Original Research Article

Comparative study of internet addiction between male and female students of a medical college of Gujarat

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Abstract: In the new generation, the Internet has become an important tool for education, entertainment, communication, and information-sharing. In tandem with the splurge in access to the Internet globally, the risk of "internet addiction" is emerging as a significant behavioral addiction pandemic. In present cross sectional study, 212 students (143 Male and 69 Female) among total 425 medical students of 1st, 2nd and 3rd year MBBS, who were using internet daily and consented to participate were included. Young's Internet Addiction Test (YIAT20) was used to study the level of internet addiction. Higher internet addiction score was observed in male as compared to female. Median Internet addiction score among male was 43 as compared to 27 among female and the difference was statistically significant. Statistically significant difference was also observed for median time spent on internet for non educational purpose, median total time spent on internet, money spent per month for internet. Male had statistically significant higher problem of change of lifestyle, Sleep disturbance. Change in dietary behavior, Depression, disturbance in study and relationship problem were also found more among male compared to female. Thus, watch over the use of internet by parents and colleges necessary to prevent and stop emerging internet addiction.

Keywords: Internet addiction, student, Young's Internet Addiction Test

INTRODUCTION

In the new generation, the Internet has become an important tool for education, entertainment, communication, and information-sharing. Easy access and social networking are two of the several aspects of the Internet fostering addictive behavior[1]. The unique characteristics of the internet such as its 24 hour availability, simple working, low cost, anonymity of its users and etc. have welcomed many people throughout the world[2]. In tandem with the splurge in access to the Internet globally, with the rise of new-generation gadgets, the risk of "internet addiction" is emerging as a significant behavioral addiction pandemic to be tackled worldwide[3]. Internet addiction commonly refers to an individual's inability to control his or her use of the Internet (including any online-related, compulsive behavior), which eventually causes one's marked distress and functional impairment in daily life. Research studies in the Western and Asian contexts suggest that the risk of Internet addiction among young people is increasing[4].

Internet addiction in adolescence can have a negative impact on identity formation and may negatively affect cognitive functioning, lead to poor academic performance and engagement in risky activities, and inculcate poor dietary habits[5].

The use of the internet on school campuses and in society has increased dramatically in recent years. Whereas the academic use of the internet is primarily intended for learning and research, the internet has also become an important part of student life. More and more students are addicted to internet, while spending lots of time surfing on the internet. Such indulgence damages their health, sleep, studying and family relationship[6].

Internet addiction comprises a heterogeneous spectrum of internet activities with a potential illness value, such as gaming, shopping, gambling, or social networking[7]. College students are especially vulnerable to developing dependence on the Internet, more than most other segments of the society. This can

be attributed to several factors including the following: Availability of time; ease of use; unlimited access to the Internet; the psychological and developmental characteristics of young adulthood; limited or no parental supervision; an expectation of Internet/computer use implicitly if not explicitly, as some courses are Internet-dependent, from assignments and projects to communication with peers and mentors; the Internet offering a route of escape from exam stress[8] all of which make Internet overuse a significant cause of concern for parents and faculty.

Behavioral addictions should not be ignored because of the lack of "material"[9]. The fourth and the last edition of Diagnostic and Statistical Manual of Mental Disorders, (DSM-IV-TR) introduced the Internet addiction as a set of "impulse control disorders not specified as another kind" and the same disorder in the next edition of 2011 had been classified under the same category[10].

In general male use internet more compared to female. The literature contains only a limited number of studies which investigated comparison of internet addiction among male and female students. The present study was conducted considering the above facts, with the objective to compare level of internet addiction and factors affecting it among medical male and female students of MBBS studying at P D U Govt. Medical College, Rajkot, Gujarat, India.

