A cross sectional study of Internet addiction among first year medical students

Shashiraj HK[1], Kavitha BS[2,*], Deepali A[3], Mahesh SH[4]

[1]Associate Professor, [2,3]Assistant Professor, Dept. of Physiology, [4]Assistant Professor, Dept. of Community Medicine, SS Medical College, Tumkur, Karnataka

*Corresponding Author:
Email: ravi_kmr23@yahoo.co.in

Abstract

Introduction: With explosive growth in the use of internet world wide India has also seen rapid expansion in the number of internet users with 460 million users according to recent survey. Wi-Fi enabled campuses along with increase in smart phone usage has lead to internet addiction among university students.

Aims and Objectives: The present study was conducted to assess the level of internet addiction among first year medical students.

Materials and Method: A Questionnaire based Cross sectional study based on Young's internet addiction scale was conducted among 130 first year medical students belonging to 2016-2017 batch.

Results: Mean age of students in the study was 18.07% and average time spent on internet was 2.34hrs/day. 15.4% were found to be average internet users and 61.50% of students fall into the category of possible addicts. 23.10% of students fall into the category of internet addiction.

Conclusion: The present study unfolds the dark reality of internet addiction among medical students which requires development of strategies to prevent internet addiction and to prepare a comprehensive program to create awareness and to promote healthy usage of internet.

Keywords: Internet addiction, Medical students, Wi-Fi enabled campus, Smart phones, Young's internet addiction scale.

Introduction

Worldwide figures of Internet users has increased from 360 million in December 2000 to 3.67 billion in June 2016[1] with a worldwide penetration of 50.1% of the entire population with a growth rate of 918.3% from 2000 to June 2016.

In a survey done in June 2016 among Asian population which showed an increase in number of users from 114 million in December 2000 to 1.8 billion;[1] with a population penetration of 45.6% with a growth rate of 1515.2% from 2000 to June 2016%. The Indian figures follow a similar trend with an increase in internet users from 5 million in 2000 to 460 million in internet users in June 2016 with a population penetration of 36.5% with a growth rate of 9142.5% from 2000 to June 2016.[1]

A study done by IAMAI (Internet And Mobile Association of India) and IMRB International (Indian Market Research Bureau) in June 2013, indicates that the frequency of Internet usage in India has gone up significantly.[2] According to census of June 2013, among 190 million internet users 130 million belong to urban area and 60 million internet users were from rural India which also shows the penetration of internet availability in rural India.[2] Mobile Internet usage is growing at the rate of nearly 85% per annum, with nearly 75% of non voice usage being devoted to entertainment, where video and music streaming are major growth activities.[3]

Although the availability of the internet offers better opportunity for communication, acquisition of knowledge and social interaction excessive use of the same by young population has led to the concept of problematic internet usage termed as "Internet Addiction".[4] The excessive internet usage follows an addictive behavioral pattern which possibly could lead to mental health issues.[5]

The term "internet addiction" was proposed by Dr. Ivan Goldberg in 1995 for pathological compulsive internet use.[6] Young linked excessive internet use most closely to pathological gambling, a disorder of impulse control in Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) and adapted the DSM-IV criteria to relate to internet use in the Internet Addiction Test (IAT) developed by her.[7] Jerald Block in an editorial in the American Journal of Psychiatry recommends the inclusion of IAD in DSM-V. He opines that conceptually, the diagnosis is a compulsive impulsive spectrum disorder that involves online and/or offline computer usage and consists of at least three subtypes: Excessive gaming, sexual preoccupations, and E-mail/text messaging.[8]

Surveys in the United States and Europe have indicated alarming prevalence rates between 1.5% and 8.2%, respectively.[9]

In a study carried out by Yadav et al. among high school students in Ahmadabad India, there was a strong positive correlation between internet addiction and depression, anxiety and stress disorders.[10] Recent

reports indicated that some online users were becoming addicted to the Internet in much that same way that others became addicted to drugs or alcohol, which resulted in academic, social, and occupational impairment.[6]

Since 2007 certain educational institutions like IITs, leading Universities have been restricting campus internet usage during night hours because of reports of some suicides being linked to the presumed anti-social behavior that excessive internet promotes.[11]

There is ongoing debate about how best to classify the behavior, which is characterized by spending many hours in non-work technology related computer/ Internet/ video game activities.[12] In a study done in Iran, severe internet addicts used it for nonessential uses like film, music, cartoon, computer games, social sites and chat rooms, but normal users use it for news, events, educational, and universal sites. Furthermore, internet addicts use internet in a drift manner and in private places.[13]

In India, use of internet is enormous, especially in the young population.[14] With the advent of wi-fi enabled campuses and the availability of smart phones to the students has increased the usage of internet tremendously which could possibly affect the academic performance. A study done by Muhammed Alamgir Khan and et all at Army Medical College Rawalpindi, Pakistan showed negative correlation between excessive internet usage and academic performance (p = 0.01).[15]

The new environment of hostel life and campus environment away from parental supervision offers liberty to students regarding personal time and the availability of unlimited access to internet which makes them vulnerable for excessive usage of internet for non academic purposes which would lead to internet addiction.

