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Original Research Article

Prevalence of nomophobia and its ill effects among undergraduate medical students

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ABSTRACT

Background: Mobile phones, once designed solely for communication, have evolved into multifunctional devices that play a significant role in daily life. However, excessive usage has been linked to various physical and psychological issues, including nomophobia. Nomophobia is increasingly prevalent, particularly among young adults, including medical students who are frequent users of mobile phones for both academic and non-academic purposes. This study aims to explore the prevalence of nomophobia and its associated health effects among undergraduate medical students.

Methods: A descriptive cross-sectional study was conducted at government medical college, Latur, from December 2019 to February 2020. A total of 200 undergraduate MBBS students were included using purposive sampling. A pre-tested, self-administered questionnaire was used to assess socio-demographic factors, mobile phone usage, and health effects. Nomophobia was measured using test of mobile phone dependence (TMD) brief, and data was analyzed using descriptive and inferential statistics.

Results: The study found that 82% of students were classified as nomophobic. Nomophobia was significantly associated with the year of study, age, and frequency of mobile phone checking. The most common health issues reported were sleep disturbances (46%), eye strain (43%), and headaches (43%). Additionally, 20% reported poor academic performance, and 18% experienced anxiety. The primary purpose of mobile phone use was calling and texting, followed by music, with usage being most common when students were alone (66%).

Conclusions: The study highlights the high prevalence of nomophobia among medical students and its negative impact on physical and psychological health. Awareness about the potential health risks associated with excessive mobile phone use is crucial for promoting healthier usage habits.

Keywords: Nomophobia, Mobile phone dependence, Medical students, Psychological health, Health effects

INTRODUCTION

The utilization of technical knowledge has brought about numerous developmental changes worldwide, one of which is the widespread adoption of mobile phones. Today, mobile phones have become an essential part of daily life. Initially designed solely for communication, they have evolved into multifunctional devices due to advancements in applications, information access, and internet connectivity.[1] While mobile phones have made life more convenient-allowing communication from virtually anywhere-they are now also associated with increased usage and misuse. With their enhanced features, mobile phones are no longer limited to communication but are used extensively for entertainment, education, and social networking. However, this overuse has led to several physical and psychological problems, including social isolation, neck stiffness, headaches, addiction, attention deficit, and sleep disturbances.[2,3]

A recently recognized psychological issue associated with excessive mobile use is "ringxiety"-a condition where individuals perceive phone ringing or vibrations when

none have occurred, also known as phantom ringing.[4] Studies indicate that excessive mobile usage is linked to stress, depression, loneliness, and is emerging as a risk factor for mental health issues.[4]

According to the telecom regulatory authority of India (TRAI), the mobile phone subscriber base in India has reached approximately 1,154.59 million, making it the second-largest mobile phone market after China.[5,6] Globally, the world health organization (WHO) estimates that there are over five billion mobile phone users.[7] Despite their advantages, mobile phones are not without adverse effects. Their excessive use has been associated with a range of health concerns, and the WHO has categorized mobile phone dependence under "dependence syndrome" rather than using the term "addiction."[8,9]

The term "nomophobia"-short for "no mobile phone phobia"-was first coined in a 2008 study by the UK post Office, which examined anxieties associated with being out of mobile contact.[10] Nomophobia refers to the fear or anxiety experienced when an individual is unable to use their mobile phone due to loss of network, low battery, or lack of balance.[11,12] It can lead to impaired concentration and emotional distress. A primary contributor to mobile phone dependence, especially among youth, is the increased use of social media platforms. Teenagers and young adults are particularly vulnerable, spending significant time on these platforms and often losing touch with real-world interactions.[13]

Medical students, like other young adults, are frequent users of mobile phones. Their constant exposure to smart-phones-both for academic and non-academic purposes-places them at a higher risk for nomophobia and its associated health issues. Understanding the prevalence and impact of this condition among future healthcare professionals is essential for planning preventive strategies. Given the rising trend of mobile phone usage among young adults, particularly medical students, it is important to assess the prevalence of nomophobia and its associated health effects among undergraduate medical students.

