Prevalence of Internet Addiction in Iran: A Systematic Review and Meta-analysis

Farhad Modara MD[1], Jalal Rezaee-Nour PhD[2], Nader Sayehmiri MSc[3], Fatemeh Maleki MSc[3], Narges Aghakhani MSc[4], Kourosh Sayehmiri PhD[5], Mostafa Rezaei-Tavirani PhD[6]

Review Article

Abstract

Background: The internet has unique properties that include ease of access, ease of use, low cost, anonymity, and its attractiveness which resulted in problems such as internet addiction. Different statistics has been reported about internet addiction rate, but there is not a suitable estimation about the growth of Internet addiction in Iran. The aim of this study is to analyze the growth of Internet addiction in Iran using meta-analysis method.

Methods: At the first stage, by searching in scientific databases such as Magiran, SID, Scopus, ISI, Embase and use of keywords like Internet addiction, 30 articles were chosen. The outcomes of the study combined together with using meta-analysis method (random effects model). The analysis of the data was performed using R and Stata software.

Findings: Based on 30 studies and sample size of 130531, the growth rate of internet addiction based on the random effects model was 20% [16-25 confidence interval (CI) of 95%]. The meta regression model showed that the trend of Internet addiction growth rate in Iran increased from 2006 to 2015.

Conclusion: This study showed that the prevalence of Internet addiction in Iran seems moderate. Therefore, the necessity of identification, treatment, and prevention of the age groups which are at the risk is being sensed by the responsible and related authorities.

Keywords: Internet; Addiction; Prevalence; Meta-analysis; Students

1- Assistant Professor, Department of Neurology, School of Medicine, Ilam University of Medical Sciences, Ilam, Iran
2- Associate Professor, Department of Industrial Engineering, School of Technology and Engineering, University of Qom, Qom, Iran
3- Psychosocial Injuries Research Center, Ilam University of Medical Sciences, Ilam, Iran
4- School of Information Technology, Mehralborz University, Tehran, Iran
5- Associate Professor, Psychosocial Injuries Research Center, Ilam University of Medical Sciences, Ilam, Iran
6- Professor, Proteomics Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran
Correspondence to: Nader Sayehmiri PhD, Email: nadersayehmiri@gmail.com

Introduction

Internet is a human-made stuff and one of the factors which has affected human life. It seems that, nowadays, it is impossible to imagine life without the internet. The number of Internet users is constantly growing. Researchers acknowledged that one of the most important reasons for the prevalence of Internet addiction is increasing the number of Internet users and its ease of access. Looking at the statistics of Internet users in recent years reflects growing up the global population who use the Internet.[1] From the mid-twentieth century with the formation, accelerating, and development of scientific-technological advancements, the world entered a new era. Every day, more people add to Internet users. The changes of this technology that have been created is summarized in a phrase by Marshall McLuhan that "it's turning the world into a global village".[2] With widespread access to the Internet, we are witnessing a new kind of Internet addiction. Like other types of addiction, Internet addiction has some special symptoms such as depression, irritability, loneliness, anxiety, unrest, and so on. Sex is also one of the factors that affects typical use and Internet addiction.[2] In 2008, the American Medical Association estimated that 5 million children suffer from addiction to Internet games and has attracted the field of psychology, psychiatry, sociology, and other disciplines.[3] Cao et al. have compared the psychological personality and social characteristics of students who had excessive use of Internet in comparison to other students. The results of their research showed that Internet addicts have depression, anxiety, suicidal ideation, hyperactivity, social phobia, aggression, violence, and anti-social behaviors.[4] Most researchers have concluded that Internet addiction must be considered as an impulse control disorder and its criteria should be set on the basis of a sickly impulse control disorders like pathological gambling addiction to the internet.[4] In one study, the prevalence of Internet addiction and Internet addiction relationship with loneliness and self-esteem among students in Tehran, Iran, were investigated; the result showed that the prevalence of Internet addiction among high school students in Tehran City is 3.8%.[3] As a result of this comparison, it turned out that regular users and non-users of the drug significantly are more alone. In addition, their self-esteem is also significantly lower than normal users.[5]

By December 2002, the number of Internet users, have been reported 665 million people. According to statistics, in the last few years, the number of Internet users in our country has become 25 times more.[5] Chen and Peng believe that increasing the number of Internet users in the world are of the important factors affecting Internet addiction.[6]

The youth due to educational needs, information, entertainment, and so on, have more tendency to internet, and since have more free time to use the Internet, are more prone to the phenomenon of "Internet addiction".[7,8]

