number of naps, and sleep quality. The significant findings regarding later adolescent bedtimes may reflect delayed sleep phase or possibly improved circadian alignment due to delayed school start times and at-home classes. The null findings regarding naps and caffeine intake may be reflective of the stability of daytime sleepiness. While we would expect daytime sleepiness to improve with increased circadian alignment, the effects may be diminished by increased media use in bed and decreased energy expenditure during the day. Given the observed relationships, current sleep hygiene interventions may require a focus on stimulus control and reducing time with media in bed.

Support (if any):

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PEDIATRIC OBSTRUCTIVE SLEEP APNEA (OSA) AND COVID-19-RELATED ADVERSE CLINICAL OUTCOMES

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Introduction: The relationship of OSA and human coronavirus (COVID-19) in the pediatric population is unknown. We postulate that OSA is associated with SARS-CoV-2 positivity and with adverse COVID-19 outcomes in children.

Methods: A retrospective review of 120 consecutive patients (<18 years) with prior polysomnogram (PSG) and COVID-19 testing from the Cleveland Clinic COVID-19 registry was conducted. Using a case control design of SARS-CoV-2 positive and negative pediatric patients, we examined COVID-19 and pre-existing OSA (dichotomized AHI≥1) using logistic (OR,95%CI) regression and as continuous measures: AHI, oxygen(SpO2) nadir, %time SpO2<90%) using linear regression(beta+/-SE). In those positive for SARS-CoV-2(cases only), we assessed the association of OSA and World Health Organization(WHO) COVID-19 clinical outcome composite score (hospitalization, requiring supplemental oxygen, non-invasive ventilation/high-flow oxygen, invasive ventilation/ECMO or death) using Wilcoxon rank sum test for ordinal data.

Results: Cases (n=36) were 11.8±4.4 years, 61% male, 27.8% black and 88.9% with OSA, while 85.7% of controls (n=84) had OSA. OSA was not associated with increased SARS-CoV-2 positivity: OR=1.33(0.40, 4.45,p=0.64). No significant difference between cases and controls for mean AHI 3.7(1.5,6.0) vs 3.5(1.5,7.1),p=0.91,SpO2 nadir 88.6±5.4 vs 89.1±4.4,p=0.58,%time SpO2<90% 0.05[0.00,1.00) vs 0.10 (0.00,1.00, p=0.65) respectively was noted. WHO-7 COVID-19 clinical outcome did not meet statistical significance in relation to OSA due to the low event frequency (p=0.49). Of note, those with OSA vs without OSA had a higher WHO-7 outcome score of 2 vs 0 and prevalence of hospitalization: 12.5 vs 0% respectively. Of hospitalized patients, the following was observed: 23% had moderate/severe OSA vs 4.3% mild OSA, 50% required supplemental oxygen and 25% required intubation/invasive ventilation. No deaths or readmissions were reported. High risk conditions included: 75% obesity, 50% asthma, 25% sickle cell disease and 25% hypoplastic left heart.

Conclusion: In this first report of which we are aware focused on COVID-19 in pediatric OSA, we use a case control design leveraging COVID-19 and sleep laboratory registries. Albeit not statistically significant, pediatric patients with OSA had a higher percentage of worse clinical outcomes. Larger network studies are needed to clarify whether poorer COVID-19 outcomes may be attributable to OSA or modulated via high risk health conditions.

Support (if any):

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OBJECTIVE ASSESSMENT OF INPATIENT SLEEP PATTERNS AND QUALITY: A PILOT STUDY

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Introduction: Sleep disruption is common among hospitalized patients due to psychological, physiological, and environmental reasons including illness, pain, anxiety, invasive interventions, frequent monitoring, and stimuli, especially noise and light. The AASM has published guidelines for the use of actigraphy in the outpatient setting, but there is a paucity of literature evaluating the validity of actigraphy in inpatients. The aim of this study is to evaluate sleep in hospitalized general medicine patients undergoing sleep medicine consultation using actigraphy and qualitative surveys.

Methods: A single-site prospective study in hospitalized medicine patients. Patients were observed with a Fitbit® Charge3 wrist actigraphy device overnight, then administered 7 surveys: Richards-Campbell Sleep Questionnaire (RCSQ), qualitative questionnaires assessing sleep history, sleep hygiene, barriers to sleep, STOP-BANG, Epworth Sleepiness Scale (ESS), and Patient-Health Questionniare-2 (PHQ-2). Actigraphy data including total sleep time, slow wave sleep time, and number of awakenings was compared with patient-reported data.

Results: In preliminary analysis, six patients met inclusion criteria and underwent sleep medicine consultation, overnight actigraphy, and completed 7 surveys. Based on subjective sleep history questionnaires, average total sleep time was 437 + 215 minutes. Actigraphy revealed average total sleep time was 228 + 80 minutes with an average of 3.6 nocturnal awakenings. Increased number of awakenings on actigraphy was not correlated with increased number of awakenings by survey. The most frequently reported barriers to sleep on patient surveys were pain and being woken up for labs or vital signs. The average STOP-BANG score was 6 out of 8 and average ESS was 14 out of 24.

Conclusion: Restorative sleep warrants consideration alongside complex medical care during hospitalization. Patients experience decreased total sleep time and increased number of awakenings while in the hospital compared with their subjective estimates of sleep at home. Actigraphy provides a non-invasive and reliable way to monitor some sleep parameters in the inpatient setting. An elevated STOP-BANG score could represent sleep disordered breathing and impact perceptions of sleep quality. Patient-identified barriers to sleep are targets for quality improvement. Future studies should compare inpatient actigraphy data to polysomnographic data and the effect of sleep-directed interventions on sleep quality in the hospital.

Support (if any):

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AN ANALYSIS OF OBJECTIVE AND SUBJECTIVE SLEEP AND INFECTION SYMPTOMS OF MEDICAL PERSONNEL WORKING THROUGH THE COVID-19 PANDEMIC

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Introduction: There is a well-established connection between sleep and the immune system, and in the midst of a global pandemic, it is vital to understand the relationship between COVID-19 symptomatology and sleep. While our communities practice safety protocols, medical personnel working on the COVID-19 response