

## ORIGINAL ARTICLE

## Study on Internet Addiction among Undergraduate Medical Students of Kakatiya Medical College, Warangal, Telangana

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### ABSTRACT

**Background:** There is rapid growth in the usage of internet globally mainly in urban areas. Usage has been rising exponentially. Students are particularly at risk because of their unique personal, social and academic needs. This study aims at estimating the prevalence of internet addiction among the medical students and to determine the factors associated with internet addiction. **Materials and Methods:** A cross-sectional study was conducted among 210 undergraduate medical students of Kakatiya Medical College, Warangal, during the period of October 2019 to February 2020. A total of 210 medical undergraduate students were interviewed for internet addiction using the young's internet addiction scale. A semi-structured questionnaire was used to collect data on socio-demographic profile. Data entry and analysis was done using SPSS version-19. **Results:** We found the prevalence of internet addiction among medical students to be 93.9% (mild-68.5%, moderate-21.9%, and severe-3.3%). Mobiles were the most common gadget used for internet access. Gender, staying in home and private accommodation, parent's education, and the year of study were significantly associated with internet addiction. **Conclusion:** The study concludes that the vulnerability of medical students to internet addiction and efforts should be taken to increase awareness and prevent the problem of internet addiction in them.

**Key words:** Internet addiction, medical college, undergraduate medical students

### INTRODUCTION

There has been an explosive growth in the use of internet not only in India but also worldwide in the last decade. Although originally the internet was devised for only information exchange, now it is being used in every aspect of human life including education, research, banking, shopping, gaming, and social communication also. Globally internet users have already crossed 3 billion marks while in India, internet users grew over 17% in the first 6 months of 2015 to 354 million.<sup>[1]</sup>

Internet is being misused nowadays and excess usage can be pathological and addictive. The term internet addiction was proposed by Dr. Ivan Goldberg in 1995 for pathological compulsive internet use.<sup>[2]</sup> In India; use of internet is enormous, especially in the young population.<sup>[3]</sup> Medical colleges in both developing and developed countries are utilizing educational technology to bring effective changes in medical education.<sup>[4]</sup> Factors such as lack of parental control, exam, and peer stress often leads to pathological internet

usage.<sup>[5]</sup> The internet and mobile association of India report states that the primary medium to access internet in India is smart phone both in urban (77%) and rural (92%) regions.<sup>[6]</sup> Various factors such as large unconstructed time, being away from parental control, problems of adapting to university life, and desire to escape stress like exam stress often lead to emergence of pathological internet use.<sup>[7]</sup>

Internet addiction can lead to various psychological, physical, and social problems also such as impaired function at work, impaired academic performance, sleep deprivation, poor dietary habits, headache, eye strain, and social isolation.<sup>[8-10]</sup> With this background the present study was conducted to study the internet use and addiction among undergraduate

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medical students of Kakatiya Medical College, Warangal, Telangana.

## MATERIALS AND METHODS

A cross-sectional study was conducted among the undergraduate medical students of Kakatiya Medical College, Warangal, Telangana, during the period of October 2019–February 2020. Permission from the institutional ethics committee was taken before the initiation of the study. All medical undergraduate students from 1<sup>st</sup> year to 4<sup>th</sup> year were approached and who gave consent was included in the study. A total of 210 students were enrolled in the study. Medical students who gave history of using internet from past 1 year or more were included in the present study. Medical students with the previous psychiatric illness and those who declined internet usage were excluded from the study. Students participating in the study were given information about the nature of study and written informed consent regarding participation in study was taken from them. The students were assured that the information given by them were confidential to avoid reporting bias.

The internet addiction test (IAT) which is the validated measure of internet addiction was used to measure internet use in terms of mild, moderate and severe levels of addiction. The IAT by Dr. Kimberly Young is based on Internet Addiction Diagnostic Questionnaire (IADQ) and is composed of 20 items.<sup>[11]</sup> The validity and reliability of Young's internet addiction scale has been tested in many studies.<sup>[12,13]</sup> Its reliability in Indian population and college students have also been established.<sup>[14,15]</sup> Data were entered into MS-Excel sheet and statistical analysis was carried out using SPSS version-19 and Chi-square test was applied. A value of  $P < 0.05$  was considered as significant.

