



ORIGINAL RESEARCH PAPER

Community Medicine

A STUDY ON IMPACT OF SOCIAL MEDIA USAGE ON SLEEP DISTURBANCES AMONG MEDICAL COLLEGE STUDENTS

KEY WORDS: Social Media, Sleep Disturbance

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ABSTRACT

Background: Sleep and circadian functioning are vital to promoting good health. Sleep disturbance and insufficient sleep duration are associated with day time sleepiness and a range of poor health outcomes. The rapidly growing rate of SM use in recent years raises concern that SM use may adversely affect sleep quality. The objective of the study is to find the correlation between social media usage and sleep disturbance among medical college students. **Methodology:** The study was conducted among 350 medical college students using a questionnaire and Pittsburgh sleep quality index scale with the help of google forms. The data was downloaded as Excel and analysed using SPSS software. **Results:** About 56% were using social media for 3 to 5 years, followed by 6-10 years usage (22.3%) and less than 2 years (20.6%). About 81.4% were using social media for more than 60 minutes in a day and 18.6% were using social media for less than 60 minutes. About 71.1% had poor sleep quality index as per PSQI scale. It is found that those using social media longer duration in a day had poor sleep quality, which is statistically significant. **Conclusion:** This study indicated that the usage of social media at a greater extent will have an impact on one's sleep. One has to understand the impact of social media on young adult's life and the proper and needy usage of social media has to be made in practice.

INTRODUCTION

Sleep and circadian functioning are essential to promoting good health.¹ While it is recommended that young and midlife adults obtain 7-9 hours of sleep per night.² Most of the adults were having less than 7 hours of sleep per night on weeknights. Moreover, some wake up feeling un-refreshed and some have difficulty falling asleep at least a few nights per week. Among young adults ages 19-29, many report not getting enough sleep to function properly.³

Sleep disturbance and insufficient sleep duration are associated with day time sleepiness⁴ and a range of poor health outcomes. There are some of the biological, psychosocial, and environmental factors contributing to insufficient sleep and sleep disturbance among adolescents and young adults. This includes biological changes in the accumulation of homeostatic sleep pressure (the likelihood of falling asleep), increasing academic and vocational demands, and use of substances such as alcohol and caffeine.⁵ The associations between use of social media (SM) and sleep quality and quantity were minimally known. SM has been defined as the software that makes the individuals and communities to gather, communicate, share, and in some cases collaborate or play and group of Internet-based applications that build on the ideological and technological foundations of Web, and that helps in the creation and exchange of User Generated Content." The rapidly growing rate of SM use in the past few years⁶ have raised concern that SM use may adversely affect quality of sleep and may reduce the total amount of sleep. This study will help us to understand the level of social media usage among young adults and their impact on their sleep quality. This study is done to study the impact of social media usage on sleep disturbance among the medical college students.

Subjects And Methods

A cross sectional study conducted among 350 MBBS students of a Medical College, Tamil Nadu from September to October 2022. From previous study⁷, the prevalence (of social media use) was taken as 35%. Considering confidence interval of 95%, absolute precision of 10%, the sample size was calculated and found to be 350. The sample was achieved by purposive sampling method.

The study tool comprises of 3 sections – Semi structured

pretested questionnaire – Interview method.

- Section 1: Demographic Details,
- Section 2: Questions related to social media use,⁸
- Section 3: Pittsburgh sleep quality index^{9,10}

Data was collected as a questionnaire in Google forms. The forms link is circulated to medical students and MBA distance education students and the responses were obtained. The Google forms were created with content that if the students are willing to participate, they can proceed to the second page for answering the questions related to study. If they are not interested, they will not go to the second page. Data sheet was downloaded as MS excel and analysed using SPSS software. Appropriate descriptive and inferential statistics like Chi-square test and Fischer exact test were used, considering p value of < 0.05 as significant.

RESULTS

Total number of students enrolled in the study was 350. Among 350 students 115 (32.9%) had completed 21 years and about 99 (28.3%) were 20 years. About 162 (46.3%) were males, 302 (86.3%) are hosteller and 114 (32.6%) are studying in 2nd year and 101 (28.9%) are in 3rd year. About 56% are using the social media for 3-5 years. About 81.4% are using the social media for more than 60 minutes in a day. 73.4% are having the habit of keeping the phone beside while sleeping. About 70.9% had habit of checking the notifications in phone before going to bed, 54.9% check notifications after going to bed but before sleeping, 66.6% check the notifications while wake up in the middle of sleep and 34% are checking their phone immediately after waking up from sleep.

