ORIGINAL RESEARCH ARTICLE

Prevalence of internet usage among selected professional college students in Puducherry

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ABSTRACT

Background: Internet usage has been rapidly increasing among the general population in the modern era. India has been ranked fourth among highest number of internet users next to China, U.S and Japan. Even though the internet provides better opportunities for communication, information and social interaction, its excessive use leads to addictive behavior with mental health implications. Taking this into consideration we conducted a study to assess the prevalence and levels of internet addiction and to determine the behavior aspects among professional college students. **Methods:** A cross sectional study was conducted among 600 undergraduate students of medical, dental and nursing colleges from December 2017 to March 2018 by using population proportion to sample size and by stratified sampling technique. Internet addiction was analyzed using internet addiction test questionnaire. **Result:** Among 600 students, 94.8% males were more addicted to internet than females (83.4%). Internet addiction was present in 87.5% of students. BDS students (90%) were more addicted to internet than nursing and medical college students. Internet addiction between males and females were found to be statistically significant. About 70.8% of students used internet for social networking. 58.8% of students had mild level of internet addiction and only 1.5% students had severe level of internet addiction. Among those who were addicted to internet, females had decreased outdoor activity due to internet usage, had felt sleeplessness due to late night log in and were depressed when offline. **Conclusion:** Internet usage has been increased among the professional college students which will also affect the physical and mental health. An awareness regarding the internet use and opportunities for recreational activities should also be created.

Key Words: Internet usage, Internet addiction test, Professional college students

INTRODUCTION

Internet is increasingly becoming more and more useful and a necessity among people. It has become an integral part of the day-to-day life of people worldwide. [1] As reported, globally the number of internet users have been increased from 360 million in December 2000 to 4.1 billion in December 2017 and hence the worldwide internet penetration is almost 54.4% of the population. Apparently in Asia, the number has been increased from 114 million internet users in December 2000 to 2.02 billion in December 2017 and the internet penetration is 48.1% of the population. [2] According to a report from the Internet and Mobile Association of India and Market Research Bureau International, internet usage in India were about 462 million in December 2017 as compared to 137 million in 2012, and the internet penetration in India is 34.1% of the population. [3] Internet addiction is defined as any online related, compulsive behavior which interferes with normal life, causing severe stress on relationship and work environment. It is a compulsive impulse control disorder

consisting of three sub-types such as excessive gaming, sexual preoccupation and e-mail/text messaging. The four components of internet addictions are [4]

1) Increased use associated with loss of time,

2) Withdrawal, which includes feelings of anger, tension, depression when the computer is inaccessible,

3) Tolerance, which includes the need for better computer equipment, more software, or more hours of use, and

4) Negative repercussions, which includes arguments, lying, poor achievement, social isolation, and fatigue.

The invasion of worldwide web applications in daily life makes the adolescent community increasingly susceptible to the internet addiction. Many research studies have been focused on internet addiction across the world especially among adolescent community. It would be interesting to know the internet addiction levels among various professional college students. The finding of the study will also help for future researches on internet addiction.

AIMS AND OBJECTIVES:

1. To assess the prevalence of internet addiction among professional college students in Puducherry

2. To determine the levels of internet addiction and behavioral aspects among the study population

MATERIAL AND METHODS

A cross sectional study was carried out among undergraduate students of medical, dental and nursing colleges within Sri Venkateshwara Medical College Hospital & Research Centre Campus, Puducherry. The study was conducted for over a period of four months from Dec 2017 to March 2018. The inclusion criteria were students of medical, dental and nursing colleges who had history of using the internet for the past 1 year. The exclusion criteria were those students who were not using internet for more than 3 months and those students who remained absent for a long period. The sample size was calculated using the formula $n=Z^2pq/d^2$ (where Z=1.96 at 95% confidence; a similar study done by Sharma A et al, [6] reported prevalence of internet addiction of 42.7%, with an allowable error of 10% of p. The sample size thus yielded was 550 which was rounded to 600. The final sample in each college was selected using population proportion to sample size. In each college, equal number of students per year were decided. In each year, stratified sampling technique was used in selecting the study subjects.