Participating students answered the questions in IADQ by using this scale as follows<sup>[11]</sup>

Response	Scale
Does not apply	0
Rarely	1
Occasionally	2
Frequently	3
Often	4
Always	5

IADQ as follows<sup>[11]</sup>

### Interpretation of score<sup>[12,13]</sup>

## RESULTS

As shown in Table 1 that out of 210 students, 88 (41.9%) were male while 122 (58%) were female. The mean age of

Questions	Score
1. How often do you find that you stay on-line longer than you intended?	1 2 3 4 5 0
2. How often do you neglect household chores to spend more time on-line?	1 2 3 4 5 0
3. How often do you prefer the excitement of the Internet to intimacy with your partner?	1 2 3 4 5 0
4. How often do you form new relationships with fellow on-line users?	1 2 3 4 5 0
5. How often do others in your life complain to you about the amount of time you spend?	1 2 3 4 5 0
6. How often do your grades or college works suffer because of the amount of time spent online?	1 2 3 4 5 0
7. How often do you check your email before something else that you need to do?	1 2 3 4 5 0
8. How often does your job performance or productivity suffer because of Internet?	1 2 3 4 5 0
9. How often do you become defensive or secretive when anyone asks you what you do online?	1 2 3 4 5 0
10. How often do you block out disturbing thoughts about your life with soothing thoughts of the internet?	1 2 3 4 5 0
11. How often do you find yourself anticipating when you will go on-line again?	1 2 3 4 5 0
12. How often do you fear that life without Internet would be boring, empty, and joyless?	1 2 3 4 5 0
13. How often do you snap, yell or act annoyed if someone bothers you while you are on-line?	1 2 3 4 5 0
14. How often do you lose sleep due to late-night log-ins?	1 2 3 4 5 0
15. How often do you feel preoccupied with Internet when off-line or fantasize about being online?	1 2 3 4 5 0
16. How often do you find yourself saying "just a few more minutes" when you are online?	1 2 3 4 5 0
17. How often do you try to cut down the amount of time you spend on-line and fail?	1 2 3 4 5 0
18. How often do you try to hide how long you have been on-line?	1 2 3 4 5 0
19. How often do you choose to spend more time on-line over going out with others?	1 2 3 4 5 0
20. How often do you feel depressed, moody or nervous when you are offline, which goes away once you are back on-line?	1 2 3 4 5 0

Score	Level of internet addiction
0–30	No addiction
31–49	Mild addiction
50–79	Moderate addiction
80–100	Severe addiction

study sample was  $19.72 \pm 1.25$  and the range between 18 and 24 years. Among the participants, 86 (40.9%), 65 (30.9%), 52 (24.7%), and 7 (3.3%) were studying in 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> years, respectively. The overall prevalence of internet addiction was 197 (93.9%). Of 210 students, 13 (6.1%) were not having any internet addiction, 144 (68.5%) were having mild addiction, 46 (21.9%) were having moderate addiction, and 7 (3.3%) were having severe addiction.

It is observed from Table 2 that mild addiction was more in females (75.4%) than males (59%). Moderate and severe addiction was more in males than females. The most common gadget used for internet usage was 150 (71.4%) mobiles, followed by 35 (16.6%) Laptops and 25 (11.9%) desktops.

As shown in Table 3, most of the students in the study used internet daily for <3 h (75.2%).

It is observed from Table 4 that variables such as gender, place of current stay, parent's education and year of study

**Table 1: Demographic profile of the study participants**

Demographic profile	Frequency	Percentage
Gender		
Male	88	41.9
Female	122	58.0
Place of Stay		
Hostel	151	71.4
Home	30	14.2
Outside	29	13.8
Education of father		
Postgraduate	56	26.6
Graduate	110	52.3
Below graduate	44	20.9
Education of mother		
Postgraduate	49	23.3
Graduate	117	55.7
Below graduate	44	20.9
Year of study		
1 <sup>st</sup> year	86	40.9
2 <sup>nd</sup> year	65	30.9
3 <sup>rd</sup> year	52	24.7
4 <sup>th</sup> year	07	3.3

**Table 2: Gender-wise distribution of IAT score**

Score	Interpretation	Male (%)	Female (%)	Total (%)
0–19	No addiction	03 (3.4)	10 (8.1)	13 (6.1)
20–49	Mild addiction	52 (59)	92 (75.4)	144 (68.5)
50–79	Moderate addiction	28 (31.8)	18 (14.7)	46 (21.9)
80–100	Severe addiction	05 (5.6)	02 (1.6)	07 (3.3)

IAT: Internet addiction test

**Table 3: Duration of daily internet usage**

Duration	Frequency (n=210)	Percentage
<3 h	158	75.2
3–6 h	47	22.3
More than 6 h	05	2.3

of the students have significant association with internet addiction. Males are more addicted to internet than females ( $P = 0.002$ ). About 96.5% of males were addicted to internet as compared to 90.9% of females. Students staying in home and private accommodation were more addicted to internet as compared to students staying in hostel ( $P = 0.019$ ). First year students were more addicted to internet as compared to 2<sup>nd</sup>, 3<sup>rd</sup>, and final year students ( $P < 0.001$ ).