METHODS

This was a descriptive cross-sectional study conducted at Vilasrao Deshmukh government medical college, Latur, during the period from December 2019 to February 2020. The study population included undergraduate MBBS students from the first, second-, and third-year part 1. A total of 200 students were selected using a purposive sampling technique, ensuring inclusion from all three academic years. Students aged 17 to 25 years who were using mobile phones and willing to participate were included in the study. Those who were absent during the study period, unwilling to participate, or who did not use mobile phones were excluded. Ethical clearance for the study was obtained from the institutional ethics committee before data collection began.

Data was collected using a pre-tested, self-administered, semi-structured questionnaire that gathered information on the socio-demographic profile, mobile phone usage patterns, and associated health effects. Students were approached in their respective lecture halls, informed about the study, and written consent was obtained. The participants were then provided with the questionnaire and were instructed to read carefully and respond honestly. Confidentiality of the responses was assured.

To assess nomophobia, the TMD brief, developed by Chóliz et al was used.[14] The tool consists of 12 items covering four factors relevant to the addictive process: abstinence, abuse, interference with other activities, and lack of control/tolerance. Each item was scored using a five-point Likert scale: 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree, and 5 for strongly agree. The minimum and maximum possible total scores were 12 and 60, respectively. Participants with a score greater than 30 were considered to be nomophobic.

RESULTS

In the present study, a total of 200 undergraduate MBBS students were assessed for nomophobia and its association with various socio-demographic and behavioral variables. Among males, 45% were found to be nomophobic compared to 37% of females, though this difference was not statistically significant (χ^2=0.465, p=0.495). A statistically significant association was observed between the year of study and nomophobia, with the highest prevalence among first-year students (30.5%), followed by third-year (27.5%) and second-year students (24%) (χ^2=10.524, p=0.005) (Table 1).

No significant association was found between family type and nomophobia (χ^2=1.738, p=0.419), though a slightly higher prevalence was noted in students from nuclear families. Residence status (hostel vs home) also did not show a significant relationship with nomophobia (χ^2=0.781, p=0.377). However, age was significantly associated with nomophobia; students aged 18-20 years reported a higher prevalence (44%) compared to those older than 20 years (38%) (χ^2=7.050, p=0.008) (Table 1).

Duration of mobile phone use showed a marginal association with nomophobia, with 70% of students using phones for less than 5 years being nomophobic, compared to 12% using for more than 5 years (χ^2=3.794, p=0.051). A highly significant association was found between the frequency of mobile checking and nomophobia, with 68.5% of nomophobic students checking their phones 2-30 times a day, and none among those checking more than 100 times daily were found to be non-nomophobic (χ^2=10.134, p=0.006). Although the amount of money spent monthly on mobile usage did not show a statistically significant association with nomophobia (χ^2=5.995, p=0.112), higher prevalence was observed among those spending between 101-200 Rs. per month (Table 1).

The most frequently reported issue was lack of sleep, experienced by 92 students (46%), followed closely by eye strain and headaches, each reported by 86 students (43%), indicating a significant impact on physical health. Poor academic performance was reported by 40 students (20%), suggesting that excessive mobile phone use may interfere with academic focus and outcomes. In terms of psychological effects, anxiety was noted by 36 students (18%). Additionally, 22 students (11%) reported weight gain, possibly due to decreased physical activity associated with prolonged phone usage.

These findings highlight the broad range of physical, psychological, and academic consequences linked to mobile phone overuse among medical students (Figure 1).

We also studied that for what purpose phones were used most and we found that most common purpose of using phone in our study was calling and SMS (86.5%) followed by listening music (78%) and least common used for checking mail and camera (Figure 2). It found that most common context of use was when they were alone (66%) followed by watching TV (40%) (Table 2).

