INTERNET USE: DISRUPTIVE OR ENHANCING TOWARDS LEARNING? VIEWS & PERCEPTIONS OF UNDERGRADUATE MEDICAL STUDENTS

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ABSTRACT

Objective: To describe the perceptions & behaviors of undergraduate medical students regarding the use of internet.

Study design: Cross-sectional descriptive study.

Place and Duration of Study: Army Medical College, National University of Medical Sciences (NUMS) Rawalpindi, from January 2014 to June 2014.

Methodology: Data had been obtained from volunteer undergraduate medical students who were computer literate and were using the internet facility in their daily routine. Students, who did not have the computer and internet using skills and were not using the internet services, were excluded from this study. A structured questionnaire was used which included following items: duration and frequency of internet use, impact of internet use on academic grades, influence of internet usage on relationships with friends and family, effect of overuse on sleep cycle and having the self-knowledge of being internet addicted.

Results: Two hundred and twelve students gave consent to participate in this study. Different perceptions of undergraduate medical students regarding the internet use were observed: 64 (30.2%) students spent about two hours daily in internet surfing and 79 (37.3%) participants in our study utilized internet facility for social networking while 67 (31.6%) used it for educational and learning purposes. A total of 147 (69.3%) participants reported that internet use enhanced their learning and had a positive effect on their academic grades.

Conclusion: Our study concludes that internet-using skill is a very powerful tool in today's world with regards to academic learning. With appropriate guidance and support, students can get maximum benefit from this facility and can enhance their learning capabilities. Institutes should play their role by making every student computer literate and also by making on-campus advisory services available to figure out internet abuse related issues of the students.

Keywords: Internet, Medical education, Students.

INTRODUCTION

Over the last decade, a tremendous growth has been seen in the use of internet worldwide. Internet is a user-friendly medium of communication and also a very fast tool of acquiring valuable knowledge and information[1]. Some of the users utilize internet facility as a source of entertainment, inter-personal communication and for facilitating research; while some others, including the medical students, make use of this facility for the purpose of seeking scientific and health-related information[2].

Internet has now become the biggest library of the world, where the retrieval of scientific knowledge can be made possible within minutes[3]. Internet has also revolutionized the medical education by increasing the online establishment of various portals containing learning materials including presentations, videos, manuals etc and by making such resources easily accessible by the students[4]. Internet use greatly facilitates the medical students to meet their academic requirements and also promotes leaning, but the easy accessibility of internet facility is also associated with the risk of dependence or internet addiction, if proper guidance is not provided to the users[5,6].

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Researchers have shown that the prevalence of internet addiction or ''pathological internet use'' in different populations varies from 1.5% to 25% and also the quality and quantity of internet use in most of them are linked with the skills they have for using internet and computer, and the duration for which they use internet[1]. The issue of pathological internet use has now been considered as one of the largest epidemics of the 21st century which is undergoing a rapid spread, notably among the youth including medical students, by modern inventions of smart phones and mini-computers[7].

Keeping in view the crucial role of internet use regarding the educational improvement and grooming of undergraduate medical students on one hand and its associated risks of internet addiction and poor academic performance on the other hand, essential advisory services should be available inside the institute for providing guidance to these students regarding the purposeful use of internet and addressing various issues related to internet misuse that are faced by the undergraduate medical students. In view of the above, the present study was aimed to describe the perceptions and views of undergraduate medical students regarding the use of internet.

METHODOLOGY

This cross-sectional descriptive study was carried out at Army Medical College, National University of Medical Sciences (NUMS) Rawalpindi, from January 2014 to June 2014 after getting institutional permission. This study included both male and female undergraduate medical students of a public sector medical college belonging to all the five years of MBBS course. The participants chosen were computer literate and were using the internet facility in their daily routine. Two hundred and twelve participants were included through non-probability purposive sampling. Students, who were lacking in computer and internet using skills and were not using the internet services, were excluded from this study. Data had been collected by using a structured questionnaire, which along with the demographic information of the participants, included items about the perceptions and views of the medical students regarding the internet utilization and its effects on their professional, personal and social lives. The items included in the questionnaire were; duration of internet use, device used for internet access, purpose of utilizing internet facility, effect of internet use on academics, changes in normal sleep pattern resulting from internet use, influence of internet surfing on relationships with family and friends, availability of on-campus advisory services to handle the issues related to internet abuse and self-knowledge of internet overuse and internet addiction. Data had been analyzed using SPSS version 21. Mean and standard deviation were calculated for quantitative variables while frequency and percentage were calculated for qualitative variables.

RESULTS

Two hundred and twelve students from different years of MBBS course gave consent to participate in this study including 59.19% females and 40.81% male students. Mean age of the participants was 21 ± 1.56 years. Different perceptions and behaviors were observed among the undergraduate medical students with regard to the use of internet facility and its ultimate impact on professional, personal and social aspects of their lives. It was revealed in our study that 64 (30.2%) students spent about two hours daily in internet surfing, 42 (19.8%) used internet daily for one hour and 40 (18.9%) spent three hours per day in performing various activities on internet.