## DISCUSSION

In our study, we investigated the prevalence and severity of internet addiction among medical students. We found that 93.9% of the medical students had internet addiction. About 68.5% of the students were mildly addicted, while 21.9% of the students were moderately addicted to the internet, and 3.3% were severely addicted to internet. The prevalence in our study was higher when compared to the previous studies. A study done by Ranganatha *et al.*<sup>[16]</sup> in college students of South India had a prevalence of 47.14%. The prevalence of internet addiction in a study done by Sharma *et al.*<sup>[17]</sup> was 56.6%. They found 41.3% to be mild addicts while 15.2% to be moderate addicts. In another study by Sharma *et al.*<sup>[17]</sup> reported 42.7% prevalence of internet addiction, 35% was mild, 7.4% moderate, and 0.3% severe addict. A study by Canan *et al.*<sup>[18]</sup> on Turkish college students' showed prevalence of internet addiction to be 9.7%, while in a study by Ghamari *et al.*<sup>[19]</sup> among Iranian medical students showed that the prevalence was 10.8%.

In the present study, males were found to be more addicted compared to females. Gender is significantly associated with internet addiction. This finding has been substantiated by other study by Sharma *et al.*<sup>[17]</sup> In a study by Ranganatha *et al.*,<sup>[16]</sup> there was no significant association between gender and internet addiction.

The present study also revealed that students staying in home and private accommodation are more prone to internet addiction as compared to those staying in hostel. This finding is similar to the study done by Ranganatha *et al.*<sup>[16]</sup> where localities were more addicted than hostilities. The reason for more addiction among the students staying outside (private accommodation) might be due to lack of supervision, loneliness, etc.

In the present study, the most common gadget used to access internet was mobile, followed by laptops and desktops. This finding is similar to the study by Ranganatha *et al.*<sup>[16]</sup> In our study, it was observed that most of the students 75.2% used internet for <3 h daily and 2.3% use internet for more than 6 h/day. Similarly a study done by Srijampana *et al.*<sup>[20]</sup> found that 81.9% of students were using internets for 1–3 h/day.

**Table 4:** Association between demographic variables and internet addiction

Variables	Total (n=210) (%)	Mild addiction (n=144) (%)	Moderate addiction (n=46) (%)	Severe addiction (n=7) (%)	Total addiction (n=197) (%)	P-value
Gender						
Male	88 (100)	52 (59.09)	28 (31.8)	05 (5.6)	85 (96.5)	P=0.002
Female	122 (100)	92 (75.4)	18 (14.7)	01 (0.8)	111 (90.9)	
Place of stay						
Hostel	151 (100)	102 (67.5)	34 (22.5)	01 (0.6)	137 (90.7)	P=0.019
Home	30 (100)	21 (70)	08 (26.6)	01 (3.3)	30 (100)	
Outside	29 (100)	21 (72.4)	04 (13.7)	04 (13.7)	29 (100)	
Father's education						
Post graduate	56 (100)	48 (85.7)	05 (8.9)	03 (5.3)	56 (100)	P<0.001
Graduate	110 (100)	56 (50.9)	40 (36.3)	02 (1.8)	98 (89)	
Under graduate	44 (100)	40 (90.9)	01 (2.2)	02 (4.5)	44 (100)	
Mother's education						
Postgraduate	49 (100)	28 (57.1)	09 (18.36)	02 (4.08)	39 (79.5)	P<0.001
Graduate	117 (100)	98 (83.7)	18 (15.3)	01 (0.8)	117 (100)	
Below graduate	44 (100)	18 (40.9)	19 (43.1)	04 (9.09)	41 (93.1)	
Year of study						
1 <sup>st</sup> year	86 (100)	58 (67.4)	27 (31.3)	01 (1.1)	86 (100)	P<0.001
2 <sup>nd</sup> year	65 (100)	46 (70.7)	16 (24.6)	02 (3.0)	64 (98.4)	
3 <sup>rd</sup> year	52 (100)	39 (75)	02 (3.8)	01 (1.9)	42 (80.7)	
4 <sup>th</sup> year	07 (100)	01 (14.2)	01 (14.2)	03 (42.8)	05 (71.4)	

## CONCLUSION

The overall prevalence of internet addiction was 93.9% in our study. The study had a relatively higher prevalence of mild internet addiction. About 68.5% were mildly addicted whereas 21.9% and 3.3% were moderately and severely addicted. Mobiles (71.4%) were the most common gadget used for internet access. Most of the students used internet for <3 h/day. Male students staying in home and private accommodation and 1<sup>st</sup> year students were addicted to internet.

## Recommendations

Internet addiction among college students should be given more attention as it may lead to poor academic performance and psychological problems. Awareness programs about internet addiction and its effects on health should be held regularly as a part of their curriculum.

## Limitations

Being a cross-sectional study, the causal relationship between the risk factors and internet addiction could not be established even though they were significantly associated. The academic performance of the addicted students was not recorded.

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