The primary study tool was a semi structured questionnaire. The questionnaire included sections on demographic characteristics such as age, sex, education, etc. and also details about usage of the internet and behavior aspects. Questions pertaining to levels of internet addiction was done using the standardized "Internet Addiction Test" (IAT) questionnaire which was developed by Dr. Kimberly S. Young in 1998. IAT is a 20-item questionnaire in 6-point Likert scale with scores ranging from 0 to 5 for each item, which measures the severity of self-reported compulsive use of the internet. After all the questions had been answered, numbers for each response were added to obtain a final score. Total internet addiction scores were calculated, with possible scores for the sum of 20 items ranging from 0 to 100. Higher the score, greater were the level of internet addiction and the problems internet usage causes. A score of 0-19 were considered as no addiction/normal internet usage, 20-49 points as mild addiction, 50-79 as moderate addiction and 80-100 as severe addiction. [5]

The study was conducted after obtaining the necessary clearance from Scientific Research Committee and Institutional Human Ethics committee. Permission was obtained from the Dean/ Principals of the medical, nursing and dental colleges. The purpose of collection of data was explained to the respondents after brief introduction. The eligible respondent was interviewed after obtaining the written informed consent. Confidentiality were maintained. Data were entered in Microsoft Excel sheet. Analysis was carried out by using SPSS version 23. Baseline data were expressed as Mean and Standard Deviation for continuous variable and proportion for categorical variable.

Association were assessed using Chi square test and odds ratio.

RESULTS

Out of the total 600 students, 213 (35.5%) were males and 387 (64.5%) were females. The mean age of the students was 18.99 ((±1.305)) years. The internet addiction was present in 525 (87.5%) students. Males (94.8%) were reported to have more internet addiction than Females (83.4%). Among the various professional colleges, BDS students (90%) were more addicted to internet followed by nursing (87.7%) and MBBS students (85.6). The internet addiction between males and females were found to be statistically significant (p value <0.05) [Table 1].

Table No:1 Association of internet addiction with demographic characteristics: (N=600)

Characteristics		Internet addiction Present	Internet addiction Absent	Total (%)	Chi-square (P value)	Odds ratio (95% C I)
Gender	Male	202	11	213 (35.5)	16.247 (0.000)	3.6386 (1.8741-7.0643)
	Female	323	64	387 (64.5)		
Age (years)	≤20	461	66	527 (87.8)	0.002 (0.962)	0.9822 (0.4668-2.0668)
	>20	64	9	73 (12.2)		
Course	MBBS	214	36	250 (41.7)	1.809 (0.405)	1
	BDS	153	17	170 (28.3)		1.219 (0.6605-0.3578)
	Nursing	158	22	180 (30)		1.4619 (0.8277-0.4686)
Current residential status	Hosteller	157	22	179 (29.8)	0.010 (0.919)	1.0278 (0.6043-1.7480)
	Day scholar	368	53	421 (70.2)		

Table No:2 Information Regarding Usage of Internet among Study Population (N=600)

Variables		No	%
Internet addiction			
i.	Present	525	87.5
ii.	Absent	75	12.5
Time spent on internet per day			
i.	<2 hours	474	79
ii.	2-3 hours	87	14.5
iii.	≥2 hours	39	6.5
Years exposed to internet			
i.	1-5 years	442	73.7
ii.	6-10 years	112	18.7
iii.	11-15 years	46	7.7
Source of internet access (*)			
i.	Personal Desktop	61	10.1
ii.	Laptop	86	14.3
iii.	Mobile Phone	543	90.5
iv.	Cyber Café	8	1.3
v.	Library	4	1.4
Monthly expenditure for internet (Rupees)			
i.	<100	120	20
ii.	100-199	153	25.5

