A Cross Sectional Study of Internet Addiction in Undergraduate Medical Students

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I.   Introduction:

Internet usage has been rapidly increasing worldwide more so in India. An earlier report suggests that there are more than 300 million internet users in India(1). The Internet usage in India took more than a decade to increase from 10 million to 100 million and only four years to move from 100 to 200 million(2). The internet is very informative and has many benefits but it is used by some to indulge in social networking, pornography and chatting for long hours. There has 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. Griffith considered it a subset of behavior addiction and any behavior that meets the 6 "core components" of addiction, i.e., salience, mood modification, tolerance, withdrawal, conflict, and relapse(3). As per DSM-V, Internet addiction is not yet recognized as a disorder, but is being considered as an area in need of further research(4). College students are vulnerable to internet addiction because of the psychological and developmental characteristics of late adolescence and ready access to the Internet and an expectation of computer/Internet use (5). The prevalence found by Greenfield(6) was about 6% among the general population, while Scherer(7) found it to be 14% among the college-based population. Salehi et al(8)found a prevalence of 5.2 percent in medical students of Iran. A study on Indian adolescence has shown about 74.5% were moderate users and 0.7% were found to be addicts(1).Another study on the prevalence of internet addiction in Indian medical student reported 64.4% as average users, 11.8% as possible addicts, 0.4% as addicts, and 23.2% were less than average user(9). Our study attempted to understand the proportion, pattern and severity of Internet addiction among medical students from an urban medical college.

II.   Materials And Methods:

This cross-sectional study was carried out amongst medical students of both genders, who come for psychiatric posting at an urban tertiary referral centre for mentally ill. The study period was August – September 2015. The study participants were selected by using simple random sampling.

2.1Inclusion Criteria
1.   Medical students.
2.   Students aged between 17 and 25 years.
3.   History of using internet from past one year or more.
4.   Willing to give consent.

2.2 Exclusion Criteria
1.   Not willing to give consent.
2.   Not using internet.

The information was collected by using a semi structured proforma that contained details of demographic data, purpose of using the internet like online games, social networking, pornography or others like watching YouTube. The Internet Addiction Test (IAT; Young, 1998)(3) is a 20-item 5-point likert scale that measures the severity of self-reported compulsive use of the internet. Total internet addiction scores are calculated, with possible scores for the sum of 20 items ranging from 20 to 100. The scale showed very good internal consistency, with an alpha coefficient of 0.93 . Young's IAT is the only available test whose psychometric properties have been tested by Widyanto and McMurran(10).

According to Young's criteria, total IAT scores 20-39 represent average users with complete control of their internet use, scores 40-69 represent over-users with frequent problems caused by their internet use, and scores 70-100 represent internet addicts with significant problems caused by their internet use.

The data were collected and then analyzed by SPSS version 21. The responses obtained were expressed in proportions .Characteristics of socio demographic profile was presented as frequency tables and charts. To

compare qualitative variables among groups, Chi-square test was used. For quantitative variables T-test was used for comparing means between two independent groups with normal distribution. For all the analyses, level of significance was set at $P < 0.05$.

III.   Results And Discussion:

The study was conducted on thirty medical students. Sociodemographic profile and internet addiction test was used to capture the data and the results were analyzed.

Table1: Frequency table of socio demographic profile

variable		Frequency	Percentage
Gender	Male		50
	Female	15	50
		15	
Religion	Hindu	23	76.7
	Muslim	4	13.3
	Christian	3	10
Year of	Second	21	70
medicine	Third	9	30
Socio economic	Lower	7	23.3
Status	Middle	21	70
	Upper	2	6.7

The above table shows the socioeconomic details of the sample. In the given sample the males and female were 15 in number. Hindus were 23 in number, Muslims , 4 in number and Christians were three in number. Most of the sample was from second year MBBS accounting for seventy percent and remaining thirty percent were from third year. With regard to socio economic status 23.3 percent were from lower status, seventy percent were from middle economic status and six percent were from upper class.
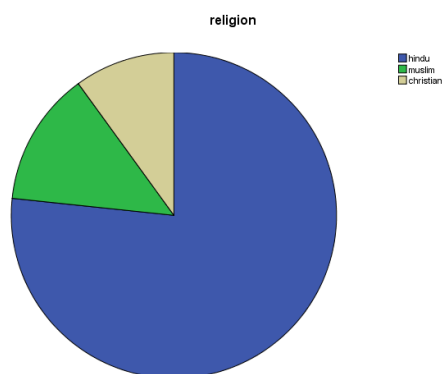

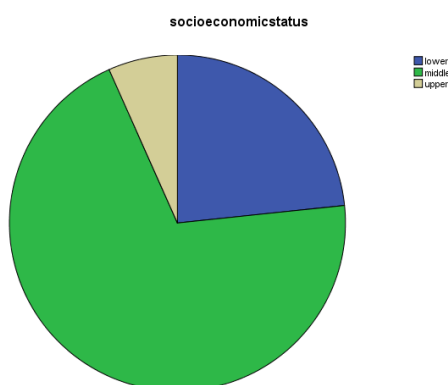Figure1: Religious distribution of the sample students

Figure2: Distribution of socio economic status in the sample

Table2: Frequency table depicting pattern of internet usage

Type		Frequency	Percentage
Gaming	Absent	15	50
	Present	15	50
Pornography	Absent	17	56.7

	Present	13	43.3
Others	Absent	14	46.7
	Present	16	53.3
Social sites	Absent	2	6.7
	Present	28	93.3

The above table shows the pattern of internet usage. Social sites were viewed by almost 93.3%, gaming was seen in fifty percent of sample and pornography was seen in 43.3% of the students, other types was seen in 46.7% of students. Endreddy et al (9)have reported prevalence of social network usage in 60% of students and online gaming in 12.3% of students.

