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Original Research Article

Internet usage among medical students: prevalence, addiction and health issues

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ABSTRACT

Background: Among students worldwide, internet addiction is becoming a major problem. As the number of internet users continue to grow explosively, social networking too grows exponentially. Therefore, it is important to study internet behaviour patterns. The aim of the study was to estimate the prevalence and characteristics of internet usage, addiction among medical students.
Methods: A cross-sectional study was done among 227 medical students. Students aged between 17-24 years was selected by simple random sampling technique from the college. A self-administered questionnaire was used. It includes questions pertaining to sociodemographic status, attitude, practice based and Young's internet addiction test.
Results: The prevalence of internet addiction was 59%.113 (49.8%) students were average online users (mild addiction), 19 (8.4%) students were experiencing occasional and frequent problems (moderate addiction) and 2 (0.8%) severely addicted students Most of the study population initiated internet use between the ages of 16 -18 years, 89 (39%). Our study revealed that 196 (86.3%) students were using internet for educational purposes, 135 (59.5%) for entertainment and 189 (83.2%) for socialising. Headache was the commonest health problem 102 (44%) followed by sleep disturbances in 40 (17.6%), back pain in 14 (6.1%) and anxiety, stress, visual difficulties in 29 (15%) students.
Conclusions: This research provides an insight into the current trend towards usage of the internet for academic as well as non-academic purposes among medical students. Health issues are a long term concern which need to be addressed on a war footing. Ergonomically placed interventional strategies are pertinent as a primary level of prevention.

Keywords: Medical students, Internet addiction, Prevalence

INTRODUCTION

Internet has become the backbone of modern society since coming into existence from the last century. Its use is rapidly escalating, with technology becoming cheaper and more accessible. India's share of Internet users has shown an exponential rise over the last decade due to the reliance for work, study, and leisure activity.[1] Recent advancements in the technological world have paved the way for the Internet to be an appropriate tool for individuals and families to communicate. Online social networking and Internet communication is current trend among both adolescents and young adults.[2]

Internet has helped the student community to share ideas, search for knowledge, lecture notes, experiences, perform many routine activities like purchasing tickets, ordering books, banking, video calling and other entertainment activities. Moreover, it's a platform where they can gain

access to any information on any event within seconds, can watch live telecasts, read the latest updates on any subject without spending money.[3] The internet can easily hook individuals onto social media. 22% of teenagers log on to their favourite social media site nearly half a dozen times per day. This has augmented the appearance of conditions such as face book depression. Social media is now impacting lives with equal severity as with events occurring in the real world. Medical students are also affected by internet addiction. Though they often spend majority of their time either in class or studying, the time for any real entertainment and person-to-person interaction is very limited due to the hectic medical curriculum.[4]

Excessive use of the Internet has been termed by researchers by use of varied terminologies such as compulsive internet use, problematic internet use, pathological internet use, and IA.[5-8] In 1995, the term "internet addiction" was proposed by Dr. Ivan Goldberg for pathological compulsive internet use.[9] The term IA describes it as an individual's inability to control his or her own use of the Internet causing disturbances and impairment in fulfilment of work, social and personal commitments.[7,10] Dr Kimberley Young in the Internet Addiction Test developed by her, linked excessive internet use most closely to pathological gambling, a disorder of impulse control in DSM IV and adapted the DSM IV criteria to relate to internet use. According to her, various types of internet addiction are cyber-sexual addiction, cyber-relationship addiction, net compulsions, information overload, and computer addiction. Young initially developed 8-question Internet Addiction Diagnostic Questionnaire (DQ) based on DSM IV. Later, she included 12 new items in addition to the 8 items to formulate an Internet Addiction Test (IAT). This the only available test whose psychometric properties have been tested.[9]

Although the internet has become a must need for a medical student, time is being wasted from a medical student's educational experience due to misuse of social media. Research is beneficial to identify possible addiction due to usage of technology on a daily basis.[4] This study was undertaken with the objective of determining the prevalence of internet usage, addiction among medical students and to find out the characteristics.

METHODS

A cross sectional study was carried out among the medical students of a tertiary care teaching hospital of North Kerala from December 2016 to May 2017. Sample size was calculated to be 81, considering prevalence as 58.87% taking allowable error at 20% and assuming 20% non-response rate.[11] However, sample size was raised to increase the accuracy. Ethical clearance was obtained from the institutional ethical committee.

Purpose of the study was explained to all the participants and informed consent was taken from them. Students who were not willing to participate were excluded from the study. Finally, 227 students filled out and returned the questionnaires.

