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Re: Insomnia and Mild Cognitive Impairment

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Dear Editor:

With great enthusiasm, I read an article by Hamdy et al. (2018) titled "Insomnia and Mild Cognitive Impairment" published in *Gerontology and Geriatric Medicine*. The authors of this article have addressed three different types of insomnia and discussed its management. Emphasizing the importance of its integrity and the role of each sleep stage, Hamdy et al. (2018) have also reviewed the sleep architecture. Despite the remarkable structure of the article authored by Hamdy et al. (2018), this article has at least one major shortcoming regarding lifestyle habits which possibly induce insomnia. The authors state, "Other habits that may detrimentally affect the quantity/quality of sleep include watching TV, using a laptop computer, or other electronic devices shortly before going to bed, or while in bed. These may interfere with melatonin production and the circadian rhythm. If it is necessary to use these technologies before bedtime, it is recommended to use the night shift capabilities which will diminish the blue light and display the more yellow–orange end of the spectrum." The shortcoming of this article is due to ignoring this key point that not only blue light emitted from the digital screens can be linked to decreased melatonin secretion (Yoshimura et al., 2017) and sleep problems (Mortazavi, 2018; Mortazavi, Mortazavi, & Paknahad, 2017), the radiofrequency electromagnetic fields (RF-EMFs) generated by smartphones, tablets, or laptops can also be associated with disrupted circadian rhythm and sleep problems (Mortazavi, Mortazavi, Habibzadeh, & Mortazavi, 2016). Moreover, if blue light were the only problem, it could be easily solved by using blue-blocking filters (placing amber filters on screens or wearing eyeglasses with amber lenses).

In this light, the authors have entirely ignored substantial data showing the link between exposure to RF-EMFs and sleep problems. Numerous studies which showed the link between exposure to electromagnetic fields and sleep disturbance/insomnia are reviewed by Pall (2016). It is worth noting that recently developed color-shifting screen applications that make the smartphone look "warmer" at night by changing the output light spectrum of displays (emitting longer wavelength light) or using blue-blocking filters (amber lenses) can solve, at least to some extent, the problem of blue light (Mortazavi et al., 2017), while blocking the RF-EMFs still remains unsolved and problematic.

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