Prevalence of Internet addiction in Iranian high school students; a cross-sectional study

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Abstract

Introduction: Internet addiction is a global problem that caused negative effects on health. The present study aimed to determine the prevalence of Internet addiction in Iranian high school students in 2014.

Materials and methods: In a cross – sectional study assessed the prevalence of Internet addiction among 381 high school students in Ilam, in 2014. The samples were selected by a multi-stage sampling method. Data was collected by a two-part questionnaire. The first part of the questionnaire was included the personal characteristics. Second part of the questionnaire was Internet Addiction Test (ITA) -20. SPSS software Package 16 was used to analyze the data.

Results: Overall 75 (19.7%) students put into the Internet addiction group. Mild and moderate Internet addiction reported in 18.1% and 1.6% of all participants, respectively. There were any cases of sever Internet addiction. The mean Internet used to be 2.12 ± 2.32 and 3.57 ± 2.7 hours in non-Internet addiction and internet addiction groups, respectively ($P < 0.000$). The mean Internet access was 8.11 ± 6.7 and 8.2 ± 5.75 hours in non-Internet addiction and internet addiction groups, respectively.

Conclusion: Internet addiction is a serious issue in teenagers. High school students possess a high danger for internet addiction. Therefore, education about the proper use of the Internet is necessary for high school students.

Keywords: Behavioral addiction, Ilam, Iranian high school students

Introduction

Adolescence is a decisive period of life and characterized by risk-taking behaviors (1). Internet addiction has been covered as one case of behavioral addiction (2). The risk of internet addiction is associated with an increased prevalence of substance dependence (3). In another study Internet over-utilization is debated as an addictive behavior (4).

Several subjects described the Internet addiction as a global problem (5-8). Hawi et al (2012) evaluated the Internet usage among 833 intermediate and secondary students and reported a significant problematic Internet use in 4.2% of study's participants (9). International estimates of Internet addiction reported 7.9% to 22.8% (10). In a study investigated the Internet addicted in 1463 Norwegian 12–18 years

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old. Based the results of the study, 1.98% of all participants were Internet addicted (11). In another study the prevalence of Internet addictive was 5.4% in 275 high school-age adolescents in Florence (12). Yet a study reported an 8.2% pace of Internet addiction among 2200 adolescents (13), but also, another study reported a zero % prevalence of Internet addiction among 315 Athens' high school students with mean 15 years old (14).

There are several side effects associated with Internet addiction. A study reported that 86% of excessive internet users presented DSM (15) that it could be considered a symptom of another underlying psychopathological condition (16).

Negative impacts of Internet addiction are included; depressive symptoms, low self-esteem, anxiety, social phobia, difficulties in work or school, difficulties in establishing strong relationships (17, 18), adverse physical and mental effects, (19), negative impact on family relationships and emotional stability (8).

The risk factors of Internet addiction are included; male gender, not living with a biological parent, low parental involvement, parental unemployment (20), lower educational level of the parents, earlier age at first use of the Internet and greater use of social networking sites and gaming sites (10).

Looking at the negative effects of Internet addiction on health, the present study aimed to define the prevalence of Internet addiction in Iranian high school students in 2014.

Materials and methods

In a cross-sectional study assessed 381 high school students in Ilam, in 2014. The samples were selected by a multi-stage sampling method. Data was collected by a two-part questionnaire. The first part of the questionnaire was included personal characteristics such as age, gender, parents´ occupation, parents´ education, Internet access hours per day and Internet uses hours per day. Second part of the questionnaire was Internet Addiction Test (ITA)-20.