Internet addiction is an impulse control disorder that refers to excessive use of the Internet in a way that affects a person's social activities and leads to performance loss in various social, educational, familial, economic, and psychological fields, so that as he/she ignores the relations with the real world, friends, and family.[9] Xie et al. believes that Internet addiction like other compulsive behaviors such as drug addiction is a real dependence.[10] Top countries in each region based on the number of Internet users are: Nigeria in Africa, China in Asia, Russia in Europe, Iran in the Middle East, the United States in North America, Brazil in Latin America, and Australia in Oceania.[11] Several studies have been conducted in the field of Internet addiction that demonstrates the need for identification and detailed studies of the prevalence of Internet addiction in Iran, and preventing this problem at the same time and in two sections. Awareness and prevention of the prevalence of Internet addiction in students can play an important role in planning to reduce this phenomenon and raise their health. On the other hand, it is possible to avoid its consequences in students. Given the importance of the problem, it seems that in order to have any plans in this regard, we need to obtain information about its prevalence in our country. According to different studies conducted in Iran, there have been various estimates of the prevalence of Internet addiction reported, and there are not detailed statistics of Internet addiction in Iran. The aim of this study is to estimate the prevalence of Internet addiction in students in Iran using meta-analysis.

Methods

Search was done in domestic and international databases such as: Irandoc, Magiran, Iranmedx, SID, Medlib, Embase, PubMed, ScienceDirect, and Scopus. Keywords used in the search were: "internet addiction", "behavioral addiction", "dependence", "students", and "Iran". For restriction of search operator, Boolean operators AND, OR were used.

Search command for foreign intelligence databases were:

Pupils OR learners OR students AND addiction AND prevalence AND Iran, AND internet.

Inclusion and exclusion criteria: Inclusion criteria for this study include: citing the prevalence of Internet addiction, specifying the number of full-text access to these articles, English or Persian articles, to investigate the relationship between the components of the articles that have been conducted. Exclusion criteria include: non-relevant papers on the subject expressed, the unavailability of full-text articles, and incomplete information in abstracts. All data in this study were selected from remaining articles using Stata software (version 11.2), based on critical appraisal criteria, and at the end articles by inclusion criteria were elected.

In each study, number of samples, the prevalence of Internet addiction, the study location, first author name, number of people addicted to the Internet, student discipline, and the age group was obtained. Variance of prevalence of Internet addiction in each study was calculated using the binomial distribution. It was given a weight to studies combination, depending on sample size and variance of each study. To combine the results, the random effects model was used. Study heterogeneity was assessed using the I^2 index and Q statistic. To assess the relationship between years of study and the prevalence of Internet addiction, meta-regression model was used. Significance level of 5% was considered and data were analyzed using Stata software. We also observed strong evidence of heterogeneity (I^2 = 99.6%, P < 0.05).

Results

Articles selection: First, by searching the databases such as Irandoc, Magiran, Iranmedx, SID, Medlib, Embase, PubMed, Science direct, and Scopus, 150 articles were found. By reading the titles and abstracts, 110 articles were removed; by reading the full text articles, 10 articles were excluded because of the low number of samples and not mentioning the prevalence. Finally, 30 studies were entered into meta-analysis (Figure 1).
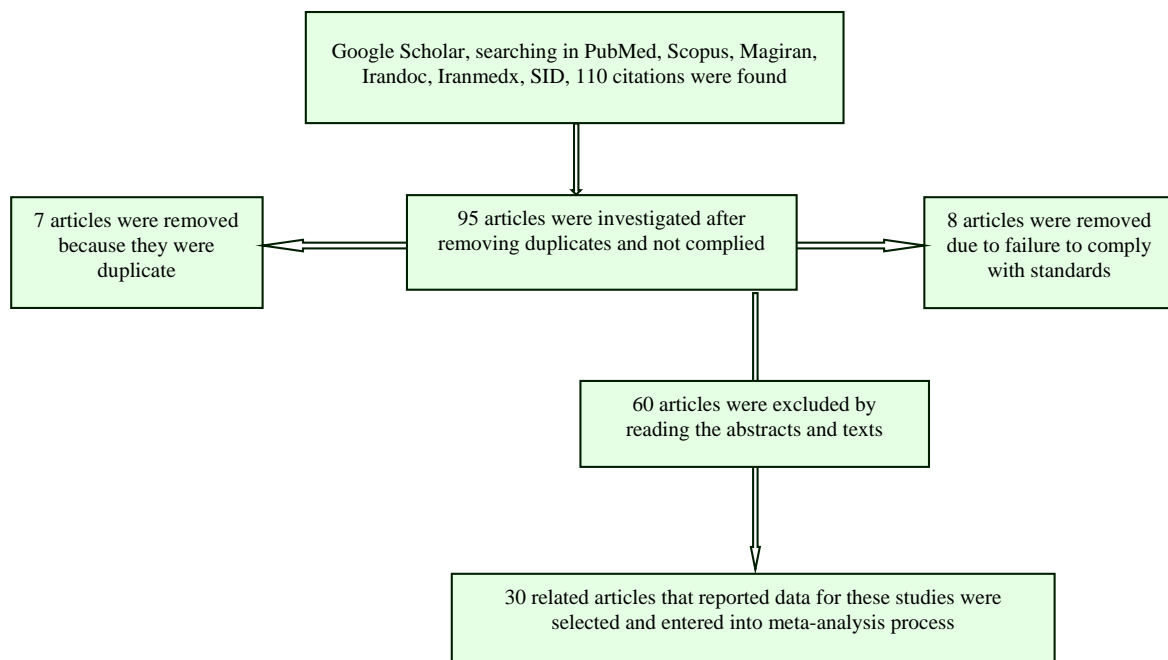
Google Scholar, searching in PubMed, Scopus, Magiran, Irandoc, Iranmedx, SID, 110 citations were found