MATERIAL AND METHODS

The present cross sectional study was conducted among medical students of 1st, 2nd and 3rd year MBBS studying at P D U Govt. Medical College, Rajkot, India. All medical students were invited to participate in the study. 425 medical students were studying in MBBS in P D U Govt. Medical College, Rajkot. Out of 425 medical students approached, 212 students (143 Male and 69 Female) who were using internet daily and consented to participate were included in the study, so almost 50% medical students participated in the study. The students were assured about confidentiality of information and informed consent was taken for participation following a brief about the nature and potential value of the study. Despite the convenience sampling procedure employed, attempt was made to secure a sampling procedure as unbiased as possible. The data was collected from April 2013 to June 2013.

The questionnaire was anonymous and self administered. The questionnaire was in English and also included basic demographic data like age, sex, residential and socio-economic status. Young's Internet Addiction Test (YIAT20) was used to study the level of internet addiction. It is a 20 – item questionnaire, answered in a five – point Likert scale. It covers the degree to which their internet use affects their daily routine, social life, productivity, sleeping pattern and feelings. The responses to the questions were on a five point Likert scale, rarely=1, occasionally=2, frequently=3, often=4 and always=5. After all the questions have been answered, numbers for each response are added to obtain a final score. The minimum score is 20, and the maximum is 100; Higher the score, greater the level of internet addiction and the problems internet usage causes. Young suggests that a score of 20 – 49 points is an average online user who has complete control over his/her usage, A score of 50 – 79 signifies occasional or frequent problems due to internet usage, and a score of 80 – 100 means that the internet usage is causing significant problems. The rationale for choosing Young's diagnostic questionnaire for the study was that it is the first global psychometric measure and hence has been extensively and frequently used across many studies globally, is self-completed, has been validated on adult and adolescent populations, and has good internal consistency reliability as well as concurrent validity. In a recent meta-analysis study drawing from a large sample of studies conducted to determine the overall value for the reliability YIAT20, the mean differences showed that it is more reliable in college students and probably in Asia. The overall Cronbach's computed from the studies was 0.889 [95% confidence interval (CI) 0.884-0.895]. The standard deviation of the alpha was low, at 0.049[11].

All data were carefully cleaned and checked for accuracy. The data was then entered and analyzed in Epi Info version 3.5.1 (CDC, Atlanta) software[12]. The chi square test, Odds Ration and Mann Whitney U test were used to analyze the data. Mann Whitney U test was applied using freely available statistical calculator[13].

RESULTS

Comparison of socio demographic characteristics of study participants are shown in Table 1. Out of total 212 students, 143 (67.5%) were male and 69 (32.5%) were female students. In both the groups, majority (63.6% male and 75.4% female) were between 17 – 20 years. Both groups were comparable in terms of year of study (44.8% male and 60.9% female were from third year), area of residence (93.7% male and 95.7% female were from urban area) and social class (68.5% male and 60.9% female were from class I). Majority of boys were currently living in hostel (60.1%) whereas 49.3% girls were currently living at home. As compared to 73.9% girls, 92.3% boys had mobile phone as a source of internet use.

Comparison of internet addiction level in male and female is shown in figure 1 and figure 2. Higher internet addiction score was observed in male as compared to female. Out of 143 male, 50 (35%)

students had score ≥ 50 whereas out 69 female, 12 (17%) students had score ≥ 50.

Median Internet addiction score among male was 43 as compared to 27 among female and the difference was statistically significant (z = 5.92, p = 0.000). Median time spent on internet for educational purpose was 60 minutes among male as compared to 30 minutes among female and the difference was statistically significant (z = 2.94, p = 0.003). Statistically significant difference was also observed for median time spent on internet for non educational purpose (120 minutes for male and 60 minutes for female, z = 5.27, p = 0.000), median total time spent on internet (150 minutes for male and 75 minutes for female, z = 5.29, p = 0.000), money spent per month for internet (125 Rs. for male and 100 Rs. for female, z = 24.61, p = 0.000). 45.5% male students were using internet for more than 2 years as compared to 14.5% female students and the difference of internet usage among male and female students was statistically significant (χ^2 = 22.84, p = 0.000).

More male students (16.8%) were found of cyber sexual addict as compared to 2.9% among female students and the difference was statistically significant (p = 0.004). 90.9% male and 84.1% female were using social networking, 81.8% male and 71.0% female students were using internet for educational searching/searching for information, 32.9% male and 21.7% female students were doing purpose surfing and 22.4% male and 15.9% female students were using internet for online shopping.