The IAT is the first validated and reliable measure of addictive uses of the Internet. This 20-item questionnaire developed by Kimberly Young (17) and measures Internet addiction in mild, moderate and severe level. Each answer is scored on a Likert scale from 1 to 5. In a way that, score 1 = rarely, 2 = occasionally, 3 = frequently, 4 = often and 5 = always. The final score is obtained by summing the scores for all questions. The higher score represents a greater level of addiction. The total score 20-49 represents a mild addiction, 50-79 moderate addiction and 80-100 severe addiction. Validity and reliability of Young's Internet Addiction Test have been confirmed in previous studies in Iranian Internet users. Alavi et al reported the validity (r = 0.78, 0.81) and reliability (r =0. 74, p< 0.01) of the Persian version of the Young Diagnostic Questionnaire in Isfahan university's students (21). In another study, reported the acceptable Internal consistency (α =0. 88), test–retest reliability (r =0. 82) and bisection (r =0. 72) for Young's Internet Addiction Test in Iranian users (22).

This study was undertaken with the approval of the Ethical Committee of the Ilam University of Medical Sciences. The aim of the study was described an informed consent was obtained from all participants before the enrollment in the study. To enhance confidentiality, all questionnaires were completed anonymously and only required information was collected.

Results

A total 381 student was studied. The mean ± SD age was 16.52 ± 1.09 and 16.61 ± 1.24 years in non Internet addiction and internet addiction groups, respectively. Overall, 306 (80.3%) student hadn't Internet addiction, while 75 (19.7%) student was put into the Internet addiction group.

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The overall distribution of Internet addiction was as follows: The mild addiction 69 (18.1%) and moderate addiction 6 (1.6%). There wasn't reported case of sever Internet addiction. Variables such as mothers' occupation, parental education and number of children living in families were different between the groups (P>0.05). But there was not a statistically significant difference in gender and fathers´ occupation between the groups (P<0.05).

There was a statistically significant difference between school grade and Internet addiction (P<0.001). Demographic characteristics of study participants are presented in Table 1.

Table 1. Demographic characteristics and other factors related to Internet use among Iranian high school students in 2014.

Characteristics	Internet addiction		Total	P value
	Yes	No		
Age*	16.61 ± 1.24	16.52 ± 1.09		0.53
Gender**				
Male	35(18.2)	157(81.8)		0.52
Female	40(21.2)	149(78.8)		
School grade				
1st high school	24(26.7)	66(73.3)	90(100)	0.001
2st high school	5(5.3)	90(94.7)	95(100)	
3st high school	22(22.9)	74(77.1)	96(100)	
4st high school	24(24)	76(76)	100(100)	
Total	75(100)	306(80.3)	381(100)	

*Values are given as Mean ± SD
**N (%)

There was a statistically significant difference between age and severity of Internet addiction (P<0.002). The distribution of high school students, according to Internet addiction status and age are presented in Table 2.

Table 2. The distribution of Internet addiction status and age between university students in Ilam in 2014

Age *	Internet addiction**			Total	P value
	Non	Mild	Moderate		
15	66(73.3)	22(22.4)	2(2.2)	90(100)	0.002
16	90(94.7)	4(4.2)	1(1.1)	95(100)	
17	74(77.1)	22(22.9)	0(0)	96(100)	
18	76(76)	21(21)	3 (3)	100(100)	

*Year
**N (%)

The mean ± SD Internet access was 8.11 ± 6.7 and 8.2 ± 5.75 hours in non-Internet addiction and internet addiction groups, respectively (P < 0.913). The mean ± SD Internet used to be 2.12 ± 2.32 and 3.57 ± 2.7 hours in non-Internet addiction and internet addiction groups, respectively (P<0.000).

Discussion

In the present study, we investigated the prevalence of Internet addiction among 381 Iranian high school students in 2014 in

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Ilam, Western of Iran. Based the results, the prevalence of Internet addiction was high in our study population and about 20% of the participants have some grades of Internet addictions.

Internet addiction is considered as one of the major problems worldwide. Several studies evaluated the prevalence of Internet addiction in different age groups (22-27).

Based on the results of the current study, 80.3% of all participants put into non-Internet addiction and 19.7% put into mild and moderate Internet addiction. In a study investigated the Internet addiction in 1360 freshmen in Taiwan and reported the Internet addiction in 17.9% of the study participants (28).