95 articles were investigated after removing duplicates and not complied

7 articles were removed because they were duplicate

8 articles were removed due to failure to comply with standards

60 articles were excluded by reading the abstracts and texts

30 related articles that reported data for these studies were selected and entered into meta-analysis process

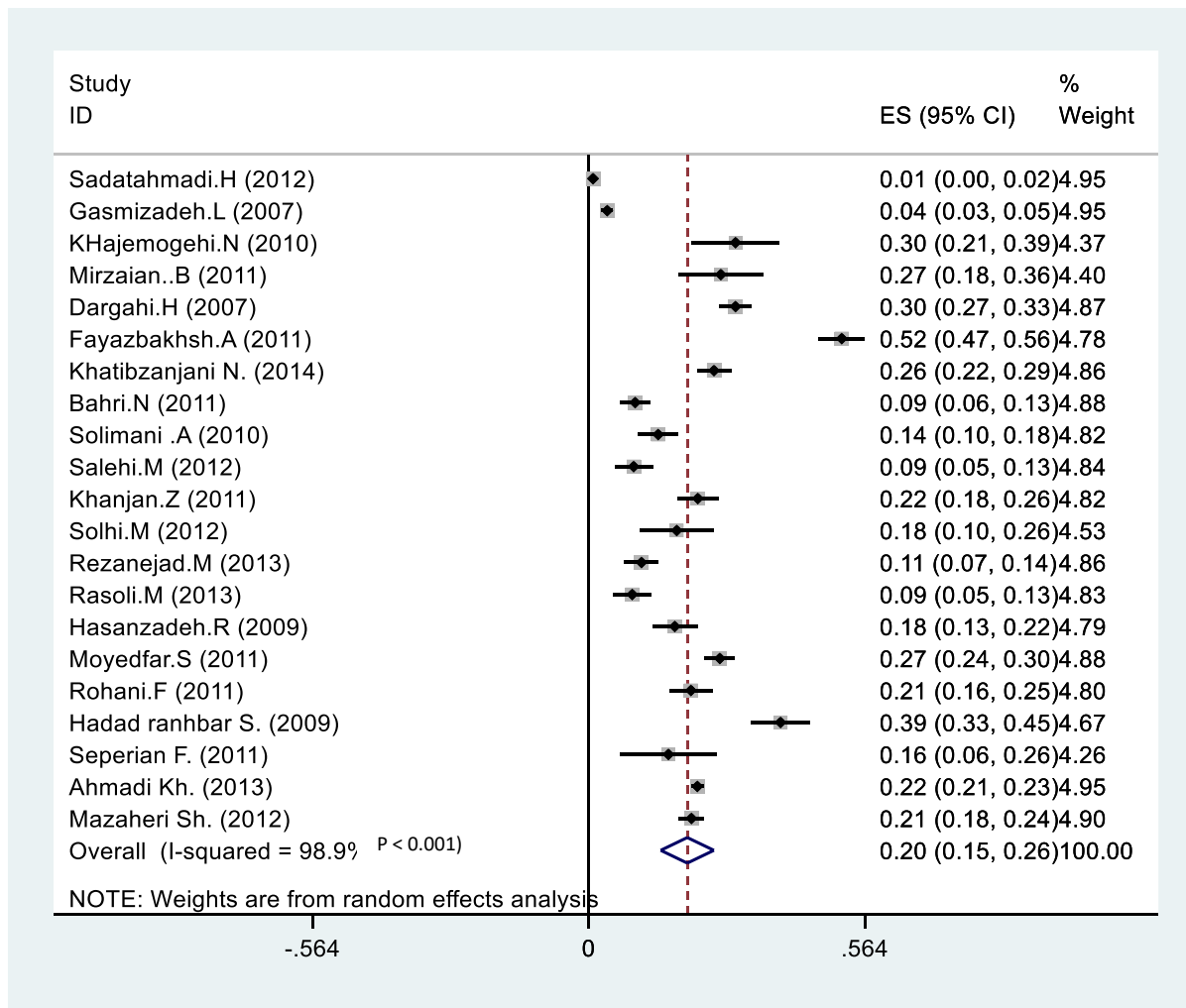**Figure 1.** Review and literature search

Figure 2. The prevalence of Internet addiction in Iran in terms of years of study

