

Exploring levels of Internet addiction among medical interns: a cross-sectional study

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Abstract

Background: Internet has invaded into our daily activities. There is rising concern over increased Internet usage especially among younger generation. Internet overusage affects them at various levels of academics, interpersonal relationship, and physical and health aspects. Medical definition of Internet addiction is based on compulsive act of using Internet despite one's best interest.

Objective: To estimate the level of Internet addiction among medical interns and understand patterns of Internet usage among them.

Materials and Methods: A cross-sectional study was conducted among interns of medical college in March 2016. Data were collected through self-administered questionnaire which contained sociodemographic, Internet usage pattern information and Young's 20-item Internet addiction test (IAT). Severity of Internet addiction was graded as per the scale.

Result: According to IAT, of 130 study participants, 70 (53.85%) were normal users, 41 (31.54%) showed mild, and 19 (14.61%) showed moderate levels of Internet addiction. Mean duration of Internet use/day was found to be 2.25 ± 1.07 years. Majority [120 (92.31%)] of the study participants used smartphone. Males were more addicted to Internet than female subjects. Using 3G speed of Internet was significantly associated with Internet addition.

Conclusion: Internet addiction is identified as a matter of concern among medical interns. Awareness needs to be created regarding Internet addiction/problematic Internet use and developing a healthy and safe Internet use. Preventive measures should be instituted promptly to forestall the possible influence of Internet addiction on students.

KEY WORDS: Levels of Internet addiction, Internet addiction test, pattern of Internet usage, speed of Internet

Introduction

Recent years have witnessed explosive growth in Internet invading into daily part of our lives in modern era. With advent of technology, Internet has expanded over horizons of information, education, communication, social networking, entertainment, news, etc. Within a very short period, it has become difficult to imagine a world without instant and continuous access to the Internet.^[1]

Moreover, Internet has the touch in each and every aspect of human life. There is an emerging public health concern over the increase in Internet usage, particularly among students.^[2] Internet addiction has been associated generally with younger generations. It affects them at various levels of academics, interpersonal relationship, and physical and health aspects.^[3] College students are especially vulnerable to developing dependence on the Internet, which may be owing to several contributing factors as faster acquaintance with changing technology, ease of use, availability of time blocks, access to the Internet, the psychological and developmental characteristics of young adulthood, feeling of independence, relatively limited or no parental supervision, and as some courses are Internet-dependent, from assignments and projects to communication with peers and mentors. Moreover, for some students, Internet offers a route of escape from examination stress.^[4]

While there is still debate on conceptualization and definition of Internet addiction, the public may refer it as over-use of the internet, but the medical definition is based on the

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compulsive act of using Internet despite one's best interest.^[5] 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.^[6]

It is interesting to note that the first scale to measure Internet addiction was developed in response to pathological gambling.^[7] Young^[8] was the first to empirically examine the addictive Internet use, based on which she developed a simple diagnostic tool called Young Diagnostic Questionnaire (YDQ) consisting of eight diagnostic criteria. Later, Young^[9] expanded YDQ into a 20-item questionnaire known as Internet Addiction Test (IAT) which measures the severity of addiction. IAT is the first validated instrument to assess Internet addiction.^[10] A meta-analysis study which involved a large sample size to determine overall value for reliability of IAT found that it is more reliable in college students and probably in Asia.^[11]

Keeping in view the impact of Internet on young generation and paucity of literature related to Internet addiction among medical interns in Maharashtra, the study was planned to estimate the level of Internet addiction among medical interns and understand patterns of Internet usage among them.

Materials and Methods

A cross-sectional survey was conducted among medical interns of government medical college in Aurangabad city of Maharashtra state during the period of March 2016. Medical interns were invited to participate in the survey. They were briefed about the nature and purpose of the study. Confidentiality was assured, and informed consent was taken. To avoid any hesitancy to record responses, anonymity of the participants was assured. They were emphasized to mark their true responses. The required information was collected through a pretested, semi-structured, self-administered questionnaire. About 143 interns participated, but 13 partially filled questionnaires were rejected from final analysis owing to incomplete information. Hence, 130 completely filled questionnaires were analyzed.

The semi-structured questionnaire covered details of demographic data, purpose of using the Internet, gadget used to access Internet, Internet usage per day, etc and 20 questions of Young's IAT.

