Original Article

Internet Dependency and its Predictors among Faculty Members

Atefeh Ghanbari, Arsalan Salari[1], Fatemeh Moaddab, Nastaran Norouzi Parashkouh[2]

Department of Nursing, Social Determinants of Health Research Center, Guilan University of Medical Sciences, [1]Department of Cardiology, Cardiovascular Diseases Research Center, Heshmat Hospital, School of Medicine, Guilan University of Medical Sciences, Rasht, [2]Department of Nursing, Birjand University of Medical Sciences, Birjand, Iran

ORCID:

Atefeh Ghanbari: https://orcid.org/0000-0002-7949-5717;

Arsalan Salari: https://orcid.org/0000-0002-5821-6176;

Fatemeh Moaddab: https://orcid.org/0000-0003-0811-8671;

Nastaran Norouzi Parashkouh: https://orcid.org/0000-0001-6451-8982

ABSTRACT

Background: Extensive use of the internet has resulted in the emergence of a phenomenon called internet dependency. Internet dependency is turning into a major global concern due to its growing prevalence. It can negatively affect different personal, familial, occupational, and social aspects of life. **Objectives:** This study aimed to assess internet dependency and its predictors among faculty members. **Methods:** This cross-sectional study was conducted in 2014–2015 on 211 faculty members of Guilan University of Medical Sciences, Rasht, Iran. Internet dependency was measured using the Internet Addiction Inventory, an instrument which consists of items on factors related to Internet use. Data analysis was performed using the Kolmogorov–Smirnov, the Chi-square, the Fisher's exact, and the Kruskal–Wallis tests as well as the Spearman's correlation and the logistic regression analysis. **Results:** Seventy-five participants (35.5%) were at risk for internet dependency and the rest were in normal condition. The significant predictors of internet dependency were gender, main goal of internet use, and main type of internet use. **Conclusion:** As more than one-third of the faculty members are at risk for internet dependency, educational interventions are needed to broaden their knowledge about the negative effects of internet overuse and to help them modify their internet use behaviors.

KEYWORDS: *Faculty member, Internet, Internet addiction, Internet dependency*

INTRODUCTION

Internet use is an ever-growing phenomenon with progressively increasing number of users.[1] A report by the Ministry of Communications and Information Technology of Iran shows that the number of internet users in Iran has increased by 25 times in recent years.[2] As the Iranian Internet users statistics in 2006 imply, it has been 11 million people increasing to 33,200,000 in 2010 and this way, it has stood 1st among the Middle-East countries.[3] Now, the Internet is at the digital industrial revolution peak and any sort of new revolution unquestionably will bring about some fresh problems and nuisances.[4]

Excessive use of the Internet may result in a phenomenon called internet dependency, internet addiction, or virtual addiction.[5] Internet dependency is turning into a global concern and has thus attracted the attention of researchers.[6] Excessive internet use can affect different personal, familial, occupational, and social aspects of life.

The internet dependency prevalence is 5%–10% in the world public population that around 54% of them have a

Address for correspondence: Dr. Fatemeh Moaddab, Guilan University of Medical Sciences, Rasht Shahid Beheshti Nursing and Midwifery School, Rasht, Iran.
E-mail: f.moaddab89@gmail.com

Submitted: 02-Mar-2019 **Revised:** 30-Jun-2019 **Accepted:** 29-Nov-2019 **Published:** 14-Apr-2020

How to cite this article: Ghanbari A, Salari A, Moaddab F, Parashkouh NN. Internet dependency and its predictors among faculty members. Nurs Midwifery Stud 2020;9:97-101.