Study tool

A self-administered questionnaire was used which included questions pertaining to sociodemographic status, attitude, practice based and The Internet Addiction Test (IAT; Young, 1998) was used.[9,11,13,14] The predesigned, validated pretested questionnaire contained the questions pertaining to socio-demographic characteristics, attitude, practice, IAT questions. Participants filled all the IAT items on a 6-point Likert measure: 0-does not apply, 1-Rarely, 2-Occasionally, 3-Frequently, 4-Often, 5-Always. Internet addiction was assessed by scores from 0 to 5 for each question. Based on scoring they were graded as follows.

0 – 19: no addiction

20 – 49: average online user (mild addiction)

50 – 79: experiencing occasional and frequent problems (moderate addiction)

80 – 100: internet usage is causing significant problems in the life (severe addiction)

Statistical analysis

Data collected was coded, entered in Microsoft Excel and analysed using Statistical package for social sciences (SPSS) 16. Quantitative variables are presented as Mean, Standard deviation. Qualitative variables are presented as proportions.

RESULTS

A cross sectional study was conducted among 227 MBBS students. Majority of students 166 (73%) belonged to 20-22 years age group. Mean age of the sample was 20yrs. Majority 64 (28.2%) students were hailing from Kozhikode. There were students from all districts of Kerala. (Figure 1)

The study sample of 227 participants comprised mostly of females,174 (76.7%). Their age ranged from 17 to 24 years with mean age, 20 years. Majority166 (73.1%) were 20-22 years and hailing from rural areas. Most 221 (97.4%) were hostellers. Education of parents -120 (52.9%) of fathers,103 (45.4%) of mothers were graduates. Most of the fathers were either employed within the state or abroad with 11 (4.8%) availing pension and a few10 (4.4%) being unemployed. Most 152 (67%) of the mothers were homemakers. (Table 1).

Of the total 227 participants, most of the study population initiated internet use between the ages of between ages of 16 and 18 years 89 (39%) and 35 (16%) had the first use of the Internet between 8 -12 years. Most commonly used gadget was mobile phone 180 (79.3%). 7.5% students are using all the three gadgets.

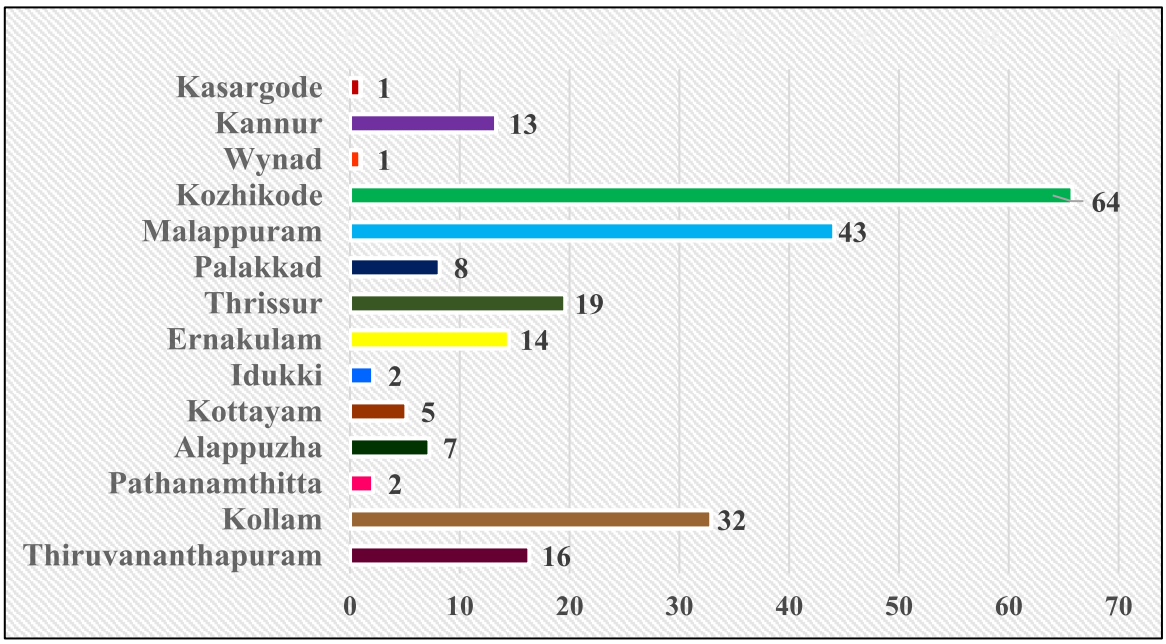

Figure 1: District wise distribution of study population.

