



Original Research Article

Internet Addiction Among Undergraduate Medical Students: A Growing Behavioral Health Threat

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ABSTRACT

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Received: 20-02-2026

Accepted: 05-06-2026

Published: 22-06-2026

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Medical and Pharmaceutical Research

Background: The rapid expansion of internet technology has transformed communication, education, and daily activities worldwide. Although the internet is an important academic resource for medical students, excessive and poorly controlled use may lead to Internet Addiction (IA), which can negatively affect psychological well-being, academic performance, and social functioning.

Objectives: To determine the prevalence of Internet Addiction among undergraduate medical students and to study its association with selected demographic variables.

Methods: A descriptive cross-sectional study was conducted among 284 undergraduate medical students across different semesters who consented to participate. Data were collected using a semi-structured proforma for demographic details and Young's Internet Addiction Test (IAT), a validated 20-item questionnaire assessing the impact of internet use on daily life, productivity, sleep, and emotional well-being. Incomplete responses were excluded. Data were tabulated in Microsoft Excel and analyzed using SPSS to determine prevalence and statistical associations.

Results: Among the participants, 59.2% were categorized as having no risk of internet addiction, while 32.33% had low risk. High risk was observed in 4.6% of students, and 3.86% met the criteria for internet addiction. Significant associations were found with demographic variables such as family visits, primary language spoken, alcohol use, and academic internet usage ($p < 0.05$).

Conclusion: Internet Addiction is an emerging behavioural concern among medical students. Early identification, awareness programs, and promotion of healthy digital practices are necessary to prevent potential academic and psychosocial consequences.

Keywords: Internet Addiction; Medical Students; Young's Internet Addiction Test; Behavioural Addiction.

INTRODUCTION

Focusing on the profoundness, yet isolating impact of digital technology and information on human habits, British journalist Andrew Brown quips – “Internet is so vast, powerful and often pointless that it acts as a substitute for life in some people”.

Through nuanced studies on the habit of internet users, scientists have tried to decipher the psychological impact of the digital means, which over a short span of time has threatened to propel the human existence from its physical realities; much so, that internet use although desired as a part of our existence, often can become problematic, tantamounting to a state of addiction widely known as internet addiction.

Internet addiction can be defined as “excessive and poorly controlled impulses and urges, along with a sense of preoccupation in terms of internet access leading to impairment of functioning and perceived distress.”^[1]

Internet use has revolutionized the world over the past few decades with the 21st century seeing an explosive growth in internet use across the world. This environment has led to a sea of enhanced opportunities in the field of education, communication, banking, businesses, healthcare and social interaction.^[2]; however uncontrolled use and overdependence on internet can result in maladaptive behavior.^[3]

Researchers have arrived at a conclusion that 73% students from colleges globally resorted to internet use, daily at least once, spending 1.5-4.5 hours or more in a day online, preferably during night hours.^[4,5]

Egle et. al., demonstrated that 58% of medical students preferred electronic resource utilizing various sites and online information related to medical studies.^[6]; A further study revealed that prevalence of IA in medical students as 18.5% of which 17.3% were moderately addicted and 1.2% severely addicted.^[7]

The underlying mechanism of IA is not clearly understood. Some studies have described IA similar to behavioral addiction like gambling and others; while some studies conceptualized it as an impulse control disorder^[8]. Neural pathway involved may be similar to other addiction related disorders.^[9]

IA faces a diagnostic challenge as DSM-5 does not qualify it discretely as a diagnostic entity, however it recognizes over use of internet as “Internet gaming Disorder”. Further it may be noted that IA may be associated with a varied, psychiatric diagnoses.^[10]

With a focus to understand the darker side of internet use and interpret its addictive underbelly as a disease desirous of standard diagnostic recognition and treatment plans apart from its preventive aspects is the endeavor of our study.

Aims and Objectives:

- Prevalence of Internet Addiction in a cohort sample of undergraduate medical students.
- Study of demographic variables with Internet Addiction in undergraduate medical students.