Specification of examined articles: The overall incidence and prevalence of Internet addiction in users at risk of Internet addiction in some articles were examined. In this meta-analysis study, the prevalence of Internet addiction in Iran during the years 2007 to 2016 was conducted. The results showed that the overall prevalence of Internet addiction in Iran, was estimated 20% [95% confidence interval (CI): 16%-25%] (Figure 2). The highest prevalence of Internet addiction was 52% among students of Tehran University of Medical Sciences, Tehran City,[12] and the lowest prevalence was 4% in 2007 among the high school students of Tehran.[13] The amount of prevalence of patients at risk to Internet addiction in 5 studies were estimated 28% (95% CI: 19%-37%), respectively (Figure 3). The highest rate of people at risk of Internet addiction was based on Hadad Ranjbar's study at the University of Rafsanjan, Iran.[14] The lowest rate was estimated 8% based on Rohani and Tari's study (95% CI: 2%-14%).[15]

The prevalence of Internet addiction, according to Yang questionnaire estimate was 27% (23%-32%).The prevalence of Internet addiction in high school students was estimated 0.21% (0.10%-0.32%; I^2 = 99.70). The prevalence of Internet addiction in college student was estimated 0.23% (0.16%-0.30%; I^2 = 97.80).

The overall prevalence of Internet addiction in Iran was estimated 20% (95% CI: 16%-25%). Heterogeneity index was I^2 = 99.60, indicating that the results of studies were very different.

In this study, 30 papers between the years 2009 to 2016 were analyzed to examine the prevalence of Internet addiction in Iran. The total number of samples according to table 1 is 130531 of which 30 percent have a high school and 70 percent have a college degree.

Table 1. Specifications of articles about the prevalence of Internet addiction in Iran

Author name	Study location	Total number (The total sample Boy-Girl)	Age group (year)	The prevalence of Internet addiction (%)	The prevalence in users at risk	Questionnaires type
Hadad Ranjbar[14]	Rafsanjan	250	19-22	15.2	0.6440	GHQ-28 and Young
Rohani and Tari[15]	Mazandaran	417	15-19	20.9	0.0800	
Ahmadi et al.[13]	Tehran	667	18-23	0.09	0.1450	Yung
Alavi et al.[17]	Isfahan	233	18-23			Yung
Ghassemzadeh et al.[18]	Tehran	1968	-	3.8		Yung
Mohammadi et al.[3]	Babolsar	368	18-25			Cochran
Khosravi and Alizadeh Sahraee[16]	Tehran	286				Regression
Khajeh Mougahi and Alasvand[19]	Ahwaz	100	20-31	86.0	0.2000	NEO
Askari[20]	Shiraz	2000	20-25		0.2790	Morgan
Mirzayian et al.[21]	Mazandaran	100				Goldberg
Kalhornia Golkar et al.[22]	Kermanshah	100	19-22			Yung
Dargahi and Razavi[23]	Tehran	732	15-39	30.0		Yung and Myers-Briggs
Jafari and Fatehizade[24]	Isfahan	71				Yung
Fayaz-Bakhsh et al.[12]	Tehran	435	22-23	51.7		Fisher and Mann-Whitney and Kruskal
Khatib Zanjani and Agah Heris[25]	Semnan	15000	19-42			Yung
Khanjani and Akbari[26]	Tabriz	384	15-18			NEO and Yung
Heydari Soreshjani[27]	Ahwaz	300		54.3		Goldberg and Hyldg
Ranjbar et al.[28]	Tehran	250	16-32			Gamma and regression
Rasooli and Azad Majd[29]	Tehran	200				IAT and GHQ-28
Bahri et al.[30]	Gonabad	400		59.0		Goldberg & Hillier
Soleymani[31]	Ardabil	274		14.2		Yung
Salehi et al.[32]	Tehran	214			0.9200	Yung
Ahmadi[33]	IRAN	4342	Students of high school or pre-college schools	22.2		Young's IAS
Solhi et al.[34]	Tehran	100	19-38			K2
Rezanejad et al.[35]	Yasouj					Yung
Hassanzadeh et al.[36]	Sari	261	20-36		0.4000	IAT
Moedfar et al.[37]	Tehran	800	15-25		0.2680	Kaplan
Sepehrian and Jokar[38]	Orumieh	345	18-22	16.4	0.5400	Yung
Mazhari[39]	Kerman	920	Students (Mean = 21.5, Range: 19-38)	21.0		PIUQ

IAT: Internet addiction test; GHQ: General health questionnaire; IAS: Internet addiction scale; PIUQ: Problematic internet use questionnaire

According to table 2, that is about subgroups at risk of Internet addiction (boys and girls), the prevalence in girls is 10.1% (3.3%-16.8%) and the prevalence in boys 21.1% (4%-40%). According to studies, overall prevalence of Internet addiction in Iran is estimated 20.0% (with 95% CI: 16%-25%) (Figure 3). Articles are reviewed in table 1.

According to table 1, the prevalence of Internet addiction in different regions (center, north, south, west, and east) were examined.