Overall male had more effects of internet usage compared to female. Male had statistically significant higher problem of change of lifestyle (67.8% Male vs. 46.4% Female), Sleep disturbance (46.9% Male vs. 30.4% Female). Change in dietary behavior, Depression, disturbance in study and relationship problem were also found more among male compared to female.
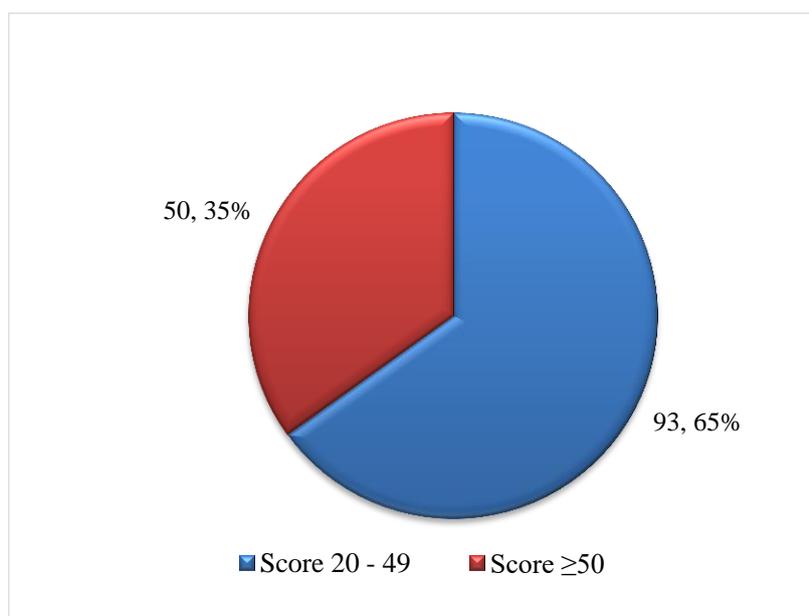

