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EVALUATION OF THE NOVEL SITUATIONAL SLEEPINESS SCALE FOR CHILDREN WITH NARCOLEPSY

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Introduction: Monitoring of narcolepsy treatment response requires regular self-report of hypersomnolence. The Epworth Sleepiness Scale (ESS-CHAD), is widely used for this purpose. The novel Situational Sleepiness Scale (nSSS) was designed to address limitations of the ESS-CHAD, specifically to:
1. Measure fluctuations of sleepiness across the day
2. Rate sleepiness according to the child’s usual, rather than prescribed, activities
3. Improve intelligibility for children through a visual analogue scale

Aims:
• To gather structured feedback from children with narcolepsy, their parents and sleep centre clinicians on the strengths and weaknesses of the nSSS compared to the ESS-CHAD.
• To test children’s ability to correctly interpret the visual analogue scale (VAS) and the language used in the scale to describe sleepiness.

Methods: The study was advertised by Narcolepsy UK and Sleep Disorders Australia. Parents and children took part in semi-structured interviews over Microsoft Teams. The nSSS design was assessed using a cognitive interview approach. Children ranked the VAS and sleepiness language using an interactive whiteboard. Interviews were transcribed and analysed. Clinicians gave feedback through a structured Microsoft forms questionnaire. Semantic thematic qualitative analysis identified key observations and opinions.

Results: Seven parents and four children, (aged 12–14 years), were interviewed. Eight clinicians with a combined experience of treating over 400 children with narcolepsy, completed the questionnaire. There was a universal preference across both clinicians and families for the nSSS which was viewed as more child-friendly and easier to complete. For example, one parent stated: ‘kids are more drawn to images than words; a picture says a thousand words.’ The clinicians also preferred that the nSSS captured fluctuations in sleepiness across the day commenting: ‘really useful to log a detailed record of the changes in sleepiness throughout the day. This is particularly useful to help with decisions about changes in treatment.’ Minor formatting suggestions were made. The VAS and language used were understood by all children.

Conclusions: With minor adaptations, the scale has face validity. There was enthusiasm for this scale to be used clinically. Reliability and validity, compared with neurophysiological measures of sleepiness, should now be assessed.

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EXPOSURE TO SCREENS AND CHANGES IN TODDLERS’ SLEEP DURING COVID ERA

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Introduction: The usage of electronic devices among very young children is common (Rideout et al., 2011). Exposure to small touch screens in infants and toddlers (Ahearn et al., 2016). The diverse influences are a growing concern as multiple risks to young children behavior and development have been demonstrated (IBD, 2021), including toddlers’ sleep (Sonia et al., 2019). Coping with the COVID-19 has caused considerable disruption to families as parents were forced to stay at home and childcare settings were closed. One of the outcomes of these circumstances is increased usage of digital devices (BMJ, 2021) – a concern for child health and development (BMJ, 2020). Evidence from previous socio-historical events highlights that the young children are susceptible to severe and land long lasting effects (Aprile & Rashmita, 2020). The objective of our study was to (a) address changes in screen-time and in sleep habits during the pandemic and (b) examine the link between changes in screen-time and sleep habits. We predicted that increase in exposure to screens will be associated with sleep disruption.

Materials and Methods: The sample comprised of 233 mothers and their children ages 2- to 4-years, with no known developmental or health problems; the sample was recruited, from the Arab sector in Israel, through announcements placed in social media groups. Mothers completed, online, 3 tools: Demographic background, ISQ–Infant Sleep Questionnaire, and Children’s screen-time questionnaires. Data collection took place during June 2021, about 18 months after the outbreak of the coronavirus pandemic and following several periods of quarantines and other disruptions of nursery schools and small home-based daycare settings.

Results: In response to screen-related changes, 30% reported no change, 2% reported a decrease and the majority (68%) reported an increase (30% marked a large increase) in screen-time compared to the pre-pandemic period. As to sleep-habits, about half of the mothers (48%) reported changes (25% thought the changes were small, whereas 23% marked “moderate” to “major” changes. In examining the link between the increase in screen time and the co-related sleep changes, it was found thatannounced placements in social media groups. Mothers completed, online, 3 tools: Demographic background, ISQ–Infant Sleep Questionnaire, and Children’s screen-time questionnaires. Data collection took place during June 2021, about 18 months after the outbreak of the coronavirus pandemic and following several periods of quarantines and other disruptions of nursery schools and small home-based daycare settings.

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(a) even as small increase in screen-time was associated with a later sleep onset;(b) moderate increase was associated not only with later sleep onset but also with more naps. Finally, large increase in screen-time was associated with multiple changes in the child’s nocturnal sleep habits (p<0.001).
Conclusions: It was found that two out of three toddlers had increased screen-time and that this increase was significantly associated with more screen time was significantly increase most of them also reported that the coronavirus period also affected their children's sleep routine, such as a later bedtime. Given the importance of good sleep to child development in general, and to learning and emotional regulation in particular, parents and clinicians should be aware of these risks. It is the task of professionals to develop intervention programs to support parents and their children during the present challenging era. More studies in diverse cultures and age groups are called for.

Acknowledgements:

GENDER AND RUMINATION AS PREDICTORS OF EMOTIONAL AROUSAL AFTER SLEEP RESTRICTION IN PRE-PUBERTAL CHILDREN
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Introduction: There is an abundance of evidence that poor sleep predicts negative behavioral, emotional, academic, and physical health outcomes in children. However, sleep loss is not universal in its negative effects and may look differently among individuals with different cognitive response styles including those who are more likely to ruminate. Little is known however about ruminations among pre-pubertal children including whether a ruminatory cognitive response style predicts emotional responses to sleep loss. The current study examined these relationships including the potential moderational role of gender since females are known to ruminate more than males.

