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Letter to the Editor

Bedtime Use of Electronic Media may Disrupt Sleep but not Alone

¹ Carla A Scorza, ² Fulvio A Scorza, ³ Josef Finsterer

^{1,2} Federal University of Sao Paulo (UNIFESP/EPM), São Paulo, Brazil

³ Department of Neurology, Neurology & Neurophysiology Center, Vienna, Austria

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Corresponding Author: Josef Finsterer

Letter to the Editor

We read with interest the article by Cho *et al.* on a cross-sectional study investigating the impact of pre-bedtime digital media use on sleep quality. Sleep quality was assessed using the Insomnia Severity Index (ISI) via an electronic questionnaire in 4,000 participants recruited between January and February 2022 ^[1]. 64% of participants reported using digital media daily before bed, and 23.5% reported sleep deprivation ^[1]. Symptoms of insomnia correlated with the frequency of digital media use, video content correlated with an ISI score >10, and older age was associated with lower awareness of the sleep-disrupting effects of pre-bedtime electronic media use ^[1]. The study is interesting but warrants further discussion.

The first point is that sleep depends not only on the use of digital media, but also on numerous other factors. These include extrinsic and intrinsic determinants. Intrinsic determinants include personality type, acute and chronic stress, the balance between the sympathetic and parasympathetic nervous systems, coping strategies for stressors, genetic predisposition, comorbidities, and lifestyle habits (e.g., going to bed at a certain time, listening to music before falling asleep, turning off the lights in the bedroom, fresh air). Extrinsic determinants of sleep quality include noise, light, vibrations, drafts, humidity, insects, pets, earthquakes, bed type, children, partners, relationships with neighbors, socioeconomic status, time of last meal or fluid intake, concomitant medications, alcohol consumption, adrenergic stimulants, type of work performed, illegal dietary supplements, and local and geopolitical conditions ^[2].

The second point is that sleep quality was assessed using the ISI via an electronic questionnaire ^[1]. Electronic questionnaires have several disadvantages ^[3]. Not everyone has a reliable internet connection or access to the technology required to complete the form. Some people may find it more difficult to answer questions on a screen than with pen and paper. The population to which the survey is distributed cannot be described, and respondents with biases may self-select into the sample ^[3].

The third point is that sleep quality was assessed subjectively rather than objectively ^[1]. The subjective assessment of sleep performance may differ significantly from polysomnography, which is why general conclusions cannot be drawn before the extracted data is confirmed by objective findings.

The fourth point is that the study was conducted during the pandemic ^[1], a period characterized by stress, unusual living conditions, and difficult circumstances that had a significant impact on well-being ^[4]. Therefore, the study should be repeated with data collected after the pandemic. It should also be taken into account that some of the patients included may have received a SARS-CoV-2 vaccination (SC2V). SC2V is known to interfere with sleep if a prolonged post-vaccination syndrome occurs after vaccination ^[4].

The fifth point is that comorbidities and concomitant medications were not included in the analysis ^[1]. Since the study examined sleep quality, it is important to know how many patients were taking hypnotics, antidepressants, neuroleptics, sedatives, antiepileptics, or other medications known to affect sleep performance. To assess whether structural brain lesions contributed to sleep disturbances, it would have been useful to include data from brain imaging in the analysis.

Overall, before attributing sleep deprivation to the use of electronic media before bedtime, all confounding factors that affect sleep must be ruled out as alternatives for sleep deprivation.

Declarations

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References

1. Cho JW, Kim JA, Park HR, Kim KT, Kim JH, Lee SY, *et al.* Impact of Bedtime Digital Media Use on Sleep Across Age Groups: Insights from a Nationwide Survey in South Korea. *J Clin Neurol*, Nov 2025; 21(6):565-574. Doi: 10.3988/jcn.2025.0151
2. Gordon HW. Differential Effects of Addictive Drugs on Sleep and Sleep Stages. *J Addict Res (OPAST Group)*. 2019; 3(2). Doi: 10.33140/JAR.03.02.01
3. O'Donnell D, Silva EJ, Münch M, Ronda JM, Wang W, Duffy JF. Comparison of subjective and objective assessments of sleep in healthy older subjects without sleep complaints. *J Sleep Res*, Jun 2009; 18(2):254-263. Doi: 10.1111/j.1365-2869.2008.00719.x
4. Akhtar N, Srivastava RK, Shrivastava D. How Losing Sleep Following Vaccination May Weaken the Response to SARS-CoV Vaccines. *Sleep Vigil*. 2022; 6(1):249-251. Doi: 10.1007/s41782-022-00195-3