Table 1: Sociodemographic characteristics of the study population (n=227).

Characteristics	Frequency (n=227)	Percentage
Age (years)		
17-19	49	21.6
20-22	166	73.1
23-25	12	5.3
Gender		
Male	53	23.3
Female	174	76.7
Place of Residence		
Urban	61	26.9
Rural	166	73.1
Current Place of stay		
Hostel	221	97.4
Home	5	2.2
Private accommodation	1	0.4
Education of Father		
Primary school	20	0.9
High school	105	46.3
Graduate and above	120	52.9
Education of Mother		
Primary school	4	1.8
High school	120	52.8
Graduate and above	103	45.4
Occupation of Father		
Unemployed	10	4.4
Unskilled work	30	13.2
Skilled work	44	19.4
Business	48	21.1
Government Employee	64	28.2
Pensioner	11	4.8
Working abroad	20	8.8

Continued.

Characteristics	Frequency (n=227)	Percentage
Occupation of Mother		
Homemaker	152	67
Unskilled work	4	1.8
Skilled work	19	8.4
Government Employee	51	22.5
Pensioner	1	0.4

Table 2: Distribution of study population based on internet usage characteristics and health problems.

Age of first usage (years) of internet	Frequency(n=227)	Percentage
8-12	35	16
13-17	80	35
18-22	112	49
Type of gadget used*		
Mobile phones	180	79.3
Laptop	36	16
Computer/Desktop	81	36
Gadgets used*		
Personal gadgets	203	89.4
Parents gadgets	4	1.8
Internet cafes	9	4
All	2	0.8
Not answered	9	4
Monthly expenditure (Rs)		
0-200	180	79.3
201-400	34	14.9
401-600	7	3.1
601-800	2	0.9
801-1000	4	1.8
Purpose of usage of internet*		
Educational	196	86.3
Entertainment	135	59.5
Socialising	189	83.2
Time spent daily		
For academic purposes(min)		
0-60	215	94.7
61-120	7	3.1
121-180	4	1.8
181-240	1	0.4
For non-academic purposes(min)		
0-100	134	59.1
101-200	72	31.7
201-300	17	7.6
301-400	1	0.4
401-500	1	0.4
501-600	2	0.8
Health problems faced[$]		
Nil	57	25
Headaches	102	44
Sleep disturbances	40	17.6
Anxiety, stress, visual difficulties	16	9
Backache	14	6

*Many used multiple gadgets for many purposes, 7.5% used all the three types of gadgets. [$]Multiple health problems

Among the study population, majority of students 89.4% students were using their personal gadgets.

Majority 180 (79.3%) spent below Rs 200 per month for internet use. Average expenditure was Rs 164.56 per month. Our study revealed that 196 (86.3%) students were using internet for educational purposes only135 (59.5%) students were using internet for entertainment 189 (83.2%) were using for socialising. Among the study population, 215 (94.7%) spent up to 60 minutes for academic purposes. Average time spend for academic purposes was 32. 34 minutes. Average time spent for nonacademic purposes was 96.04min. Among the study population only 57 (25 %) 42 had no health issues. Majority 102 (44%) had headaches, 40 (17.6%) students were having sleep disturbances. 29 (15%) students were facing other problems like anxiety, stress, visual difficulties and backache. (Table 2).

Table 3: Scoring of study population of based on internet usage.

Addiction Score	Frequency	Percentage
0-19(no addiction)	93	41
20-49(mild)	113	49.8
50-79(moderate)	19	8.4
80-100(severe)	2	0.8
Total	227	100

Our study revealed that 93(41%) students were having no addiction. Prevalence of internet addiction among medical students was 59% (mild, moderate, severe) with severe addiction being 0.8%. (Table 3).

DISCUSSION

Age

In our study, majority of students 166 (73%) belonged to 20-22 years age group which is similar to a study among 2776 undergraduates from a recognized university in South India aged 18–21 years.[12] Mean age was 20 years almost similar to a study among college students in Mumbai in which the mean age was 16.82 years.[9]

Gender

Of the total 227 participants, most of the study population were females similar to a study.[9,12,17] But in a study at Chandigarh, males (58.7%) outnumbered females (41.3%).[15] Higher proportion of girls in this sample was in accordance with gender distribution in general in the teaching institution.

