Smartphones, tablets, and other electronic devices that appeared 20 years ago have become an integral part of our lives, especially among adolescents and young adults. A growing body of research suggests that excessive exposure to blue light emitted by the screens of these devices can have a significant impact on health and well-being, particularly when it comes to sleep quantity and quality. Chronobiology in Medicine has consistently raised these concerns as well [1,2].

Excessive evening and nighttime blue light exposure can alter the timing of circadian rhythms and delay sleep onset. In this issue of the journal, Alam et al. [3] discussed the widespread effects of blue light emitted by electronics on sleep patterns and overall health in adolescents and young adults. They noted that this exposure disrupts circadian rhythms and suppresses melatonin production, reducing the quality and duration of sleep. These issues are particularly acute among students, affecting their cognitive function, academic performance, and mental health.

It is important to ensure that your bedroom environment is sufficiently dark to regularize your circadian rhythm and maintain a healthy sleep-wake cycle. Ideally, there should be no light present in your bedroom while sleeping. However, if necessary for safety reasons, a dim taillight may be left on. Indirect light is preferable, with yellow light being more conducive to sleep than white light, which contains higher levels of blue light. Research conducted by my group has demonstrated that even low levels of light, ranging from 5–10 lux, in the bedroom can lead to poor sleep quality, characterized by increased wakefulness and reduced deep sleep. Prolonged exposure to 10 lux of light during sleep has been associated with decreased frontal lobe function the following day, potentially leading to diminished impulse control and cognitive performance [4].

More significant than light exposure during sleep is the issue of excessive artificial light in the residential environment prior to bedtime. Lighting in Korean homes tends to be excessively bright, direct, and predominantly white, in contrast to the more indirect and yellowish lighting commonly found in the U.S. and Europe. Exposure to bright white light late at night can disrupt circadian rhythms, making it difficult to fall asleep early. Conversely, letting plenty of sunlight into your bedroom through a window in the morning or taking a morning walk outside will help to entrain your body’s circadian rhythms and promote a healthy sleep-wake cycle [5,6].

Chronobiologists should objectively analyze the biological effects of excessive artificial light at night and demonstrate through well-designed studies the evidence that suggests we should limit our exposure to blue light during the nighttime hours. They should also contribute to raising public awareness of the importance of bright light exposure in the morning, which can improve sleep health and overall well-being.

Funding Statement
This study was supported by the Korea Health 21 R&D Project funded by the National Research Foundation of Korea (2019R1A2C2084158).

ORCID iD
Heon-Jeong Lee
https://orcid.org/0000-0002-9560-2383

REFERENCES