Table 2. Subgroups at risk of Internet addiction (boys and girls)

	Number of studies	95% CI	I^2
The prevalence of users at risk	12	26% (10%-43%)	98.3
The prevalence in girls	4	10.1% (3.3%-16.8%)	99.4
The prevalence in boys	2	21.1% (4%-40%)	

CI: Confidence interval

The prevalence of Internet addiction in south has the highest rate with 70%, and the lowest rate is in the west with around 15%. Furthermore, the prevalence of the Internet addiction examined by age group has been shown between age group of 15-18 years old with the rate of 12%, and between age group of 18-23 years old with the rate of 40%; the overall prevalence, i.e. the age group of 15-23 years, is 35%. Then it was found that the outbreak of the Internet addiction in the age group of 18 to 23 years old is more than other age groups, and it is rising. The incidence in users at risk was 28%. In addition, the incidence in female users was 26%, and in male users was 42% (Figure 4). Therefore, according to table 2, the prevalence of the Internet in the boys against girls is almost 2. Moreover, in this study, the prevalence of the Internet in terms of the questionnaire was evaluated. This amount, according to Yang questionnaire was 32%, in General Health Questionnaire (GHQ) 15%, and in NEO 86%. Figure 1 represents the total amount of dispersion studies.

Discussion

This meta-analysis study was conducted to determine the prevalence of Internet addiction in Iran during the years 2007-2016 among school students and in 2016 among university students. The results of this study showed that the overall prevalence of Internet addiction in Iran was 20% (95% CI: 16%-25%). In studies conducted in other countries, the prevalence of internet addiction was 8.8% in China[40] and 26.4% in Korea.[41]

Study ID	ES (95% CI)	% Weight
Sadatahmadi.H (2012)	0.14 (0.12, 0.17)	8.59
Mohamadi. H (2012)	0.38 (0.33, 0.43)	8.44
KHajemogehi.N (2010)	0.43 (0.33, 0.53)	7.87
Mirzaian..B (2011)	0.52 (0.42, 0.62)	7.86
Khatibzanjani N. (2014)	0.08 (0.06, 0.10)	8.62
Salehi.M (2012)	0.09 (0.05, 0.13)	8.53
Rezanejad.M (2013)	0.47 (0.41, 0.53)	8.38
Rasoli.M (2013)	0.11 (0.06, 0.15)	8.50
Moyedfar.S (2011)	0.25 (0.22, 0.28)	8.59
Rohani.F (2011)	0.08 (0.05, 0.11)	8.59
Hadad ranhbar S. (2009)	0.64 (0.58, 0.70)	8.35
Seperian F. (2011)	0.21 (0.10, 0.32)	7.69
Overall (I-squared = 98.3%, p = 0.000)	0.28 (0.19, 0.37)	100.00

P < 0.001

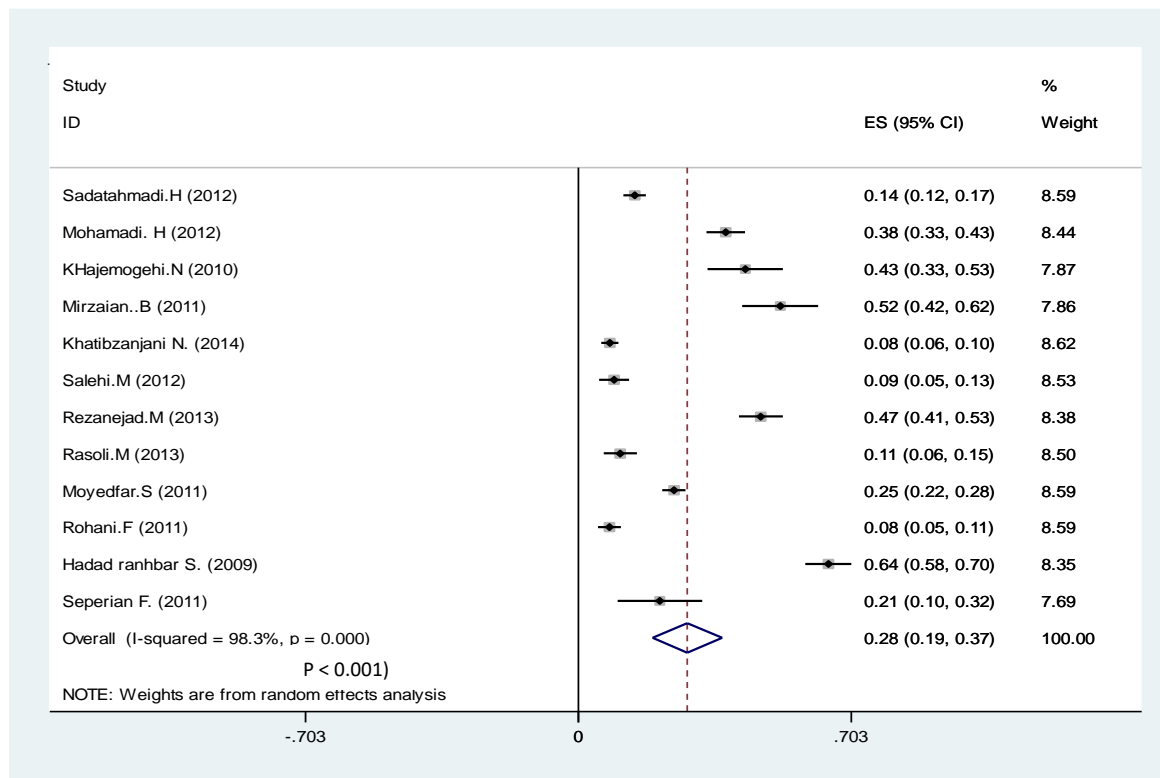NOTE: Weights are from random effects analysis