Laptop was the most commonly used device for using internet with 101(47.6%) users, followed by the smart phones used by 80 (37.7%) and desktops by 14 (6.6%) students only. One group of the participants, comprising of 79 (37.3%) undergraduate medical students, used internet facility mostly for social networking to communicate with the peers and family members. Another group including 67 (31.6%) students utilized it for educational and learning purposes, while 40 (18.9%) students performed multi-purpose tasks simultaneously on internet. A total of 113 (53.3%) students were

aware of the fact that they had been using   knowledge of internet overuse. One hundred

Table-1: Perceptions and patterns of internet use among undergraduate medical students of a public sector medical college.

Parameters	Number and percentage of Students n (%)
Commonly used devices	
Laptop	101 (47.6%)
Smartphones	80 (37.7%)
Desktop	14 (6.6%)
Tablet PC	7 (3.3%)
Multiple devices	10 (4.7%)
Time spent on internet during 24 hours	
One hour	42 (19.8%)
Two hours	64 (30.2%)
Three hours	40 (18.9%)
Four hours	20 (9.4%)
More than four hours	46 (21.7%)
Purpose of internet use	
Social networking	79 (37.3%)
Educational purposes	67 (31.6%)
Online gaming	12 (5.7%)
Novel reading	14 (6.6%)
Multiple tasks	40 (18.9%)
Self-awareness of internet overuse	
Aware	113 (53.3%)
Unaware	99 (46.7%)
Effect of internet use on academic grades	
Positive	147 (69.3%)
Negative	65 (30.7%)
Effect of internet use on family relationships	
Positive	98 (46.2%)
Negative	114 (53.8%)
Effect on relationship with peers	
Positive	134 (63.2%)
Negative	78 (36.8%)
Disturbance of normal sleep cycle due to internet use	
Yes	59 (27.8%)
No	153 (72.2%)
Experience of being cyber-bullied	
Yes	80 (37.7%)
No	132 (62.3%)
Evidence of internet addiction	
Present	100 (47.2%)
Absent	112 (52.8%)

internet much more than they actually required while 99 (46.7%) were unaware of self-

and forty seven (69.3%) participants reported that internet use had a positive effect on their

academic grades while 65 (30.7%) documented the negative impact of internet on their academic grades. In the opinion of 98 (46.2%) students, the use of this technology had a positive impact on their family relationships, while 114 (53.8%) of them believed that this had negative changes in their family life. A total of 134 (63.2%) participants perceived that their relationships with close friends had been affected in a positive way by the use of internet while 78 (36.8%) disagreed about the presence of any positive association between web surfing and relationships with peers. There were 59 (27.8%) students who reported that the use of internet disturbed their normal sleep pattern however, 153 (72.2%) students revealed that the daily use of internet had no effect on their sleep cycle. A total of 132 (62.3%) students documented that they never experienced any type of harassment by anyone on internet and 80 (37.7%) out of them reported to be bullied and harassed while using internet. In this study, 100 (47.2%) participants admitted and were aware of the fact that they were internet addicted while 112 (52.8%) reported no evidence of any dependence or addiction to internet use. Presence of advisory services within the institute regarding issues related to internet abuse was suggested by 130 (61.3%) participants whereas 82 (38.7%) students felt no need for the presence of advisory department within the institute. The results of this study have been summarized in table-1.

DISCUSSION

Internet has now become a technology which is as ordinary and accessible as the television or telephone, and the use of this technology is integrated into the daily communication habits of our college students. A variety of behaviors and patterns of internet usage were observed in our study and a number of issues resulting from internet overuse were highlighted. Majority of the students in this study used the internet on regular basis with the average daily consumption of two hours and the weekly usage of about fourteen hours. Mazhari et al and Beverly et al observed the same time duration in their studies on internet utilization by the medical students[6,7]. Contrary to this, reduced numbers of hours consumed on weekly basis were reportedby Maroofet al in their study[3].

In our study, the most common objective of using internet was social networking. In concordance to our finding, Unnikrishnan et al and some others also observed in their researches that the students mostly utilized internet facility for communication and personal reasons. However in many other studies, including those conducted by Fortson et al, Ayatollahi et al and Salehi et al, the most common purpose of using internet was for academic learning and scientific search which was the second most common objective of internet usage in our study[6,10,14].

A negative impact of internet use was found in our study with regard to the relationship with other family members. In agreement to our finding, Yen et al also observed that increased online interaction can replace real-life interaction and this can lead to the development of social anxiety and psychological disorders among the internet users[9]. Although majority of the students were not found to be harassed or bullied on internet but still a large number of students documented their experiences of being cyber-bullied and cyber-harassed in our study. Guan et al also found this in their research and linked internet harassment to the development of depression among students[15].

Internet was found to be a very helpful and potential source of getting latest knowledge and improving the academic grades, as stated by most of the participants in this study. A large number of students stated that the use of internet came out to be very useful in keeping themselves up-to-date with the latest information and also improved their academic performance. Contrary to our finding, Mazhari et al and Mohammad beigi al observed a negative association between internet overuse and the academic grades achieved by the student[7,8].

