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A study to evaluate mobile phone dependence among students of a medical teaching institute in Mumbai

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ABSTRACT

Background: Mobile phone use has become such a significant part of the life of medical students that they do not realize their level of dependence on their cell phones. It is therefore imperative to identify the threshold where mobile phones cross the line from being a helpful tool to becoming one that enslaves the users. They need to be made aware of the harmful effects of excessive use of mobile phones and counseled about ways to avoid it. This study aims to assess the prevalence and pattern of mobile phone dependence among medical students.

Methods: A cross sectional study was conducted among MBBS students of a medical teaching institute in Mumbai. A predesigned and pretested questionnaire (NMP-Q) was sent to all the students out of which 205 students responded and consented to participate in the study.

Results: Amongst all the study participants, 47.3% were males (97/205) and 52.7% were females (108/205). Mild Nomophobia was found in 19.04% students whereas 50.70% had moderate and 30.26% had severe Nomophobia. Amongst the males, 56.7% and 26.8% had moderate and severe Nomophobia, respectively while in females, moderate and severe Nomophobia was found to be 45.4% and 33.3%, respectively.

Conclusions: Mobile phone dependence is prevalent amongst medical students.

Keywords: Medical students, Mobile phone dependence, Nomophobia

INTRODUCTION

Mobile phones earlier used as a basic means of communication have now become integral to our daily lives. According to a report by the Telecom Regulatory Authority of India (TRAI) in 2018, there were 1,026.37 million active mobile users in India making it one of the largest mobile phone consumer markets in the world. This implies that we live in times where phones are no more a luxury but a necessity even for the common man.

Due to further technological advancement and the introduction of smartphones, users have access to the countless services it provides like camera, email, calculator, gaming, and easy access to social media.²

Although this seems to make our lives easier, the downside is the rising dependence on these gadgets. Acknowledging this, the UK Post Office coined a word called 'Nomophobia' in a study in 2010. It is a modern age problem which means 'the fear of being without a mobile phone.'

Majority of medical students use mobile phones as it gives them a sense of autonomy and keeps them in constant contact with their peers. But it also makes them susceptible to the adverse effects of its unregulated use. Addiction, attention deficit problems, sleep and posture disturbances, access to distracting and unwanted information, etc., are just the tip of the iceberg when it comes to listing the ill effects of cell phones.

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Studies suggest mobile phone use is significantly prevalent among young people. They need to be made aware of the harmful effects of excessive use of mobile phones and counseled about ways to avoid it and get back on track.

We cannot turn a blind eye to the benefits of mobile phones as they are unparalleled. At the same time, it is imperative to identify the threshold where mobile phones cross the line from being a helpful tool for being one that enslaves both the users and the society alike.

In light of these hassles and in locating the root cause of the problems posed by the usage of mobile phones and their effects, this cross-sectional study was conducted to find out the mobile phone involvement and dependence among medical students in a teaching institute in the city of Mumbai.

METHODS

A cross-sectional study was conducted among MBBS students of a medical teaching institute in Mumbai in June 2019. Medical students from different batches and those pursuing internship and having an active mobile data plan providing access to the Internet via the smart phone were included in the study after obtaining approval from Institutional Ethics Committee. Participation in the study was voluntary and confidentiality was maintained.

pre-designed, pre-tested and self-administered questionnaire designed on the lines of one developed by Yildirim, C. & Correia, A. (2015) was given to all the students.4 The questionnaire was modified according to the local conditions. 205 students responded and consented to participate in the study. The questionnaire consisted of three parts. The first part included demographic data like age, gender and age at which they started using mobile phones. The second part dealt with the anxiety and attitude towards mobile phone use while the third part assessed its academic and social impact. All questions were based on a seven-point Likert scale ranging from strongly disagree to strongly agree. The individual data thus obtained were then compiled, processed and analyzed. A cut-off limit of 20 was set for classifying an individual as a Nomophobe. Scores between 21-59 were said to have mild nomophobia while those between 60-99 and 100-140 represented moderate and severe nomophobia respectively.

The collected data was coded and entered into a Microsoft Excel worksheet. Categorical data was expressed as proportions. Central tendency of the continuous data was expressed in mean and median value, and dispersion of data was expressed in range and SD. Association between categorical data was checked by Pearson's Chi-square statistic. Statistical Package for the Social Sciences (SPSS) software (version 22.0) was used for analysis. The level of significance was set at p \leq 0.05.

RESULTS

Out of the 205 participants who responded to the questionnaire, 97 (47.3%) were males and 108 (52.7%) were females. Figure 1 shows the prevalence of nomophobia as per the NMP-Q scoring. It was found that 39) participants had mild level of nomophobia, majority of the study participants (50.7%) had moderate level of nomophobia, and 30.26% (62) of the participants had severe level of nomophobia. Table 1 shows the gender wise distribution of different levels of nomophobia among the participants. Severe nomophobia was seen among 26.8% (26) of the males and 33.3% (36) of the females. No statistically significant association was observed in relation to gender with nomophobia score.

