

# Journal of Sleep Research

OFFICIAL JOURNAL OF THE EUROPEAN SLEEP RESEARCH SOCIETY

**Abstracts of the 26th Conference of the European Sleep  
Research Society  
27 – 30 September 2022  
Athens, Greece**



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## P902 | The combined influence of anxiety and COVID-19 on sleep quality and insomnia severity

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**Introduction:** Based on recent studies, we put forward a hypothesis about the synergistic effect of anxiety disorders and previous COVID-19 on the deterioration of the quality of sleep and the occurrence of insomnia. The objective was to investigate the impacts of anxiety disorders, COVID-19 in anamnesis, and its combined effect on sleep disturbances.

**Methods:** We conducted a retrospective clinical study, which included 60 males and females, who were divided into groups:

group 1 – patients who have anxiety disorders and became ill with COVID-19 during the last 6 months;

group 2 – patients with anxiety disorders and did not suffer from COVID-19 during the last 6 months;

group 3 – persons who were not ill with COVID-19 during the last 6 months and have not anxiety disorders.

We used the Beck anxiety inventory to assess the overall level of anxiety. For measurement of sleep quality, we used the Pittsburgh Sleep Quality Index. The Insomnia Severity Index was used to measure the degree of insomnia.

**Results:** It had been detected that patients from group 1 are more inclined to lower subjective quality of sleep, higher latency of sleep, and more severe daily dysfunction, while groups 2 and 3 had better habitual sleep efficiency and less frequency of sleeping medications usage. We found a statistically significant difference between groups in degrees of insomnia ( $p = 0.003$ ). Our analysis shows a statistically significant impact on sleep quality and insomnia severity as anxiety disorders ( $p < 0.001$  in both cases), as COVID-19 in medical history for the last 6 months ( $p = 0.038$  and  $p = 0.006$  respectively) with a significant relationship ( $p = 0.019$  and  $p = 0.046$  respectively). It notices a tendency to more severity of insomnia in patients with anxiety disorders and COVID-19.

**Conclusions:** Our research shows that anxiety disorders and COVID-19 in anamnesis of the last 6 months have links to poorer sleep quality and more severe insomnia. Their combined effect also significantly influences sleep quality and the degree of insomnia. These findings indicate a potential role of COVID-19 as an enhancer in relationships between anxiety and sleep disorders.

**Disclosure:** No

## 23: NORMAL PHYSIOLOGY OF SLEEP AND NORMAL VARIANTS

### P198 | The association between self-reported electronic device usage and objectively measured sleep in adults

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**Introduction:** Use of light emitting electronic devices in bed before sleep has been associated with sleep disruption in children and adolescents. Both the wavelength and intensity of the emitted light, and cognitive and emotional engagement with the device, have been proposed as explanations for subsequent sleep disruption. Here, we examined the association between daily self-reported electronic devices usage and objective sleep parameters in an adult population of consumer sleep technology users.

**Methods:** Data from 231 users without sleep disorders (mean age:  $48.8 \pm 16.6$  years, 51% female, ages 16–82) across 25,282 nights were included in the analysis. Sleep data was captured between March 3, 2020 and March 3, 2022, using the PSG-validated Sleep Score mobile application, which uses a non-contact, sonar-based method to objectively capture sleep-related metrics. Self-reported data were collected from a cross-sectional survey whereby users were asked, “In a typical week, how often do you use electronic devices in bed before going to sleep?” as per their experience after the COVID pandemic started. A mixed effect model was used for the analysis controlling for age, chronotype, weekend, and gender. Dependent variables included total sleep time (TST), sleep onset latency (SOL), sleep efficiency, WASO percent, bedtime, waking up time and time in bed (TIB).

**Results:** Higher electronic device usage was associated with a reduction in TST (min) ( $\beta = -9.2$ , 95%CI  $[-15.9, -2.5]$ ,  $p = 0.007$ ), delayed bedtimes ( $\beta = 0.17$ , 95%CI  $[0.029, 0.324]$ ,  $p = 0.019$ ), and a reduction in TIB (min) ( $\beta = -8.8$ , 95%CI  $[-14.75, -2.87]$ ,  $p < 0.005$ ). There was no significant relationship between electronic device usage screen usage and SOL, sleep efficiency, percentage wake after sleep onset (WASO), and waking up time.

**Conclusion:** Self-reported use of electronic devices in bed before sleep was associated with shorter TIB, later bedtime, and shorter TST. Our results suggest that electronic device usage before bed reduces the sleep opportunity window and subsequently shortens the time in bed and total sleep time. Future research is warranted to determine whether consumer sleep technologies may allow users to uncover deleterious pre-sleep behaviours which may contribute to sleep-wake dysfunction through daily logging and personalized feedback.

**Disclosure:** Yes

**Conflict of Interest statement:** All authors are employees of Sleep Score Labs.

### P199 | Seasonality of human sleep - II: PSG-data in neuropsychiatric sleep patients

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