Figure 3. The prevalence of Internet addiction in Iran in terms of years of study
The midpoint of each segment is the estimation of the diamond symbols in each study. Moreover, this figure represents the total amount of dispersion studies.
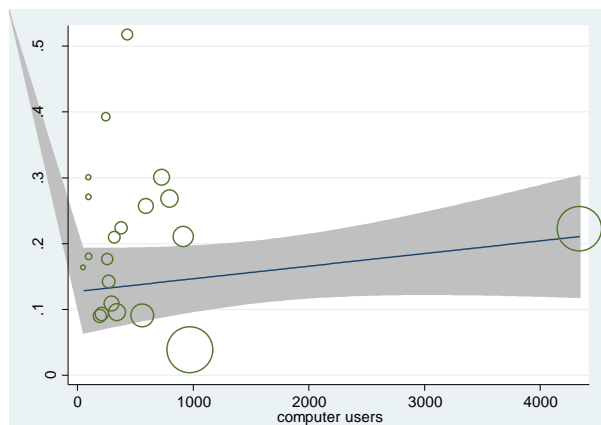
Figure 4. Meta-regression charts, the prevalence of Internet addiction in users at risk of Internet addiction according to the study; meta-regression charts, the prevalence of Internet addiction in terms of the number of users at risk of Internet addiction.

The prevalence of Internet addiction in different regions (center, north, south, west, and east) were examined. The prevalence of Internet addiction in south is the highest rate with 70%, and the lowest in the west with around 15%. This amount in the center and north of the country is 22% and 21%, respectively. It can be concluded that the prevalence of Internet addiction in the center of the country and in the north are almost equal, but the east with 62%, shows a figure close to the south of the country. And it means that, according to studies, the prevalence of the Internet addiction in the south and east of the country is far more than the rest of the country. In a study among computer users in Ahvaz and computer training centers, the rate of internet addiction was 86% with 56% mild, 28% moderate, and 2% severe Internet addiction.[42]

Furthermore, the prevalence of the Internet addiction was examined by age group showing it as 12% among the age group of 15-18 years and 4% among the age group of 18-23 years old. In addition, the prevalence of Internet addiction in the age group 0f 15-23 years is 35%. Therefore, the outbreak of the Internet addiction is mainly in the age group of 18 to 23 years old, and it is on the rise. According to results, people who used the Internet more than others over time, are at greater risk of poor social relationships and an unusual dependence (addiction) to it. The Internet, every day, is further investigated and social scientists are looking at related issues. Rasooli and Azad Majd conducted a study on 200 students of Islamic Azad University of Mashhad, Mashhad, Iran, about Internet addiction and psychological and social consequences of it, and showed that 77% of those at risk of Internet addiction have or have had psychiatric disorders such as anxiety, depression, loneliness, irritability, and weak self-concept. Moreover, in 14% of these people, Internet addiction had negative impact on their performance.[29]

In a cross-sectional study in 1990, researchers at the University of Gonabad, Gonabad, Iran, in a survey of teachers, library and computer staff found that in 86 percent of them using the Internet has not improved student academic performance because the Internet is so chaotic, and irrelevant curricula are tailored to help them in obtaining high scores on standardized tests.[30]

During a survey conducted in 1998 by calculating scores of "Beck Depression Inventory" (BDI) Internet addiction was studied. Average scores of respondents addicted to the Internet on the questionnaire, were diagnosed. On a range of mild to moderate, excessive use of the Internet was associated with weak social links. Internet users who use Internet less frequently, have considerably more communication with their mothers and friends.[10] According to a report in website in February 2005, Internet users in the Middle East were nearly 5.17 million, and Iran with 8.4 million users ranks first in the Middle East (7.27 percent); the report indicates that statistically Iranian users amounted to 20.18 percent in December 2000.[43]

Conclusion

Due to the high prevalence of Internet addiction in Iran, more research should be done about the risk of complications of such problem in the community, and it should be attempted to reduce the prevalence of Internet addiction by notifying to families and youth.

