International Journal of Innovative Research and Advanced Studies (IJIRAS)
Volume 4 Issue 1, January 2017

ISSN: 2394-4404

Internet Addiction, An Emerging Disease: A Cross-Sectional Study

Dr. Shilpa T. Hajare

Assistant Professor,
NKP Salve Institute of Medical Sciences & Research Center

Dr. A. R. Deoke

Associate Professor,
NKP Salve Institute of Medical Sciences & Research Center

Dr. Ajeet V. Saoji

Professor,
NKP Salve Institute of Medical Sciences & Research Center

Abstract:

Introduction: Internet is defined as a world-wide computer network that can be accessed via a computer, mobile telephone, PDA, games machine, digital TV, etc. Though the positive aspects are renowned, there is growing concern regarding the increased usage of internet and its problems. Hence a study was undertaken to find out prevalence and associated risk factors of internet addiction

Methodology: A cross-sectional study was conducted at NKPSIMS & RC amongst Medical students with the help of predesigned and pretested questionnaire. The internet addiction was determined with the help of Young's internet addiction scale. The data was analysed in Epi-info software version 7.1.14.

Results: 3.48% of medical students were addicted to usage of internet, while 39.55% were the possible addicts. It was seen that those students who were using internet for more than 5 years were more addicted and difference was statistically significant (p= 0.009, OR 1.7). Those who used internet for more than 28 hours a week were more addicted (p=0.00001, OR= 19.09).

Conclusion: Continuous availability of internet, working parents, years of internet use, hours of use are some of the possible risk factors for internet addiction.

Keywords: Internet Addiction, Medical Students

I. INTRODUCTION

Internet is defined as a world-wide computer network that can be accessed via a computer, mobile telephone, PDA, games machine, digital TV, etc. The internet user is defined as individual, of any age, who can access the Internet at home, via any device type and connection. The prevalence of internet usage worldwide was 40.4% as on 1st July 2014 which has almost tripled in last 10 years (14.1% in 2004). India ranks third in the world in internet use and the prevalence in July 2014 was 19.19% as compared to 1.98% in 2004.("Number of Internet Users (2016) - Internet Live Stats," n.d.) The easy availability of information, quick business transactions, convenience of life through various new emerging online shopping websites, connectivity and freedom of expressing in the virtual world has made internet one of the most popular tools of communication.

Though the positive aspects are renowned, there is growing concern regarding the increased usage of internet and its problems.(Widyanto & McMurran, 2004) In recent years overuse of internet and its addiction is emerging as a public health issue. Internet addiction may affect one's working performance, social and family life, academic performance, physical and psychological health.(Kaltiala-Heino, Lintonen, & Rimpelä, 2004; n.d.-a; Yen, Ko, Yen, Wu, & Yang, 2007) Internet addiction is defined as a maladaptive pattern of Internet use, characterised by, psychological dependence, withdrawal symptoms when offline for prolonged periods, loss

of control, compulsive behaviour, and clinically significant impairment of normal social interactions or distress. ("Internet addiction disorder | definition of internet addiction disorder by Medical dictionary," n.d.)

AIMS & OBJECTIVES

- ✓ To find the prevalence of internet addiction in medical students.
- ✓ To find the various risk factors for internet addiction
- ✓ To find out association between various risk factors and internet addiction.

II. MATERIALS AND METHODS

A cross-sectional study was conducted at NKP Salve Institute of Medical Sciences & Research Centre, Nagpur during 2014-2015 after obtaining the approval from institutional ethics committee.

STUDY POPULATION, SAMPLE SIZE AND SAMPLING TECHNIQUE

The study population comprised of medical students from 1st, 2nd and 3rd MBBS course, interns and medical postgraduates of NKP Salve Institute of Medical Sciences. Sample size was calculated by assuming 50% prevalence which came out to be 400. The sampling technique used to select the students was multistage sampling. Total number of students was 787 of which 150, 184, 98 and 124 belonged to 1st, 2nd, 3rd MBBS part I and II respectively and medical interns were 98 and postgraduates were 133. All the students were numbered according to their roll numbers. 51% of students from each year as well as postgraduates and interns were included by simple random sampling to fulfil the sample size i.e. total 402 out of 787. Those students who were not willing to participate or were not using internet were excluded from the study.