Measurement of Internet Addiction

Young's 20-item scale for IAT was used to measure levels of Internet addiction. IAT measures the severity of self-reported compulsive use of the Internet. It is a 20-item questionnaire based on the five-point Likert Scale designed by Kimberley Young. After all the questions have been answered, numbers for each response were added to obtain a final score which suggests the level of Internet addiction. The higher score range indicates the greater level of addiction. The severity of Internet addiction^[12] is graded as follows:

Normal range: 0–30 points

Mild: 31–49 points

Moderate: 50–79 points

Severe: 80–100 points

This test covers the degree to which the Internet use affects daily routine, social life, productivity, sleeping pattern, and feelings.

Statistical Analysis

Data were entered and tabulated using Microsoft Excel 2010. Descriptive statistics (percentage, mean, standard deviation) were calculated to summarize baseline characteristics of the study subjects. Association between two categorical variables was analyzed by using χ^2 , odds ratio along with 95% confidence interval (CI). Internal consistency for the scale was calculated using Cronbach's alpha. Data were analyzed using SPSS software, version 20. $P < 0.05$ was considered to be statistically significant.

Result

Table 1 shows sociodemographic characteristics of the study participants. Of 130 study participants, 75 (57.69%) were female and 55 (42.31%) male subjects. Majority of the study participants belonged to Hindu religion (66.92%) followed by Muslim (17.69%) and Buddhist (10.77%). About 70.77% of the medical interns had their schooling from urban

Table 1: Sociodemographic characteristics of the study participants

Sociodemographic variables	n	%
Gender		
Female	75	57.69
Male	55	42.31
Religion		
Hindu	87	66.92
Muslim	23	17.69
Buddhist	14	10.77
Christian	4	3.08
Jain	2	1.54
Place of schooling		
Urban	92	70.77
Rural	38	29.23
Medium of instruction during schooling		
Marathi	67	51.53
English	58	44.62
Hindi	2	1.54
Urdu	2	1.54
Telugu	1	0.77
Place of residence		
Hostel, paying guest, etc	89	68.46
Home	41	31.54

area. Majority [i.e., 67 (51.53%)] of study participants had their medium of instruction during schooling as Marathi followed by English (44.62%). About 68.46% of the study participants were staying in hostel or as paying guest.

Table 2 shows baseline parameters of study participants. Mean age (\pm standard deviation) of study participants was recorded as 22.93 ± 0.95 years with range as 21–25 years. Mean duration of Internet use was 4.75 ± 2.31 years, and mean duration of Internet use/day was found to be 2.25 ± 1.07 years.

Table 3 depicts the level of Internet addiction among medical interns. According to IAT, of 130 study participants, 70 (53.85%) were normal users, 41 (31.54%) showed mild, and 19 (14.61%) showed moderate levels of internet addiction. No study participant was identified with severe Internet addiction. Overall, 46.15% (combining mild and moderate levels) of medical interns were addicted to Internet. Reliability statistics were calculated; Cronbach's alpha was found to be 0.91 suggesting excellent internal consistency.

Table 4 reveals pattern of Internet usage among study participants. Majority [120 (92.31%)] of the study participants used smartphone. About 66.67% of interns were using smartphone since 4–6 years. A higher percentage (i.e. 82.31%) of them had their age between 11 and 20 years at first interaction with technology. Nearly half, 47.32% had 6–10 years of computer use. Majority (i.e., 77.69%) of them had 1–5 years of Internet use. Only 2.31% had high expenditure on Internet (> Rs. 901/month). A high percentage of interns (77.69%) had expenditure up to Rs. 300/month. Mobile was the most used gadget for Internet access among 92.3% of the study participants. Majority of the interns used Internet for chatting (74.62%), followed by knowledge (73.84%), entertainment (64.62%), shopping (56.15%), and gaming (24.62%). A small proportion of them used it for pornography, online relationships, and other purposes.

Table 2: Baseline parameters of study participants

Variables	Mean	Standard deviation
Age (years)	22.93	0.95
Duration of Internet use (years)	4.75	2.31
Duration of Internet use per day (hours)	2.25	1.07

Table 3: Level of Internet addiction among medical interns

Internet addiction	No.	%
Normal users (0–30)	70	53.85
Mild (31–49)	41	31.54
Moderate (50–79)	19	14.61
Severe (80–100)	0	0.00

