UNPLUG FOR ZZZS: SCREENS VS. SLEEP

Since the development of portable technology (phones, tablets, etc) the amount of time adolescents spend on these devices has increased exponentially (Baiden et al., 2019). The recommended screen-time for non school related activities is no more than 2 hours a day (Baiden et al., 2019). More than 3 hours is considered excessive (Baiden et al., 2019).

IMPORTANCE OF GOOD SLEEP

Sleep is important for proper cognitive and emotional functioning as well as self regulation. Sleep contributes to memory encoding, consolidation, and recall which are important for good academic performance (Gomez Fonseca & Genzel, 2020). Sleep duration is essential to executive functioning and multiple-domain cognitive functions (Gomez Fonseca & Genzel, 2020). Good sleep is also important for maintaining a proper circadian rhythm which is necessary for self regulation. Overall, sleep is essential for good physical health, mental health, and well being in adolescents.

SCREEN TIME AND EFFECTS ON SLEEP CYCLE

Excessive screen-time can have deleterious effects on adolescents. Screen-time can directly delay the onset of sleep by delaying bedtime. This can cause later rise time, fatigue, shorter sleep duration, and daytime dysfunction (Baiden et al., 2019). Additionally, exposure to radio-frequency electromagnetic fields can disrupt circadian rhythms and decrease sleep time (Baiden et al., 2019).

CONSEQUENCES OF POOR OR INSUFFICENT SLEEP

Higher levels of screen time are linked to sleep disturbances and behavioural health problems like internalizing, externalizing, and peer problems (Parent et al., 2016). Poor sleep can be associated with mental health issues like anxiety and depression, as well as physical health problems like metabolic syndrome, hypertension and diabetes (Arshad et al., 2021). Effects of poor sleep on cognitive, behavioural and emotional well being can negatively impact academic performance.

BLUE LIGHT AND MELATONIN

Blue light can suppress the production of melatonin which is essential to the sleep-wake cycle (Arshad et al., 2021). Melatonin is produced by the pineal gland in a dark environment (Arshad et al., 2021). The affect of blue light on melatonin can delay sleep onset and cause sleep disturbances that can negatively affect duration and quality of sleep (Arshad et al., 2021).

PHONE RELATED SLEEP DISTURBANCES

Excitation prior to sleeping can disrupt and decrease the quality of sleep (Foerster et al., 2019). Watching media that causes emotional responses before bed can make it more difficult to fall asleep (Foerster et al., 2019). Nocturnal disturbances such as phone notifications can cause endocrine stress responses which can lead to adverse health effects (Foerster et al., 2019). Additionally, these nocturnal disturbances also decrease sleep quality and duration (Foerster et al., 2019).

TIPS FOR MANAGING SCREEN-TIME AND SLEEP

Limit screen-time before bed (Arshad et al., 2021)

- Have a calming wind-down routine to do each night before bed instead. Ex. skincare routine

Refrain from engaging with exciting content before bed. (Foerster et al., 2019)

- Find alternatives that may soothe your emotions like sleep-aid apps or calming sounds.

Replace screen-time with physical activity during the day (Foerster et al., 2019)

- Reducing screen hours through exercise can be beneficial to both sleep and overall health and well-being.

Silence/turn off phone before bed (Foerster et al., 2019).

- Putting your phone in Do Not Disturb mode can reduce the frequency of phone related disturbances during sleep.

Use blue light glasses or screen filters to reduce the harmful effects (Foerster et al., 2019).

- Can help reduce blue light's effect on melatonin production to help maintain the sleep-wake cycle.
- Use melatonin supplements if necessary to repair the effects of blue light (Foerster et al., 2019).

References

Arshad, D., Joyia, U. M., Fatima, S., Khalid, N., Rishi, A. I., Rahim, N. U. A., Bukhari, S. F., Shairwani, G. K., & Salmaan, A. (2021). The adverse impact of excessive smartphone screen-time on sleep quality among young adults: A prospective cohort. Sleep Sci, 14(4), 337-341. When it's dark and blue light shines right into your eyes, it will hurt and strain them. If you keep doing it, it will hurt your eyes forever.

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