Access this article online

Quick Response Code:

Website: www.nmsjournal.com

DOI: 10.4103/nms.nms_16_19

record of depression and 34% have anxiety and worry.[6] Regarding the number of Internet dependency sufferers in Iran, no accurate statistics is at hand. However, the internet addiction prevalence rate among high school students is estimated to be about 8.3%. In general, the prevalence of internet addiction in Iran seems moderate. Therefore, the necessity of identification, treatment, and prevention of the age groups which are at risk is being sensed by the responsible and related authorities.[7]

A study conducted at Tabriz University of Medical Sciences showed a positive relationship between internet addiction, educational burnout, emotional exhaustion, cynicism, and inefficacy among students.[8] Another study conducted at Yazd University also revealed a positive association between the pathological internet use and the outbreak of anxiety and insomnia symptoms among faculty members.[9] In addition, a study in Pakistan revealed that college teachers frequently used internet facilities to improve their knowledge and information.[10]

The extent of internet use is affected by a wide range of demographic, psychosocial, occupational, and internet-related factors.[11,12] For instance, faculty members need to widely use the Internet in order to broaden and update their knowledge and communicate with their students and colleagues. Therefore, they are at risk for health problems such as internet dependency due to their wide internet use. More seriously, faculty members are role models for their students and hence, their internet usage behaviors may be modeled by students, resulting in a higher prevalence of internet dependency. Yet, there is limited information about the prevalence and the predictors of internet dependency among faculty members. Moreover, no study has compared the rate of internet use between nursing and non-nursing faculty members. Thus, regarding the ever-increasing number of Internet users in Iran and the widespread effects of the Internet on the diverse areas of people's life, it is essential to analyze the internet dependency level and its related factors among the university faculty members. The present study sought to narrow this gap.

Objectives

The aim of this study was to assess internet dependency and its predictors among faculty members.

Methods

This cross-sectional study was conducted from December 2014 to June 2015. The study setting consisted of the six colleges of Guilan University of Medical Sciences, Rasht, Iran, and the study population comprised all the 370 faculty members of this university. All the faculty members with diverse employment status that were working in one of the university colleges at the time of this research were recruited in the study through census.

Data collection

Three instruments were used for data collection. The first instrument was a demographic questionnaire which included items on age, gender, marital status, work experience, type of employment, academic rank, field of study, and workplace. The second instrument consisted of items on factors related to internet use, i.e., age at first computer use, age at first internet use, duration of daily internet use, internet familiarity level (low, medium, and high), devices for internet use (laptop, personal computer, mobile, and tablet), main goal of internet use (academic, academic and nonacademic, and nonacademic [recreational, social, economical, communicational, and advertising]), and main type of internet use (academic, academic and nonacademic, and nonacademic [chat room, social networks, news, online programs, online game, download, and E-mail]). The third instrument was the Persian version of the Internet Addiction Test.[13] The twenty items of this test are scored on a 6-point Likert scale as follows: 0: "never;" 1: "rarely;" 2: "occasionally;" 3: frequently; 4: "often;" and 5: "always." Thus, its total score may range from 0 to 100 and is interpreted as normal (scores 0–19), at risk for internet dependency (scores 20–49), mild internet dependency (scores 50–79), and severe internet dependency (scores 80–100).[13] A former study reported that the test–retest correlation coefficient, Cronbach's alpha, and composition reliability values of the Persian translation of the test were 0.82, 0.88, and 0.72, respectively.[14] The validity of this test was assessed in the present study by ten faculty members. The content validity indices of all items were more than 0.75, and the Cronbach's alpha of the test was 0.86.

Ethical considerations

The Ethics Committee of Guilan University of Medical Sciences, Rasht, Iran, approved this study (approval code: 2930231615). All participants were informed about the study aims and voluntariness of participation and were ensured of the confidentiality of their personal information. All the questionnaires were anonymous, and informed consent was obtained from all the participants at the beginning of the study.

Data analysis

Data analysis was done using SPSS software v. 13.0 (SPSS Inc., Chicago, IL, USA). As the results of the Kolmogorov–Smirnov test illustrated the nonnormal distribution of the data, nonparametric tests were used for data analysis. The relationships of internet dependency with demographic characteristics were examined through the Chi-square, the Fisher's exact, and

the Kruskal–Wallis tests. The Spearman's correlation analysis was also used to examine the association between internet dependency and age. The predictors of internet dependency were determined through the logistic regression analysis. The level of significance was set at < 0.05.

