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#214 - Shifting the Paradigm: Implementation Science in Enhancing Sleep Health among Shiftworkers

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Objectives/aims

Driven by a pressing public health issue, our research targeted an overlooked, yet vulnerable demographic: shiftworkers, who are particularly prone to sleep impairments and chronic health conditions. The study aimed to assess the implementation and efficacy of a sleep intervention, the Sleepfit Solutions app, in improving sleep health among shiftworkers. The intervention addressed the pervasive problem of inadequate sleep.

The aim of the study was to examine the reach, effectiveness, adoption, and maintenance of the intervention, with a focus on determining the feasibility of large-scale implementation by identifying barriers across various shiftwork industries. Moreover, in alignment with Theme 2: Context counts, this research underscores the importance of contextualising evidence-informed solutions by targeting the unique needs of various shiftwork industries, thus demonstrating the translation, adaptation, and transportability of a sleep intervention across different shiftwork groups.

Methods

The study utilised the Sleepfit Solutions app, which offered resources for improving sleep health, in a two-phase experimental procedure. Phase 1 involved optimisation of the existing app (originally designed for day workers) for shiftworkers by adding specific content on evidence-based strategies to improve sleep behaviour in this population group. For example, additional content included outlining ways to manage sleep hygiene and the promotion of physical activity.

Grounded in the fundamentals of implementation science, Phase 2 assessed the app's feasibility for use by shiftworkers using the RE-AIM framework to evaluate dimensions including reach, effectiveness, adoption, implementation, and maintenance. We also identified the unique barriers shiftworkers face that could hinder implementation. Participants for Phase 2 consisted of existing shiftworkers (current sample, $n=29$; anticipated final sample $n=50$). Validated measures of sleep health and RE-AIM metrics

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were completed by participants at two time points, 2-weeks post intervention and long-term maintenance evaluation (>4 weeks post-intervention). Data analysis employed a mixed-methods approach, including quantitative and thematic analysis.

Main findings

Preliminary results indicate significant improvement in sleep satisfaction and reduction in insomnia severity, indicating the potential of the intervention in enhancing sleep outcomes. We also observed increased engagement with healthy sleep practices, demonstrated by a significant decrease in poor sleep behaviours. Interestingly, our preliminary findings propose specific benefits for younger shift workers who typically engage in problematic sleep practices. Preliminary data suggests 71% of shiftworkers engaged with the app at 2-weeks post intervention, with 23% continuing to use the app during long-term maintenance evaluation. Feedback from shiftworkers was generally positive, for example, 'I found the app amazing', 'the app was easy to use with clear expectations'. As data collection is ongoing, a detailed analysis incorporating feasibility and all RE-AIM dimensions will be subsequently presented.