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ASSESSMENT OF SMART PHONE ADDICTION WITH HEALTH, ACADEMIC PROGRESS AND QUALITY OF LIFE ISSUES IN MEDICAL STUDENTS- A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Increasing hours on smart phone has been damaging our sleep patterns and quality of life. This study assessed the rate of smart phone addiction in medical students, with a focus on its correlation with health quality, academic progress and quality of life issues.

Methods: A cross-sectional study was conducted in 300 medical students. Their smart phone usage, level of smart phone addiction, daily hours spend on phone, sleep quality, and perceived stress levels were measured respectively accordingly their data filled in google forms. Data was collected and analysed using SPSS software.

Result: 97.52% of our medical students possess smartphones, 24 % of students were found to switch off their phones during classes, and 92.55% did not make or receive a call during class but 75.89% of students were found to check messages, Students who use phone for long hours are found to be less physically active and have low social interaction.

Conclusions: There is a high degree of smartphone addiction in medical students of a college in Western UP. The significant association of this addiction with deranged health quality and higher supposed secondary stress is a cause for worry. Study explored the positive co relation of smartphone with disturbed sleep patterns specially while using it before sleep.

Key words: Addiction, self-awareness, medical, smartphone, sleep patterns

INTRODUCTION

Where is my phone and where is my charger? Nowadays unfortunately days start with these lines and end with the same lines, which means we all are badly trapped beneath telecommunication or gazette generation [1]. Because of the excessive use of phone, it's like a necessary sensory organ of our body. We even can't consider our lives without smartphones. As technology entered our lives everything has changed drastically, we all are sketched a comfort line around us [2]. Smartphones have become smart because they engulfed our relationships, friends, face-to-face interactions, and of course our precious TIME. The most important thing is that we have been engulfed knowingly or unknowingly but

we are helpless, so phone addiction has become a significant global issue. India has the second highest mobile connections in the world after China, with more than 90 connections per 100 people [3].

'Screen time' refers to time spent with any screen, including smartphones, tablets, television, video games, and computers. Most of the students are using mobile phones so excessively that it assumes the form of addiction. Using mobile telephones has reduced face-to-face communication. It has been observed that mobile phones have become part of medical students they are spending excessive time on smartphones [4]. They are observed to notice their mobile from time to time or continuously during college study hours [5]. Many researchers have reported 'mobile phone addiction' referring to such symptoms as 'nomophobia and ringxiety' [6].

Before bedtime mobile use is now considered as addiction, everyone is involved on the phone just before sleep so as a result they do not sleep on time or they are not capable of getting proper sound sleep simply due to excessive use of telephones simply before sleepy, ultimately increased frequency of dry eye diseases [7,8]. Therefore, in the current study, we examined the combined effects of ST duration and timing (just before bedtime) on the health and quality of life of medical students.

In this regard, this article will be the very first attempt in the literature to explore the total hours spent on the phone to assess the impact of smartphone usage on students' current academic success, and sleep patterns and correlate it with their health and quality of life, nowadays this aspect is very crucial and point to be addressed for researchers.

MATERIAL AND METHODS

A cross-sectional study was conducted between July 2023 and December 2023 in a National capital region of medical sciences and Hospital, Meerut. Ethical approval was obtained from the Institutional Ethics Committee. A questionnaire was prepared as a Google form comprised of twenty questions. Data was collected and analyzed.

Inclusion criteria- Medical students who were willing to participate in the study and gave written consent were included in the study.

Exclusion criteria- Students who were either absent or not willing to participate in the study were excluded from the study. Google forms that were incomplete was excluded from the final analysis.

Results- 282 students from 2nd, 3rd and 4th years at National Capital Region of Medical Sciences and Hospital correctly and fully answered to the questionnaire. The results showed that 97.52% of the students were using a smart mobile phone in which 34.04% students were keeping in their pocket, 12.41% students were holding mobile in their hand and 34.04% students were kept their mobiles in bag during lectures. Almost 82% of the students who were using ON mode of mobile in class also. Mobile phone use during class when asked if they were turning the mobile device off during lectures, 82% reported no, 43.62% involved in YouTube, 3.55% played games, 10.64% searched on google and 42.2% were active on social media during lectures.