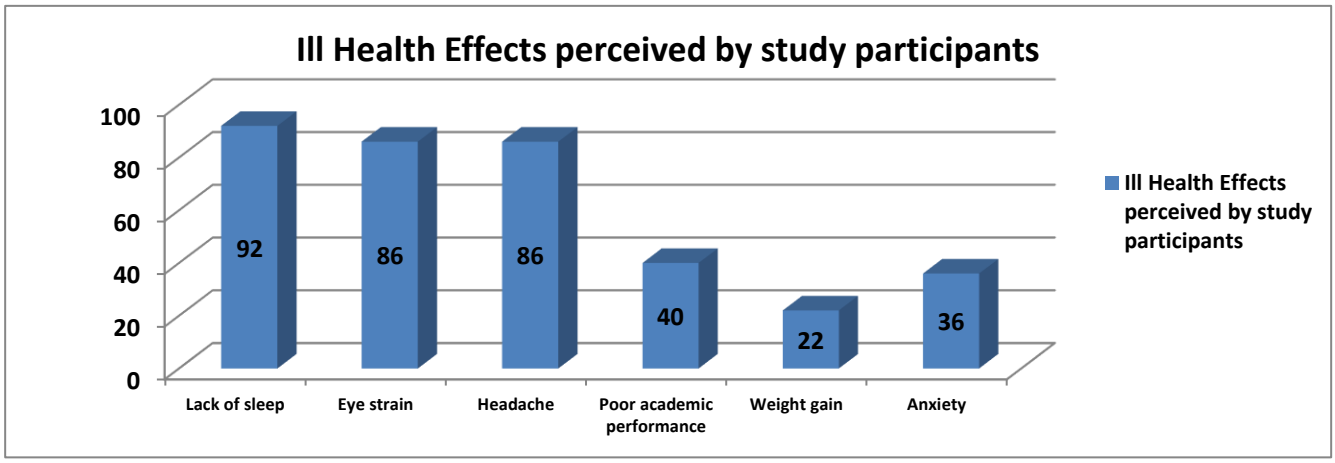

Figure 1: Ill health effect perceived by study participants due to mobile use (Multiple Ill health effect).

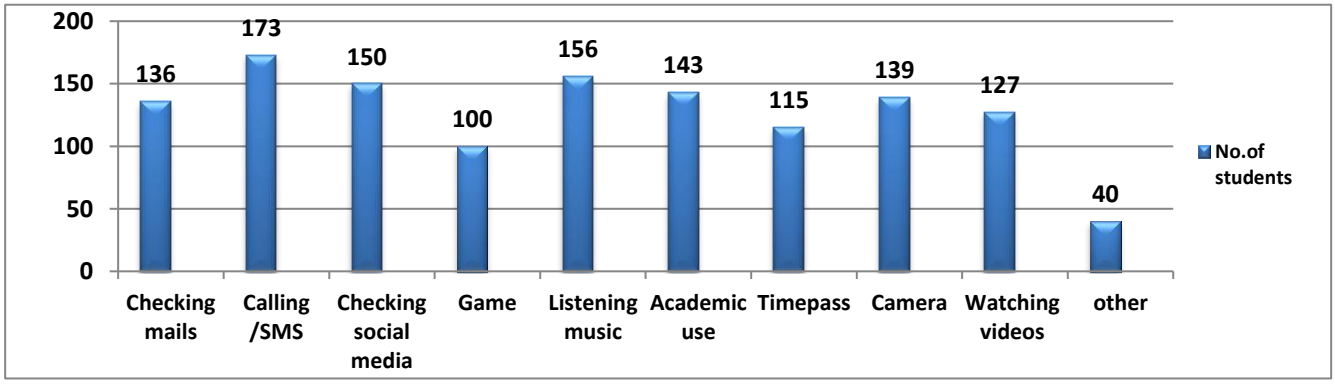

Figure 2: Distribution of study participants, according to purpose of using mobile phone.