Table 4: Pattern of Internet usage among study participants

Variables	No.	%
Type of cell phone used		
Smart	120	92.31
Simple	10	7.69
Years of smartphone use (n = 120)		
1–3	36	30
4–6	80	66.67
>7	4	3.33
Age at first interaction with technology (years)		
<10	19	14.62
11–20	107	82.31
>21	4	3.07
Years of computer use (n = 112)		
1–5	30	26.79
6–10	53	47.32
11–15	29	25.89
Years of Internet use		
1–5	101	77.69
6–10	26	20
11–15	3	2.31
Expenditure on Internet/month (Rs./month)		
<300	101	77.69
301–600	19	14.62
601–900	7	5.38
>901	3	2.31
Most used gadget for Internet access		
Mobile	120	92.3
Laptop	6	4.62
Computer	2	1.54
Tablet	2	1.54
Purpose of Internet use		
Chatting	97	74.62
Knowledge	96	73.84
Entertainment	84	64.62
Shopping	73	56.15
Gaming	32	24.62
Pornography	19	14.62
Online relationships	8	6.15
Other	3	2.31

Table 5 shows relationship of Internet addiction with some of the variables. For analysis purpose, mild and moderate levels of Internet addiction were clubbed together as Internet addiction present group. Internet addiction was significantly higher ($P = 0.0006$) among males when compared with female subjects. Those using 3G type of Internet (high speed of Internet) were 2.77 times significantly at higher risk of Internet addiction than those using 2G type of Internet. Using Smartphone and unlimited data were not found to be significantly associated with Internet addiction in this study.

Table 5: Relationship of Internet addiction with some of the variables

Variables	N	Internet addiction		χ^2	Odds ratio (95% CI)	P
		Present	Absent			
Gender						
Male	55	35	20	11.72	3.50 (1.68–7.26)	0.0006
Female	75	25	50			
Type of cell phone used						
Smart	120	54	66	–	0.54 (0.15–2.03)	0.51*
Simple	10	6	4			
Most common generation of Internet used						
3G	98	51	47	5.52	2.77 (1.16–6.59)	0.01
2G	32	9	23			
Monthly data usage						
Unlimited	6	4	2	–	2.43 (0.43–13.76)	0.41*
Limited	124	56	68			

*Fisher's exact test was applied.

Discussion

As the usage of the Internet is growing rapidly each year, Internet addiction has become a problem among some users. This cross-sectional survey showed that about half of the medical interns were identified as normal users of Internet addiction according to the IAT, and, fortunately, no medical intern was found to have scores of severe Internet addiction. Various other researchers^[13–17] have reported almost zero level of severe Internet addiction.

The study also reveals that 31.54% and 14.61% of medical interns showed mild and moderate levels of Internet addiction, respectively. Level of mild Internet addiction found in this study was similar to those found by other authors,^[13,16] whereas the levels of moderate Internet addiction were consistent with other researchers.^[14,17] Various authors have found different levels of Internet addiction depending on the criteria or test applied and the sample studied. Moreover, it is to be noted that IAT measures levels of Internet addiction based on self-reported compulsive use of Internet; hence, the results may differ.

In this study, scale reliability was observed to have excellent internal consistency (Cronbach's alpha = 0.91) suggesting excellent measure to estimate Internet addiction. This finding is in support of other researches.^[13,16]

Varied patterns of Internet usage were noted among the medical interns with majority of them having 1–5 years of Internet use, 4–6 years of smartphone use, 6–10 years of computer use, and spending up to Rs. 300/month on the Internet. Most used gadget for accessing Internet was mobile. This finding is in accordance with study finding by Krishnamurthy and Chetlapalli^[13] and Raju Srijampana et al.^[14]

Majority of them reported chatting, knowledge, entertainment, and shopping as purpose of using Internet as also found by Chathoth et al.^[17] in a study conducted among medical students in Mangalore. A small proportion have mentioned about pornography and online relationships in this study. This may be because of natural hesitancy to mark these responses.

This study observed that male interns were significantly at higher risk of Internet addiction when compared with female interns. Other studies^[13,14,16] also reported male preponderance for Internet addiction. This gender distribution may be explained as men are more likely to express interest in games, gambling activities, or pornography, and these activities have all been associated with problematic Internet use.^[18] Moreover, it was found that medical interns using high speed (i.e., 3G of Internet) were more likely to be Internet addict. This finding corroborates with the study findings of Marahatta et al.^[19]

Type of cellphone used and monthly data usage were not found to have significant association with Internet addiction. This may be owing to less number of medical interns in the simple cellphone use and unlimited monthly data usage category.

Conclusion

This study recognizes Internet addiction as a matter of concern among medical interns. There is need to sensitize interns about Internet addiction. Awareness should be created regarding Internet addiction/problematic Internet use and developing a healthy and safe Internet culture. Preventive measures should be instituted promptly to forestall the possible influence of Internet addiction on students.

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