JMSR
Journal of Medical and Scientific Research

ORIGINAL RESEARCH

A comparative study of internet addiction among medical and engineering students

Venkata Abhilash Garapati[1], Vijayagopal Mopidevi[2], SriKrishna Nukala[1], Archana Vinnakota[1,*], Srinivas Singisetti[1], Shvetha Chilukuri [1], and Vidya Sanapala[1]

[1]Department of Psychiatry, GITAM Institute of Medical Sciences and Research, Visakhapatnam, AP., India
[2]Department of Psychiatry, GSL Medical College and General Hospital, Rajahmundry, AP., India

Abstract

Background: Internet is a tool that is evolving into an essential part of everyday life all over the world and its use is high among young people, not only in India but also worldwide in the last decade. Medical and engineering students in particular are the vulnerable group, considering that technology is incorporated into their education and they often have easy access to the internet at their respective campus.

Aim: To compare severity of internet addiction among medical and engineering students.

Methods: A cross sectional study was conducted among first year to final year M.B.B.S & engineering students. The students were recruited from a medical college and an engineering college in coastal Andhra Pradesh during 1st October 2016 to 31st March 2017. 100 medical students and 100 engineering students were selected for the study, after obtaining informed consent the subjects were subjected to a semi structured proforma wherein their demographic profiles were recorded and the main study tool Internet Addiction Test was used on the subjects.

Results: Out of a sample of 200 undergraduate students, 52% were mildly addicted, 79(39.5%) were moderately addicted while 9(4.5%) were severely addicted to internet. 8% of engineering students and 1% of medical students were found to have severe internet addiction.

Conclusion: Engineering students are severely addicted than medical students. Education curriculum also shows impact on severity of internet addiction.

Keywords: Medical students; engineering students; internet addiction test

***Corresponding author:** Dr. Archana Vinnakota, MD (Psychiatry), Assistant Professor, Department of Psychiatry, GITAM Institute of Medical Sciences and Research, Rushikonda, Visakhapatnam-530045, AP., India. Tel.: 9297106003; Email: vinnakotaarchana@gmail.com

Received 9 January 2020; *Revised* 10 March 2020; *Accepted* 20 March 2020; *Published* 27 March 2020

Citation: Garapati VA, Mopidevi V, Nukala S, Vinnakota A, Singisetti S, Chilukuri S, Sanapala V. A comparative study of internet addiction among medical and engineering students. J Med Sci Res. 2020; 8(2):66-70. DOI: http://dx.doi.org/10.17727/JMSR.2020/8-9

Introduction

Internet is a tool that is evolving into an essential part of everyday life all over the world [1], especially among young people, not only in India but also worldwide in the last decade. Some use internet to facilitate research, seek new information, interpersonal communication, and for business transactions, while others indulge in watching pornography, playing games, chatting and gambling. In spite of the widely perceived merits of internet, psychologists and educators have been aware of its negative impacts, especially the over or misuse related physical and psychological problems. The term "internet addiction" was proposed by Dr. Ivan Goldberg in 1996 for pathological compulsive internet use [2]. The internet addiction disorder (IAD) is best considered a compulsive impulsive spectrum disorder consisting of at least three subtypes: excessive gaming, sexual preoccupations, and email/ text messaging. All of the variants share the following four components: (1) Excessive use, (2) Withdrawal, (3) Tolerance, and (4) Negative repercussions, It is because many of features similar to those of pathological gambling, pyromania and kleptomania it has been cautiously included in the appendix of the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders.

As per Young [3] the types of internet addiction are: Cyber-sexual addiction, cyber-relationship addiction, net compulsions, information overload and computer addiction.

The Negative impacts of internet addiction on the academic, relationship, financial, and occupational aspects have been seen in lives of many people with varying frequency around the world [4-6]. Internet addiction is associated with psychomotor agitation, anxiety, craving [7] depression, hostility, substance experience [8], preoccupation, loss of control, withdrawal, impairment of function, reduced decision making ability [9] or constant online surfing despite negative effects on social and psychological welfare [10, 11]. Psychological and developmental characteristics of young adulthood, availability of time, limited parental supervision make college going students more vulnerable to addictions.

Research has shown that the overuse of internet leads to increased frequency of depression, anxiety and stress which in turn resulted in the disruption of the normal life of an individual and people around him [12-15].

Engineering students in particular are more vulnerable to internet addiction as technology is incorporated into their education and they often have an easy access to the internet at their respective campus. Studies in India have showed there is high internet addiction among college students but there are no studies comparing internet addiction among medical and engineering students. So this study was taken up, as such a comparison will throw light on the impact course of study have on internet addiction.

Aim: To compare the severity of internet addiction among medical and engineering students.