Limitations: The limitations of this study include lack of reporting of the same articles using the same questionnaire to assess the prevalence of Internet addiction, different criteria to define Internet addiction and refer to people at risk of Internet addiction. Some studies related to internet addiction are not published in scientific journals and it can also be a limitation of this study, which may cause biased results.

Conflict of Interests

The Authors have no conflict of interest.

References

1. Kim K, Ryu E, Chon MY, Yeun EJ, Choi SY, Seo JS, et al. Internet addiction in Korean adolescents and its relation to depression and suicidal ideation: A questionnaire survey. Int J Nurs Stud 2006; 43(2): 185-92.
2. Salehi B, Ebrahimi S, Moradi S. Comparing psychiatric co morbidity in female and male primary school children with attention deficit hyperactivity disorder, Arak, Iran. Hormozgan Med J 2012; 16(1): 49-59. [In Persian].
3. Mohammadi H, Varmazyar M, Mohammadi A. Investigation of Internet addiction among young people and Space. Proceedings of The 1st National Congress of Cybercrime and Emerging Social Harm; 2012 Dec. 9; Tehran, Iran. [In Persian].
4. Cao F, Su L, Liu T, Gao X. The relationship between impulsivity and Internet addiction in a sample of Chinese adolescents. Eur Psychiatry 2007; 22(7): 466-71.
5. Li SM, Chung TM. Internet function and Internet addictive behavior. Comput Human Behav 2006; 22(6): 1067-71.
6. Chen YF, Peng SS. University students' Internet use and its relationships with academic performance, interpersonal relationships, psychosocial adjustment, and self-evaluation. Cyberpsychol Behav 2008; 11(4): 467-9.
7. Young KS. Internet addiction: The emergence of a new clinical disorder. Cyberpsychol Behav 1998; 1(3): 237.
8. Block JJ. Issues for DSM-V: Internet addiction. Am J Psychiatry 2008; 165(3): 306-7.
9. Tebyan. Recent Statistics in 2012 the Number of Internet Users [Online]. [cited 2013]; Available from: URL: https://article.tebyan.net/266738
10. Xie YB, Zhou P, Xu LP, Peng ZW. Prevalence of internet addiction and the related factors in middle school students in Guangzhou. Nan Fang Yi Ke Da Xue Xue Bao 2010; 30(8): 1801-4.
11. Gonzalez NA. Internet addiction disorder and its relation to impulse control. Kingsville, TX: Texas A & M University-Kingsville; 2002.
12. Fayaz-Bakhsh A, Khajeh-Kazemi R, Soleymani Nejad M, Rahimi F, Jahangiri L, Shams M. The internet using and health: Students' knowledge, attitude and lifestyle related to the internet. Hakim Health Sys Res 2011; 14(2): 96-105. [In Persian].
13. Ahmadi HS, Zadehmuhammadi F, Ma'soumbeigi M, Sohrabi F. Prevalence of internet addiction and its relationship with demographic characteristics among Allameh Tabataba'i University Students. Quarterly Educational Psychology 2012; 8(25): 20-30.
14. Hadad Ranjbar S. The relationship between internet addiction and its use with the mental health of students. Proceedings of The 1st National Congress of Cybercrime and Emerging Social Harm; 2012 Dec. 9; Tehran, Iran. [In Persian].
15. Rohani F, Tari S. A study of the relationship between the rate of addiction to internet with academic motivation and social development among high school students in Mazandaran province. Information and Communication Technology in Educational Sciences 2012; 2(2): 19-34. [In Persian].
16. Khosravi Z, Alizadeh Sahraee O. The Relation of Internet Addiction with Family Functioning and Mental Health among Students in Tehran City. Journal of Educational Psychology Studies. 2011; 8(14): 59-80. [In Persian].
17. Alavi SS, Eslami M, Meracy MR, Najafi M, Jannatifard F, Rezapour H. Psychometric properties of Young internet addiction test. J Res Sci 2010; 4(3): 183-9. [In Persian].
18. Ghassemzadeh L, Shahraray M, Moradi A. Prevalence of internet addiction in girls and a comparison of addicted and non-addicted girls in loneliness', self-esteem and social skills. Contemporary Psycology 2007; 2(1): 32-40. [In Persian].
19. Khajeh Mougahi N, Alasvand M. The studying of predictor personality variables of internet addiction. Jundishapur Sci Med J 2010; 9(4): 359-66. [In Persian].
20. Askari H. Study of interned usage and its dependence among students of Islamic Azad University of Farahan [MSc Thesis]. Farahan, Iran: Farahan Branch, Islamic Azad University; 2011. [In Persian].
21. Mirzayian B, Baezzat F, Khakpoor N. The Addiction among Students and Its Effect on Mental Health. Journal of Informtion and Communication Technology in Educational Sciences 2011; 2(1): 141-60. [In Persian].
22. Kalhornia Golkar M, Safarinia M, Amirpoor B. Investigate the relationship between internet addiction and mental health clients predictions cafe in Kermanshah central point of social investment in virtual space and social damage. Proceedings of The 1st National Congress of Cybercrime and Emerging Social Harm; 2012 Dec. 9; Tehran, Iran. [In Persian].
23. Dargahi H, Razavi SM. Internet addiction and its related factors: A study of an Iranian population.