Hence the present study was conducted to study the internet usage pattern among first year medical students of Sri Siddhartha Medical College, Tumkur, a deemed university which caters to diverse set of students across the world.

Materials and Method

A cross-sectional study was carried out among first year medical students of the 2015-2016 batch, belonging to Sri Siddhartha Medical College Tumkur, Karnataka after obtaining the approval of Institutional Ethical Committee. Young's scale of Internet Addiction which was developed by Dr Kimberly Young in 1998 which is one of the most accepted & reliable tool for evaluation of internet addiction was administered to the students.[16] Before administering the questionnaire, nature and the purpose of the study was explained to all the students & informed consent was taken. Confidentiality was maintained during the entire process of this survey. All the 130 medical students belonging to 2015-16 batch were included in the study irrespective of their demographic profile.

Statistical Analysis: Data collected was entered in Microsoft excel 2007 and analysed using EPI INFO (Version 7). Descriptive statistics such as proportion, mean and standard deviation was calculated.

Results

Table 1 shows the mean age of the students who participated in this questionnaire based study and was found to be 18.07.

Table 2 shows the daily usage of internet in hours. Majority of the first year medical students (75.38%) are using internet daily for a period of 1-3 hours. 17.6% of students were found to be using internet for a period of 4-6 hrs in a day. The study also revealed around 4.6% of students were using internet for a period of 7-9 hrs along with 2.3% of students being rooted to the internet for a period of 10-12 hrs in a day.

Table 3 which shows the purpose and the gadget used by the students to access the internet reveals that 63.03% of students use mobile phone as a source of access to the internet followed by 17.69% of students using personal laptops as a mode of access to the internet. This data also shows 13.07% of students used tablets followed 6.15% of students using desktops as a medium to gain access to the internet. The main purpose of use of internet according to our data is social networking (69.9%) followed by online games (13.84%), media files (10%), academical activities (5.38%) and other purposes like online shopping etc constituting of 3.84% of internet users.

Table 4 which shows the distribution of Internet Addiction Scores categorically reveals that none of the users fall to the category of less than average user with a total score of 0-19. 15.4% of students with a total score of 20-49 are average on-line users. Majority of the students (61.50%) with a total score of 50-79 fall into the category of possible addicts along with 23.10% of students with a score of >80 falling into the category of internet addicts.

Table 1: Age distribution

	Mean	**Standard deviation**
Age of subjects	18.07	0.62

Table 2: Duration of internet usage

Internet daily usage (hrs)	**Total (130)**	**Percentage**
1-3	98	75.38
4-6	23	17.6
7-9	6	4.61
10-12	3	2.30

Table 3: Purpose and gadget to access internet

Purpose & gadget	Total (130)	Percentage
Purpose		
Social network	87	66.9
Online games	18	13.84
Media files	13	10
Academics	7	5.38
Others	5	3.84
Gadget to access internet		
Desktop	8	6.15
Laptop	23	17.69
Mobile phone	82	63.07
Tablet	17	13.07

Table 4: Distribution of IAT scores

Total score	Frequency	Percentage
0-19	0	0
20-49	20	15.40%
50-79	80	61.50%
>80	30	23.10%
Total	130	100.00%

(**IAT** = Internet Addiction Test score)

Discussion

With the advent of wi-fi enabled campuses in professional courses along with rapid increase in number of smartphone users, the student population are more vulnerable for internet addiction. The present study is a preliminary step towards understanding the extent of internet usage and addiction among the medical students.

In the study the extent of internet addiction was measured using Dr Kimberly Young's scale of internet addiction which is one of the most reliable and valid measure of addictive use of internet.[16] The questionnaire consisted of 20 items which measures mild, moderate and severe level of internet addiction.

In this study, the mean age of students was 18.07 and the average time spent on internet was 2.34 hrs per day with 75.38% of students falling under the category of usage of 1-3 hrs per day. 17.6% of students surfed the net for a period of 4-6 hrs per day followed by 4.61% of students doing the same for 7-9 hrs a day. Extensive usage of net of 10-12 hrs per day was found in 2.3% of students under survey. In a similar study done in Central India among professional courses students showed that the mean time spent on internet was 1.29 (± 1.251) with more than 65% of the sample spending less than 2 hrs per day.[17]

In another study done by Grover et al. found that average time spent on internet use was 2.13 hrs (SD = 1.98) with 56.7% of the sample using the internet for atleast 2 hrs per day.[18]

Similar results were obtained in a study done by Nalwa et al. which also follows the pattern of our study.[19]

In the study we found that 63.07% of students used mobile phones as a source of access to the net followed by 17.69% of students who used personal laptops for the same. Tablets as a medium of access to internet was found in 13.07% of users and least preferred source for access to the net was desktops (6.15%). These findings are consistent with increase in the smartphone users with attractive data packages which are offered by the service providers. This also suggests smartphone users are more prone for getting addicted to the net suggesting the ease of access to the net with respect to time and place of use. Smartphones has a medium of access to the net may also increase the amount of time spent on browsing.