Materials and methods

This was a cross sectional study, that was conducted from 1st October 2016 to 31st March 2017, after obtaining necessary permission from Ethical committee review board. By taking prevalence of internet addiction as 50% among students of professional courses with relative error of 15%, sample size was calculated as 200. 100 medical students and 100 engineering students from a medical college and an engineering college in coastal Andhra Pradesh were selected for the study using random sampling technique. Persons aged 18-30 years, average online users &having control over their usage (or) who have experienced occasional or frequent problems because of their internet usage (as per the IAT) were included in this study. These students were interviewed and their socio demographic profile was recorded on a semi structured proforma, and were assessed on Internet Addiction Test (IAT). The IAT developed by Dr. Kimberly young in 1998 is a valid and reliable tool to measure the severity of internet addiction [16]. The IAT takes 5 to 10 min to complete when it is self-administered. The questionnaire consists of 20 statements rated on a 5 point scale measuring 0 to 5 the maximum score is 100 points, 0 to 30 score is considered as normal usage, 31 to 49 is mild internet addiction. 50 to 79 is moderate internet addiction and score of 80 and above is considered as severe addiction.

Statistical analysis

Data entry and statistical analysis was performed with the help of Microsoft excel 2010 and SPSS

version 21.0, while categorical variables are presented as number and percentages. Chi-square test was used to compare differences in categorical variables. The statistical significance level was fixed at $p<0.05$.

Results and discussion

In the total sample of 200 students, 52% were mildly addicted, 39.5% were moderately addicted, while only 4.5% were severely addicted to the internet in the current study (Tables 1 and 2). In a study by Tsai HF et al. [17], prevalence of internet addiction in Nepalese undergraduate students shows that large proportion of them (35.5%) were into internet addiction.

Table 1: Sociodemographic profile of medical and engineering students.

			Education	
			Medical	*Engineering*
Gender	Females	n	45	42
	Males	n	55	58
Socio-economic status	Lower middle	n	8	2
	Upper	n	57	77
	Upper middle	n	35	21
Domicile	Rural	n	19	39
	Urban	n	81	61

Table 2: Association between gender and IA severity.

			Gender		*Total*
			Females	*Males*	
IA severity	Mild	Frequency	39	65	104
		Percent	44.8%	57.5%	52.0%
	Moderate	Frequency	42	37	79
		Percent	48.3%	32.7%	39.5%
	Severe	Frequency	6	3	9
		Percent	6.9%	2.7%	4.5%
	No IA	Frequency	0	8	8
		Percent	0.0%	7.1%	4.0%
Total		Frequency	87	113	200
		Percent	100.0%	100.0%	100.0%

Chi-square: 12.650, df: 3, P value: 0.005, Statistically significant

Socio-demographic characteristics

In the present study gender (Table 2) had significant association with internet addiction, similar to the study findings of Sharma et al [18]. Severity of internet addiction had no significant association with socioeconomic status in the current study (Table 3). The study results were in contrast with those of Debata et al [19]. High addiction rates were observed in students coming from urban areas (Table 4). The study results are comparable with those of Kumar et al [20]. This finding may be due to the ease of availability of internet, less social interactions and less supervision at home in urban areas.

Internet addiction (IA) severity

8% of engineering students and 1% of medical students, were having severe internet addiction in the current study (Table 5). This difference may be due to the fact that engineering students are more technologically inclined than medical students.

Krishnamurthy et al [21], reported 37.6% and 8.2% of college students to be having mild and moderate internet addiction in his study. Surwase et al [22] study which was done on college going students in Nanded city, assessed internet addiction by using Young's scale noted 31.36 % and 34.49% of students to be having mild and moderate internet addiction

Table 3: Association between socioeconomic status (SES) and IA severity.

			SES			*Total*
			Lower middle	*Upper*	*Upper middle*	
IA severity	Mild	Frequency	8	64	32	104
		Percent	80.0%	47.8%	57.1%	52.0%
	Moderate	Frequency	2	55	22	79
		Percent	20.0%	41.0%	39.3%	39.5%
	Severe	Frequency	0	8	1	9
		Percent	0.0%	6.0%	1.8%	4.5%
	No IA	Frequency	0	7	1	8
		Percent	0.0%	5.2%	1.8%	4.0%
Total		Frequency	10	134	56	200
		Percent	100.0%	100.0%	100.0%	100.0%

Chi-square: 6.898, df: 6, P value: 0.330, Statistically not significant

Table 4: Association between domicile and IA severity.

			Domicile		*Total*
			Rural	*Urban*	
IA severity	Mild	Frequency	24	80	104
		Percent	41.4%	56.3%	52.0%
	Moderate	Frequency	26	53	79
		Percent	44.8%	37.3%	39.5%
	Severe	Frequency	7	2	9
		Percent	12.1%	1.4%	4.5%
	No IA	Frequency	1	7	8
		Percent	1.7%	4.9%	4.0%
Total		Frequency	58	142	200
		Percent	100.0%	100.0%	100.0%

Chi-square: 13.817, df:3, P value: 0.003, Statistically significant

Table 5: Internet addiction severity among medical and engineering students.

			Education		*P Value*
			Medical	*Engineering*	
IA severity	Mild	n	61	43	0.004*
		%	61.0%	43.0%	
	Moderate	n	32	47	
		%	32.0%	47.0%	
	Severe	n	1	8	
		%	1.0%	8.0%	
	No IA	n	6	2	
		%	6.0%	2.0%	

Compared to medical students engineering students are more addicted to internet $p<0.05$.

respectively. Minimal uniformity of the definitions employed or assessment methods used, differences in internet access, recruitment methodology, the exact age bracket studied, and the definitions utilized, resulted in the prevalence and severity of IA to vary widely and so are difficult to compare. The wide variation in the prevalence rates among various studies could be resolved by formulating a universal definition of internet addiction taking into consideration the current position internet has taken in day to day life.

