p<0.01), lower inter-breath-intervals (3.9 vs. 4.7 seconds per breath, p<0.01), and more breathing variability than in sleeplab AHI<5 group but less than in AHI>15 group.

Conclusion: HRV and respiratory-based measures can assess sleep in the ICU. The findings of increased discordant sleep in the ICU might stem from limitations of the models, fundamental changes in sleep biology during critical illness, pharmaceutical drugs, sleep fragmentation, and/or associated pathology in the ICU.

Support (if any):

667
EFFECTS OF SLEEP-EXTEND ON GLUCOSE METABOLISM IN WOMEN WITH A HISTORY OF GESTATIONAL DIABETES: A PILOT STUDY
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Introduction: Experimental and epidemiological data have linked insufficient sleep to increased diabetes risk. Women with a history of gestational diabetes (GDM) have a 7-fold greater risk of developing type 2 diabetes. This pilot study explored the feasibility of a sleep extension intervention in women with a history of GDM and short sleep, and the effects on glucose metabolism.

Methods: Women age 18–45 years with a history of GDM (at least 1 year postpartum) and actigraphy confirmed short sleep duration (<7h/night) on weekdays were randomized at a ratio of 1 control (healthy living information) to 2 cases (6 weeks of “Sleep Extend” intervention: use of a Fitbit, weekly digital content, interactive tools, and coach delivered feedback in order to increase sleep duration). An oral glucose tolerance test (OGTT), 7-day actigraphy recording and questionnaires were obtained at baseline and 6 weeks (at the end of the intervention).

Results: Twelve women (mean (SD) age 40.3 (4.5) years) participated (n=8 Sleep Extend, n=4 control). Compared to baseline, nightly sleep duration increased in Sleep Extend group (+30.6 (48.8) minutes) but decreased in the control group (-6.8 (22.9) minutes). Both fasting and 2-h glucose levels from OGTT increased in both groups but were greater in the control group (Sleep extend vs. healthy living: fasting glucose +2.1 (9.8) vs. +12.8 (7.3) mg/dL; 2-h glucose +8.2 (21.9) vs. +20.0 (19.4) mg/dL). Self-reported sleep quality improved in both groups. When compared controls, Sleep Extend participants reported improved fatigue symptoms (Promis fatigue score change -5.1 (9.8) vs. -29.0 (39.2) MET-minutes/week). Combining all participants, an increase in sleep duration correlated with a decrease in fatigue (r=−0.62, p=0.04) and anxiety symptoms (r=−0.69, p=0.02).

Conclusion: Sleep extension through coaching and use of remote monitoring is feasible in women with a history of GDM. It appears to decrease fatigue and may improve glucose metabolism and physical activity.

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668
UTILIZING RISK SCORE ASSESSMENT TO MAXIMIZE SLEEP RESEARCH PARTICIPANT SAFETY DURING THE COVID-19 PANDEMIC
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Introduction: Research study recruitment has been profoundly affected by the COVID-19 pandemic, demonstrated by significant delays or pauses. Various guidelines pertaining to in-person visits have been issued and updated over the course of the pandemic. The objective of this study was to investigate the role of resilience and emotional changes in the increase in nightmares observed during the pandemic, in a group of young adults.

Methods: The risk score assessment used for this study (COVID-19 Mortality Risk Calculator; Johns Hopkins University, Baltimore, MD) is evidence-based and uses a set of risk factors and community-level pandemic dynamics in the state of residence. It was compared to the list of CDC medical conditions that are considered to put an individual “at increased risk.” Both measures were calculated retrospectively on current participants to determine how many could safely attend in-person visits based on each risk assessment method.

Results: Sample characteristics of the 110 participants were: mean age: 49.5±13.7 (24–74); mean BMI: 32.3±5.3 (20.9–46.1); mean AHI: 24.3±21.4 (5.1–110). Mortality Risk Calculator scores were: 91 (82.7%) close to/ lower than average [Level 1]; 12 (10.9%) moderately elevated; 6 (5.5%) substantially elevated; 1 (0.9%) high; and 0% very high [Level 5]. Using CDC guidance, 63 (57.3%) had at least one at-risk condition and 47 (42.7%) had 0. Using only Level 1 of the Risk Calculator would allow an additional 28 (25%) participants to attend in-person visits; using Levels 1 and 2 would allow an additional 40 (37%) participants.

Conclusion: Policies based on CDC at-risk conditions resulted in higher levels of participant exclusion in research during the COVID-19 pandemic than use of an evidence-based Mortality Risk Calculator. This analysis shows that researchers can use risk-adjusted scores to make informed decisions about study participation that balances both participant safety and research study progress.

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669
INCREASED NIGHTMARES DURING THE COVID-19 PANDEMIC: EXPLORING THE ROLE OF RESILIENCE AND EMOTIONS
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Introduction: COVID-19 had a tremendous impact on many aspects of our lives and has caused an increase in stress and mental health issues in many people. We have recently found that there was an increase in nightmares during the pandemic in young adults. Since emotions have been associated with both resilience and nightmares, the objective of this study was to investigate the role of resilience and emotional changes in the increase in nightmares observed during the pandemic, in a group of young adults.