Based the results of the present study the prevalence of internet addiction was higher in female students in comparison with male students; 21.2% Vs 18.2%. Several studies confirm the results of the present study (17, 29). In contrast, our result, in another study the risk of Internet addiction was higher in male students compared with female students (49% in males and 17% in females) (30).

A variety of measurement tools used not allows a comparable estimation of prevalence Internet addiction. In the present study, we have been using the Internet Addiction Test (ITA) -20. In another study (31) Chen Internet Addiction Scale (CIAS) was used. These two methods are different in scoring. In ITA, score 20- 49 represents mild addiction, 50-79 moderate addiction and 80-100 severe addiction. The range of CIAS is 26 to 104. Higher score indicated higher severity of Internet addiction.In CIAS the score 26-63 shows normal use, 64-67 indicates at risk use and need for screening and 68-104 indicates Internet addiction. Even in cases where the same measurement tool is used, the cutoff point has an important impact on the reported frequency. So that in some studies, despite using the same tools, the cutoff points used were different (28, 32).

Conclusion

Internet addiction is a serious issue in adolescents. High school students have a high risk for Internet addiction. Therefore, education about the proper use of the Internet is necessary for high school students.

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References

1. Spear LP. The adolescent brain and age-related behavioral manifestations. Neurosci Biobehav Rev. 2000; 24(4):417-63.
2. Holden C. 'Behavioral' addictions: do they exist? Science. 2001; 294(5544):980-2.
3. Bakken IJ, Wenzel HG, Gotestam KG, Johansson A, Oren A. Internet addiction among Norwegian adults: a stratified probability sample study. Scand J Psychol. 2009; 50(2):121-7.
4. Fitzpatrick JJ. Internet addiction: recognition and interventions. Arch Psychiatr Nurs. 2008; 22(2):59-60.
5. Ko CH, Yen JY, Yen CF, Chen CS, Chen CC. The association between Internet addiction and psychiatric disorder: a review of the literature. Eur Psychiatry. 2012; 27(1):1-8.
6. Yen JY, Ko CH, Yen CF, Wu HY, Yang MJ. The comorbid psychiatric symptoms of Internet addiction: attention deficit and hyperactivity disorder (ADHD), depression, social

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phobia, and hostility. J Adolesc Health. 2007; 41(1):93-8.

