

Original Research Article

A cross-sectional study on internet addiction among medical students

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ABSTRACT

Background: Proliferation of the internet has provided better opportunities for communication, information and social interaction. The excessive undisciplined use by individuals has led to the emergence of the concept of internet addiction. Psychological and environmental factors in the lives of college students may leave them disproportionately vulnerable to Internet addiction. The main objective of this study was to measure prevalence of internet addiction and the usage pattern among undergraduate medical students.

Methods: The present cross-sectional study was carried out among 95 undergraduate students of II MBBS, selected by simple random sampling, in Kurnool Medical College, Kurnool, Andhra Pradesh, from January to February, 2016. A 20 item Young's Internet Addiction test which is a Likert scale based interview schedule was used to measure the prevalence of internet addiction. Data was entered in MS Excel 2007 and analyzed. Chisquare test was applied and p value <0.05 considered significant.

Results: Among the 95 study subjects, 62.2% were males and 37.8% were females. Males were more addicted to internet than females. The prevalence of internet addiction among the study subjects in the present study was 52.63% mild, 24.21% moderate, while 23.16% students reported normal internet usage. It was found that severity of internet addiction is inversely proportional to academic performance.

Conclusions: Internet addiction is a growing health problem among medical students, hence necessary preventive and therapeutic interventions are vital to promote healthy and safe usage of Internet.

Keywords: Internet addiction, Medical students

INTRODUCTION

Over the last 25 years, use of internet and social media has increased tremendously, especially in younger age groups across the globe. In India, there were approximately 7 million (2001) internet users, 40 million during 2006 that is expected to rise to 700 million by the year 2019.¹ India stood third in the ranking of internet users just behind China and America with the growth of 14% from the previous years and share 8.33% of world's internet users with penetration of 19.19%.² Internet now has emerged as two-edged sword, beneficial in

acquisition, updating and sharing of knowledge on the one hand and on the other hand may lead to habituation, addiction and adverse academic, mental, physical and social effects.³⁻⁹

There have been growing concerns worldwide for what has been labeled as "internet addiction". The term "internet addiction" was proposed by Dr. Ivan Goldberg in 1995 for pathological compulsive internet use.¹⁰ "Addiction" has generally been associated with substance use. However, with internet access becoming widespread, problematic internet use is increasingly being reported. It

has been suggested that excessive internet use could represent addictive behavior with mental health implications.¹¹⁻¹³ In fact, younger internet users were more at risk of becoming internet addicts than older users.¹⁴ Psychological and environmental factors in the lives of college students may leave them disproportionately vulnerable to Internet addiction.^{15,16}

Internet usage, both by broadband and mobile users, has increased in India and abroad. The university campuses are being made wireless with free and unlimited access to the internet. Many online courses are now available for the medical students interested in pursuing such courses, to add to their credentials. Due to the various applications of worldwide web in all walks of daily life, the undergraduate medical students become susceptible to internet addiction. A number of studies across the world have studied internet addiction especially among adolescents. Research specifically on internet addiction among young adults in health care system, is relatively new and limited. The present study was a humble attempt to measure the prevalence of internet addiction among undergraduate medical students so that preventive and therapeutic interventions can be recommended.

METHODS

The present cross-sectional study was carried out among II MBBS undergraduate students, Kurnool Medical College, Kurnool, Andhra Pradesh. Institutional ethical committee clearance was obtained. The study period was from January to February, 2016.

Mashaei N et al reported a prevalence of mild internet addiction of 51.30% in their study.¹⁷ A sample size of 95 was calculated by considering the prevalence of mild internet addiction of 51.30% (p), with an allowable error of 20% of p (l) and Z=1.96 (95% level of confidence). The study participants were selected according to the inclusion and exclusion criteria, by simple random sampling by using the table of random numbers.

Inclusion criteria

- II MBBS Undergraduate Medical students
- History of using internet for the past 1-year or more.
- Willing to give consent

Exclusion criteria

- Not using internet or a history of using internet for less than a year
- Not willing to give valid consent.

The data was collected by using Kimberly Young questionnaire. The rationale behind applying the Internet Addiction Test (IAT) by Kimberly Young in this study was that it is a validated instrument to assess internet addiction among adolescent and adult populations.¹⁸ The

IAT is a 20 item, 6 point Likert scale with scores ranging from 0 to 5 for each item, which measures the severity of self-reported compulsive use of the internet. After all the questions have been answered, numbers for each response were added to obtain a final score. Total internet addiction scores were calculated, with possible scores for the sum of 20 items ranging from 0 to 100. Higher the score, greater the level of internet addiction and the problems internet usage causes. A score of 0-19 was considered as no addiction/normal internet usage, 20-49 points as mild addiction, 50-79 as moderate addiction and 80-100 as severe addiction.¹⁹⁻²¹

After checking for completeness of data, the responses were entered in MS Excel 2007 and subjected to descriptive and inferential statistical analysis. The difference in the patterns of internet usage among males and females was analyzed using Chi-square test. p value <0.05 was considered statistically significant.