Results

In total, 211 out of the 370 faculty members answered the study instruments. The means of their age, work experience, age at first computer use, and age at first internet use were 43.79 ± 8.07, 16.17 ± 17.26, 26.76 ± 9.0, and 29.69 ± 9.44 years, respectively. Most participants were male (59.2%), married (90%), assistant professor (65.9%), and medical doctor (52.1%). Nearly 10% of the participants worked at the Nursing and Midwifery school, but more than 67% were working at the School of Medicine. More than one-third of them secured permanent official employment (37.9%) and around half of them held a doctoral degree (48.3%). The duration of their daily internet use was 10.39 ± 5.56 h, on an average, and 49.3% were moderately familiar with the Internet. Most of them used different devices to access the Internet (79.6%). The main goal and the main type of internet use among most of them were "academic and other" (70.6% and 67.3%, respectively). Although nursing and midwifery faculty members reported greater internet dependency, no statistically significant difference was observed among faculty members from different fields of study concerning their internet dependency mean scores [$P = 0.37$; Table 1]. The mean score of their internet dependency was 16.77 ± 10.05, and around one-third of them were at risk for internet dependency (35.5%).

Statistically significant relationships were found between the internet dependency status and sociodemographic variables such as age ($P < 0.03$), time of daily use ($P < 0.01$), and the main type of internet use ($P < 0.04$). Individuals with high nonacademic use were more likely exposed to the risk of internet addiction compared to those who mostly used the internet for "academic" and "a mix of academic and nonacademic" purposes (52.8%, 33.1%, and 27.3%, respectively).

Table 1: Internet dependency mean score among the faculty members of different fields of studies

Fields	*n* (%)	Mean±SD	95% CI		*P*
			Minimum	Maximum	
Medicine	110 (25.1)	16.07 ± 9.47	14.28	17.86	0.37[a]
Dentistry	11 (5.2)	19.45 ± 7.61	14.34	24.57	
Nursing	15 (7.1)	20.73 ± 14.16	12.89	28.58	
Midwifery	6 (2.8)	20.50 ± 6.98	13.18	27.82	
Health	9 (4.3)	12.78 ± 6.83	7.53	18.03	
Basic sciences	60 (28.4)	16.80 ± 10.77	14.02	19.58	
Total	211 (100)	16.77 ± 10.05	15.41	18.14	

[a]The results of the Kruskal-Wallis test. CI: Confidence interval, SD: Standard deviation

The results of the logistic regression analysis indicated that the significant predictors of internet dependency were gender, the main goal of internet use, and the main type of internet use. This analysis revealed that male participants, those who used internet for nonacademic goals, and those who made nonacademic use of internet were more at risk for internet dependency than, respectively, female participants (odds ratio [OR]: = 2.29; confidence interval [CI]: 1.05–4.99), those who used the Internet for academic goals (OR = 0.21; CI: 0.05–0.93), and those who made academic use of the Internet (OR: 0.33; CI: 0.13–0.83) [Table 2].

Discussion

The findings revealed that 35.5% of the faculty members who participated in the study were at risk for internet dependency, but none of them suffered from internet dependency. Although no previous study is available on the rate of internet addiction among faculty members, a number of studies have investigated the frequency and the purposes of internet use in faculty members and students. A study on college teachers in Pakistan also revealed that about 54% of college teachers used the Internet daily and mostly at home.[10] In another study, nearly 57% of the university faculty members used internet services daily and at least for 1–2 h.[15] A study among the faculty members and students of an engineering college reported that almost 42% of the faculty members and students used internet daily as an information source.[16] A number of studies also investigated the internet use among students and reported that the prevalence of internet dependency among students was 17.20%[17] and 3.2%.[18] All these studies along with our study show that university faculty members use the Internet more frequently. Faculty members usually use the Internet for literature search, E-mail, and sometimes for the preparation of lectures and updating the information.[15,16] The difference between our study and other studies concerning internet dependency may be due to the differences in the samples and the measurement instruments of the studies. The absence of internet dependency among our participants is also attributable to the fact that they were faculty members of a medical university and hence, might have had adequate knowledge about the negative effects of excessive internet use.

