

A Study on Smartphone Addiction and Its Behavioral and Health Hazards Among Paramedical Students of Devdaha Medical College and Research Institute

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ABSTRACT

Introduction: Smartphone with its various functionalities has become an essential part of our daily activities and its use has been increasing. This has sparked concerns about usage and addiction, particularly among students. It is known that poor sleep is very common among medical and paramedical students. Among all factors smart phone has also contributed on deleterious effects on sleep. The main purpose of this study was to know about smart phone addiction and its health hazards among paramedical students of DMCRI.

Method: A descriptive cross-sectional study was conducted in first year to final year paramedical students of Devdaha Medical College where the sample size was 119 students. The sample size was purposively selected ensuring all students participation from first year to final year paramedical students.

Result: It was found that from 119 students the 48.86 % of the participants were using smart phone more than 5 hrs a day and 76.5% of the participants use their smart phone while studying.

Conclusion: The high prevalence of excessive smart phone usage among paramedical students is a cause for concern and is detrimental to their health. The research concerns for the smart phone addiction and its health-related risks. The study recommends increasing self-awareness for help-seeking to regulate smart phone usage and providing counseling services for students.

Keywords: : addiction, behavioral health hazards, deleterious effect, overuse, smart phone

Introduction

Mobile phone, a device which was once considered as a luxury of the affluent, has now become an indispensable one.¹ Statistics showed above 5 billion people were using mobile phones in 2019. First, it was the radio, then the telephone, and the TV, followed quickly by the internet. The current day fascination with the cell phone (e.g., smart phones) highlights the latest technology that, for better or worse, appears to be encouraging people to spend relatively more time with technology and less with fellow humans.² Due to technology advancement, many improvements are seen in gadgets like camera, internet, mobile phones, so this attracts the people to use the gadgets regularly and frequently.³ Many young adults today cannot envision an existence without cell phones. Research suggests that media use has become such a

significant part of student life that it is “invisible” and students do not necessarily realize their level of dependence on and/or addiction to their cell phones.⁴ Addiction is defined by WHO as dependence, as the continuous use of something for the sake of relief, comfort or stimulation, which often causes cravings when it is absent. Two major categories of addiction involve Substance Addiction (e.g. Drug or alcohol addiction) and Behavioral Addiction (e.g. Mobile phone or internet addiction).

Mobile penetration rates stand at 96% globally, 128% in the developed countries, and 89% in the developing countries. According to 2014 Statistics, mobile phone penetration in Nepal was 123%.^{14,5} India being a developing nation has the second largest number of mobile phone users in the world.⁶ Mobile phones have become an integral part of people’s routine life, especially adolescents.^{7,8} Mobile phone addiction is a rapidly increasing factor that impacts physical and psychological health.^{9,10}

It is found that teenagers are more addicted to mobile phones than adults; this is because teenagers have a lower level of self-control, and they may be vulnerable

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to mobile phone addiction.¹¹ There are many factors which have an impact on the quality and duration of sleep, especially in adolescents, and one rapidly emerging factor may be the increased use of technology, more specifically mobile phone addiction. Mobile phone addiction is a critical social issue in much societies¹². It may lead lack of attentiveness. Several studies show that the use of mobile phones is associated with insufficient sleep duration¹³. Sleep deprivation is an internationally recognized crucial health concerns. In teenagers, more screen time is the leading cause of low academic performance and negatively affect growth and development^{14,15}. With increasing multimedia teenagers have a severe urge to use mobile phone which has also affected the social skills¹⁶.

Despite the growing concern surrounding smartphone addiction among students, there remains a paucity of research specifically targeting paramedical students. While studies have investigated smartphone addiction in general student populations, paramedical students have distinct academic and professional requirements that may influence their smartphone usage patterns differently.

Furthermore, the association between smartphone addiction and various demographic variables among paramedical students, such as age, gender, academic year, and socioeconomic status, remains largely unexplored. Understanding how these demographic factors intersect with smartphone addiction can provide valuable insights for designing targeted interventions and support programs.

Methods

The study was conducted at Devdaha Medical College and Research Institute (DMCRI) among the Health Assistant (HA) students. A total of 119 HA students enrolled at DMCRI participated in this descriptive cross-sectional study, representing all three academic years: first year (40 students), second year (40 students), and third year (39 students). The study period extended from January 15, 2023, to April 15, 2023. Non-probability purposive sampling was employed to select participants. Ethical clearance was obtained from the Institutional Review Committee of Devdaha Medical College, and online consent was acquired from each participant prior to distributing the questionnaire. Data entry, coding, and analysis were performed using SPSS and MS Excel. Statistical analysis included the generation of frequency charts and tables to explore the prevalence and distribution of smartphone addiction

among the HA students at DMCRI.

Use of mobile for more than 5 hrs a week was considered to be the mobile overuse syndrome and the factor for mobile addiction.¹⁷

Results

A total of 119 students from three batches was chosen purposively for the research, out of which 119 (100%) students participated in the study.