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iii.	200-299	79	13.2
iv.	300-399	151	25.2
v.	400-499	45	7.5
vi.	500 or more.	52	8.7
Commonly used Website (*)			
i.	Google	255	42.6
ii.	All Social networking	427	70.8
iii.	Wikipedia	61	10.1
iv.	You tube	174	29
v.	Others	4	0.8
Using internet better than textbooks			
i.	Yes	345	57.5
ii.	No	255	42.5
If yes, reason (multiple answer)			
i.	Time saving	64	10.7
ii.	Easy accessibility	115	19.2
iii.	Updated knowledge	173	28.7
iv.	Input from multiple sources	79	13.2
v.	Others (specify)	2	0.4
Purpose of internet activities (*)			
i.	Entertainment	344	57.4
ii.	Social networking (only Facebook/ WhatsApp)	330	40.9
iii.	Internet conferences	14	2.7
iv.	Email communication	42	7.2
v.	Research	101	8.6
vi.	Educational	203	33.9
vii.	Others	2	0.4

As multiple responses

Table:3 Levels of Internet Addiction among the study population (N=600)

Levels of Internet Addiction (score)	No.	%
No addiction/ normal internet usage (0-19)	75	12.5
Mild addiction (20-49)	353	58.8
Moderate addiction (50-79)	163	27.2
Severe addiction (80-100)	9	1.5

About 73.7% of students had started using internet since last 5 years. Most of the students (90.5%) accessed internet through mobile phones. 70.8% of students had used social networking such as WhatsApp, Facebook, twitter, Instagram as the commonly used website. About 57.5% of students reported that using internet was better than textbooks and the reason most of the students answered was that they will get updated knowledge from internet. Majority of the study participants (57.4%) had used internet for entertainment purpose such as watching movies and playing video games [Table 2]. Among the 600 students, the internet addiction test scoring had showed that 12.5% had no addiction, 58.8% had mild internet addiction, 27.2% had moderate internet addiction and 1.5% of students had severe internet addiction [Table 3]. Among the study participants who were addicted to internet, females (188) had outdoor activity time decreased due to internet when compared to males and was found to be

statistically significant. About 153 female internet addictors felt making friends online was beneficial and statistical significance was found. More females (290) than males had sleeplessness due to late night log ins and was statistically significant. 268 females when compared with 181 males who were addicted to internet have told that spending more time online is better than going out with friends and the differences were also statistically significant. Most of the female students (260) had felt depressed when offline and there was statistical significance (p=0.005) [Table 4].

DISCUSSION

In this study, the internet addiction was present in about 87.5% of students of various professional colleges, out of which 58.8% students had mild internet addiction where as in a similar study done by Sharma A et al the internet addiction was present in 42.7% of students.[6] In another study by Shety SKC et al it has been reported that internet addiction was present in 90% of medical students.[7] Salehi M et al had reported that only 7.3% medical students from Iran were addicted to internet.[8] Similar study done in Vietnam by Tran et al, only 21.2% of students were addicted to internet.[9] The reason for the increased prevalence could be due to the reduced rates and offers provided for internet recharge and also it has been found as the simple and easy method for communicating and entertaining. The mean age of the students in this study was 18.99 (±1.305) years and no statistical significance was found with age and internet addiction. Sharma A et al had reported the mean age for their study as 17 years which was also not statistically significant between age and internet addiction. [6] Similar study by Sulania et al, the mean age was 20.3(±1.4) years and was also not statistically significant between age and internet addiction. [10] Kuss D J et al had done internet addiction among adolescents and found that 14 years of age was more addicted to internet than any other age group. [11] This shows that there is no association between the age and internet usage.