Students were asked whether they checked messages in between the classes 75.89% of students said yes while only 24.11% refused that they didn't check the messages. Attend or make a call in between the lectures when asked 7.45% of students said no, while only 92.55% of students agreed to attend or make a call in between classes. The next important question that how many hours in the routine they spent on mobiles, when asked 59.57% said less than 4 hours, 33.33% were in the 4-8 hours range, 4.96% were in 8-12 hours and 2.13% were in greater than 12 hours. Next question was do they spent more than 1 hour on mobile before sleep, 51.06% were accepted and 48.94% were refused. Moving towards the next question the price and brand of your phone are status symbols to you, 76.60% said yes and only 23.40% said No. The next question was Do they pressure their parents to purchase a particular brand, 93.26% accepted and 6.74% refused this point.

Moving towards the second half part of the questionnaire, how many hours they are spending on activity or outdoor games, 8.16% of students said greater than 2 hours, 28.01% of students said 1-2 hours, 30.50% of students said one hour, and 33.33% students said less than one hour for activity or outdoor games. How much time they spend with family, when asked 29.08% students said 1-2 hours, 49.65% of students greater than 2 hours, 8.51% of students less than 1 hour and 12.77% of students usually give 1 hour to their family. The next question on google form was - What are their favourite features on mobile, so 7.80% of students liked games, 8.51% of students liked text messages, 22.70% liked the

camera, 24.47% of students were like internet and 36.52% of students were like social media. Do they feel their mobile phone is disturbing them during studies, when asked 44.68% accepted this and 55.32% rejected it. The next question is like-Do students find loss of concentration in studies after prolonged use of mobile phone, when asked they replied yes 40.78% accept this and 59.22% students said No, they never lost their concentration just because of phone. Next question is somehow very natural to ask that how many SMS or WhatsApp messages do they receive in a day, when asked the answer is like-6.38% of students received more than 100 messages, 15.60% of students received 50-100 messages and 78.01% of students received less than 50 messages daily. Next very practical question when asked that Sometimes students are not able to pay attention in lectures because of their smartphone, 58.16% students were strongly agreed, 26.60% were neutral, 12.41% were agree and 2.84% students were disagreed. Moving towards the next one-that students have their family group in their phone, when asked 74.11% said yes and 25.89% said No, they don't have. Moving towards the completion of questionnaire the next question was- Do they scroll their phone while having Lunch or dinner, when asked 42.55% students said yes and 57.45% said No, they didn't scroll their mobile in between of lunch and dinner. Now the last question is that Do they agree that their phone is helpful in their studies when asked 51.42% were agree, 36.52% strongly agree, 8.87% were neutral and 3.19% were disagree on this point.

DISCUSSION

Mobile phones are important in today's world for remaining in contact with our dear ones, for our entertainment, and even for shopping in our day-to-day lives. This is observed in our present study as 97.52% of our medical students possess smartphones similar to the study by El-Sayed et al [9]. Every student carry phone with them in classes as well as clinical postings which is a risk factor as these phones get bacterial contamination. In our study majority of students were found to carry phones in their pockets, bags, and hands similar findings are those of Ramesh et al and Waheed et al [10,11].

Students in our study were found to spend maximum hours of phone usage on YouTube and social media. Although we have lots of medical education regarding videos on these platforms, the chances of being distracted are higher. Higher social media usage among medical students was also reported by Mavatkar et al [12].

In our study, 24 % of students were found to switch off their phones during classes, and 92.55% did not make or receive a call during class but 75.89% of students were found to check messages during the class, V. Santhi et al [13] and Najam Siddiqi [14] also mentioned as 68.8 % and 65% students use the phone in classroom respectively. In many studies, it is found that students are getting addicted to phones and use phones for long hours although we have 59% of students use phone for less than 4 hours a day. Datta [15], Yadav [16], and Saxena [17] reported 33%, 65%, and 57% of the students using phones for more than 2 hours/day respectively. Sweta et al reported 51.21% were using the mobile phone for more than five hours [18].

