ORIGINAL: Internet Addiction in the Students of Semnan University of Medical Sciences

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ABSTRACT

Introduction: The ever-increasing advancements on the World Wide Web and the countless increase in its users, especially among the university students, caused many problems. The internet addiction in the students is one of the significant problems which can have adverse effect on their health as well as their academic performance. Therefore, we intended to study the internet addiction among the students of Semnan University of Medical Sciences.

Material and Methods: Two hundred sixty students of the Semnan University of Medical Sciences were randomly sampled and entered into this descriptive-analytical study. The Young's standard questionnaire was used to collect the data and its reliability and validity were confirmed. We have used SPSS 18.0 software to analyze the data.

Results: The analysis of the results showed that the internet addiction among the students participating in the study was as follows: 6% without internet addiction, 68% mild internet addiction and 31.6% moderate internet addiction. The internet addiction in the male students has been significantly higher than the female ones. The results analysis has also indicated that there is a significant and direct relationship between the hours of internet use and the extent of the addiction.

Conclusion: Regarding the fact that most of the students in the present study have shown mild internet addiction; then we can hope with a proper planning which will provide the conditions, the students will use the internet more in research and science fields and thus wasting their precious time will be avoided.

Introduction

Like other areas of science and technology, the World Wide Web had also increasingly developed and formed a large revolution in the social and communication fields (1,2). The internet is the biggest new technology designed and implemented by humans. Today, the internet has become an inseparable part of human daily life and has involved all aspects of human life (3,4). In general, the revolution which is emerging on the internet will play a vital role in shaping today's culture (5). Among the unique features of this global network are its easy accessibility, ease of operation, low cost and the anonymity of the individual's identity, which has led to a great welcome to this new technology.

Statistics suggested that the number of internet users has increased steadily all around the world as well as Iran. Based on Iranian researches, most internet users are young people and the number of internet users in the country has increased twenty-five times in the last few years (6). This high

volume of internet use and internet applications has caused many problems despite the many advantages and capabilities. Evidence indicates that given the high prevalence of the internet use among the university students (7), 8 - 13% of them will be addicted to the internet which is a very significant issue because it can lead to anxiety, depression, and loneliness and will affect the person's physical, mental and social health and will influence on his/her performance and ultimately have a detrimental effect on academic performance (8,9). Also, because the use of internet among medical students, given their jobs and professions, is much more than any other group and considering this that these students will finally work in health care and medical sectors and the health of the community will depend on their behavior, then it is dramatically necessary to understand accurately their extent of internet addiction in order to plan for proper management among them (10). Therefore, due to the uncertainty of internet addiction among the students of Semnan University of Medical Sciences (SEMUMS), we decided to study internet addiction among them.

Methods

This is a cross-sectional descriptive study on 260 students of SEMUMS. The sampling method was simple random. The data were collected using a two-section questionnaire. The first section includes demographic information including age, gender, marital status, educational level, semester and field of study, School of Education and residence location as well as questions about having a personal computer (PC), Internet access, time and duration, as well as reasons for Internet use. The second section includes the standard Yang's questionnaire whose validity and reliability have been confirmed in the previous studies (10,11). The overall score range of this questionnaire is between 20 and 100 which higher scores mean the students are more addicted to the internet. Finally, according to the Yang's questionnaire

instructions, the subjects of this study will be grouped based on their scores in one of the following categories: normal user (20 ≥ without addiction), mildly addicted (21 - 49), moderate addiction (50 - 79) and severe addiction (80 - 100) (12). The questionnaires were collected after completed by the students.

Ethical Consideration
Prior to entering the study, informed consent was obtained by including the method of conducting the research, the benefits and disadvantages, and voluntary participation of the sample in the study. It was assured that their information would remain confidential and that personal information of individuals would not be disclosed during the collection, transfer and maintenance.

Statistical Analysis
SPSS 18 software, the descriptive statistics' statistical tests (frequency, percentage, mean and standard deviation) and inferential statistics (Independent t-test, ANOVA, Pearson correlation coefficient) were used to analyze the statistical analysis.

Results

The findings of the study suggested that 40% of the subjects (120) participated in the study were male and 60% (180) of them were female. The mean ± standard deviation of the students' age was 4.2 ± 33.20 and 95.3% (286) were in the age range of 18-24 years. 94% (283) were single and 6% (17) were married. 73.3% (220) were living in dormitories and 76.6% (230) had personal computers. The student average usage time was 18.4 hours per week. Out of the five reasons for using the internet, which were included in the questionnaire, the percentage of each was respectively as follows: research 74.6% (224), entertainment 75% (225), web-chat 50% (150), forgetting problems 10.6% (32) and using email 26% (78). 59.3% were undergraduate students (178), 7% (21) were master's degree students, 32.6% (98) were

General Doctor Students and 1% (3) was Ph.D. students.

