

SLEEP TIMING AND DURATION IN ADOLESCENTS WITH DEBILITATING CHRONIC ORTHOSTATIC INTOLERANCE

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Introduction: Lack of adequate quality and quantity of sleep impacts neurocognition, mood, immunity and cardiometabolic functioning. Patients with orthostatic intolerance (OI) frequently report problems with sleep and fatigue. A study of adults with chronic OI reported more subjective complaints of daytime sleepiness, fatigue, worse sleep, and health related quality of life compared to controls. To our knowledge, there are no studies looking at objective measures of sleep timing and duration in adolescents with OI. The goal of this study was to gain a better understanding of sleep and fatigue complaints in adolescents with chronic OI by objectively measuring sleep duration and timing with actigraphy to correlate with subjectively reported sleep complaints.

Materials/Methods Adolescents with chronic OI and impaired functioning completed a sleep survey and wore an actigraph for two-weeks before starting an intensive treatment program. Actigraphy data assessed bedtime, rise time and total sleep time. A six-question survey to assess perceived sleep quality was completed upon device return. Charts were reviewed for demographic and clinical data including autonomic reflex screen and diagnoses of OI. Statistical analyses were performed on the actigraphy data, data extracted from chart review, and patient questionnaire.

Results: Among 28 subjects with chronic OI, the median age was 16 years, majority were female (86%) and identified their race as white (89%). The majority (68%) were not attending school (in person or virtually) at the time of their evaluation. Almost all (96%) had symptom duration greater than 12 months. Comorbid diagnoses included chronic pain (86%), headaches (64%), and chronic fatigue (32%). Per patient questionnaire, 75% of patients reported being “often” or “always” tired, 43% reported sleep being “rarely” or “not at all” refreshing, and 43% reported their sleep was “always” or “often” restless.

Consistent bedtimes were noted in 64%, consistent rise times in 57%. Average bedtime (95% CI) was 00:54 (00:23–1:25); average rise time was 9:32 (8:45–10:09), with an average sleep duration of 7.6 hours (7.2–8.1). Sleep duration, bed/rise times, activity level, and consistency of sleep times were not statistically related to vital sign changes during postural challenge. Of the 27 individuals with tilt table testing, 12(44%) had excessive postural tachycardia (>40 beat per minute change).

Conclusions: The majority of subjects demonstrated delayed sleep phase tendencies and borderline sufficient sleep. A third to half had inconsistent sleep schedules. Debilitated patients with chronic orthostatic intolerance frequently report tiredness, unrefreshing sleep, and restless sleep. Sleep assessment should be considered for patients presenting for an evaluation or treatment of OI.

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SLEEP VERSUS SCHOOL TIMINGS OF PRESCHOOL AND SCHOOL-AGE CHILDREN

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Introduction: The circadian rhythms of children have received little attention when compared to circadian biology in adolescents, perhaps due to the assumption that children are essentially oriented towards morningness. However, sparse studies have suggested the sleep-wake rhythm

delay assumed to occur drastically around adolescence might start earlier. Although the delay in sleep-wake patterns and its conflict with school start-times is well studied on adolescents, there are fewer studies focusing on younger children. We aimed to investigate the sleep-wake patterns of school-age, non-pubertal children.

Materials and Methods: In this cross-sectional school-based survey, we collected data from 3155 children aged 4-to-11 years at Portuguese kindergarten and primary schools. All children were assessed through the Children’s ChronoType Questionnaire, a parent-report questionnaire. Children from the age nine attending fourth grade or above answered to the Self-Rating Scale for Pubertal Development.

Results: In our epidemiological study (Clara & Gomes, 2020), we found the delay of bed and wake times for later hours on free days started at an early age. On school days, we found later bedtimes as children grew older, but earlier wake times, imposed by school start times. This resulted in a progressive reduction of sleep duration on school nights and a behavioral sleep rebound on free-days, suggesting children are accumulating a sleep debt during the week for which they try to compensate on free-days by extending their sleep duration. Restriction-extension patterns and social jetlag increased gradually across age groups.

Conclusions: Changes in sleep-wake cycles assumed to occur around adolescence can be detected among preschool and school-age children. The delay of sleep-wake patterns starts at an early age, years before adolescence, and increases gradually with age and grade level, as children develop. Our study suggests the advance of school start times across school grade level, from preschool to the second study cycle, in the Portuguese school system is inappropriate, as it follows the inverse tendency of children’s biological rhythms. Delaying school start times could adjust the school rhythms to the biological rhythms of elementary age children. It is urgent to design and implement studies on pediatric chronobiology that further ascertain circadian regulation and individual differences in sleep need among younger children.

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“SOMETHING IS WRONG!” A QUALITATIVE STUDY OF RACIAL DISPARITIES IN PARENTAL EXPERIENCES OF OSA DETECTION IN THEIR CHILD

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Introduction: African Americans are 4-6 times more likely to have obstructive sleep apnea (OSA) than white children, yet disparities in detection, diagnosis, and treatment persist. Our study objective was to examine parent perceptions and experiences with OSA detection for their child with sleep-disordered breathing.

Materials and Methods: Semi-structured phone interviews were conducted with n=30 parents of children (ages 2-12 years) who were referred for overnight polysomnography due to sleep-disordered breathing. Parents who identified as Black non-Hispanic (n=19) or White non-Hispanic (n=8) were included in the current analysis. Qualitative thematic analysis was conducted using a grounded theory approach, with themes organized in NVivo 12 software. Twenty-one themes falling into five categories were identified. To examine racial differences in parental experiences, themes were classified as convergent (presented by Black and White parents) or divergent (presented by one racial group but not the other).

Results: Participating parents were primarily mothers (92.59%). Children were 51.90% female aged 3-14 years old (M=7.93 years, SD=3.08). Delayed OSA detection was observed in Black children (M=9.00 years) compared to white children (M=5.78 years). Analysis of themes by race identified both