Another important finding of this study was that the use of internet, especially at night, had no effect on the normal sleep cycle of most of the students. It was documented by the students that the internet use did not disturb their sleep at night and the level of alertness in academic activities during daytime remained unaffected. Unlike this, Fossum et al found in-bed use of internet to be associated with insomnia and day-time sleepiness in their stud[16].

The limitation to our study was that although our subjects represented all the years of the MBBS course, but they belonged to one public sector medical college only and the quality of available internet facilities, level of computing skills and patterns of internet usage among the students of other medical colleges were not studied. Due to this limitation the results of our study, which will be very helpful in designing interventional strategies for our institute, cannot be generalized to other public sector medical colleges. However, studies including the quality of internet facilities, institutional regulations regarding internet utilization and the diversity of students' behaviors towards the use of this technology in other medical colleges can be carried out.

CONCLUSION

The reflections of undergraduate medical students regarding the use of internet reveal that having knowledge and skill of using this modern technology can positively enhance the learning capabilities and academic grades of the students. In this era of competition, computer literacy and appropriate guidance for the sensible use of internet will keep our students from lagging behind. Institutes should play their role to facilitate and equip every student with the computing skills, along with developing an understanding and awareness regarding the appropriate and meaningful use of this technology among them. Advisory department should be established in every institute and professional advisory services for internet use should be made accessible in order to guide and help the students regarding the internet use and abuse related issues.

CONFLICT OF INTEREST

The authors declared no conflict of iterest.

REFERENCES

1. Ghamari F, Mohammadbeigi A, Mohammadsalehi N, Hashiani AA. Internet addiction and modeling its risk factors in medical students, Iran. Indian J Psychol Med. 2011; 33(2):158-62.

2. Goel D, Subramanyam A, Kamath R. A study on the prevalence of internet addiction and its association with psychopathology in Indian adolescents.Indian J Psychiatry. 2013;5 5(2): 140-3.

3. Maroof KA, Parashar P, Bansal R. How are our medical students using the computer and internet? A study from a medical college of north India.Niger Med J. 2012; 53(2): 89-93.

4. Aldebasi YH, Ahmed MI. Computer and Internet Utilization among the Medical Students in Qassim University, Saudi Arabia. Journal of clinical and diagnostic research. J Clin Diagn Res. 2013; 7(6):1105-8.

5. Yang H, Chen Y, Zheng L, Xu X, Cao X. Analysis of internet use behaviors among clinical medical students in China.BMC Med Educ. 2014; 14:67.

6. Fortson BL, Scotti JR, Chen Y-C, Malone J, Del Ben KS. Internet use, abuse, and dependence among students at a Southeastern Regional University.J Am Coll Health. 2007; 56(2): 137-44.

7. Mazhari S. The prevalence of problematic internet use and the related factors in medical students, Kerman, Iran. Addiction & health. Addict Health. 2012; 4(3-4):87-94.

8. Mohamadbeigi A, Ghazavi A, Ghamari F, Saeidi A. Effect of internet addiction on educational status of Arak University of medical sciences students, spring 2009. Arak Med J. 2010; 12(4):95-102.

9. Yen J-Y, Yen C-F, Chen C-S, Wang P-W, Chang Y-H, Ko C-H. Social anxiety in online and real-life interaction and their associated factors. Cyberpsychol Behav Soc Netw. 2012;15(1): 7-12.

10. Ayatollahi J, Ayatollahi F, Bahrololoomi R. Using the internet among dental students in Yazd. Dent Res J (Isfahan). 2010; 7(1): 7-11.

11. Unnikrishnan B, Kulshrestha V, Saraf A, Agrahari C, Prakash S, Samantaray L, et al. Pattern of computer and internet use among medical students in Coastal South India. Asian J Med Educ. 2008; 2(2):18-25.

12. Jadoon NA, Zahid MF, Mansoorulhaq H, Ullah S, Jadoon BA, Raza A, et al. Evaluation of internet access and utilization by medical students in Lahore, Pakistan. BMC Med Inform Decis Mak. 2011;11:37.

13. Ahmed A, Yousif E, Abdalla M. Use of the Internet by Sudanese doctors and medical students. East Mediterr Health J. 2008; 14(1): 134-41.

14. Salehi M, Khalili MN, Hojjat SK, Salehi M, Danesh A. Prevalence of Internet Addiction and Associated Factors Among Medical Students From Mashhad, Iran in 2013. Iran Red Crescent Med J. 2014; 16(5): e17256.

15. Guan NC, Isa SM, Hashim AH, Pillai SK, Singh MKH. Validity of the Malay version of the internet addiction test: a study on a group of medical students in Malaysia. Asia Pac J Public Health. 2012:1010539512447808.

16. Fossum IN, Nordnes LT, Storemark SS, Bjorvatn B, Pallesen S. The association between use of electronic media in bed before going to sleep and insomnia symptoms, daytime sleepiness, morningness, and chronotype. Behavioral sleep medicine. Behav Sleep Med. 2014; 12(5):343-57.

17. Table-1: Perceptions and patterns of internet use among undergraduate medical students of a public sector medical college.