RESULTS

Out of the 95 study subjects, 59 (62.2%) were males and 36 (37.8%) students were females (Table 1). It was found that 73 (76.84%) reported internet addiction and 22 (23.16%) reported normal internet usage. The internet addiction test scores revealed 22 (23.16%) in the score range of 0-19 i.e. no addiction, hence normal users, 50 (52.63%) in the score range of 20-49 i.e. mild internet addiction and 23 (24.21%) in the score range of 50-79 i.e. moderate internet addiction and none of the study subjects reported severe addiction i.e. with a score range of 80-100 (Table 2). Hence the prevalence of internet addiction among the study subjects in the present study was 52.63% mild, 24.21% moderate, while 23.16% students reported normal internet usage. Severe internet addiction was not reported among the study participants. Among the study population, 72 (75.79%) had a low risk (score \leq 49 points) while only 23 (24.21%) had a higher risk (score \geq 50 points) for internet addiction.

Table 1: Gender wise distribution of study participants.

Gender	Frequency	Percentage
Male	59	62.2
Female	36	37.8
Total	95	100

It was observed that there was a difference in the presence of internet addiction between males and females. Chi square test was applied as a test of proportions and it was found to be statistically significant, with males being addicted to the internet more than the females ($\chi^2=5.47$, $P<0.05$) (Table 2).

A statistically significant difference was found between male and female study subjects regarding the following

patterns of internet usage. As compared to females, males found using internet better than going out with friends/family at leisure time ($\chi^2=5.4208$, $p=0.01$), felt preoccupied with internet ($\chi^2=7.6334$, $p=0.005$) and depressed when offline ($\chi^2=6.4136$, $p=0.0$), felt annoyed

when anyone interrupted while online ($\chi^2=6.1488$, $p=0.01$) however, there was no significant difference regarding fear of life getting bored without internet ($\chi^2=0.1136$, $p>0.05$) (Table 3).

Table 2: Gender wise comparison of internet addiction scores.

Severity of addiction	Male N (%)	Female N (%)	Total N (%)
Normal (0-19)	9 (15.25)	13 (36.11)	22 (23.16)
Mild addiction (20 – 49)	31 (52.54)	19 (52.78)	50(52.63)
Moderate addiction (50 – 79)	19 (32.21)	4 (11.11)	23 (24.21)
Severe addiction (80-100)	0	0	0
Total	59 (100)	36 (100)	95 (100)

Table 3: Comparison between behavior aspects of internet users by gender.

Characteristics	Response	Gender		Value of χ^2	p value
		M	F		
Fear of life getting bored without internet	Yes	20	11	$\chi^2=0.1136$	$p > 0.05$, not significant
	No	39	25		
Using internet is better than going out with friends /family	Yes	19	4	$\chi^2=5.4208$	$p=0.01$ Significant
	No	40	32		
Feel preoccupied with internet when offline.	Yes	30	8	$\chi^2=7.6334$	$p=0.005$ Significant
	No	29	28		
Feel annoyed when anyone interrupts while on online	Yes	20	4	$\chi^2=6.1488$	$p=0.01$ Significant
	No	39	32		
Feeling depressed when offline	Yes	3	8	$\chi^2=6.4136$	$p=0.01$ Significant
	No	56	28		

The academic performance of students was reported to be good among those without internet addiction (36%) when compared to those with internet addiction (10%) and 13% without internet addiction reported below average performance whereas it was 20% among those with internet addiction. A statistically significant association was found between presence of internet addiction and adverse academic performance ($\chi^2=17.118$, $p<0.05$).

DISCUSSION

The present study was undertaken with the aim of measuring the prevalence, levels of internet addiction and the usage pattern among undergraduate medical students of Kurnool Medical College, Kurnool. The prevalence of internet addiction among the study subjects in the present study was 52.63% mild, 24.21% moderate, while 23.16% students reported normal internet usage. Severe internet addiction was not reported among the study participants. In another similar study in China, a prevalence of 16.2% was reported.²² Naffise Mashaei et al observed the prevalence of internet addiction in students of Rafsanjan University of Medical Sciences, Iran, as 51.3% mild, 5.4% moderate and 0.9%

severe, while 42.4% students were not addicted to the internet.¹⁷

In the present study, it was observed that the male students were more addicted to internet than the female students and it was found to be statistically significant ($\chi^2=5.47$, $P<0.05$). In a similar study by Arvind Sharma et al, the male students were more addicted to internet than the female students ($\chi^2=22.673$, $P=0.0001$).²³

In the present study, significantly as compared to females, males felt preoccupied with internet when offline; found using internet better than going out with friends/family during leisure time. Similarly Sharma A et al reported that significantly more males than females felt sleepless because of being continuously online till late night; feared about life becoming bored without internet.²³ In contrast, Gopala VV Raju Srijampana et al reported an equal susceptibility for internet addiction between males and females.²⁴

Among the study population, 72(75.79%) had a low risk (score ≤ 49 points) while only 23 (24.21%) had a higher risk (score ≥ 50 points) for internet addiction. Similar

results were obtained in another study by Srijampana VVGRet al on medical students where 185(92.5%) students had lower risk and only 25 (12.5%) had a higher risk.²⁴

CONCLUSION

The present study indicates that the problem of internet addiction is indeed real and needs appropriate attention from authorities. The role of internet in our lives in present century is established beyond doubts and its usage is going to increase further. The real challenge is to have a control on usage of social sites- the amount of time being spent and the type of activities medical students are doing online.

Recommendations

Internet addiction is a growing problem among students of professional courses, which has psychological, physical, and social impact on student's life. So it is necessary to develop strategies for prevention of internet addiction as well as therapeutic interventions to promote healthy and safe use of the Internet. Awareness should be created among the undergraduate medical students to improve their ability to reduce internet addiction, promoting healthy growth.

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