50, 35%

93, 65%

■ Score 20 - 49   ■ Score ≥50

Fig-1: Young's Internet Addiction Score among Male

12, 17%

57, 83%

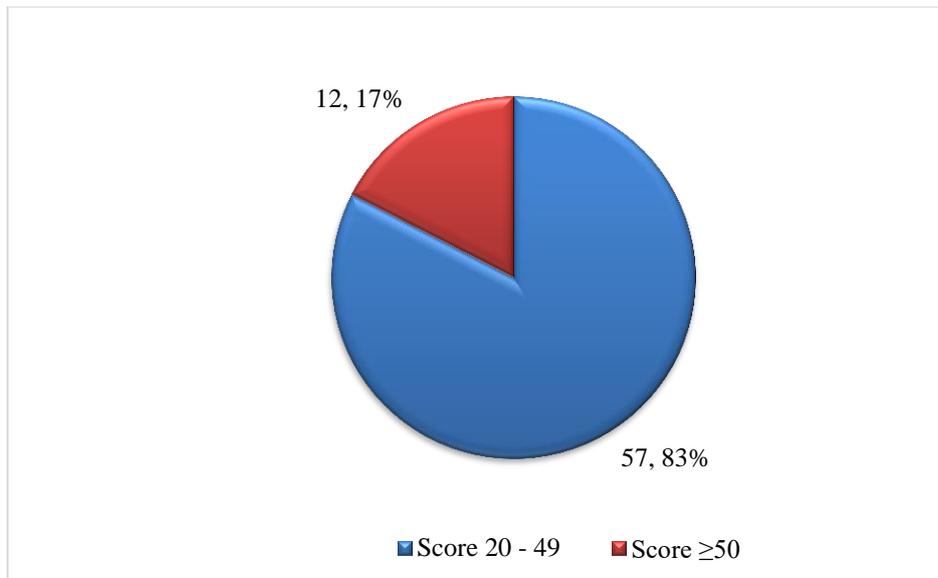■Score 20 - 49   ■Score ≥50

Fig- 2: Young's Internet Addiction Score among Female

Table 1: Comparison of socio demographic characteristics of students

Particular	Male (n=143)	Female (n=69)
Age		
17 – 20 years	91 (63.6%)	52 (75.4%)
21 – 25 years	52 (36.4%)	17 (24.6%)
Mean (SD)	20.11 (1.87)	19.9 (1.20)
Study Year		
First	38 (26.6%)	9 (13.0%)
Second	41 (28.7%)	18 (26.0%)
Third	64 (44.8%)	42 (60.9%)
Residence		
Urban	134 (93.7%)	66 (95.7%)
Rural	9 (6.3%)	3 (4.3%)
Social Class		
Class I	98 (68.5%)	42 (60.9%)
Class II	27 (18.9%)	18 (26.1%)
Class III	11 (7.7%)	9 (13.0%)
Class IV	7 (4.9%)	0 (0%)
Living Arrangement		
Home	52 (36.4%)	34 (49.3%)
Hostel	86 (60.1%)	33 (47.8%)
Other	5 (3.5%)	2 (2.9%)
Source of internet use		
Mobile Phone	132 (92.3%)	51 (73.9%)
Laptop/ Computer	48 (33.6%)	25 (36.2%)
Cybercafe	13 (9.1%)	4 (5.8%)
College internet	9 (6.3%)	2 (2.9%)
Other	9 (6.3%)	3 (4.3%)

Table 2: Comparison of pattern of internet usage among study participants

Particular	Male (n = 143)	Female (n = 69)
Time spent on internet for educational purpose		
< 60 Minutes	70 (49.0%)	48 (33.6%)
60 – 120 Minutes	52 (36.4%)	17 (24.6%)
≥ 120 Minutes	21 (14.7%)	4 (5.8%)
Mean (SD)	52.13 (43.89)	35.43 (3.74)
Median (Interquartile Range)	60.0 (30)	30.0 (45)
Mann Whitney U test: z = 2.941, p = 0.003		
Time spent on internet for non educational purpose		
< 60 Minutes	14 (9.8%)	27 (39.1%)
60 – 120 Minutes	52 (36.4%)	23 (33.3%)
≥ 120 Minutes	77 (53.9%)	19 (27.5%)
Mean (SD)	111.06 (62.76)	65.0 (51.94)
Median (Interquartile Range)	120.0 (60)	60.0 (90)
Mann Whitney U test: z = 5.273, p = 0.000		
Total time spent on internet		
< 60 Minutes	7 (4.9%)	18 (26.1%)
60 – 120 Minutes	33 (23.1%)	25 (36.2%)
≥ 120 Minutes	103 (72.0%)	26 (37.7%)
Mean (SD)	163.2 (85.75)	100.43 (67.64)
Median (Interquartile Range)	150 (120)	75.0 (105)
Mann Whitney U test: z = 5.293, p = 0.000		
Money spent per month for internet		
< 100 Rs.	37 (25.9%)	34 (49.3%)
100 – 200 Rs.	86 (60.1%)	29 (42.0%0
> 200 Rs.	20 (14.0%)	6 (8.7%)
Mean (SD)	163.44 (146.25)	95.04 (74.18)
Median (Interquartile Range)	125.0 (102.0)	100.0 (60.)
Mann Whitney U test: z = 24.607, p = 0.000		
Duration of internet usage		
< 1 Year	36 (25.2%)	36 (52.2%)
1 Year – 2 Years	42 (29.4%)	23 (33.3%)
> 2 Years	65 (45.5%)	10 (14.5%)
χ^2 = 22.84, df = 2, p = 0.00001		
Internet Addiction Score		
20 – 49	93 (65.0%)	57 (83%)
≥ 50	50 (35.0%)	12 (17%)
Mean Score (SD)	45.64 (14.38)	33.3 (15.07)
Median (Interquartile Range)	43.0 (24)	27.0 (22)
Mann Whitney U test: z = 5.916, p = 0.000		