DATA COLLECTION

The data was collected by questionnaire method after obtaining the informed consent from the students. The students were given a self-administered pre-validated questionnaire having three sections. The first section included questions regarding demographic profile of the student like age, sex and year in which studying. The second section consisted of questions like internet use for personal or educational purpose, hours of internet use per day/ per week and history of years of internet usage. The third section was of the addiction scale devised by K. S. Young(Young & Rodgers, 1998).

DATA ANALYSIS

Data was analysed with the help of Epi-Info software version 7.1.1.14 and p value of <0.05 was considered to be significant.

III. RESULTS

A cross-sectional study was conducted in tertiary care hospital in which 402 medical students were included. Out of them 231 (57.4%) were male and 171 (42.54%) were female. (Table 2) The medical students included in the study belonged to undergraduate and postgraduate courses. According to the Young's IAT scale it was seen that 3.48% of medical students were addicted to usage of internet, while 39.55% were the possible addicts. (Table 1)

Internet Addiction	Males (%)	Females (%)	Total (%)
No addiction	72 (31.17)	63 (36.84)	135 (33.58)
Mild	55 (23.81)	39 (22.81)	94 (23.38)
Moderate	96 (41.56)	63 (36.84)	159 (39.55)
Severe	8 (3.46)	6 (3.51)	14 (3.48)
Total	231 (100)	171 (100)	402 (100.00)

Table 1: Prevalence of Internet Addiction

Factor	Students	Percentage	X^2	P value
Age group				
17-22	281	69.90	16.498	0.057
22-27	108	26.87		
27-32	10	2.49		
32-37	3	0.75		
Total	402	100.00		
Sex				
Male	231	57.46	0.87	0.35
Female	171	42.54		
Total	402	100.00		
Study year				
I MBBS	77	19.15		
II MBBS	94	23.38	1.118	0.29
III MBBS -I	50	12.44		
III MBBS- II	63	15.67		
Interns	50	12.44		
Post graduates	68	16.92		
Total	402	100.00		
No. of Siblings				
0	45	11.19		
1	243	60.45	1.348	0.245
2	90	22.39		
3	18	4.48		
4	6	1.49		
Total	402	100.00		
Working Parents				
Single	271	67.41	6.241	0.012 (OR: 1.706 (1.120-2.599)
Both	131	32.59		
Total	402	100.00		
Internet at home				
Yes	340	84.58	16.768	0.00004(OR:3.747 (1.927- 7.288)
No	62	15.42		
Total	402	100.00		
Years of internet use				
< 1	50	12.44	6.75	0.009(OR: 1.7 (1.14-2.57)
1-5	183	45.52		
>5	169	42.04		
Total	402	100.00		
Device with internet*				

Personal computer	152	37.82		
Laptop	158	39.30		
Notebook	4	0.99		
Smart phone	274	68.16		
Hours of use				
<28	330	82.09	79.8526	0.000001 (OR: 19.09 (8.46-43.03)
>28	72	17.91		
Total	402	100.00		
Use of Internet				
Personal	19	4.73		
Educational	13	3.23		
Both	370	92.04		
Total	402	100.00		

**Multiple responses were allowed*
$p < 0.05$ was considered to be significant

Table 2: Association of Internet Addiction with various sociodemographic factors

Most of the students belonged to 1st and 2nd year MBBS course. The possible associated factors for internet addictions were both the parents working, those who had internet connections at their home or hostel room. It was seen that those students who were using internet for more than 5 years were more addicted and difference was statistically significant (p= 0.009, OR 1.7). Those who used internet for more than 28 hours a week were more addicted (p=0.00001, OR= 19.09). There was no agewise or genderwise difference in level of addiction. The internet addiction was also not associated with year of study. (Table 2).