MATERIAL AND METHODS:

This was a descriptive and cross-sectional study, using undergraduate medical students as substrate. The sample size was **284** with inclusion criteria being students across different semesters willing to participate and incomplete respondents to the questionnaire were excluded. Materials used were semi-structured proforma for demographic variables and Young’s Internet Addiction Test (IAT). This definitive questionnaire has 20 items assessing the extent to which internet use affects daily life, social life, productivity, sleep and individual’s feelings.^[11-14] The validity of IAT has shown strong internal consistency ($\alpha = 0.90 - 0.93$) and good test-retest reliability ($\gamma = 0.85$)^[15-20]

Method – After taking informed consents the participants were instructed how to fill the proforma and the scale, objectively and honestly without consulting one another. The collected data was tabulated in excel format and subjected to statistical analysis using SPSS, and the results discussed, in reference to similar and related studies done ad per literature reviewed, basis which conclusive insights were gathered.

The research articles for review were gathered through ‘Google Search’, using primary keywords, “Internet Addiction” and “Medical Students”. Cross references were sought for further exploration. Web resource citation, citing the author, title of journal, page, date and web address (where possible) were enlisted as references.

RESULTS:

Table 1. shows the internet addiction scores in various domains of the IAT questionnaire, wherein those with no risk and those with rare use were considered as having no risk (59.205%); those with occasional and frequent use were considered as having a risk of internet addiction, which was low (32.33%); 4.6% were at high risk and 3.865% were truly addicted. Table 2. depicts the correlation of internet addiction with demographic variables of the participants; those who had family members visiting, language, alcohol use and those who used internet for academic use had P-value of <0.05 which is statistically significant.

IAT scores (Young’s Internet Addiction Test)

IAT SCORES									
S/N	Activity	No risk			Low risk			High risk	Addicted
		Total (i+ii)	Not applicable (i)	Rare (ii)	Total (iii+iv)	Occasional (iii)	Frequently (iv)	Often (v)	Always (vi)
1	Stayed online longer than intended	23.1	4.3	18.8	61.7	32.6	29.1	8.5	6.7
2	Neglect of house chores for internet	46.9	16.7	30.2	43.6	28.4	15.2	5.7	3.8
3	Preference of internet excitement to intimacy with partners	84.9	67.5	17.4	10.8	7.9	2.9	1.8	2.5
4	Formed new relationship with fellow online users	86.2	56.3	29.9	10.3	8.2	2.1	1.4	2.1
5	Others in life complained about amount of time on net.	65	27.5	37.5	30	18.6	11.4	3.9	1.1
6	Grades suffered because of time spent on net	60.5	14.9	45.6	32.4	22.4	10	3.2	3.9
7	Checked email before something else to be done	72.2	30	42.2	24.2	17.1	7.1	2.5	1.1
8	Job productivity suffered because of net	58.8	16.4	42.4	35.9	24.9	11	3.9	1.4
9	Became defensive / secretive when asked what they did online.	64.1	24.2	39.9	29.2	22.4	6.8	2.8	3.9
10	Blocked disturbing life thoughts c soothing thoughts of internet	40.7	16.8	23.9	46.8	27.5	19.3	7.1	5.4
11	Found self anticipating when to go online again	59.5	20.1	39.4	33	23.3	9.7	3.6	3.9
12	Life without net is boring, empty joyless	50.4	24.1	26.3	31.9	20.6	11.3	9.4	8.3
13	Snap, yell, annoyed if bothered by someone while online.	73	29.9	43.1	23.1	15.3	7.8	2.1	1.8
14	Lose out on sleep due to being online	53.3	22.1	31.2	37.8	23.9	13.9	4.3	4.6
15	Preoccupied with internet when offline or fantasized being online	69.4	29.3	40.1	26.2	20.1	6.1	2.2	2.2
16	Said "just a few minutes more" when online	40.7	12.9	27.8	40.8	22.9	17.9	11.4	7.1
17	Tried to cut online time, but failed	38.7	16.1	22.6	46.6	29	17.6	9	5.7
18	Tried to hide how long been online	67.7	27.8	39.9	24.5	15.2	9.3	2.8	5
19	Spent more time online over going out with others	59.5	24.3	35.2	31.6	23.1	8.5	5	3.9
20	Felt depressed, moody, nervous when offline, felt better when back online	69.5	29.6	39.9	26.2	18.3	7.9	1.4	2.9
TOTALS OF AVERAGES		59.205	25.54	33.665	32.33	21.085	11.245	4.6	3.865

