

Mobile Cognitive Behavioral Therapy Is Efficient In Improving Sleep In Students

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INTRODUCTION

Students are focused academic achievements and social life on campus. Sleep is considered a luxury and is thus neglected. The emergence of social media, and gaming impacts sleep opportunity and quality. Sleeps is challenged in students. Disregarding this challenge exposes students to an increased likelihood to develop chronic sleep difficulties later in life. Cognitive behavioral interventions are effective and increasingly used to treat insomnia and circadian misalignment.

We aimed at detecting sleep difficulties, related habits, and at evaluating the efficacy of a mobile app in improving sleep in students with insomnia symptoms.



METHODS

Observational study of US students complaining of difficulties around sleep and were offered the Refresh by SleepRate mobile app by the wellness department on campus. The app provides a sleep assessment followed by weekly cycles of personalized digital cognitive reframing and behavioral change intervention. The app collects perceived sleep data, and optional objective sleep data acquired using wearable devices.

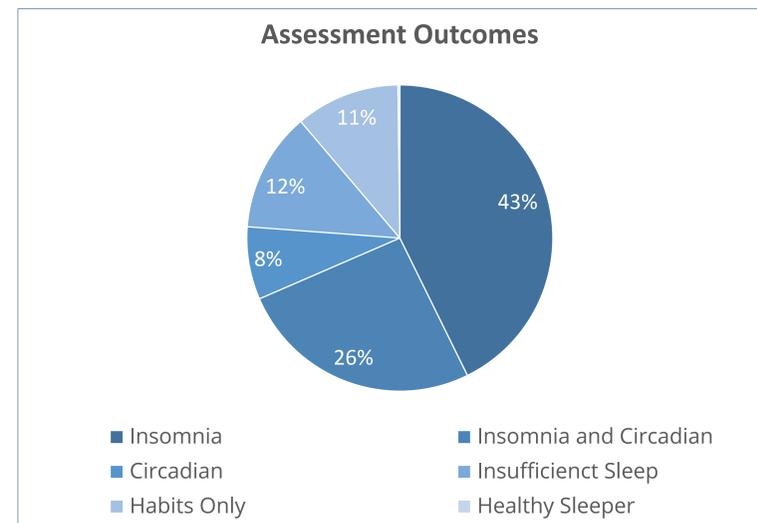
Data analysis: 892 students aged 18-30 years registered an account between January 1st and October 30th, 2019. The study reports engagement data, outcomes of the assessment and of the digital intervention.

RESULTS

Assessment

Engagement: 507 students completed their assessment (6.2 avg nights out of 7 possible).

Outcomes: 69% presented insomnia symptoms with or without circadian misalignment, 8% circadian misalignment only, 12% sleep deprivation, 11% poor sleep hygiene.

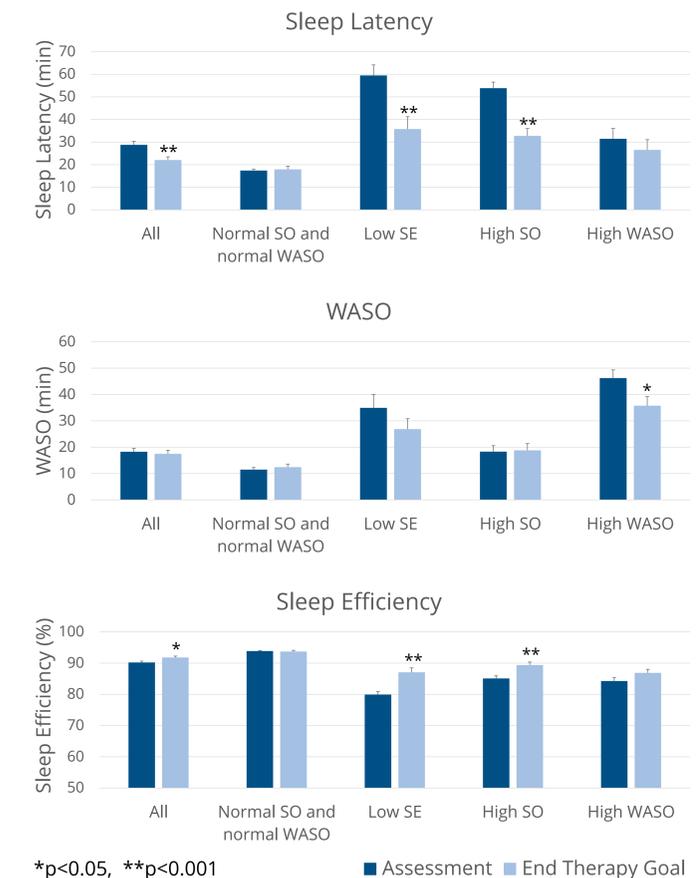


Intervention

Engagement: 192 (55.3% of students with insomnia symptoms) completed at least one week of intervention (5.6 weekly average nights, 28 average total nights).

Outcomes: Sleep Latency (SL) decreased from 28.8±21.5 minutes (Mean±SD) to 22.1±19.3 minutes, p<0.001. When the initial mean SL was longer than 30 minutes, the improvement was larger, from 53.9±20.8 minutes to 32.7±25.4 minutes (p<0.001).

Mean perceived Wake After Sleep Onset (WASO) longer than 30 minutes decreased from 46.3±19.0 minutes to 35.8±21.4 minutes, p<0.05. Sleep Efficiency (SE) increased by 1.6% (p<0.002) for all students, and by 7.1% (p<0.001) for SE<85%.



CONCLUSION

The mobile app used reveals sleep problems and is efficient in improving insomnia symptoms in those who remain engaged. 55% of those who started the program also completed it. Using a mobile CBT-I app to offer sleep interventions at scale is promising when dealing with the frequent sleep difficulties students have.