

Assessment on Usage of Mobile Phone and Internet Dependency Among Medical Students

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ABSTRACT

Background: In the beginning, mobile phones were primarily utilized for communication, but now, Internet-enabled mobile phones have become an essential aspect of our everyday lives. One recurring concern involves mobile Internet dependency.

Methods: The cross-sectional study was done among under graduate medical students, studying in one of the private medical colleges of Chhattisgarh, India. Stratified random sampling was done and 200 participants were included for study. Nineteen dichotomous questions were used to assess mobile Internet dependency and mobile Internet usage index was calculated.

Results: More than 85% of students reported, an increase in both the time spent on the Internet and the frequency of Internet usage since acquiring their mobile device. 60% reported, their academic performance was negatively affected by the excessive time spent on their mobile device browsing the Internet. 61% of students experienced sleep disturbance at least once a week, 91.5% of students watched online videos on their mobile device weekly, 42.5% played games daily, 47% bought digital products monthly, 68.5% checked online accounts several times a day, 79.5% used their device for navigation and 63.5% checked real-time information daily. 61.5% students were moderately dependent and 14% were severely dependent on mobile Internet.

Conclusions: Students' dependency on mobile phones had raised concerns about potential addiction, which was affecting their academic performance negatively. It would be useful to advise the students about the controlled as well as proper usage of mobile phones.

Keywords: Internet, Mobile phone, Student.

INTRODUCTION

Approximately two decades ago, access to the Internet was predominantly confined to governmental institutions and specialized intellectual communities, such as scientists, engineers, and mathematicians. Similarly, mobile phones were largely unavailable to

the general public. Over time, however, both technologies have undergone rapid development and widespread dissemination, becoming integral tools utilized by a broad spectrum of the population for a variety of purposes. [1] This swift expansion of Internet and mobile communication

technologies has prompted critical discourse regarding their influence on individuals and society at large. While these advancements have yielded numerous benefits, they have also raised significant concerns, particularly around the growing dependence on Internet and mobile device usage.

Peter M. Yellowlees and Shayna Marks in their study pointed out that a predisposition to Internet dependency would be more likely in individuals with social anxiety or impulse control problems, among other issues. In simpler terms, some individuals might feel compelled to keep in touch with others through the Internet and could fear being isolated and disconnected from their friends if they don't stay connected online. [2] Excessive and inappropriate use of the Internet and mobile phones has been compared by clinicians and researchers to substance (alcoholism, nicotine) and behavior (pathological gambling) addiction (P. Mitchell, 2000). [3]

College students integrate mobile phones and the Internet into their everyday schedules. It becomes a regular aspect of their daily communication habits. The easy availability of mobile phones can significantly disrupt their focus and ability

to learn. This has also led to an increase in public health concerns due to various reported health issues among individuals of all ages. However, the access to e-textbooks and study materials through phones can greatly aid in studying (Abhishek Ghosh et al., 2016). [4] Considering all of these, this study was conducted to assess the usage of mobile phone and Internet dependency among medical students.

MATERIALS & METHODS

Study design: Cross-sectional study.

Study participants and setting: Under graduate medical students studying in one of the medical colleges of Chhattisgarh, India.

Study period: 15 March 2023 to 29 March 2023

Sample size: $Z \alpha/2^2 p (1-p)/d^2$

Z=Level of significance at 5% i.e.95%

confidence interval= 1.96

p=Prevalence of mobile Internet

dependency = 18.5 % [5]

d= Error of margin = 6%

n= 161(200)

Sampling method: Stratified Random Sampling was done and the total number of participants included were 200.

MBBS: I		MBBS: II		MBBS: III-I		MBBS: III-II	
Male	Female	Male	Female	Male	Female	Male	Female
25 students	25 students						
50 students		50 students		50 students		50 students	

Study tool: Nineteen dichotomous (yes/no) questions were used to assess usage and mobile Internet dependency among students. This questionnaire had four subsection like-excessive use, neglect of work and social life, lack of self-control, and use of mobile Internet for other reasons than calling.