Table no.3: Frequency table depicting severity of internet addiction

IAT scoring	Frequency	Percentage
Absent	3	10
Mild	21	70
Moderate	6	20

The above table shows internet addiction test scoring across the sample of students. 10 % of student did not have access to the computer frequently. 70% of students were average online user and 20 percent were experiencing frequent problems because of internet. Endreddy etal (9) had reported 64.4% as average users, 11.8% as possible addicts, 0.4% as addicts, and in 23.2% of medical students internet usage was less than average user. Our study did not find any students with severe internet addiction. Krishna murthy etal(11) reported average online users as 37.6% and 8.2% adolescent experienced frequent problems with internet. In Goel etal(1) study[using Young's original criteria] 74.5% internet users were moderate users, 24.8% were possible addicts and 0.7% were addicts. In Sharma etal (12) study [IAT scoring] 57.3% were normal users, 35.0% were mild, 7.4% were moderate and 0.3% were severely addicted to Internet.
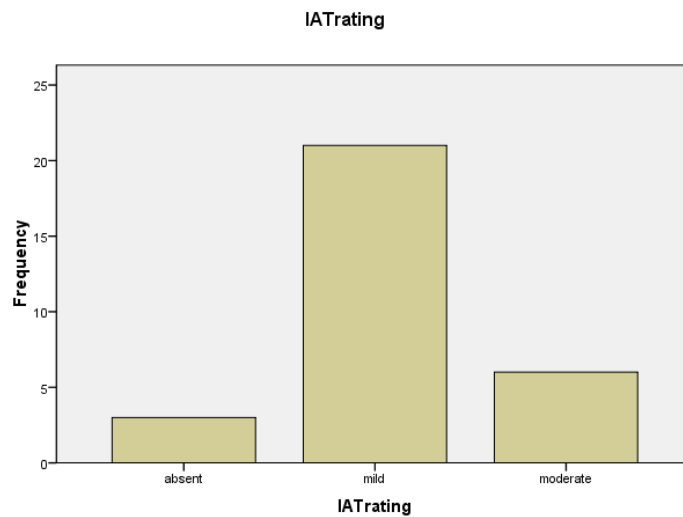

Figure3: Bar chart depicting severity of internet addiction

Table no 4: T test comparing gender across IAT score

Gender	Mean	sd	T value	Sig.
male	40.46	11.35	.535	.597
Female	38.2	11.86	.535	0.593

The above table shows the mean IAT score in males was 40.46 and the mean of IAT score in females was 38.2. The T value is 0.535 which is not statistically significant. It implies there is no difference in IAT score across both genders. Goel etal(1) reported that males in comparison to females were significantly more likely to be addicted ($x2$=10.2, *P*=0.006). The rate of Internet surfing for males was higher than that for females in a study done by Endreddy etal(9).
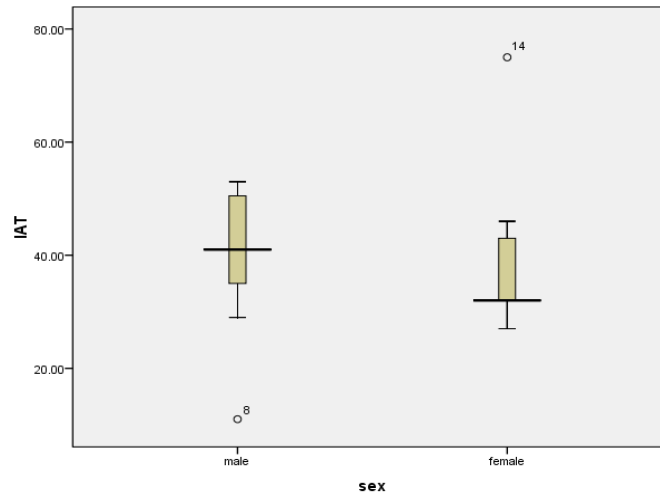
Figure4 shows box plot between gender and IAT score

The median of IAT scores in male was 38 and the median score of IAT in female was 32 .

IV. Conclusions:

In the last one decade, internet has become an integral part of our life. We wanted to find the prevalence of internet addiction in medical students by conducting a cross sectional study on medical students from Hyderabad. Internet addiction is a growing problem affecting many spheres of our lives. Early recognition and acknowledgement by the user and taking appropriate preventive measures should be done.

V. Limitations:

Sample size is small
It is a cross sectional study
No control group was taken in the study
Recall bias cannot be ruled out

VI. Future Directions:

In the present decade where young people have been more exposed to the internet and use online activity as an important form of social interaction, it still remain a matter of debate whether to call internet addiction as a distinct disorder by itself. As per DSM-V, Internet addiction is not yet recognized as a disorder, but is being considered as an area in need for further research(4).
Longitudinal studies have to be conducted for further insight in to this illness
We have to formulate interventions for early detection of warning signs and to prevent development of internet addiction.

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