IV. DISCUSSION

A cross-sectional study was conducted in a tertiary care teaching hospital amongst the medical students to find out the prevalence of internet addiction and its associated risk factors.

In the present study, according to Young's IAT scale(n.d.-b) the prevalence of internet addiction among medical students was 3.48%. which was in accordance with Kuss D J et al ("Internet addiction in adolescents: Prevalence and risk factors," n.d.) who reported prevalence of 3.7% in adolescents of Netherland. Similarly, Mashhor Al-hantoushi et al (n.d.-c)reported prevalence of 5.3% in secondary school students in Riyadh. Srijampana et al (Endreddy, Prabhath, Rajana, & Raju Srijampana, 2014)conducted a study in Guntur city and reported prevalence of 0.4% in medical students which is less than present study. This may be less penetration of internet as it's a small city. Malviya A et al(Malviya et al., 2014) reported prevalence of 9.5% which is quite higher than present study. The prevalence of internet addiction in male students was 3.46% and that in female students was 3.51%. The difference of prevalence amongst gender was statistically not significant which was also reported by Malviya A et al (Malviya et al., 2014)and Srijampana et al (Endreddy et al., 2014). A male preponderance to internet addiction was reported by Sharma A et al(Sharma, Sahu, Kasar, & Sharma, 2014) and Krishnamurthy et al(Krishnamurthy & Chetlapalli, 2015). There was no statistically significant difference agewise in the usage of internet in the present study, similar findings were reported by Fu K et al(Fu, Chan, Wong, & Yip, 2010), Krishnamurthy et al (Krishnamurthy & Chetlapalli, 2015)and Mashhor Al-hantoushi et al(n.d.-c). The difference of internet use among undergraduates and post graduates was statistically not significant. Krishnamurthy et al (Krishnamurthy & Chetlapalli, 2015)mentioned that students in initial years of coursework were more addicted to internet than later years but no comparison was done in undergraduates and post graduates. Sharma et al(Sharma et al., 2014) stated that there was statistically significant difference in internet use among students of different courses. The medical students who had one or more siblings had similar rate of internet use when compared with those having no siblings as the difference was statistically not significant. In the present study it was seen that students who had both parents working were more prone to internet addiction and the difference was statistically significant, whereas Krishnamurthy et al (Krishnamurthy & Chetlapalli, 2015)stated that parent's occupation was not related with student's addiction. The students who had internet connection at their homes or hostel rooms were more prone to internet addiction [OR: 3.75 (C.I.- 1.93- 7.29)]. It may because of easy and continuous access to internet. Krishnamurthy et al (Krishnamurthy & Chetlapalli, 2015)and Mashhor Al-hantoushi et al (n.d.-c)has also mentioned similar findings, those who had continuous access to internet and had own computer were more addicted to it. Years of internet use was also one of the risk factors for internet addiction in the present study [OR: 1.7 (1.14- 2.57)]. To the contrary of present study Krishnamurthy et al (Krishnamurthy & Chetlapalli, 2015)did not found any statistically significant difference. The hours spent on internet per week was also a major factor for internet addiction, those who spent more time on internet per week were more addicted [OR: 19.09 (8.46 – 43.03)]. Similar finding was reported by Krishnamurthy et al(Krishnamurthy & Chetlapalli, 2015).

Present study shows an increasing level of internet addiction in young Indian professionals which is of similar levels in both males and females. The new disease has multifactorial causation and needs further research to evaluate all risk factors.

V. CONCLUSION

In the developing country like India, internet addiction is still not recognised as a disease. The prevalence of internet addiction is increasing in young population abetting to internet for information and entertainment. Continuous availability of internet, working parents, years of internet use, hours of use are some of the possible risk factors for internet addiction which needs to be evaluated further with higher study designs.

