

Knowledge Synthesis: COVID-19 in Mental Health and Substance Use

Instructions:

The [Operating Grant: Knowledge Synthesis: COVID-19 in Mental Health and Substance Use](#) was designed to enable the development of rapid and timely knowledge syntheses and related knowledge mobilization plans to address evidence gaps and build the evidence base as part of the mental health and substance use response to COVID-19.

As outlined in the decision letters sent to successful applicants, this template is being provided in order to facilitate the rapid sharing of results with relevant [knowledge users](#). Information recorded in this report may be made available to policy makers, healthcare and service providers, partners, and the general public, and will be used to populate a website and inform a variety of CIHR knowledge mobilization products. Responses should be written in plain language, respecting word limits where indicated.

Email completed report to COVID19MH-COVID19SM@cihr-irsc.gc.ca by **November 23, 2020**.

Synthesis Title:

Effectiveness of digitally delivered sleep interventions on sleep and mental health outcomes in post-secondary students: A systematic review.

Nominated Principal Applicant (name and affiliation):

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Target/priority population(s) in synthesis:

- **Post-secondary students**

What is the issue?

Sleep problems are increasingly recognized as a risk factor for poor health outcomes including mental health problems. Students pursuing post-secondary education are a population group at risk for both significant sleep problems and poor mental health outcomes such as depression and anxiety. Interventions such as sleep hygiene education and cognitive behavioural therapy (CBT) are common treatment options for sleep problems and have been shown to improve sleep and mental health in post-secondary students. As a result of the ongoing global COVID-19 pandemic, students may face additional challenges with their sleep and mental health. Due to existing public health measures, in-person student mental health services are no longer readily available. In an effort to address student needs, some institutions have moved to providing care through digital means (e.g. telehealth, virtual consults). However, it is not known whether these digital services are suitable alternatives for the treatment of sleep problems in post-secondary students. Also, we lack understanding about the students' and providers' experiences, perspectives, attitudes and beliefs about sleep interventions being delivered digitally.

Key messages (max 100 words):

- ***The COVID-19 pandemic has highlighted a need to identify effective means of digitally delivered sleep interventions to improve sleep and mental health outcomes in post-secondary students.***
- ***Due to the quality of the research found, we are unable to make recommendations regarding specific digital sleep interventions that may improve sleep and mental health outcomes in post-secondary students. Further investigation is required.***
- ***Research efforts should focus on exploring the views and preferences of students and providers, as this will inform the development of novel interventions that are acceptable and meet the needs of this unique population.***

How was the synthesis conducted?

We searched the online databases from 2000 to July 3, 2020. Pairs of reviewers screened articles using specific criteria. Reviewers then assessed and came to agreement on the overall scientific quality of each study. We extracted information from each study into tables outlining details related to study participants, interventions, key findings and study quality. The tables were used to summarize findings across studies.

To be included, studies had to fulfill the following criteria: 1) study population: post-secondary students of any age with or without sleep problems (excluding breathing related sleep disorders); 2) treatment: non-drug treatments aimed at improving sleep (e.g. sleep hygiene education, CBT, relaxation/mindfulness); 3) treatment delivered using digital technology; 4) comparison treatment: alternative drug or non-drug treatment, placebo or

sham treatment, no treatment; 5) measured at least one sleep outcome after treatment; 6) study design: randomized controlled trial or comparative cohort study

What did the synthesis find? Provide a lay summary of the outcomes (max 300 words):

We found ten studies in nine publications looking at the effectiveness of digital sleep interventions in post-secondary students. We did not find any studies exploring the experiences, perspectives, attitudes or beliefs of students or providers regarding digital sleep interventions. There were no studies considered to be high quality (i.e. low risk of bias); all studies had at least some concerns that lead to decreased overall confidence in their findings. Four studies investigated web-based Cognitive Behavioural Therapy (CBT). Included studies assessed either a combined (cognitive, behavioural and educational) program of CBT for insomnia delivered by an animated therapist or online instruction in a single cognitive or behavioural technique. Although findings suggest that CBT leads to improvements in sleep and mental health in post-secondary students, it is likely that these findings are substantially biased due to methodological quality and may overestimate the effects seen; hence our confidence in these findings is low. Six studies looked at digital sleep education. Content of the digital education focused on healthy sleep behaviours and the importance of sleep to health and wellbeing and was delivered using web-based video and/or written content or via text message. Again, although findings suggest digital education leads to improvements in sleep outcomes in post-secondary students, our confidence in these findings is guarded due to the possibility of substantial bias.

What are the implications of this synthesis?

- Post-secondary students are a vulnerable population at risk for significant sleep problems and mental health conditions. COVID-19 poses additional challenges to sleep and mental health.
- Addressing student sleep problems may protect students from developing other mental health problems and may improve existing psychological symptoms.
- Digital methods of delivering sleep interventions may be a good fit with the culture of the postsecondary student population. Furthermore, digital interventions may improve accessibility and circumvent barriers.
- The current state of the research on digital sleep interventions does not provide adequate evidence-based guidance for post-secondary students, healthcare providers, administrators, or researchers.
- Digital sleep interventions should be appropriately adapted to suit the needs of the post-secondary population to ensure acceptability. Currently, there is a lack of understanding of what those needs are.
- Without further research, the provision of sleep related mental health services to post-secondary students will continue to be a challenge throughout the COVID-19 pandemic and beyond.

List up to 10 keywords specific to this synthesis to facilitate website search filters and sorting:

(e.g. depression, virtual care, autism, opioids, racism, chronic pain, sleep, etc.)

- Sleep, post-secondary students, mental health, depression, anxiety, cognitive behavioral therapy (CBT), digital interventions, virtual care, tele-care, effectiveness, systematic review