Table 1. Correlation of Internet Addiction with Demographic Variables

Variable	Pearson Correlation Coefficient	Significance
Age	0.658	Not Significant
Sex	0.158	Not Significant
Rural/Urban	0.739	Not Significant
Annual Income	0.849	Not Significant
12th std/Graduation	0.08	Not Significant
Medium of education	0.449	Not Significant
Semester	0.488	Not Significant
Fail status	0.732	Not Significant
Hobbies	0.898	Not Significant
Siblings	0.4	Not Significant
Hierarchy in siblings	0.577	Not Significant
Hostel stay	0.877	Not Significant
Family visiting	0.035	SIGNIFICANT
Visits to home	0.519	SIGNIFICANT
Main language	0.031	Not Significant
Romantic relationship	0.697	Not Significant
Having Friends	0.244	Not Significant
Alcohol use	0.011	SIGNIFICANT
Smoking	0.163	Not Significant
Academic use	0.03	SIGNIFICANT
Entertainment purpose	0.649	Not Significant

Table 2.

DISCUSSION:

We live in a fast-paced world where technology impacts every aspect of one's life. Immense reliance on technology has catapulted us into an environment of digital possibilities, whereby this digital environment has become a proxy of our physical environment. Internet is an important tool and we can't do away with it, however we need to understand the evils hidden in its goodness, which at times tends to enslave us in the form of internet addiction.

A 2016 study reported that the number of internet users increased by one thousand-fold over the last 15 years. Its overuse, qualifying it as IA, also proliferated over the same period, affecting more younger age groups⁽³⁾. Health professionals are depending heavily on technology for education, as well as clinical care, with internet being used for social media, email

and online record keeping ^(6,21). As mentioned earlier Egle et. al. in 2015 noted that 58% of medical students use websites and online resources for academic information ⁽⁶⁾, a study done in turkey revealed 0.8% of UG students qualifying as being addicted to internet and 5.2% high risk users ⁽⁷⁾. Compared to this, some Indian studies have revealed higher rates of internet addiction and high-risk use in their respective studies.

Our study shows that while 59.205% were at no risk; 32.33% had low risk; 4.6 had high risk and 3.865% actually had IA. These findings are closer to international studies as compared to Indian studies, wherein, IA was found to be 59% in one study ⁽²²⁾ and 70.6% in another. ⁽²³⁾

In our study, correlation of internet addiction with demographic variables was found to be significant in students having family members visiting hostel frequently (Pearson chi-square =0.035), main language spoken (Pearson chi-square = 0.031), alcohol use (Pearson chi-square = 0.011), and academic use (Pearson chi-square = 0.030) [refer table 2].

CONCLUSION:

Through the insights gathered from our study and the review of the literatures pertaining to IA, especially in youth including those exposed to mandatory internet use such as medical students; we conclude that : i) there is a need to explicitly define internet addiction as a separate diagnostic entity from a nosologically perspective and ; ii) there is a need to understand its biological , psychological and social nuances through more researches.

One must realize that internet is tool of great application, hence one needs to have the prudence to use it in a manner befitting its usefulness, hence educative initiatives with an aim to promote digital health and hygiene should be undertaken, especially in the younger population. Further the reality of IA ought to be realized and diagnosed early and treatment measures should be initiated to prevent functional, social and personal distress.

Further one must also understand the inherent flux evident in the digital environment and keep pace with this flux, in a manner which is scientific, objective and universal; bearing in the mind the geographics and cultures.

Limitations:

Our sample represents a narrow cohort within a single medical institution with a limited geographical representation; this limitation can be mitigated through a multicentered study panning across a wider geography. A small sample size is another limitation factor to be considered.

Conflict of interest:

There are no conflicts of interest including financial support and sponsorship.

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