

Original Research Article

Nomophobia and internet addiction among medical undergraduate students from a tertiary care teaching institute of Central India: a cross sectional study

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ABSTRACT

Background: The exponential rise in smartphone usage, particularly among students, has led to emerging psychological concerns such as internet addiction and nomophobia-defined as the fear of being without a mobile phone. These issues are especially relevant among medical undergraduates, who face academic stress and prolonged screen exposure, often in hostel settings away from family support. This study aims to determine the prevalence and determinants of nomophobia and internet addiction among undergraduate medical students at a tertiary care teaching institute in Central India.

Methods: A cross-sectional study was conducted in September 2024 among second-year undergraduate medical students. The nomophobia questionnaire (NMP-Q) and Young's internet addiction test (IAT) were used to assess nomophobia and internet addiction respectively. Statistical analysis was performed using descriptive statistics and Chi-square tests; a $p < 0.05$ was considered significant.

Results: Internet addiction was found in 63.6% of students, which is higher than previously reported Indian studies. Nomophobia was present in 99.2% of students; 75.2% had moderate, and 14.8% had severe levels. A positive correlation was observed between internet addiction and nomophobia. Students owning more than two electronic gadgets showed a higher risk of nomophobia.

Conclusions: There is a significant burden of internet addiction and nomophobia among medical undergraduates. Early identification and intervention through education, screening, and counselling are essential to prevent potential negative impacts on students mental health and academic performance.

Keywords: Nomophobia, Internet addiction, Medical undergraduates, Mental health, Digital habits, Health intervention

INTRODUCTION

Nowadays, using mobile phones and the internet is a regular part of daily life. What used to be a luxury is now something most people, especially young people, really need.¹ Fast-growing technology, along with the easy availability and low cost of smart devices, has greatly changed the way people interact, communicate, and live their daily lives.² Although these advancements have improved access to information and enhanced

connectivity, they have also created new problems, especially related to mental health.³

Two growing issues that have drawn significant attention are internet addiction and nomophobia. Internet addiction is characterized by an uncontrollable or excessive focus on using computers and the internet, which can cause emotional distress or interfere with daily functioning.⁴ Nomophobia, short for "no mobile phone phobia," refers to the fear or anxiety a person feels when they are unable

to access or use their mobile phone.⁵ These problems are particularly relevant in academic settings, where students depend greatly on digital devices for learning as well as for entertainment.⁶

Medical students, who frequently face intense academic pressure and have limited social interaction because of their demanding routines, may be especially vulnerable to these issues.⁷ As students rely more on digital tools for studying and communication, it becomes harder for them to manage their screen time in a balanced way, which can result in addictive habits and the mental health problems.^{8,9}

This research seeks to evaluate how common internet addiction and nomophobia are among medical undergraduates and to explore the sociodemographic and behavioural factors linked to their occurrence. Gaining insight into these trends is crucial for designing focused interventions and encouraging healthier digital usage in this at-risk group.¹⁰

METHODS

Study design

It was a cross-sectional study.

Study population

Second year medical undergraduate students were selected for study.

Study setting

Study carried out at Government Medical College, Nagpur.

Study period

Study conducted from September 2024 to October 2024.

Sampling technique

Universal sampling was used.

Sample size

Total 250 students were selected.

Inclusion criteria

Second year medical undergraduate students who have mobile phones were included.

Exclusion criteria

Those who did not give consent were excluded from study.

Data collection method

Data were collected via an online self-administered structured questionnaire prepared in English and distributed through social media platforms. The questionnaire was designed to determine sociodemographic details, information on The Youngs internet addiction was used to assess internet addiction levels and NMP-Q was used to assess the level of nomophobia. The survey was administered via an online platform to enhance accessibility and participation.

Statistical analyses

The collected data was entered in Microsoft Excel sheet and analyzed using STATA14 software. The data analysis included descriptive statistics, such as frequencies and percentages, along with analytical statistical methods. Chi-square test was done to analyse the data. A p value of less than 0.05 was considered statistically significant.