Females were found to be more addicted to internet than males in this study and was found to be statistically significant. In the study done in Netherland by Kuss D J et al, [11] females were more addicted to internet and was not statistically significant. But in a study done by Sharma A et al and Sulania et al the males were found to be more addicted to internet. [6,10] Also, in a study done by Salehi M et al male Iranian students were more addicted to internet and was statistically significant. [8] Tran et al [9] had done a study among Vietnam students resulted that males were more addicted to internet. Most of the studies have shown that males were more addicted to internet because they had interest in online games, pornography and gambling activities but in this study, females were found to have addicted to internet mostly to social networking, entertainment and educational purpose. Among the 3 professional college students, BDS students were found to be more addicted to internet than nursing and MBBS students. It could be due to majority of BDS

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students were staying outside while more of nursing and MBBS students were hostellers. In a study done by Sharma

Table:4 Comparison between behavior aspects of internet users by sex

Characteristics	Internet addiction	Sex		Chi-square (p value)	Odds ratio (95% CI)
		Male (n=213)	Female (n=387)		
Outdoor activity time decreased due to internet	Yes	122	188	4.165 (0.041)	1.4191 (1.0133-1.9874)
	No	91	199		
Feeling lonely when using internet	Yes	45	62	2.444 (0.118)	1.4041 (0.9165-2.1512)
	No	168	325		
Making friends online is beneficial	Yes	103	153	4.371 (0.037)	1.4321 (1.0221-2.0065)
	No	110	234		
Fear of being bored, empty or joyless	Yes	182	314	1.780 (0.182)	1.3649 (0.8633-2.1581)
	No	31	73		
Feel sleeplessness due to late night log-ins	Yes	191	290	18.763 (0.000)	2.9039 (1.7656-4.7762)
	No	22	97		
Spending more time on-line is better than going out with friends	Yes	181	268	18.040 (0.000)	2.5115 (1.6281-3.8743)
	No	32	119		
Feels depressed when offline	Yes	166	260	7.712 (0.005)	1.7252 (1.1714-2.5409)
	No	47	127		

A et al [6] BPT students were addicted to internet followed by BE, MBBS and Nursing students. Hashemian A reported in his study the prevalence of internet addiction was more in medical students when compared to non-medical students (P <0.001). [12] Day scholars or those living outside hostel were found to be more addicted to internet than hostellers in this study. Whereas in a study by Sulania et al showed that those who were hosteller were more addicted to internet than days scholar. [10] Tran et al also reported that among vietnamm students, those staying in hostel were more addicted to internet. [9] Most of the students have told that they had used internet only for <2 hrs. per day. Sharma A et al also had reported the same, the mean time spent on internet per day was 1.29 ((±1.251) hours. [6] [13] Krishnamurthy S et al had reported that majority of the participants had used internet for less than 5 hours per day. [8] Salehi et al reported that the mean length of internet usage was 1.87(±1.72) hours per day. Srijampana et al also reported daily average internet usage of medical students were <3 hrs. [14] This might be due to the speed of internet connection which may affect the time spent on internet. Majority of the students had used mobile phones for surfing internet and social networking such as WhatsApp, Facebook, Instagram. Few students told that they had used internet for other purpose such as online shopping, gaming, etc. 100 students had used internet for research purpose. Kapadia R et al reported that most of the students had used mobile phone to access the internet and the main purpose used was for entertainment, chatting and

also for study purpose. [1] Sulania et al also reported the same purpose of internet use among the students. [10] In most of the studies, mobile phone was used as easy access to internet [13,14] and social networking was the main purpose for using internet. [15,16,17] Some students in our study had told that they had used internet for leisure activity. Majority of the students in this study reported that using internet was better than reading textbooks because of updated knowledge from internet and was also easy to assess. In a study by Kapadia R et al had also reported the same reasons for preferring internet over books. [1] In this study significantly, more females than males had decreased time for outdoor activity due to internet, felt sleeplessness due to late night log-in, felt depressed and moody when they were offline from internet and also felt that spending time online was better than going out with friends. Similar study done by Sharma A et al reported that more males than females felt bored without internet, felt sleepless due to online till late night, found internet was better than going out with friends, decreased outdoor activity due to internet. This shows that those who were addicted to internet have decreased time for outdoor activity such as sports activity, going out with friends or family, they also had delayed their work activity because of their usage with internet, they felt lonely and also had decreased sleep. [6] In our study, boys had more outdoor activity such as sports, going out with friends and enjoying than the girls. This shows that the person with less addiction has more of social healthy well-being than others.