Conclusion

Severity of internet addiction came out to be high among engineering students when compared to medical students. This difference may be attributed to the engineering curriculum which mandates high usage of internet by students to accomplish academic requirements. The findings of our study in one way reflect the quantum of effect the course of study has on internet addiction.

Future directions

Intervention programs should be developed to prevent internet addiction. It is important that health care professionals, be informed of problematic behaviours related to internet overuse. Future studies should attempt to determine the predictive factors by identifying the causal relations between internet addiction and the psychological characteristics in adults and adolescents. Government should consider modifications in education system such that the over dependency of academic curriculums on internet usage which will be harmful in long run is reduced.

Acknowledgement

To all the medical and engineering students who participated in the present study.

Conflicts of interest

Authors declare no conflicts of interest.

References

[1] Nalwa K, Anand AP. Internet addiction in students: A cause of concern. Cyberpsychology & behavior. 2003; 6(6):653–656.

[2] Wallis D. Just Click No. Talk story about Dr. Ivan K. Goldberg and the internet addiction disorder. January 13, 1997; p.28. Accessed on 2015 Dec 14. Available from: http://www.newyorker.com/magazine/1997/01/13/just-click-no

[3] Young KS. Internet addiction: A new clinical phenomenon and its consequences. American behavioural scientist. 2004; 48(4):402–415.

[4] Chou C, Hsiao MC. Internet addiction, usage, gratification, and pleasure experience: the Taiwan college students' case. Computers & Education. 2000; 35(1):65–80.

[5] Griffiths M. Does Internet and computer "addiction" exist? Some case study evidence. CyberPsychology and Behavior. 2000; 3(2):211–218.

[6] Young KS. Internet addiction: The emergence of a new clinical disorder. Cyberpsychology & behavior. 1998; 1(3):237–244.

[7] Ferraro G, Caci B, D'amico A, Blasi MD. Internet addiction disorder: an Italian study. CyberPsychology&Behavior. 2006;10(2):170–175.

[8] Ko CH, Yen JY, Chen CC, Chen SH, Wu K, et al. Tridimensional personality of adolescents with internet addiction and substance use experience. Can J Psychiatry. 2006; 51(14):887–894.

[9] Ko CH, Yen JY, Chen CC, Chen SH, Yen CF. Gender differences and related factors affecting online gaming addiction among Taiwanese adolescents. J Nerv Ment Dis. 2005; 193(4):273–277.

[10] Shaw M, Black DW. Internet addiction. CNS drugs. 2008; 22(5):353–365.

[11] Tao R, Huang X, Wang J, Zhang H, Zhang Y, et al. Proposed diagnostic criteria for internet addiction. Addiction. 2010; 105(3):556–564.

[12] Kraut R, Patterson M, Lundmark V, Kiesler S, Mukophadhyay T, et al. Internet paradox: A social technology that reduces social involvement and psychological well-being?. American psychologist. 1998; 53(9):1017.

[13] McKenna KY, Bargh JA. Plan 9 from cyberspace: The implications of the internet for personality and social psychology. Personality and social psychology review. 2000; 4(1):57–75.

[14] Nie NH, Hillygus DS, Erbring L. Internet use, interpersonal relations, and sociability. The internet in everyday life. 2002; 13:215–243.

[15] Egger O, Rauterberg M. Internet behaviour and addiction. Semester thesis: Swiss federal institute of technology, Zurich, 1996. Accessed from: https://rauterberg.employee.id.tue.nl/ibq/report.pdf

[16] Widyanto L, Griffiths MD, Brunsden V. A psychometric comparison of the internet addiction test, the internet-related problem scale, and self-diagnosis. Cyberpsychology, Behavior, and Social Networking. 2011; 14(3):141–149.

[17] Tsai HF, Cheng SH, Yeh TL, Shih CC, Chen KC, et al. The risk factors of internet addiction—a survey of university freshmen. Psychiatry research. 2009; 167(3):294–299.

[18] 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.

[19] Debata I, Kumar S, Philip G. A cross sectional study evaluating internet addiction and depression levels among medical and engineering students of Bengaluru city. National J Community Med. 2018; 9(5):346–350.

[20] Kumar S, Debata I. Study to assess internet usage patterns and prevalence of internet addiction among medical and engineering students of Bengaluru city. Int J Community Med Public Health. 2018; 5(6):2331.

[21] Krishnamurthy S, Chetlapalli SK. Internet addiction: Prevalence and risk factors: A cross-sectional study among college students in Bengaluru, the silicon valley of India. Indian J Public Health. 2015; 59(2):115.

[22] Surwase K, Adikane H, Bagdey P, Narlawar U. A Cross sectional study on the prevalence of internet addiction and its association with mental health among college going students in Nanded city. Sch J Appl Med Sci. 2017; 5(2):385–390.