RESULTS

Table 1 summarizes the sociodemographic profile of the 250 medical undergraduate participants. A significant portion of the study population consisted of hostel residents, which likely contributed to frequent mobile phone usage for communication and entertainment. The data showed that most participants owned smartphones, and a notable proportion possessed more than two electronic gadgets 35.6%, suggesting a higher tendency toward device dependency. The mean age of participants was around 20 years, with a majority reporting daily sleep duration of ≤ 7 hours 60.4%, which may be indicative of screen-time interference with rest.

Table 2 presents the behavioural determinants linked to nomophobia among the students. A high number of participants 82.8% reported using their smartphones for more than 4 hours daily. The majority checked their phones more than 20 times per day 65.2%, with 68.0% admitting to checking their phones immediately after waking up in the morning. Additionally, 56.8% used their phones predominantly during non-leisure times (e.g., before bed, during meals, or at college), all of which showed statistically significant associations with higher nomophobia levels. These patterns reflect compulsive usage behaviours that contribute to digital dependency.

Figure 1 and 2 categorizes the severity of nomophobia and the prevalence of internet addiction based on validated assessment tools. Out of the total participants, internet addiction was present in 63.6% of students. Nomophobia was nearly universal, with 99.2% of students demonstrating some degree of nomophobia. Specifically, mild nomophobia was found in 9.2%, moderate nomophobia in 75.2%, and severe nomophobia in 14.8%. These findings suggest that while most students experience at least a moderate level of discomfort when not using their mobile phones, a substantial proportion are

at risk of serious psychological impact due to excessive reliance on mobile connectivity. It shows students who

were internet-addicted 63.6% were also more likely to fall into the moderate/ severe nomophobia categories 90.0%.

Table 1: Distribution according to socio-demographic characteristics of study participants, (n=250).

Variables		Total	Percentage (%)
Age (in years)	<20	64	25.6
	≥20	186	74.4
Sex	Male	131	52.4
	Female	119	47.6
Place of stay	Home	39	15.6
	Hostel	188	75.2
	Other	23	9.2
Number of gadgets	<2	106	42.4
	≥ 2	144	57.6

Table 2: Distribution of study participants according to determinants of nomophobia.

Variables		Nomophobia		Chi square value	P value
		Present, (n=225)	Absent, (n=50)		
Sex	Male	114	17	2.71	0.99
	Female	111	8		
Place of stay	Hostel	171	17	7.83	0.019
	Home	37	2		
	Other	17	6		
Internet addiction	Present	155	4	27.185	0.00001
	Absent	70	21		
Number of gadgets present	<2	100	6	3.85	0.049
	≥2	125	19		

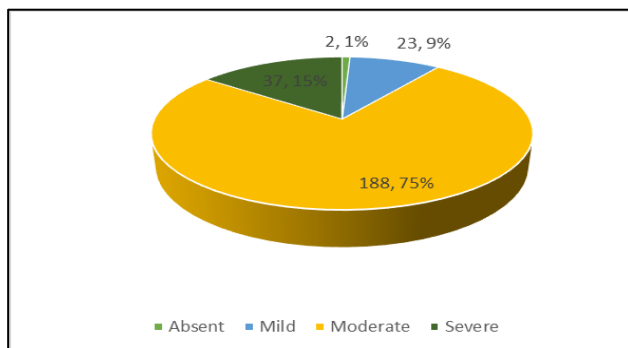


Figure 1: Distribution of study participants according to level of nomophobia.

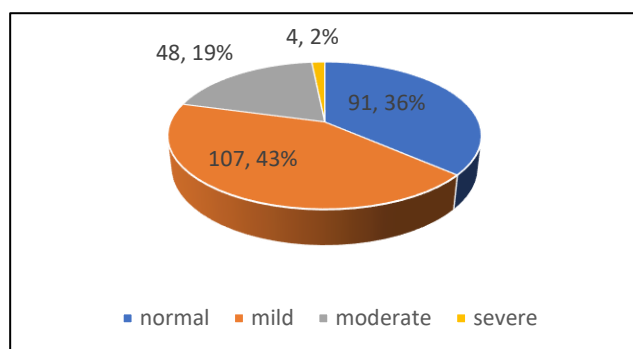


Figure 2: Distribution of study participants according to level of internet addiction.

