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Perceived sleep problems after spinal cord injury: Benchmarking outcomes with the general population in Switzerland using SHP data

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Background: Individuals with spinal cord injuries (SCI) often experience sleep problems. Stemming from neurological impairments implicit to lesions of the spinal cord, individuals with SCI have a greater propensity for sleep problems, which can instigate numerous health consequences. Accelerated aging, reduced mobility, and increased mortality, are all attributed to sleep impairments, and potentially render an even greater burden on the community health and well-being of those with SCI. Therefore, identifying health inequities between individuals with SCI and the general population (GP) is important for the targeted development of social and health policy interventions.

Objective: To benchmark perceived sleep problems in the SCI population with the general population in Switzerland and to identify the burden of sleep problems experienced within the SCI population.

Methods: Data from the Swiss Spinal Cord Injury Community survey (SwiSCI) and Swiss household panel (SHP) data will be utilized for benchmarking perceived sleep problems in the Swiss SCI population to that of the GP in Switzerland. The relative risk of having a sleep problem in the SCI population will be estimated through negative binomial regression, accounting for age and sex.

Results: The SwiSCI cohort includes 1,549 participants, 72% of which are male, with 69% of participants having a paraplegia and 42% having a complete spinal cord lesion. Amongst people living with an SCI, 59% reported having sleep problems. Individuals between the ages of 46-60 years old (OR: 4.2 95% CI; 1.7–9.8) and participants with financial hardship (OR: 4.5 95% CI; 2.6–7.9) were more likely to suffer from a chronic sleep problem, following adjustment. In comparison to the Swiss GP, the incidence of having a sleep problem was 18% higher among persons with SCI, with the largest discrepancy indicated for males with a paraplegia between the

ages of 46-60 years (Risk ratio, RR=1.3; 95% CI; 1.2–1.4). With reference to the Swiss GP, adjusted risk ratios for having a sleep problem in the SCI community were 1.9 (95% CI; 1.6–2.2) times higher in males and 1.4 (95% CI; 1.1–1.9) times greater in individuals between the ages of 31-45.

Discussion: Addressing health inequities that are experienced within the SCI population are important for the improvement of clinical management of this population. Disparities in health, particularly concerning the topic of sleep, can serve as a critical barrier to healthy aging, which further limits the well-being of individuals with SCI. Benchmarking health conditions with the GP in Switzerland is thus important for understanding risk factors for sleep problems experienced within the SCI community. Data from the SHP were instrumental in scaling the burden of sleep problems to derive meaningful comparative estimates.