7. Yen JY, Ko CH, Yen CF, Chen CS, Chen CC. The association between harmful alcohol use and Internet addiction among college students: comparison of personality. Psychiatry Clin Neurosci. 2009; 63(2):218-24.
8. Ryu EJ, Choi KS, Seo JS, Nam BW. The relationships of Internet addiction, depression, and suicidal ideation in adolescents. Taehan Kanho Hakhoe Chi. 2004; 34(1):102-10.
9. Nazir S, Hawi. Internet addiction among adolescents in Lebanon. Computers in Human Behavior. 2012; 28:1044-53.
10. Tsitsika A, Janikian M, Schoenmakers TM, Tzavela EC, Olafsson K, Wójcik S, et al. Internet Addictive Behavior in Adolescence: A Cross-Sectional Study in Seven European Countries. Cyberpsychol Behav Soc Netw. 2014; 17(8):528-35.
11. Johanson A, Gotestam KG. Internet addiction: Characteristics of a questionnaire and prevalence in Norwegian youth (12–18 years). Scand J Psychol. 2004; 45(3): 223-9.
12. Pallanti S, Bernardi S, Quercioli L. The shorter PROMIS questionnaire and the Internet addiction scale in the assessment of multiple addictions in a high school population: Prevalence and related disability. CNS Spectrums. 2006; 1(12): 966-74.
13. Siomos E K, Dafouli DE, Braimiotis A, Mouzas OD, Angelopoulos NV. Internet addiction among Greek adolescent students. Cyb Psychol Behav. 2008; 11: 653-57.
14. Tripodaki E, Kormas G, Konstantoulaki E, Andrie E, NassisG, Freskou A, et al. Internet use and abuse in an adolescent population in Athens: associations with psychological profile and lifestyle of users. Pediatrics.2008; 121:89-90.
15. American Psychiatric Association. Diagnostic and statistical manual of mental disorders-fourth edition, text revised. Washington, DC: American Psychiatric Association; 2000.
16. Ahn DH. Korean policy on treatment and rehabilitation for adolescents, Internet addiction, in 2007. International symposium on the counseling and treatment of youth internet addiction. Seoul, Korea: National Youth Commission; 2007. P.49.
17. Young KS. Internet addiction: the emergence of a new clinical disorder. Cyberpsychol Behav Soc Net. 1998; 1:237-44.
18. Young KS. Cognitive behaviour therapy with internet addicts: treatment outcomes and implications. Cyberpsychol Behav Soc Net. 2007; 10:671-80.
19. Shek DT, Tang VM, Lo CY. Internet addiction in Chinese adolescents in Hong Kong: assessment, profiles, and psychosocial correlates. Sci World J. 2008; 8:776-87.
20. Durkee T, Kaess M, Carli V, Parzer P, Wasserman C, Floderus B,et al. Prevalence of pathological internet use among adolescents in Europe: demographic and social factors. Addiction. 2012; 107(12):2210-22.
21. Alavi S S , Eslami M , Meracy M, Najafi M , Jannatifard F , Rezapour H. Psychometric properties of Young internet addiction test. Behav Sci. 2010; 4 (3):7-8.
22. Alavi S, Jannatifard F, Eslami M, Rezapour H. Survey on validity and reliability of diagnostic questionnaire of internet addiction disorder in students users. Zahedan Journal of Research in Medical Sciences. 2011; 13 (7) :34-38.
23. Goel D, Subramanyam A, Kamath R. A study on the prevalence of internet addiction and its association with psychopathology in Indian adolescents. Ind J Psychiatry. 2012; 55(2):140-3.

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24. Cash H, Rae CD, Steel AH, Winkler A. Internet Addiction: A Brief Summary of Research and Practice. Curr Psychiatry Rev. 2012; 8(4):292-8.
25. Chakraborty K, Basu D, Vijaya Kumar KG. Internet addiction: consensus, controversies, and the way ahead. East Asian Arch Psychiatry.2010; 20(3):123-32.
26. Sasmaz T, Oner S, Kurt AÖ, Yapici G, Yazici AE, Bugdayci R, et al. Prevalence and risk factors of Internet addiction in high school students. Eu J Publ Health. 2014; 24(1):15-20.
27. Tang J, Yu Y, Du Y, Ma Y, Zhang D, Wang J. et al. Prevalence of internet addiction and its association with stressful life events and psychological symptoms among adolescent internet users. Addict Behav. 2014; 39(3):744-7.
28. Liberatore KA, Rosario K, Colon-De Marti LN, Martínez KG. Prevalence of Internet addiction in Latino adolescents with psychiatric diagnosis. Cyberpsychol Behav Soc Net. 2011; 14(6):399-402.
29. Ghamari F, Mohammadbeigi A, Mohammadsalehi N, Hashiani AA. Internet addiction and modeling its risk factors in medical students, iran. Ind J Psychol Med. 2011; 33(2):158-62.
30. Ko CH, Hsiao S, Liu GC, Yen JY, Yang MJ, Yen CF. The characteristics of decision making, potential to take risks, and personality of college students with Internet addiction. Psychiatry Res. 2010; 175(1-2):121-5.
31. Salehi M, Norozi Khalili M, Hojjat S, Salehi M, Danesh A. Prevalence of Internet Addiction and Associated Factors Among Medical Students From Mashhad, Iran in 2013. IRCMJ. 2014; 16(5):e17256.
32. Kormas G, Critselis E, Janikian M, Kafetzis D, Tsitsika A. Risk factors and psychosocial characteristics of potential problematic and problematic internet use among adolescents: a cross-sectional study. BMC Public Health.2011;11:595.

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