Evaluation of a 4-week Multicomponent Educational Sleep Hygiene E-Program for Undergraduate Students

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Background
- Poor nighttime sleep quality and fatigue are a common occurrence in college students that may negatively affect their health and academic achievement.
- Lifestyle factors have been shown to affect sleep quality among college students most strongly and one reasonable explanation is that they may have limited knowledge about the behaviors that support sleep health.
- Attempts to raise students’ awareness about sleep through single component sleep education interventions have yielded inconsistent results, suggesting that more knowledge is most likely not enough to promote sleep in this target group.
- Colt and Reilly demonstrated that in combination with an interactive sleep journal exercise, educational sleep hygiene intervention improved sleep outcomes in high-school students.
- Keeping a sleep journal allows for reflection on recorded sleeping habits and therefore may reinforce better practice of sleep hygiene.
- We developed an online, self-directed, 4-week multicomponent sleep program for undergraduates, which is a combination of sleep journal completion and sleep hygiene practice education, delivered via print and digital media.

Purpose
- To evaluate the efficacy of a 4-week multicomponent sleep hygiene e-program in undergraduates

Method
Participants
- 14 undergraduate students, 86% female
- Recruited in the Fall 2019 and 2021 via USF St. Petersburg campus Wellness Center outreach and marketing (paused due to Covid-19)
- IRB approval (Pro00037691)

Sleep Outcomes and Measures
- Assessed at baseline & week 5 via Google Forms survey self-reports
- Evaluated 3 sleep domains

<table>
<thead>
<tr>
<th>Domain</th>
<th>Item</th>
<th>Rating Scale</th>
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<tbody>
<tr>
<td>Subjective sleep quality*</td>
<td>On average, how would you rate your quality of sleep?</td>
<td>1 (very bad) – 5 (very good)</td>
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<tr>
<td>Restoration after sleep**</td>
<td>On average, how many mornings per week do you wake up feeling rested?</td>
<td>1 – 7</td>
</tr>
<tr>
<td>Daytime dysfunction**</td>
<td>On average, how many days per week do you feel tired or sleepy during the day?</td>
<td>1 – 7</td>
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* adapted from the Pittsburg Sleep Quality Index
** adapted from the Self Sleep Quality Scale

Study Procedures
- Sleep Aid Kit
  - ear plugs
  - light-blocking eye mask
  - aromatherapy sachet
  - Sleepy Time tea bags
  - A copy of The Sleep Revolution book
    - Latest sleep research
    - Recommendations to improve sleep

Intervention
- Informed Consent
- Self-report pre-intervention assessment
- Pick up Sleep Aid Kit
- Weekly Sleep Hygiene Practice E-Newsletters
- The Sleep Revolution book
- Morning Journal Entry
- Night Journal Entry

Exit Online Survey
- Self-report post-intervention assessment

Results
- Repeated measures t-tests using IBM SPSS Statistics ver. 27 were performed to evaluate the effect of the e-program on students’ subjective sleep quality, restoration after sleep, and daytime dysfunction

Conclusion
- A self-directed, multicomponent sleep hygiene e-program can lead to various sleep improvements in undergraduate students.

Discussion
- As a low-cost, easily-accessible and reproducible intervention, it can help reduce disparities in access to care and sleep health, which in turn may improve overall health and academic outcomes.
- Due to Covid-19, the main limitation of this study is the lack of follow-up measure to test whether the effect of the e-program lasted over time.
- Long-term follow-up should be investigated in future research.

References

Scan the code for References