Prolonged use of phone leads sedentary lifestyle which itself a cause of many cardiovascular diseases. Students who use phone for long hours are found to be less physically active and have low social interaction. Similar findings are also given by Andrew Lepp and Ulfiye et al [19,20]

Students also admit that smartphones disturb them in their studies due to distraction and they also feel a loss of concentration after prolonged use of mobile phones Damor [21], and Sinha S et al [18] also mentioned impaired academic performance and loss of concentration. Despite all the drawbacks of smartphones, 87% of students found phones helpful for their studies. Jeevan Kumar [22] reported that 67% of students use phones for study and project work.

CONCLUSION

In this new era of digital media around 85% of the population is using smartphones. Smartphones are more in use because of easy internet access, the low cost of internet services, gaming, shopping, and social media apps. Students are facing problems in concentrating on their studies due to the excessive use of smartphones. Delayed Sleep due to late-night phone use is disturbing students' sleep cycle and resulting in less attendance in morning lectures. Addiction to phones is making students less physically active and social interaction has also decreased. The use of a smartphone is not hazardous if students are using that for study purposes or to stay connected to their parents and siblings or to pay the bills and that too for a limited time around less than 2 hours a day. This study was done to make students aware of digital well-being and inculcate the habit of sports, yoga or some artistic activity among students at least 1-2 hours a day.

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Results of questionnaire in form of Google form comprised of twenty questions:

1. Do you have a smartphone?	Yes 97.52%		No 2.48%	
2. Where do you keep that phone?	Pocket 53.33%	Bag 34.04%		Hand 12.41%
3. You spend maximum hours on which platform?	Youtube 43.62%	Social Media 42.20%	Google 10.64%	Gaming 3.55%
4. In class do you switch off your phone?	Yes 51.42%		No 48.58%	
5. Do you check messages between the classes?	Yes 75.89%		No 24.11%	
6. Do you attend or make a call during the class?	Yes 7.45%		No 92.55%	
7. Daily hours spend on the phone during routine days.	<4 Hours 59.57%	4-8 Hours 33.33%	8-12 Hours 4.96%	12 Hours 2.13%
8. Do you spend more than 1 hour on the phone before sleep?	Yes 48.94%		No 51.06%	
9. Is the price and company of your phone status symbol to you?	Yes 23.40%		No 76.60%	
10. Do you pressurize your parents to purchase a particular brand for you?	Yes 6.74%		No 93.26%	
11. Daily outdoor games or physical activity hours.	1 Hour 30.50%	2 Hour 28.01%	>2 Hour 8.16%	<1 Hour 33.33%
12. How much time you spend with your	1 Hour	1-2 Hour	>2 Hour	<1 Hour

friends and family in person?	49.65%	29.08%	12.77%		8.51%
13. Which of these is your favourite feature?	Social Media 36.52%	Camera 22.70%	Internet 24.47%	Text Messages 8.51%	Gaming 7.80%
14. Do you feel your mobile phone is disturbing you during your studies?	Yes 55.32%		No 44.68%		
15. Do you find loss of concentration in studies after prolonged use of mobile phone?	Yes 59.22%		No 40.78%		
16. How many SMS or WhatsApp messages do you receive in a day?	<50 78.01%	50-100 15.60%		>100 6.38%	
17. Sometimes you are not able to pay attention in lectures because of your smartphone.	Disagree 58.16%	Agree 12.41%	Neutral 26.60%	Strongly Agree 2.84%	
18. Do you have your family group in your phone?	Yes 74.11%	No 25.89%			
19. Do you scroll your phone while having lunch or dinner?	Yes 42.55%	No 57.45%			
20. Do you agree that your phone is helpful in your studies?	Disagree 3.19%	Agree 51.42%	Strongly Agree 36.52%	Neutral 8.87%	