About 71.1% had poor sleep quality index of >5. The prevalence of poor sleep quality is 71.1%, shown in figure 1.

Figure 1: Sleep Quality

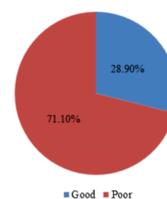


Figure 1: Depicting the sleep quality

Table 1 show the association between social media usage and sleep quality. Social media usage for long years doesnot have any significant association with sleep quality. Social media use for than 60 minutes per day, keeping the phone beside

during sleep, checking notifications before going to bed, after going to bed and before sleep, waking in middle of sleep is found to have significant association towards poor sleep quality

Table 1: Association between social media usage and sleep quality

Variables	Category	Sleep quality <5		Sleep Quality >5		Chi square	p value
		N	%	N	%		
Social media usage in years	0-2 years	24	33.3%	48	66.7%	2.2 (F)	0.50
	3-5 years	57	29.1%	139	70.9%		
	6-10 years	20	25.6%	58	74.4%		
	> 10 years	0	0%	4	100%		
Social media use in a day	> 60 min	75	26.3%	210	73.7%	4.8	0.02
	< 60 min	26	40%	39	60%		
Keeping the phone beside your bed while sleeping	Yes	56	21.8%	201	78.2%	23.5	<0.001
	No	45	48.4%	48	51.6%		
Checking notifications before going to bed	Yes	64	25.8%	184	74.2%	3.8	<0.001
	No	37	36.3%	65	63.7%		
Checking notifications after going to bed (before sleep)	Yes	45	23.4%	147	76.6%	6	<0.001
	No	56	35.4%	102	64.6%		
Checking notifications when wake up in middle of sleep	Yes	59	25.3%	174	74.7%	4.2	0.03
	No	42	35.9%	75	64.1%		

DISCUSSION

Our study shows that the prevalence of poor sleep quality is 71.1%. Social media usage for long years does not have any significant association with sleep quality. Social media use for than 60 minutes per day, keeping the phone beside during sleep, checking notifications before going to bed, after going to bed and before sleep, waking in middle of sleep is found to have significant association towards poor sleep quality.

Various similar studies conducted also showed the similar results. A study by Gladius Jennifer H et al¹¹ showed that 72.4% of the study participants had experienced poor sleep quality. A study by Sukriti Bandhiya et al¹² showed that 57.2% of the participants showing 'poor' sleep quality (>5 on PSQI). A study by V Suganthi et al¹³ showed that the prevalence of poor sleep was found in 45%. A study by Gideon J.I et al¹⁴ showed that the association between SAS and PSQI were found to be highly significant in the study. A study by Azadussaman K et al¹⁵ showed that for every 10 minutes/day increase in use of social media during school days, the odds of reporting sleep disturbance was also increased by 14%. A study by Xiang-Long Xu et al¹⁶ showed that more than half of those undergraduates who used social networking service websites, had reported poor sleep quality. Further, undergraduates who spent about 0.5 to 2 hours before bedtime or above per day on social media were more likely to experience poor sleep quality. A study by Jessica C. Levenson et al¹⁷ showed that the participants with higher SM use volume and frequency had significantly greater chance of having sleep disturbance. A study by A M A Nasirudeen et al¹⁷ that the nocturnal technology use has a weak, negative impact on students quantity of sleep that may lead to daytime sleepiness. It is inferred that social media use for longer duration in a day will result in poor sleep, which is consistent with similar studies.

CONCLUSION

It was intended to study the impact of social media usage among young adults. The study results showed that there is an impact in the sleep due to social media usage. The usage of social media for more duration in a day has an effect on one's sleep. The lack of sleep or social media usage addiction may affect one's health, academic performance and interpersonal relationship with family or peers. The issue has to be addressed and awareness program may be devised to make use of the technology improvement in a positive way, without affecting young adult's valuable time and health.

Limitations

This study has questions related to social media usage and sleep activities. The students may have provided biased

answers for the questions.