Methods: Resilience, emotions and nightmares were measured using the Connor-Davidson Resilience Scale-10, the Differential Emotions Scale-IV and an adapted version of the Pittsburgh Sleep Quality Index. Measures were administered to 209 young adults (18–25 years old, 76.1% females). Hierarchical multiple regression models were computed to examine the unique contribution of changes in positive and negative emotions during the pandemic to the increase in nightmares during the pandemic. Analyses were controlled for nightmares and emotions prior to COVID-19, and for gender. The sample was separated in two groups: resilient and less resilient young adults.
Results: Results show that in less resilient young adults, nightmares prior to COVID-19 ($\beta=.79$, $p<.001$) and increase in negative emotions ($\beta=.21$, $p=.033$) significantly predicted nightmares during the pandemic and explained 67.0% of their variance. In resilient young adults, nightmares prior to COVID-19 ($\beta=.56$, $p=.001$) and gender ($\beta=-.15$, $p=.04$) significantly predicted nightmares during the pandemic and explained 52.0% of the variance.

Conclusion: Our results show that increase in negative emotions during the pandemic is associated with an increase in nightmares in less resilient young adults, but not in resilient young adults. Furthermore, our results show that in resilient young adults, being a woman is associated with an increase in nightmares during the pandemic. These results suggest that resilience may be a protective factor in managing the impact of negative emotions on nightmares, but only in men.

Support (if any):

670 CHANGES IN CHILDHOOD SLEEP PATTERNS IN AN INTERVENTION STUDY PRIOR TO AND DURING COVID19 RESTRICTIONS
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Introduction: We conducted a childhood sleep promotion study between March 2019 and December 2020 in Philadelphia. COVID19 was first detected in Pennsylvania in March 2020 and non-essential services were strictly curtailed (including school closures), with easing of curtailments by the fall 2020 (including hybrid schooling in some districts). We determined if changes in sleep duration were consistent during pre-, earlier, and later COVID19 periods.

Methods: Typically developing children (9-12y) with sleep duration <8.5 hours per weeknight were enrolled. Sleep was measured using Fitbit devices during a baseline week and a 7-week intervention period. A factorial design was used to test five candidate intervention components: 1) sleep goal; 2) electronic device reduction messaging; 3) daily routine messaging; 4) child-directed financial incentive; and 5) parent-directed financial incentive. Sleep data were transmitted to a mobile health platform that automated delivery of the intervention components. We categorized participants when they completed the study: 1) Spring-Fall 2019 semesters (pre-COVID19); 2) Spring 2020 semester (started pre-COVID19, with strict restrictions impacting intervention periods); or 3) Fall 2020 semester (easing of COVID19 restrictions). Mixed effect modelling determined sleep changes.

Results: Mean age of participants was 11.6y (51% female and 29% Black participants). Pre-COVID19 (N=59), average sleep duration increased from baseline by 21 (95% CI: 10, 30) minutes per weeknight during the intervention. In spring 2020 (N=18), the average sleep duration increase was two times larger in magnitude at 41 (95% CI: 25, 59) minutes per weeknight. For fall 2020 (N=20), the average sleep duration increase was 24 (95% CI: 7, 40) minutes per weeknight. Changes in sleep timing from baseline during the intervention were consistent pre-COVID19 and in the fall 2020 (e.g., =15 minutes earlier sleep onset throughout the intervention period), whereas sleep timing changes were dynamic in the spring 2020 (e.g., 41 minutes earlier for week 1, and 44 minutes later for week 7).

Conclusion: This sleep intervention demonstrated increases in sleep duration pre-COVID19, with marked duration increases and dynamic timing changes coinciding with COVID19 restrictions during earlier (Spring 2020), but not later (Fall 2020), weeks of the COVID19 pandemic in Pennsylvania.

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671 SOCIAL MEDIA FOR STUDENTS SLEEP HEALTH PROMOTION: A HEALTH INTERVENTION REPORT DURING COVID-19
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Introduction: The COVID-19 pandemic affected sleep health. Students’ sleep health requires cognitive processes, mental and physical balance. We assume that the pandemic COVID-19 has modified some sleep habits by eliciting environmental and social interaction changes. According to the perspective that the students need health education interventions on sleep hygiene, we aimed to promote sleep health education based on social media in students using Instagram.

Methods: Students participated by answering an online questionnaire in Instagram platform. The sample was 300 students with internet access between two weeks of March/2020. This period refers to the second and third week of the social isolation policy enacted due COVID-19. The Snowball strategy was the dissemination method, a non-probabilistic sampling technique in which the participants invited new participants from their network of acquaintances.

Results: The valid responses were from students among 18–24 y.o. The sample was mostly female (61.7%), between 18 and 22 y.o., and they slept less than 8 hours. Also, 76.3% of the surveyed reported somnolence during the day, 70.2% anxiety and 87.8% worse sleep associated to stress and/or anxiety, which indicated the variables for an educational health intervention design in this context. Most of the sample did stipulate a schedule to wake up on the weekdays (96.6%), and 24.4% of the sample didn’t stipulate a fixed schedule for bedtime during the weekdays. More than 150 people (53.2%) didn’t make any effort to avoid screens before sleeping. The responses’ distribution showed that an average number of people (73.9%) try to avoid using the bed for work or watch television, and 83.1% seek to avoid heavy foods before sleeping.

Conclusion: The Instagram profile focused on the main sleep issues seen in the survey. The posts were created using subjects about sleep process, sleep hygiene practices for students; sleep stages, function and regulation; sleep-wake circadian rhythms. The creation of the @comodormimos profile on Instagram was based on the need for a subject understanding by the researched public. Coronavirus’ pandemic increased the harmful sleep behavior of students. Further studies should be done to understand the impact of COVID-19 pandemic in the student’s sleep health.

Support (if any):

672 COVID-19 ANXIETY AND SLEEP IN MIDDLE-AGED AND OLDER ADULTS: IMPACT OF AGE AND SEX
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Introduction: COVID-19 is an infectious respiratory illness that was declared a pandemic in March 2020. During the course of COVID-19,