The results of this study have shown that 6% of students (n = 2) had no internet addiction, 68% (n = 204) had mild addiction and 31.6% (n = 95) had moderate internet addiction. The Kolmogorov–Smirnov statistical test was used in order to verify the data normality. The results suggested that the mean of the internet addiction score has a normal distribution. The Independent T-test showed a significant difference between the mean of the internet addiction score and the gender (P = 0.006) so that the male students showed higher scores than the female ones. Also, using the same test we have noticed that there is no significant statistical relationship between the mean of the internet addiction and marital status, residence location and having a PC (P < 0.05). The One-way ANOVA indicated that there is no significant statistical difference between the mean of the internet addiction scores and the school of education as well as the level of study (P < 0.05) (*Table 1*).

On the Pearson correlation coefficient test basis, there is a significant and direct statistical relationship between the hours of Internet use and the extent of its addiction (P < 0.01). According to the same test, a significant inverse statistical relationship between the age and the mean of internet addiction score was found (P = 0.04), while there was no significant relationship between the semester and the extent of the internet addiction (P = 0.93).

Discussion

This study aimed to investigate the extent of Semnan University of Medical Sciences students' internet addiction. The results of this study showed that the overall mean of the internet addiction score is mild (47.3) and most students have shown mild internet addiction. In 2009, Jafari Nodoushan et al. have studied Qom University of Medical Sciences students and found that 90% of users have mild internet addiction (13). In 2013, Mohammadi et al. have studied 384 students of Kermanshah University of Medical Sciences and the findings of the questionnaire indicated that 91% of the students have mild Internet addiction and only 0.3% had severe Internet addiction; these findings are consistent with our findings (10). Whereas In the study of Leila Ghahramani et al. on 298 students of Shiraz University of Medical Sciences in 2011, 91.6% of students had normal levels of internet addiction, 6.4% had mild internet addiction and 0.3% had severe internet addiction (11).

In the present study, there was no significant statistical relationship between the marital status, residence location as well as having a PC and the mean of the internet addiction scores. Whereas, in Mohammadi et al.'s study, there was a significant difference between the internet addiction score, marital status as well as having a PC (10). In the present study, there was a significant

Table 1. Comparison of mean and standard deviation of the internet addiction according to the characteristics

Characteristics		N (%)	Internet addiction (Mean ± SD)	P-value
Gender	**Male**	120 (40)	45.7 ± 12	0.006
	Female	180 (6)	41.7 ± 12	
Age Group	**18-24**	286 (95.3)	43.8 ± 12.4	0.01
	25-30	12 (4)	33.9 ± 7	
	≥31	2 (0.7)	34 ± 9.8	
Marital Status	**Single**	283 (94)	43.2 ± 12.4	0.4
	Married	17 (6)	45.8 ± 11.8	
Residence Location	**Dormitory**	220 (73.3)	43.2 ± 12.4	0.8
	Non-Dormitory	80 (36.7)	43.7 ± 12.5	
PC	**Has Pc**	220 (76.7)	43 ± 12	0.4
	Has not PC	70 (23.3)	44.7 ± 13.4	
Level of Study	**Bachelor**	178 (59.3)	42.6 ± 12	0.05
	Master	21 (7)	47 ± 11.8	
	General Doctor	98 (32.7)	43.7 ± 13.2	
	Ph.D.	3 (1)	43 ± 9.6	

N: Number, SD: Standard Deviation

difference between the mean of the job satisfaction score and the gender and men are more addicted to the internet than women. In the study of Mohammadi et al. there was also a significant relationship between the extent of internet addiction and gender and men were more addicted to the internet than women (10). Also, in other studies, like Nasrollahi et al. (14), Deng et al (15) as well as Ceyhan et al. (16), women were more addicted to the internet than men. The results of the current study suggested that there is a significant and inverse statistical relationship between the age and the mean of the internet addiction score; so that the younger people have more addiction, which is consistent with the study of Scheonfeld and the younger people get higher scores on Young's questionnaire. Additionally, the findings of this study showed that more than one-third of the studied students were at the risk of internet addiction (17).

Alavi et al. research show that most internet users are young people and 35% of them are in chatrooms, 28% play internet games, 30% check email and 25% are searching on the World Wide Web. The average time spent on the internet was also 52 minutes per week (6). While in the present study, the average time spent on the internet was 14.8 hours and doing research was the most common reason of internet using for the students, the findings of the study of Terali et al. was consistent with ours that 75% of students reported researching the most common reason for using the Internet (18).

Conclusion

Given the results of the present study, we can hope the internet and cyberspace to be used more in research and study areas by culturalizing properly as well as planning for the students' leisure time and providing the conditions; so, wasting their precious time is avoided. Since inappropriate planning, improper and irrational use of internet leads to students' extreme addiction and thus their precious time will waste. For further future and more spread studies, performing the current study in larger sample size is recommended. Considering the present study was conducted only at Semnan University of Medical Sciences, it is not possible to extend its information to all medical universities of the country and examining the extent of the addiction to the internet at other medical universities is recommended as well. The internet addiction of medical science students can be compared with other non-medical university students.

Acknowledgments

Conflicts of interest

The authors declare that there is no conflict of interest regarding the publication of this article.

Authors' contributions

Study design: J.R.
Data collection: S.Y. and M.J.E.
Writing: A.P. and R.H.
Final revision: All authors

Funding

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