REFERENCES

1. Buysse DJ. Sleep health: Can we define it? Does it matter? Sleep. 2014; 37:9-17. [PubMed:24470692]
2. Hirshkowitz M, Whitton K, Albert SM, et al. National Sleep Foundations' sleep time duration recommendations: methodology and results summary. Sleep Health. 2015; 1:40-43.
3. Gradirar M, Wolfson AR, Harvey AG, Hale L, Rosenberg R, Czeisler CA. The sleep and technology use of Americans: findings from the National Sleep Foundation's 2011 Sleep in America poll. J Clin Sleep Med. 2013; 9:1291-1299. [PubMed:24340291]
4. Liu X, Uchiyama M, Kim K, et al. Sleep loss and daytime sleepiness in the general adult population of Japan. Psychiatry Res. 2000; 93:1-11. [PubMed:10699223]
5. Millman RP. Excessive sleepiness in adolescents and young adults: causes, consequences, and treatment strategies. Pediatrics. 2005; 115:1774-1786. [PubMed:15930245]
6. Duggan, M.; Ellison, NB.; Lampe, A.; Lenhart, A.; Madden, M. Social media update 2014. 2015. Pew Research Center;
7. Mani G, Elavarasan K, Norman P, Dhandapani T. Smart phone usage pattern and associated insomnia among undergraduate students of a Medical College in Chengalpattu district, Tamil Nadu: A cross-sectional study. Indian J Community Fam Med 2021;7:113-8
8. Levenson JC, Shensa A, Sidani JE, Colditz JB, Primack BA. The association between social media use and sleep disturbance among young adults. Prev Med (Baltim) [Internet]. 2016;85:36-41. Available from: http://dx.doi.org/10.1016/j.ypmed.2016.01.001
9. Buysse DJ, Reynolds CF 3rd, Monk TH, Berman SR, Kupfer DJ. The Pittsburgh Sleep Quality Index: a new instrument for psychiatric practice and research. Psychiatry Res. 1989 May;28(2):193-213. doi: 10.1016/0165-1781(89)90047-4. PMID: 2748771. https://brainclinics.com/wp-content/uploads/PSQI_english_including_scoring. Assessed on 10.06.2022
10. H., Gladius Jennifer et al. A study of mobile phone usage on sleep disturbance, stress and academic performance among medical students in Tamil Nadu. International Journal Of Community Medicine And Public Health, [S.l.], v. 5, n. 1, p. 365-368, dec. 2017. ISSN 2394-6040. Available at: <https://www.ijcmph.com/index.php/ijcmph/article/view/2327>. Date accessed: 05 July 2022. doi:http://dx.doi.org/10.18203/2394-6040.ijcmph.20175814.
11. Banthiya S, Sharma S, Jahagirdar D, Jahagirdar V, Garg M, Sahadev HK. Sleep Quality in the Indian Adult Population During the COVID-19 Pandemic. Cureus. 2021 Aug 29;13(8):e17535. doi: 10.7759/cureus.17535. PMID: 34603901;PMCID:PMC8477644.
12. Suganthi, Vajiravelu, et al. "Mental Health and Sleep Quality among Health-Care Students during the Second Wave of COVID-19 Pandemics in Erode District: A Cross-Sectional Study." Apollo Medicine, vol. 19, no. 1, Jan. 2022, p. 1. www.apollomedicine.org.https://doi.org/10.4103/am.am_55_21.
13. Gideon J.I.I, Mosoniro Kriina1, Athira Venugopall, Minu Maria Mathew1, Boopathi K.2, Vasna Joshua3. (2020). A Cross Sectional Study on Smartphone Addiction among Students in Ayapakkam, Thiruvallur District, Tamil Nadu, 2018. Indian Journal of Public Health Research & Development, 11(3), 110-115. https://doi.org/10.37506/ijphrd.v11i3.703
14. Khan, Asaduzzaman, et al. "Social Media Use Is Associated with Sleep Duration and Disturbance among Adolescents in Bangladesh." Health Policy and Technology, vol. 8, no. 3, Sept. 2019, pp. 313-15. ScienceDirect, https://doi.org/10.1016/j.hlpt.2019.05.012.
15. Run Zhi Zhu XLX. The Influence of Social Media on Sleep Quality: A Study of Undergraduate Students in Chongqing, China. J Nurs Care [Internet]. 2015;4(3). Available from: https://www.omicsgroup.org/journals/the-influence-of-social-media-on-sleep-quality-a-study-of-undergraduate-students-in-chongqing-china-2167-1168-1000253.php?aid=51679
16. Nasirudeen AMA, Lee Chin Adeline L, Wat Neo Josephine K, Lay Seng L, Wenjie L. Impact of social media usage on daytime sleepiness: A study in a sample of tertiary students in Singapore. Digit Heal [Internet]. 2017;3:205520761769976. Available from: http://journals.sagepub.com/doi/10.1177/2055207617699766