Application