REFERENCES

[1] Endreddy, A., Prabhath, K., Rajana, B., & Raju Srijampana, V. V. (2014). Prevalence and patterns of internet addiction among medical students. *Medical Journal of Dr. D.Y. Patil University*, *7*(6), 709. https://doi.org/10.4103/0975-2870.144851

[2] Fu, K., Chan, W. S. C., Wong, P. W. C., & Yip, P. S. F. (2010). Internet addiction: prevalence, discriminant validity and correlates among adolescents in Hong Kong.

The British Journal of Psychiatry, *196*(6), 486–492. https://doi.org/10.1192/bjp.bp.109.075002

[3] Internet addiction disorder | definition of internet addiction disorder by Medical dictionary. (n.d.). Retrieved June 22, 2016, from http://medical-dictionary.thefreedictionary.com/internet+addiction+disorder

[4] Internet addiction in adolescents: Prevalence and risk factors. (n.d.). Retrieved July 11, 2016, from http://www.sciencedirect.com/science/article/pii/S0747563213001052

[5] Kaltiala-Heino, R., Lintonen, T., & Rimpelä, A. (2004). Internet addiction? Potentially problematic use of the Internet in a population of 12–18 year-old adolescents. *Addiction Research & Theory*, *12*(1), 89–96. https://doi.org/10.1080/1606635031000098796

[6] Krishnamurthy, S., & Chetlapalli, S. (2015). Internet addiction: Prevalence and risk factors: A cross-sectional study among college students in Bengaluru, the Silicon Valley of India. *Indian Journal of Public Health*, *59*(2), 115. https://doi.org/10.4103/0019-557X.157531

[7] Malviya, A., Dixit, S., Shukla, H., Mishra, A., Jain, A., & Tripathi, A. (2014). A Study to evaluate Internet addiction disorder among students of a medical college and associated hospital of central India. *Natl J Community Med*, *5*(1), 93–95.

[8] Number of Internet Users (2016) - Internet Live Stats. (n.d.). Retrieved June 22, 2016, from http://www.internetlivestats.com/internet-users/#definitions

[9] Sharma, A., Sahu, R., Kasar, P., & Sharma, R. (2014). Internet addiction among professional courses students: A study from central India. *International Journal of Medical Science and Public Health*, *3*(8), 1. https://doi.org/10.5455/ijmsph.2014.180620142

[10] Widyanto, L., & McMurran, M. (2004). The psychometric properties of the internet addiction test. *Cyberpsychology & Behavior: The Impact of the Internet, Multimedia and Virtual Reality on Behavior and Society*, *7*(4), 443–450. https://doi.org/10.1089/cpb.2004.7.443

[11] Yen, J.-Y., Ko, C.-H., Yen, C.-F., Wu, H.-Y., & Yang, M.-J. (2007). The comorbid psychiatric symptoms of Internet addiction: attention deficit and hyperactivity disorder (ADHD), depression, social phobia, and hostility. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, *41*(1), 93–98. https://doi.org/10.1016/j.jadohealth.2007.02.002

[12] Young, K. S., & Rodgers, R. C. (1998). Internet addiction: Personality traits associated with its development. In *69th annual meeting of the Eastern Psychological Association* (pp. 40–50). Retrieved from http://www.netaddiction.com/articles/personality_correlates-1.pdf

[13] (n.d.-a). Retrieved June 22, 2016, from http://netaddiction.com/articles/cyberpsychology.pdf

[14] (n.d.-b). Retrieved June 22, 2016, from http://www.globaladdiction.org/dldocs/GLOBALADDICTION-Scales-InternetAddictionTest.pdf

[15] (n.d.-c). Retrieved July 11, 2016, from http://imsear.li.mahidol.ac.th/bitstream/123456789/153215/1/ijmsph2014v3n1p10.pdf