Variables: Gender, education, frequency of Internet usage, time spent on mobile Internet, efforts to control stop using mobile Internet, feel depressed and isolated if Internet connectivity interrupted, classwork suffered because of mobile Internet, people complained about time spend on Internet etc. were the variables used.

Data collection, entry & analysis: Students were instructed to fill the questionnaire; after signing the consent form. Data entry was done in excel sheet. Analysis was done using statistical software SPSS version 21. Mobile Internet Usage Index (MIUI) used to measure the level of Mobile Internet Dependency (MID). The MIUI of every student was calculated by summing up the count of yes responses from 19 survey questions of MID. The lowest possible score was zero and the highest possible score was 19. Student answered yes sixteen times (80% of responses), he/she was classified as having severe mobile Internet dependency. [5]

Grade of Mobile Internet Dependency

Grade of MID↓	Mobile Internet Usage Index (MIUI)↓
Normal	00%-30%
Mild	>30%-<50%
Moderate	50%-<80%
Severe	80%-100%

RESULT

Table 1: Distribution of participants according to mobile Internet usage (excessive).

Questions	Response (Yes)
Do you feel that the amount of time spent on the Internet has increased since you got your mobile device?	90.5%
Do you feel the “frequency of Internet usage” has increased since you got your mobile device?	87.5%
At home, do you carry your mobile device into every room with you (even the restroom)?	51%
You receive a notification alert; do you immediately check your mobile device?	52%
Do you often go over your monthly data plan with your mobile device?	56%

Table 1 highlights that more than 85% of students reported an increase in both the time spent on the Internet and the frequency of Internet usage since acquiring their mobile device. Nearly half of the students reported, they brought their mobile device

with them to every room in their house (including the restroom). 52% checked right away when they got a notification. Fifty-six percent said they frequently exceed their monthly data limits on their mobile devices.

Table 2: Distribution of participants according to mobile Internet usage (neglect of work and social life).

Questions	Response (Yes)
Does your college work suffer from the amount of time you spend on the Internet with your mobile device?	60%
Have you ever accessed the Internet with your mobile device during a time you were asked not to (college, work, etc)?	77%
Do you find that you stay connected to the Internet with your mobile device longer than intended?	70%
Do you prefer communicating through your mobile device over face-to-face communication?	40%

Table 2 shows sixty percent student had reported, their academic performance was negatively affected by the excessive time spent on their mobile device browsing the Internet. Nearly 70% admitted to using their mobile device to access the Internet in places where they shouldn't and also

discovered that they end up staying connected to the Internet longer than planned. Forty percent indicated a preference for using their mobile device for communication rather than talking in person.

Table 3: Distribution of participants according to mobile Internet usage (lack of self-control).

Questions	Response (Yes)
Have you repeatedly made unsuccessful efforts to control, stop using the Internet connection with your mobile device?	55%
When your mobile device is not working properly to the Internet, do you feel depressed and isolated?	56.5%
Do others in your life complain about the amount of time you spend on the Internet with your mobile device?	44%
Do you lose sleep due to late night mobile device Internet activity at least once a week?	61%

Table 3 shows almost half (55%) of the students claimed to have tried multiple times without success to manage or quit using the Internet on their mobile device. In addition, 56.5% expressed feeling depressed and isolated when their mobile device isn't

connected to the Internet. Forty four percent said, to be criticized by others about the time they spent on mobile Internet. 61% of students experienced sleep disturbance at least once a week due to late-night mobile Internet usage.

Table 4: Distribution of participants according to mobile Internet usage (for other reasons than calling).

Questions	Response (Yes)
Do you watch online videos (YouTube, Netflix, TV Networks) on your mobile device at least once a week?	91.5%
Do you spend free time for playing games on your mobile device at least once a day?	42.5%
Do you purchase a digital product (music, video, app) with your mobile device at least once a month?	47%
Do you check your online accounts with your mobile device (email, social networking) at least several times a day?	68.5%
Do you have any experience using your mobile device as a navigational device instead of asking others for directions?	79.5%
Do you check for real time online information using your mobile device (Stock prices, sports scores or online auction) at least once a day?	63.5%

Table 4 shows most (91.5%) of the students watched online videos on their mobile device weekly, 42.5% played games daily, 47% bought digital products monthly,

68.5% checked online accounts several times a day, 79.5% used their device for navigation, and 63.5% checked real-time information daily.