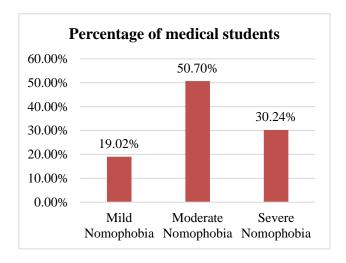


Figure 1: Levels of nomophobia among the medical students.

Table 1: Distribution of medical students based on the levels of nomophobia compared with their gender.

Levels of	Gender		Total (9/)
nomophobia	Male (%)	Female (%)	Total (%)
Mild	16 (16.5)	23 (21.3)	39 (19.04)
Moderate	55 (56.7)	49 (45.4)	104 (50.70)
Severe	26 (26.8)	36 (33.3)	62 (30.26)
Total	97 (100)	108 (100)	205 (100)
X ² =2.633, p>0.05			

The study revealed that the majority of participants were using mobile phones since the last 3-5 years (80.5%). About 108 (52.7%) participants used mobile phones for 2-3 hours per day with most of them (43.9%) checking their phones 20-50 times per day. Around 66 (32.2%) participants agreed and 9.7% students strongly agreed that they spend more than three hours on phone calls per day.

About 182 (88.7%) of participants agreed that they couldn't stay without their phone for more than a week. Also, 86.8% of the total participants use their phone to download or view educational material. There were 55.6% (116) participants agreed that they were distracted due to mobile phones while studying.

There were 54.1% (111) of the participants agreed and 13.2% (27) strongly agreed that they would feel anxious while running out of battery or out of signal on the phone. Physical symptoms like headache, eye strain, sleep disturbances, wrist and neck pain due to mobile phone usage were reported by 24.4% (50) of the participants and they were seen significantly more in those with severe nomophobia.

DISCUSSION

Studies suggest mobile phone use has become such a significant part of the life of these young medical students that it is almost "invisible" and they do not realize their level of dependence on their cell phones.

According to the present study, 19.04% of the study participants have mild nomophobia while 50.70% and 30.26% have moderate and severe nomophobia. This is in accordance with the study by Bajaj et al where 32.7% of the college students had severe level while 59.9% and 7.1% had moderate and mild level of nomophobia.⁵ Another study by Kumari et al found that 59.3% of undergraduate medical students had nomophobia and 15.4% had severe nomophobia.⁶ A study conducted by Kanmani et al on 1500 smartphone users, it was found that 41.6% participants had mild nomophobia, 42% participants had moderate nomophobia, 15.2% participants had severe nomophobia.⁷ The prevalence of moderate level nomophobia among medical students could be due to the dependence on phones to maintain contact with family and friends, and using it for educational purposes.

The study revealed that 26.8% of males and 33.3% of females have severe nomophobia but no statistically significant association was found between the gender and the level of nomophobia. This is supported by Dixit et al, who did not find a statistically significant association with respect to gender.⁸ Another study by Sethia et al revealed higher nomophobia among females as compared to males but the gender difference showed no statistical significance.⁹

Around 52.7% of the participants used mobile phones for 2-3 hours of the day. Similar proportions were found in studies by Chandak et al, Kumari et al and Li M et al where it was 46%, 48.2% and 50.8% respectively. 10,6,11 The increasing duration of mobile phone usage may be due to the multiple services a smartphone can provide which can be used in daily activities.

The study showed that 54.1% of the participants agreed while 13.2% strongly agreed that running out of battery or out of signal on their phones would make them anxious. A study from the United Kingdom by Katherin B in 2008 on 2163 people revealed that 53% of them tend

to be anxious when they lose their mobile phone, run out of battery or have no network coverage.³

There were 24.4% of the participants reported physical symptoms in the study. Chandak et al also found that 37% of medical postgraduates complained of physical symptoms. Another study by Jilisha et al showed that one-fourth of the participants had health problems due to mobile phone use. Prolonged screen time may lead to these physical symptoms of which headache and eye strain were highly reported amongst others.

According to the study, 55.6% of the participants felt distracted while studying due to mobile phones. This reveals they are well aware of the impact mobile phone usage could have on their academic activities. This needs to be addressed by creating awareness amongst medical students to ensure mindful use of mobile phones.

This study has several limitations. The study was done in a closed sample of students belonging to one particular medical teaching institute and therefore cannot be generalized to the general population. Moreover, the results of the study rely on the presumption that the students gave real responses to the self-administered questionnaire. Nomophobia was identified using a screening instrument which would not be a proper tool to estimate exact prevalence.

CONCLUSION

It was found that nomophobia is prevalent amongst medical students. The fine line between normal use and dependent behavior with respect to mobile phones is slowly fading out. Therefore, early intervention is necessary to curb nomophobia. There is a need to educate and create awareness amongst medical students about ill effects of excessive mobile phone use. The teaching institutes need to take required measures to provide counseling by trained professionals especially for students with physical and psychological complaints. Further studies should be conducted to analyze the perception of the population towards nomophobia so that necessary steps can be taken to tackle this upcoming problem.

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Institutional Ethics Committee

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