Table 3: Comparison of types of activities done on internet most of the time by respondents

Sr. No.	Particular	Male (n=143)	Female (n=69)	P value	Odds Ratio	95% CI
1.	Social Networking	130 (90.9%)	58 (84.1%)	0.140	1.90	0.80 – 4.48
2.	Educational searching/Searching for information	117 (81.8%)	49 (71.0)	0.074	1.84	0.94 – 3.60
3.	Purposeless surfing	47 (32.9%)	15 (21.7%)	0.095	1.76	0.90 – 3.45
4.	Online shopping	32 (22.4%)	11 (15.9%)	0.278	1.52	0.71 – 3.23
5.	Cyber sexual addiction	24 (16.8%)	2 (2.9%)	0.004	6.76	1.55 – 29.48
6.	Online gambling	13 (9.1%)	0 (0%)	5.196	-	-
7.	Other	16 (11.2%)	2 (2.9%)	-	-	-

Table 4: Comparison of effects of internet usage among students

Sr. No.	Particular	Male (n=143)	Female (n=69)	P value	Odds Ratio	95% CI
1.	Change of lifestyle	97 (67.8%)	32 (46.4%)	0.003	2.44	1.35 – 4.39
2.	Change in dietary behavior	25 (17.5%)	6 (8.7%)	0.090	2.23	0.87 – 5.71
3.	Depression	13 (9.1%)	4 (5.8%)	0.408	1.63	0.51 – 5.18
4.	Disturbance in study	82 (57.3%)	36 (52.2%)	0.478	1.23	0.69 – 2.19
5.	Sleep disturbance	67 (46.9%)	21 (30.4%)	0.023	2.01	1.10 – 3.70
6.	Relationship problem	26 (18.2%)	7 (10.1%0	0.130	1.97	0.81 – 4.79
7.	Other	12 (8.4%)	2 (2.9%)	-	-	-

DISCUSSION

Because of easy availability of internet, its addiction is common among medical students. Internet addiction is considered a mental disorder that can be found in all age groups and among both the gender. However, internet addiction has been reported to occur more frequently among young people. It is well known that although individuals may have "real social support" from their families and society, they may also have "virtual social support" from the internet[14].

Whereas academic use of internet is primarily intended for learning and research, the internet has become an important part of student life. Gender influences the types of applications and underlying reasons for Internet addiction. Male tend to seek out dominance and sexual fantasy online, while female seek out close friendships, romantic partners, and prefer anonymous communication in which to hide their appearance. It seems to be a natural conclusion that attributes of gender played out in Cyberspace parallel the stereotypes men and women have in our society[15].

Present study shows higher internet addiction score among male as compared to female which is similar to the study carried out by Nancy Shields et al[16]. Our study also found that male students spend more time in internet usage than female students which is supported by various studies in literature[17-21].

Increased time spend on internet also led to increased money spent by male for internet use as compared to female.

Virtual communities give women a sense of belonging and the ability to share their feelings and emotions in private and convenient ways. Whereas men tend to explore sexual fantasies online, women tend to look for romance in cyberspace.

Young states that although it is not unusual for women to engage in random cybersex or cyber sex chat, they often prefer to form some type of relationship prior to the sexual chat[22]. In Chen's study, hierarchical regression analysis indicated that time-management problems and compulsion symptoms are common predictors for both genders' weekly time spent on the Internet. Shyness and withdrawal symptoms are predictive only for female college students, whereas experiences and tolerance symptoms are predictive only for males[23].

CONCLUSION

This study's results imply that men use the Internet differently from women, and that men are more likely subject to Internet addiction. Watch over the use of internet by parents and colleges necessary to prevent and stop emerging internet addiction. The need for detailed research for the same required.

STUDY LIMITATIONS

The study had some limitations which may affect the applicability of the findings in other situations like, the study was undertaken on a convenient sample hence bias due to non-randomization effect might have occurred; the study participants were from one medical college only and students from other scientific streams and general citizens may have different internet addiction level, different usage and effects.

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