Table 5: Distribution of participants according to severity of Mobile Internet Dependency.

Grade of MID↓	MIUI↓	Number (%)
Normal	00%-30%	05 (02.5)
Mild	>30%-<50%	44 (22)
Moderate	50%-<80%	123 (61.5)
Severe	80%-100%	28 (14)

Table 5 shows only 02.5% of students had a mobile Internet usage index of 30 or less (normal mobile Internet dependency). 22% of students showed mild mobile Internet dependency, with an index between 30 and 50, while 61.5% were moderately dependent and 14% were severely dependent on mobile Internet.

DISCUSSION

In our study more than 85% students said they feel that the amount of time spent on the Internet had increased since they got their mobile device and almost half of the students said at home, they carry their mobile device into every room with them. Faiza J.T. et al. [6] in their study reported more than half of the student admitted that their phone usage had increased overtime and 81.9% of students who need to take

their phone everywhere with them. In our study 61% lost their sleep due to late night mobile device Internet activity at least once a week, almost similar findings reported by Faiza J.T. et al., Gupta N. et al. and Sahin S. et al. in their studies. [6,7,8,] In this study 91.5% of the students watched online videos (YouTube, Netflix, TV Networks) on their mobile device at least once a week, Somipam R.S. et al. in their study reported 24.6% used Internet on their mobiles for social networking (Facebook, Twitter, WhatsApp, Instagram, etc.) regularly and Faiza J.T. et al. mentioned 61.1% used WhatsApp to communicate and socialize, followed by Instagram, Snapchat. In our study 42.5% spent free time for playing games on their mobile device, 39% reported by Faiza J.T. et al. and 15.9% reported by Somipam R.S. et al. [6,9] Faiza J.T. et al.

reported more than half of the students checked their phones frequently, whether to look up for the notifications or to replying to text messages. Similar finding observed in our study (students receive a notification alert; they immediately checked their mobile device). [6] In our study almost 55% said they have repeatedly made unsuccessful efforts to stop using the Internet connection with their mobile device and they also said when their mobile device is not working properly to the Internet, they felt depressed. Shin L.Y in his study reported 23.3% in US and 35.4% in Korea repeatedly made unsuccessful efforts to stop using the Internet connection with their mobile device and 38.2% in US and 53.2% in Korea said when their mobile device is not working properly to the Internet, they felt depressed. [5]

In our study only 02.5% students had mobile Internet dependency within normal limit where as 22% had mild, 61.5% had moderately and 14% had severe mobile Internet dependency respectively. Rahul B.D. et al., in their study reported 59.1 % were average users, 17.1 % were possible addicts, 0.3 % were addicts and 23.5 % were less than average Internet users. [10] Srijampana et al., in their study reported 23.2 % were less than average, 64.4 % were average, 11.8 % were possible addicts and 0.4 % were addicts mobile users. [11] Ghamari F. et al., in their study on Iranian students reported the overall prevalence of Internet addiction was 10.8% [12] and Siomos K.E. et al., in their study on Greek students reported the prevalence rate was 8.2%. [13] Saeed M. et al., in their study reported most of the participants had a mild Internet addiction and only 24.6% and 7.2% had moderate and severe addiction, respectively. [14] Nazila K.Z. et al., in their study reported the moderate Internet addiction was 23.8%. [15]

CONCLUSION

Regardless of whether or not we are addicted to mobile phones, this technology greatly influences our daily routine. People

of any gender and age can be at risk of developing addiction at some point, with symptoms that may vary in subtlety from person to person. In this study mild (22%), moderate (61.5%) and severe (14%) mobile Internet dependence observed. The availability of social media apps and the easy access to the Internet on mobile phone have increased their usage. To avoid these issues, it is important for academic institutions, families and media outlets to carry out educational programs that focus on appropriate usage of mobile phone and social media.

Declaration by Authors

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