Table 1: Distribution of study participants, according to socio-demographic details and prevalence of nomophobia.

Variables	Nomo +	Nomo-	Total	Chi square	P value
Gender					
Male	90 (45%)	22 (11%)	112	0.465	0.495
Female	74 (37%)	14 (7%)	88		
Year of stud					
1st	61 (30.5%)	24 (12%)	85	10.524	0.005
2nd	48 (24%)	6 (3%)	54		
3rd	55 (27.5%)	6 (3%)	61		
Family type					
Nuclear	105 (52.5%)	19 (9.5%)	124	1.738	0.419
Joint	50 (25%)	15 (7.5%)	65		
Three generation	9 (4.5%)	2 (1%)	11		

Continued.

Variables	Nomo +	Nomo-	Total	Chi square	P value
Residence					
Hostel	136 (68%)	32 (16%)	168	0.781	0.377
Home	28 (14%)	4 (2%)	32		
Age (in years)					
18-20	88 (44%)	28 (14%)	116	7.050	0.008
>20	76 (38%)	8 (4%)	84		
Duration of mobile use (in years)					
<5	140 (70%)	35 (17.5%)	175	3.794	0.051
>5	24 (12%)	1 (0.5)	25		
No. of times checking					
2-30	137 (68.5%)	26 (13%)	163	10.134	0.006
31-100	27 (13.5)	8 (4%)	35		
>100	0 (0%)	2 (1%)	2		
Money spent /month					
10-101	14 (7%)	7 (3.5)	21	5.995	0.112
101-200	98 (49%)	20 (10%)	118		
201-300	32 (16%)	3 (1.5)	35		
>300	20 (10%)	6 (3%)	26		

Table 2: Distribution of study participants, according to mobile phone usage across various activities.

Mobile phone usage across various activities	N (%)
At dinner time	53 (26.5)
During classroom	40 (20)
While driving	18 (9)
When alone	132 (66)
While walking	67 (33.5)
Talking to someone	76 (38)
Watching TV	80 (40)

DISCUSSION

In our study we found that 82% of students were nomophobic which is obviously very high and it was similar to study conducted by Domple et al in a study among undergraduate medical students of Nanded, prevalence was 82.1%.[12] And also study conducted by Vanita et al and Sharma et al found a prevalence of 71.39%, 73% respectively.[16,17] In contrast, study conducted by Masthi et al, Nikhita et al, Jilisha et al found prevalence of 67%, 31.33% and 23.5% respectively which may be due to different scale used and different study population.[8,18,19]

Study conducted by Madhusudhan et al found that prevalence of nomophobia was high among II phase students and study conducted by Dixit et al found III phase I part were high nomophobic.[2,22] In contrast our study found that prevalence was high in 1st year students. It may be due to difference in study participants numbers as in our study no. of 1st year students was higher than other year.

In our study age group 18-20 was highly nomophobic which was similar to study conducted by Dongre et al and Kumari et al.[13,20] It is observed that that lack of the sleep (46%) followed by eye strain and headache (43%) was most common ill effect felt by participant and this was similar to study conducted by Dongre et al and Vanita et al were also lack of sleep was most common ill effect felt by students.[13,16,20]

Our study could not find any association between family type and money spent but study done by Nikhita et al, Choudhary et al found significant association between them. Present study observed that most common purpose of mobile phone was for calling and SMS followed by listening music which was found to similar with study conducted by Jilisha et al but study done by Pavithra et al noted maximum use was for social networking.[3,8,19,21]

Limitations

Results of his study are based only on one medical college and also this study include small group of students which does not include general population so results cannot be generalized. Results also depend upon presumption that students have given real/true response so possibility of self-reported bias may be present.

CONCLUSION

Mobile phone dependence has become an emerging public health problem nowadays. This study shows prevalence of 82% which is rising concern and it is associated with negative effects like sleep disturbance, headache, effect on academic performance. So, there is need to create awareness about impact of mobile phone use.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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