Materials and Methods: A sample of 53 healthy, pre-pubertal children (7-11 years) completed emotional assessments in the lab when rested and during the present challenging era. More studies in diverse cultures and age groups are called for. Among our participants, there were 36 males and 17 females. All participants had normal sleep habits as assessed by their parents. All participants were pre-pubertal (defined as children whose pubertal status was 1 or lower on the Tanner scale). All participants completed a sleep diary, and a standardized measure of rumination (Ruminative Response Style Questionnaire, RS-RS) was administered. Additionally, a measure of emotionality (the Positive and Negative Affect Schedule for Children, PANAS-C) was administered.

Results: After sleep restriction, children with greater CRSS rumination scores showed significantly less arousal in response to neutral (Beta = -0.57, p < .001) but not positive (Beta = -0.23, n.s) or negative (Beta = 0.17, n.s) IAPS images. There were no main or interaction effects based on gender.

Conclusions: Although previous research has found rumination to mediate the relationship between sleep problems and anxiety among teens, to our knowledge, there have been no studies examining rumination in relation to sleep in pre-pubertal children. Our findings suggest that rumination does not predict responses to emotional stimuli (e.g., negative and positive IAPS images) after sleep loss among pre-pubertal children, but may serve to distract children from non-emotional stimuli.

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HOW DO CHILDREN AND ADOLESCENTS OF SEPARATED PARENTS SLEEP? AN INVESTIGATION OF CUSTODY ARRANGEMENTS, SLEEP HABITS, SLEEP PROBLEMS, AND SLEEP DURATION IN SWEDEN
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Introduction: An increasing number of children and adolescents divide their time between their separated parents' homes. Although marital conflict is disadvantageous for children’s sleep, little is known about how children of separated parents sleep. The objective was to investigate the association between children’s custody arrangements and sleep habits and sleep initiation difficulties.

Materials and Methods: Cross-sectional questionnaire data from the 2013 Health Behaviours of School-aged Children was used. The sample included over 7000 adolescents (50% girls), aged 11-15. Nuclear families were used as a reference in all analyses. The sleep issues were defined as follows: Less than 7 h of sleep = insufficient sleep; sleep initiation difficulties >1 per week = insomnia; bedtimes after 11 pm = late bedtimes; more than 2h variability between weekend and weekday bedtimes = jetlag. Short sleep duration, insomnia, late bedtimes and jetlag were respectively used as outcomes from regression analyses where custody forms, gender, and family affluence were used as predictors.

Results: The results show differences by custody arrangement, but they are not uniform across the dependent variables. Children and adolescents in sole maternal custody were less likely to sleep as much as recommended (P < .001), more likely to have late bedtimes (P < .001), report sleep initiation difficulties (P < .01) and to report social jetlag between school mornings and weekends (P < .05) compared to those in 2-parent families. Shared physical custody was associated with a higher likelihood of late bedtimes (P < .05) and sleep initiation difficulties (P < .05) compared to those in 2-parent families, but not of sleeping less than recommended or reporting social jetlag. Less-than-equal sharing was generally associated with worse sleep than in 2-parent families.

Conclusions: As custody arrangements seem to be associated with sleep, it is important to understand the mechanisms behind the findings.

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IMPACT OF COVID-19 PANDEMIC ON THE SLEEP OF HEALTHCARE WORKERS’ OFFSPRING
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Introduction: The COVID-19 pandemic led to work overload in health care workers (HCW) either in the form of COVID-19 related or non-related work. COVID-19 related work is associated with increased anxiety levels and, in some cases, a shift in family dynamics. The aim of this study was to evaluate the impact of this supplementary work and, specifically, COVID-19 related supplementary work in the sleep of HCW offspring in our hospital.

Materials and Methods: A cross-sectional, anonymized, self-reported, online questionnaire survey regarding the period of January to March 2021 was conducted at a level 2 hospital. SPSS was used for statistical testing (Chi-square test or Fisher’s exact test).

Results: 97 HCW were included, 160 offspring younger than 18y, of which 84% were male, with a median age of 7 years [0-17y]. As for parental perceptions regarding their offspring’s sleep: 40.0% of the HCW offspring sleep less than desirable, 36.9% take longer to sleep than desirable, 21.5% wake up earlier than desirable and 18.3% wake up more often during the night than desirable. The majority of all HCW offspring: watch 1-4h/day of screen time (57.5%), mainly before 8pm (82.5%); have their bedtime before 9pm (83.1%) with low bedtime resistance; lie in bed for 8h or more (93.3%) and practice physical exercise before 6pm (57.5%). During the COVID-19 pandemic, HCW with supplementary work (n=97) managed to keep their offspring’s sleeping habits, namely lower bedtime resistance, physical exercise before 6pm and 1-4h/day of screen time. Specifically, in the COVID-19 supplementary work group (n=56), HCW managed to keep their offspring’s bedtime consistent.

In the non supplementary work group (n=63) a difference was found between HCW with COVID-19 related work, when compared to HCW without COVID-19 related work. The group with COVID-19 related work (n=29) managed to keep their offspring’s sleeping habits, namely lower bedtime resistance, physical exercise after 6pm; screen time 1-4h/day, and before 8pm. However, those who didn’t work in COVID-19 areas (n=34) showed worse sleeping habits, with higher bedtime resistance, physical exercise after 6pm and screen time >5h/day.

Conclusions: Globally, HCW perceive their offspring’s sleep quality as