Studying the association between internet dependency

Table 2: The results of the logistic regression analysis for determining internet dependency predictors

Predictors	*B*	SE	OR	95% CI		*P* -value
				Minimum	Maximum	
Gender						
Male	0.83	0.34	2.29	1.05	4.99	0.038
Female	Reference	-	-	-	-	-
Goal of internet use						
Academic	-1.58	0.77	0.21	0.05	0.93	0.04
Academic and other	-0.97	0.69	0.38	0.098	1.46	0.16
Nonacademic	Reference	-	-	-	-	-
Type of internet use						
Academic	-1.04	0.66	0.35	0.097	1.29	0.12
Academic and other	-1.12	0.48	0.33	0.13	0.83	0.019
Nonacademic	Reference	-	-	-	-	-

CI: Confidence interval, SE: Standard error, OR: Odds ratio

and sociodemographic factors in this research, significant relationships were discovered between age, time of daily use, the main type of internet use, and the internet dependency condition. Consistent with this survey, earlier studies revealed significant associations between internet dependency and age[6] and duration and the type of internet use.[2,19] Incongruent with the current study, a former study found no association between variables such as age, the hours of Internet use, and Internet dependency.[20] However, a study among Turkish teachers reported a significant relationship between gender and internet addiction.[21]

We found no significant difference in internet dependency among faculty members from different fields of study, though nursing and midwifery faculty members obtained higher internet dependency scores. The higher mean score of internet dependency among nursing and midwifery faculty members is probably due to their greater involvement in research activities, which requires more frequent internet use; also, there are more research courses in the curriculum of these fields.

Logistic regression analysis revealed gender as one of the significant predictors of internet dependency so that male participants were at greater risk. An earlier study also reported significant relationship between gender and internet dependency.[21] A study also reported that males are more susceptible to problematic internet use.[22] The higher prevalence of internet dependency among men may be due to their greater interest in online programs and new technologies. They may also have more free time to spend in the Internet than that of females because female faculty members have to spend a great deal of their free time on their housekeeping tasks. Yet, a study found no significant difference between young male and female adults respecting their internet dependency.[23] This difference is attributable to the differences among studies respecting their samples and internet dependency measurement instruments.

Our findings also showed that participants who used the Internet for academic purposes and made academic use of the Internet were at lower risk of internet dependency. Using the Internet for nonacademic purposes is more attractive to people and hence, may put them at risk for internet overuse and dependency. Previous studies did not report these two factors as significant predictors of internet dependency.[6,20,23,24] Rather, they reported depression, loneliness, cellphone dependency,[24] and age[6] as the significant predictors of internet dependency. These discrepancies among the studies respecting the predictors of internet dependency can be due to the differences among them respecting participants' characteristics (such as age) and internet dependency measurement instruments.

Conclusion

This study suggests that around one-third of the faculty members are at risk for internet dependency. Given the negative effects of internet overuse on different aspects of life, educational and managerial interventions are needed to help faculty members more effectively use the Internet. Educational courses and workshops can be used to broaden their knowledge about this concept and the adverse effects of internet overuse. Such programs might be more useful for groups that have been identified as more vulnerable such as males and those with more nonacademic use on the Internet and help them modify their internet use habits. More comprehensive observational and longitudinal studies are needed to determine the different predictors of internet dependency among faculty members. The study limitations included data collection through self-administered instruments and high attrition rate.

Acknowledgment

This article sprang from a research project approved by the Research Administration of Guilan University of Medical Sciences, Guilan, Iran (grant number: 93050606). We would like to express our gratitude to the Research and the Education Administrations of the university, the education staff of the study setting, all faculty members of the university, and the Social Determinants of Health Research Center, Rasht, Iran.

Financial support and sponsorship

This study was financially supported by Guilan University of Medical Sciences (Ethics code: 2930231615). This article was derived from a thesis research project.

Conflicts of interest

There are no conflicts of interest.