In our study major purpose of accessing the internet was for social networking (66.9%), downloading media files (10%), and online gaming (13.84%) which is much greater in comparison with 5.38% of respondents using it for academic activity and 3.84% using it other activities like online shopping etc. the above findings are consistent with the study done by Goel et al.[14]

In the present study internet addiction which was measured using Young's Internet Addiction Scale, we found that 15.4% of respondents were average online users which falls into the category of mild internet addiction followed by 61.5% of respondents were more than average users which falls into the category of moderate level of internet addiction. 23.1% of the respondents were problem users who can be termed as severe internet addicts according to the above mentioned criteria.

In comparison with the studies done elsewhere in the world the present study reveals that there is high percentage of students falling into the category of higher level of internet addiction with no students falling into the category of below the level of average user which is probably because of smartphone usage.

Conclusion

Wi fi enabled campuses has led to increased use of internet among medical students for the purpose of social networking which could possibly affect the academic commitments in a very demanding course like MBBS. High level of internet addiction can lead to physical, psychological and social issues among medical students. The present study unfolds the dark reality of internet addiction among medical students which requires development of strategies to prevent internet addiction and to prepare a comprehensive programme to increase the awareness of internet addiction and promote healthy usage of internet.

Limitations

1. There is need to establish the relationship between internet addiction and academic performance.
2. A longitudinal study needs to be undertaken which could give more information on prevalence of internet addiction.

References

1. Internet users in the world: distribution by world regions – 2016, Q2. Internet World Stats: Usage and population statistics. Available from: URL:http://www.internetworldstats.com/stats.htm.
2. Internet and Mobile association of India. I-Cube 2013 Study. Available from: http://www.iamai.in/reports1.aspx.
3. Chandra G, Anu M, Noshir K, James M. Online and upcoming: The Internet's impact on India. Bangalore: McKinsey & Company; 2012. p. i-iii.
4. Liu T, Potenza MN. Problematic internet use: Clinical implications. CNS Spectr 2007;12:453-66.
5. Collier R. Internet addiction: New-age diagnosis or symptom of age-old problem? CMAJ 2009;181:575-6.
6. Goldberg I. Internet Addiction 1996. Available from http://www.web.urz.uniheidelberg.de/Netzdienste/anleitung/wwwtips/8/addict.html. [Last accessed on 2013 Nov 13].
7. Young KS. Internet addiction: The emergence of a new clinical disorder. Cyberpsychol Behav 1998;3:237-44.
8. Block JJ. Issues for DSM-V: Internet addiction. Am J Psychiatry 2008;165:306-7.
9. Weinstein A, Lejoyeux M. Internet addiction or excessive internet use. Am J Drug Alcohol Abuse 2010;36:277-83.
10. Yadav P, Banwari G, Parmar C, Maniar R. Internet addiction and its correlates among high school students: A preliminary study from Ahmedabad, India. Asian J Psychiatr 2013;6:500-5.
11. Swaminath G. Internet addiction disorder: Fact or Fad? Nosing into Nosology. Indian J Psychiatry 2008;50:158-60.
12. Czincz J, Hechanova R. Internet addiction: Debating the diagnosis. J Technol Hum Serv 2009;27:257-72.
13. Sunwoo K, Rando K. A study of internet addiction: Status Causes and remedies. J Korean Home Econ Assoc 2002;3:1-19.
14. Goel D, Subramanyam A, Kamath R. A study on the prevalence of internet addiction and its association with psychopathology in Indian adolescents. Indian J Psychiatry 2013;55:140-3.
15. Khan MA, Alvi AA, Shabbir F, Rajput TA. Effect of Internet Addiction on Academic Performance of Medical Students. *JIIMC*. 2016;11(2):48-51.
16. Young KS. Caught in the Net: How to recognize the signs of Internet addiction and a winning strategy for recovery. New York, NY: John Wiley & Sons, Inc; 1998. p. 196.
17. Sharma A, Sahu R, Kasar PK, Sharma R. Internet addiction among professional courses students: A study from central India. *Int J Med Sci Public Health*. 2014; 3(9): 1069-1073. doi:10.5455/ijmsph.2014.180620142.
18. Grover S, Chakraborty K, Basu D. A survey of Internet use pattern among professionals. Ind Psychiatry J 2010;19:94–100.
19. Nalwa K, Anand AP. Internet addiction in students: A cause of concern. Cyberpsychol Behav 2003;6:653-6.