Age of initiation into internet

As seen in our study age of first internet use was between 8 -12 years in 35 (16%) and between the ages of 16 -18 years in 89 (39%).This is similar to study among 2776 undergraduates from a recognized university in South India, 35.50% initiated internet use between the ages of 10 -15 years and more than half of the study samples 52.0% had the first use of the internet between ages of 16-18 years.[12]

Gadget used

Most commonly used gadget was mobile phone 180 (79.3%),128 (56%) used only mobile phone for internet access 7 (3.1%) used only laptop 39 (17.2%) students are using only computers 4.8% students are using both mobile phones and laptops,10.6% students are using both mobile phones and computers,0.4% are using both laptops and computers and 7.5% students are using all the three gadgets. Among the study population, majority of students were utilizing their personal gadgets for internet purposes 89.4% students were using their personal gadgets 4% students were utilizing internet café.1.8% were using internet by other means like gadgets of their parents, 4% were using personal gadgets and internet café and 0.8% were utilizing all the three means of sites. In a study in Iran, 98% were Internet users of whom 81.4% had access to the Internet through computers and 18.6% through both computers and cell phones.[17]

Money spent

In majority 180 (79.3%) money spent was below Rs 200 per month for internet use. Average expenditure was Rs 164.56 per month.

Purpose of internet usage

Our study revealed that 196 (86.3%) students were using internet for educational purposes only 135 (59.5%) students were using internet for entertainment 189 (83.2%) were using for socialising. Majority (75%) of the respondents admitted using Social Networking Sites, whereas 20% used these sites for sharing academic and educational information.[16,20] Of the 200 students, nearly 84 (42%) students have started on social networking site during their I MBBS. One hundred thirty (65%) students have installed medical apps, while 70 (35%) students have not installed any medical apps which include Medscape, PGMED, USMLE and others.[2] The most common purpose of Internet use was educational for two-thirds of 312 participants (62.5%) at Chandigarh. The five most commonly endorsed items were as follows: the need to use the Internet everyday (53.8%), Internet use helping to overcome bad moods (50%), staying online longer than one originally intends to (43.3%), eating while surfing (24%), and physical activity going down since one has started using the Internet (22.1%).[15]

Time spent

Among the study population, 215 (94.7%) spent up to 60minutes for academic purposes. Average time spend for academic purposes was 32, 34 min. Out of the study

population,134 (59%) spent about 100min for non-academic purposes. Average time spent for non-academic purposes was 96.04 min.The average time spent on social networking sites- 143 (71.5%) students spend more than 2 h and share social issues, personal issues, share jokes etc.2According to a study done among 312 participants at PGIMER, the average time spent in Internet use was 2.13 h (SD 1.98) daily, more than half (56.73%) was using Internet at least for 2 h/day.[15] The mean hours spent on the Internet per week was less than 15 hours in 815 students (90%) and more than 15 hours in 91 (10%).[17]

Health issues

Among the study population thankfully 57 (25 %) had no health issues. But in majority head ache was the commonest health problem 102 (44%) followed by sleep disturbances in 40 (17.6%), back pain in 14 (6.1%). 29 (15%) students were facing other problems like anxiety, stress, visual difficulties. Those with excessive use internet had high scores on anxiety, depression, and anxiety depression was also seen in a study among college students.[9]

Addiction

Our study revealed that 93 (41%) students were having no addiction, 113 (49.8%) students were average online users having only mild addiction, 19 (8.4%) students were experiencing occasional and frequent problems (moderate addiction) and for 2 (0.8%) severely addicted students was causing significant problems. The prevalence of IA in medical students was 56.81% (mild IA: 49.59%, moderate IA: 7.22%).[1] In a study among 987 college students in Mumbai, 74.5% were moderate (average) users and 0.7% were addicts.[9] Among the 2776 university students, 831 (29.9%) met criterion on IAT for mild IA, 455 (16.4%) for moderate addictive use, and 13 (0.5%) for severe IA.[12] When evaluated on ICD-10 substance dependence criteria and Young's IADQ separately, the prevalence of the 'cases' of Internet addiction came out to be 51.9 and 3.8%, respectively 1521% of the students were identified as problematic Internet users.[17]

Limitations

Self-reporting by participants may not reveal the true picture at times. One question was modified from Young's questionnaire since it was culturally inappropriate.

CONCLUSION

This research provides an insight into the current trend among medical students and their affinity towards usage of the internet for academic and non-academic purposes. It also revealed that medical students are at increased risk for problematic internet use and to a lesser extent internet addiction. Health issues are an alarming concern which need to be addressed as a priority measure.

Recommendations

Students should be made aware the use of negative and positive impacts of the internet, internet addiction/problematic internet use focusing on developing a safe internet culture. Health and preventive measures should be instituted promptly early in life in order to curtail health problems in the long run. Ergonomically placed interventional strategies are pertinent as a primary level of prevention.

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