DISCUSSION

The present study assessed the prevalence and behavioural correlates of nomophobia and internet addiction among 250 medical undergraduate students in a tertiary care teaching institute in Central India. The findings highlight a high burden of these digital dependencies, with 99.2% of students experiencing some degree of nomophobia and 63.6% meeting criteria for internet addiction. These values are consistent with the rising global and national trends reported in similar populations.

A large proportion of participants were hostel residents, aligning with findings from Dixit et al who noted increased mobile phone dependence among medical students living away from family due to reduce in-person social interaction and higher reliance on digital communication tools.¹⁰ The average daily screen time exceeding 4 hours in over 80% of participants is also consistent with data from Gupta et al who observed similar excessive mobile usage patterns in their study on nomophobia among Indian medical students.⁸

The universal smartphone ownership and multiple device possession found in this study (35.6% owning more than two gadgets) point to increasing digital integration in students lifestyles. Such digital saturation has been previously linked with elevated risk of behavioural addiction, as shown in the work by Davey and Davey,

where Indian adolescents with higher screen exposure reported greater smartphone addiction scores.⁹

The prevalence of moderate to severe nomophobia (90.0%) among internet-addicted students is particularly alarming and mirrors the pattern observed in international studies, such as that by Yildirim and Correia, who emphasized the strong association between high smartphone use and psychological dependency.¹¹ Additionally, compulsive behaviours like checking phones more than 20 times a day (65.2%) and immediately upon waking (68.0%) reflect patterns seen in Kaur et al where similar behaviours were predictive of higher nomophobia levels.¹²

The study also revealed that 60.4% of participants reported sleeping ≤ 7 hours daily, suggesting that excessive screen time may be adversely affecting rest. This finding aligns with Kumar et al who found that internet-addicted students were more likely to report poor sleep quality and reduced sleep duration.⁷ Sleep disruption due to nocturnal screen use has been well-documented in literature as a risk factor for poor academic performance and mental health concerns among students.¹³ Similarly, moderate-to-severe nomophobia was independently associated with increased screen time, impaired academic performance, early morning phone-checking behaviour, and the presence of internet addiction in a study conducted by Rao et al.¹⁴

The high co-occurrence of internet addiction and nomophobia (with 90% of internet-addicted students also falling into moderate/severe nomophobia categories) suggests a strong overlap between these digital disorders. This reinforces the notion that internet addiction and nomophobia are interlinked phenomena, both manifestations of compulsive digital device use, as discussed by Sharma et al in their study on psychological comorbidities associated with digital overuse.¹⁵

These findings emphasize the urgent need for interventions targeting digital literacy, time management, and mental health awareness in medical education. Educational institutions should consider integrating counselling services, screen-time reduction programs, and awareness campaigns to promote healthier technology use habits and reduce psychological distress linked to digital dependency.

However, certain limitations should be acknowledged. Firstly, the study was conducted in a single tertiary care institution, which may limit the generalizability of the findings to other settings or student populations. Secondly, data were collected through a self-administered online questionnaire, which is subject to recall bias and social desirability bias. Participants may have underreported or overestimated their screen time or behavioural patterns. Thirdly, the cross-sectional design precludes the establishment of causal relationships between risk factors and outcomes. Finally, while

validated tools such as the NMP-Q and Youngs IAT were used, qualitative insights into underlying psychological factors were not explored.

CONCLUSION

The study highlights a substantial burden of digital dependency among medical undergraduates in Central India. Nearly two-thirds (63.6%) of students were found to be internet-addicted, while an overwhelming 99.2% exhibited nomophobia, with the majority falling into moderate (75.2%) and severe (14.8%) categories. Key behavioural determinants included increased screen time, frequent phone checking, and use of mobile phones during non-leisure periods. A significant positive correlation was observed between internet addiction and nomophobia, suggesting these conditions often coexist and reinforce one another. Given the psychological and academic risks associated with excessive mobile use, these findings emphasize the need for immediate attention to digital wellness among medical students.

Recommendations

Educational institutions should raise awareness about internet addiction and nomophobia during student orientation. Regular screening and early identification using validated tools should be implemented. Counselling support must be made available for affected students. Policies limiting non-academic mobile use and promoting digital discipline should be enforced to safeguard students' mental well-being.

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

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