CONCLUSION: Internet addiction has been considered as a serious problem among professional college students which will also affect their mental and physical health. So, it is necessary to take interventional measures for preventing internet addiction and initiatives would also be created by giving more opportunities for recreational and extracurricular activities. Awareness regarding the usage of internet will also be given to promote better healthy life.

REFERENCES

1. Kapadia R, Prajapati D, Bharucha P. Evaluation of internet addiction among students of medical college in Ahmedabad. International Journal of Health Sciences & Research.2015;5(9):36-40

2. Internet users in the world: distribution by world regions – 2017, Q2. Internet World Stats: Usage and population statistics. Available from: URL: http://www.internetworldstats.com/stats.htm. (Accessed on 20/09/2018)

3. Internet and mobile association of India. I Cube 2017 Study. Available from: http://www.iamai.in/reports1.aspx (Accessed on 20/09/2018)

4. Malviya A, Dixit S, Shukla H, Mishra A, Jain A, Tripathi A. A study to evaluate internet addiction disorder among students of a medical College and associated hospital of Central India. National Journal of Community Medicine.2014; 5(1):93-95

5. Young K.S. Internet addiction: The emergence of a new clinical disorder. Cyberpsychol Behav 1996; 3:237 44.

6. Sharma A, Sahu R, Kasar P K, Sharma R. Internet addiction among professional courses students: a study from central India. International Journal of Medical Science and Public Health.2014; 3(9): 1069-73

7. Setty SKC, Rani K S, Usha L V R. A cross sectional study of internet addiction in undergraduate medical students. IOSR Journal of Dental and Medical Sciences.2015; 14(12):108-11

8. Salehi M, Khalili M N, Hojjat S K, Salehi M, Danesh A. Prevalence of internet addiction and associated factors among medical students from Mashhad Iran in 2013. Iran Red Cresent Med J. 2014; 16 (5): e17256

9. Tran B X, Huong L T, Hinh N D, et al. A study on the influence of internet addiction and online interpersonal influences on health-related quality of life in young Vietnamese. BMC Public Health.2017;17:138

10. Sulania A, Sachdeva S, Dwivedi N. Risk of internet addiction among undergraduate medical, nursing, and lab technology students of a health institution from Delhi, India. Digit Med 2015; 1:72-8

11. Kuss D J, Van Rooij A J, Shorter G W, Griffiths M D, Mheen V D. Internet addiction in adolescents: Prevalence and risk factors. Computers in human behavior 2013; 29(5):1987-96

12. Hashemian A, Direkvand-Moghadam A, Delpisheh A, Direkand-Moghadam A. Prevalence of internet addiction among university students in Ilam: a cross-sectional study. Int J Epidemiol Res. 2014; 1(1): 9-15.

13. 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; 59:115-21.

14. Raju Srijampana VG, Endreddy AR, Prabhath K, Rajana B. Prevalence and patterns of internet addiction among medical students. Med J DY Patil Univ 2014; 7:709-13.

15. Sharma K D, Gupta I D, Gunjan, Sharma V, Sharma R, Sharma D. Internet addiction pattern among high school students of Jaipur city: A Descriptive Study. International Multispecialty Journal of Health. 2016;2(5):25-31

16. Gholamian B, Shahnazi H, Hassanzadeh A. The prevalence of internet addiction and its association with depression, anxiety, and stress, among high-school students. Int J Pediatr 2017; 5(4): 4763-70.

17. Haque M, Rahman N AA, Majumder M A A, et al. Internet use and addiction among medical students of University Sultan Zainal Abidin, Malaysia. Psychology Research and Behavior Management 2016:9: 297–307

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