In this study we found that 48.86% of paramedical students were addicted to smart phone as they were using their smart phone for more than 3 hours a day [From Table 1].

Table 1 Usage of mobile phone in a day

Duraton of Mobile Phone Use	Percentage(n)
Less than 30 min	3% (4)
More than 1 hr	16.8% (20)
2-3 hrs	29.4% (35)
More than 5hrs	48.86% (58)

51.2% of them were using their phone in the bathroom [Table 2], 48.7% of them were having difficulty in falling asleep, 66.4% had negative effect on work performance and 76.5% were using their smart phone while studying. [Table 2]

Table 2 Usage Patterns and Associated Effects

Smart Phone usage Patterns	% of participants
College absentees because of smart phone use	31.4%
Difficulty in falling asleep after using phone	48.7%
Use their phone in bathroom	51.2%
Negative effect on work performance	66.4%
Use their phone while eating	66.4%
Feel urge to use smart phone as soon as they awaken	71.4%
Use their smart phone while studying	76.5%

We also found various health hazards among paramedical students due to smart phone addiction. 13.4% suffered insomnia, 31.1% had headache, 26.1% felt irritation in the eyes and 22.7% faced dryness in eyes. [From Table 3]

Table 3 Health hazards of smart phone addiction

Health Hazards	Percent
Insomnia	13.4%
Dryness of eyes	22.7%
Irritation in eyes	26.1%
Headache	31.1%

Knowledge about smart phone usage and its health hazards among the study participants is shown in table 2 and table 3.

Discussion

The study at Devdaha Medical College revealed that 48.86% of paramedical students exhibited smartphone addiction, spending over five hours daily on their devices. Alarming, 51.2% admitted to using smartphones in private spaces like bathrooms. Additionally, 48.7% reported difficulty falling asleep after smartphone use, indicating potential sleep quality deterioration. Notably, 66.4% experienced reduced work performance due to smartphone addiction, while 76.5% used phones while studying, potentially hindering academic performance. Health hazards included insomnia (13.4%), headaches (31.1%), eye irritation (26.1%), and dry eyes (22.7%).

On similar study of Chitwan Medical college, more than 5h use of mobile phone is said to be “overuse” of smartphone, while our study suggests 48.86% of students uses phone for more than 5hours.¹⁷ On the other hand, it has been argued that mobile phones are popular among students because they provide an easy platform to increase their social communication¹. Yet it is also suggested that college students use more social networking sites to maintain existing friendships rather

than to make new friends.² Bianchi and Phillips³ reveal that the highest level of problematic mobile phone use is most found among youth.

Paramedicals usually provide emergency services secondary to doctors. Addiction among them and its adverse effects on performance can be a serious matter of concern. A similar study, titled “How addicted are newly admitted undergraduate medical students to smartphones? A cross-sectional study from Chitwan medical college, Nepal “was published in 2 March, 2020 among 250 undergraduate medical student’s smartphones over use was reported 42.8% (107/250).¹⁷ It appears that some students are able to accomplish tasks using smartphones at universities or classrooms, while in the case of other, the smartphone has become potential form of distraction.¹⁷ Even the visibility and mere presence of a smartphone that is connected to the internet attract the attention of students and many adults, thereby diverting their focus and/or attention in class.¹⁸ Mobile phone addiction can be characterized by symptoms like feeling uncomfortable and irritated when mobile phone is not accessible. In the present study, similar to study of Chitwan Medical College 2020¹⁷ postulated impulsive overuse of smartphone as probable cause of smartphone addiction.

Using smartphone for more than 5 hours a day during weekdays and self-perception of being addicted to smartphone were found to be correlated with smartphone addiction. This finding was milar to the one reported in Lebanon¹⁹. The present study reported smartphone overuse among 48.86% participants and its association with addiction came different than that of a study among medical students in Iran. The differences could have been a result of different sample population.²¹ This difference is also due to mobile phone penetration which is 123% as of statistics of 2014 which means that this factor also influence the mobile phone overuse participants.

In the current study, participants were asked to self-report the duration of their smartphone use, which may have been difficult for them to recall. This recall bias is one of the limitations of this study. Moreover, lack of validated questionnaire could as well have reported contrasting results but a rapid rise has been reported in recent studies with some studies among medical and paramedical students reporting addiction as high as 92%.²⁰ Anxiety of separation, and loneliness at the start of medical school could as well contribute to smartphone addiction and nomophobia. Similar findings have been reported from China and Lebanon.²⁰

Conclusion

Based on the findings presented above, it is possible to conclude that the increase in smartphone usage is currently a substantial cause for concern. Comparison with similar studies highlights the pervasive nature of smartphone addiction across different demographics, underlining the importance of addressing this issue comprehensively to safeguard student well-being and academic performance. The study's limitations, such as recall bias and the lack of a validated questionnaire, warrant consideration for future research endeavors aimed at further understanding and mitigating smartphone addiction among paramedical students.

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