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;33:158-62.
2. Kiany T, Khoshknab FM, Dalvandi A, Hosaini M, Nourozi K. Internet addiction and its related factors among nursing students in Tehran university of medical sciences in 2013. Nurs Educ 2013;2:50-62.
3. Ghasemi V, Malekahmadi H. Assess of internet addiction among users Shahin Shahr Cafes. Q Commun Res 2010;17:51-77.
4. Khajehmougahi N, Alasvand M. Evaluation of personality predictors of internet addiction. Med Sci J 2010;9:360-5.
5. Cash H, Rae CD, Steel AH, Winkler A. Internet addiction: A brief summary of research and practice. Curr Psychiatry Rev 2012;8:292-8.
6. Asiri S, Fallahi F, Ghanbari A, Kazemnejad-Leili E. Internet addiction and its predictors in Guilan Medical Sciences students, 2012. Nurs Midwifery Stud 2013;2:234-9.
7. Modara F, Rezaee-Nour J, Sayehmiri N, Maleki F, Aghakhani N, Sayehmiri K, *et al*. Prevalence of internet addiction in Iran: A systematic review and meta-analysis. Addict Health 2017;9:243-52.
8. Imani A, Esmaeeli S, Golestani M, Ghoddoosi-J, Baghestan BE, Arab-M. Relation between internet addiction and educational burnout among students in faculty of health management and medical informatics of Tabriz university of medical sciences: A cross-sectional study. Mod Care J 2018;15:e66027.
9. Masoudnia E. Relationship between pathological compulsive use of internet and incidence of anxiety and insomnia symptoms among the academic members of Yazd University. Q J Res Plan High Educ 2011;17:75-96.
10. Bhatti R, Ahmad MN, Khan SA. Trends towards Internet usage among college teachers of Lodhran district South Punjab Pakistan. Libr Philosophy Pract 2014;1090.
11. Brien S. Facebook and other Internet Use and the Academic Performance of College Students. Temple University; 2011.
12. Ceyhan A. University students problematic internet use and communication skills according to the internet use purpose. Educ Sci Theory Pract 2011;11:69-77.
13. Kaya F, Delen E, Young KS. Psychometric properties of the Internet Addiction Test in Turkish. J Behav Addict 2016;5:130-4.
14. Alavi S, Eslami M, Maracy M, Najafi M, Jannatifard F, Rezapour H. Psychometric properties of young internet addiction test. J Behav Sci 2010;4:183-9.
15. Sharma UC, Chawla C, Madaan P. Internet usage by the faculty members and the students in professional colleges at Mathura region: An empirical study. Int J Inf Dissem Technol 2011;1:77-85.
16. Rangaswamy, Manjunatha G, Sampath Kumar BT. Internet as a source of information: Usage among the faculty members and students. Libr Waves 2017;3:36-42.
17. Cheung LM, Wong WS. The effects of insomnia and internet addiction on depression in Hong Kong Chinese adolescents: An exploratory cross-sectional analysis. J Sleep Res 2011;20:311-7.
18. Kuss DJ, Griffiths MD, Binder JF. Internet addiction in students Prevalence and risk factors. Comput Hum Behav 2013;29:959-66.
19. Solhi M, Farhandi H, Armoon B. Internet addiction among B.Sc. students in health faculty, Tehran University of medical sciences. Razi J Med Sci 2013;20:40-7.
20. Zarbakhsh Bahri M, Rashedi V, Khademi M. Loneliness and internet addiction in students. J Health Promot Manag 2013;2:32-8.
21. Çuhadar C. Exploration of problematic Internet use and social interaction anxiety among Turkish preservice teachers. Comput Educ 2012;59:173-81.
22. Kabasakal Z. Life satisfaction and family functions as-predictors of problematic Internet use in university students. Comput Hum Behav. 2015;53:294-304.
23. Weinstein A, Dorani D, Elhadif R, Bukovza Y, Yarmulnik A, Dannon P. Internet addiction is associated with social anxiety in young adults. Ann Clin Psychiatry 2015;27:4-9.
24. Ezoe S, Toda M. Relationships of loneliness and mobile phone dependence with Internet addiction in Japanese medical students. Open J Prev Med 2013;3:407-12.