Payesh Health Monit 2007; 6(3): 265-72. [In Persian].

24. Jafari N, Fatehizade M. Prediction of internet addiction, based on emotional intelligence among Isfahan University students. Knowledge & Research in Applied Psychology 2011; 12(3): 79-86. [In Persian].

25. Khatib Zanjani N, Agah Heris M. The prevalence of internet addiction among the students of Payam Noor University, Semnan Province. Virtual Learninig 2014; 5(2): 1-7. [In Persian].

26. Khanjani Z, Akbari S. The relationship between teenagers' personality traits with their internet dependence. Journal of Social Psychology (New Findings in Psychology): 2011; 6(19): 113-27. [In Persian].

27. Heydari Soreshjani S. The relationship between internet addiction and mental health among home users in Ahwaz. Proceedings of The 1st National Congress of Cybercrime and Emerging Social Harm; 2012 Dec. 9; Tehran, Iran. [In Persian].

28. Ranjbar Z, Darvizeh Z, Naraqizadeh A. The comparison of quantity and quality use of internet in relation to mental health and academic achievement of students in Tehran. Quarterly Psychological Studies: 2011; 7(2): 11-35. [In Persian].

29. Rasooli M, Azad Majd A. Internet addiction and its effects among high school students in Tehran. Book of the Month in Social Sciences 2013; 17(67): 90-7. [In Persian].

30. Bahri N, SadeghMoghadam L, Khodadost L, Mohammadzade J, Banafsheh E. Internet addiction status and its relation with students' general health at Gonabad Medical University. Mod Care J 2011; 8(3): 166-73. [In Persian].

31. Soleymani A. Compare the prevalence of somatic symptoms, anxiety, depression and social dysfunction in addicts. Proceedings of the 1st Student National Congress on Social Determinants of Health; 2010 Oct. 13-14; Tehran, Iran. [In Persian].

32. Salehi M, Ramezani M, Namiranian N, Salehi M. Validity and reliability of the Chen internet addiction scale. J Fundam Ment Health 2012; 14(55): 236-45. [In Persian].

33. Ahmadi K. Internet addiction among Iranian adolescents: A nationwide study. Acta Med Iran 2014; 52(6): 467-72.

34. 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(106): 40-7. [In Persian].

35. Rezanejad MT, Rezanejad T, Bahadornejad MH, Zoladl M. Addiction to the internet in Yasioj University of Medical Sciences. Proceedings of the 7th Iranian Congress of Epidemiology; 2013 May 14-15; Yasuj, Iran. [In Persian].

36. Hassanzadeh R, Beydokhti A, Rezaei A, Rahaei F. A study of relationship between internet addiction and academic achievement and learner's personality features. Information and Communication Technology in Educational Sciences 2012; 3(1): 95-107. [In Persian].

37. Moedfar S, Habibpoor Gtabi K, Ganchi A. A study of internet addictive behavior among teenagers and the youth (15 to 25 years old) in Tehran. Global Media Journal 2007; 2(2): 3-24. [In Persian].

38. Sepehrian F, Jokar L. Surveying internet addiction prevalence rate among Orumiyeh Universities' Students and its predicting factors. Journal of Training and Learning Research 2011; 1(45): 51-60. [In Persian].

39. Mazhari S. The prevalence of problematic internet use and the related factors in medical students, Kerman, Iran. Addict Health 2012; 4(3-4): 87-94. [In Persian].

40. Xu J, Shen LX, Yan CH, Hu H, Yang F, Wang L, et al. Personal characteristics related to the risk of adolescent internet addiction: A survey in Shanghai, China. BMC Public Health 2012; 12: 1106.

41. Shek DT, Yu L. Internet Addiction Phenomenon in Early Adolescents in Hong Kong. Sci World J 2012; 2012: 104304.

42. Xiuqin H, Huimin Z, Mengchen L, Jinan W, Ying Z, Ran T. Mental health, personality, and parental rearing styles of adolescents with Internet addiction disorder. Cyberpsychol Behav Soc Netw 2010; 13(4): 401-6.

43. Ghahramani M, Delshad A, Tavakoli Zadeh J. The first international conference on the role of religion in mental health Tehran, Iran. Ofogh-e-Danesh 2000; 6(1): 3-13. [In Persian].

شیوع اعتیاد به اینترنت در ایران: یک مطالعه مروری سیستماتیک و متاآنالیز

دکتر فرهاد مدارا[۱]، دکتر جلال رضایی نور[۲]، نادر سایه‌میری[۳]، فاطمه ملکی[۳]، نرگس آقاخانی[۴]،

کورش سایه‌میری[۳]، دکتر مصطفی رضایی طاویرانی[۵]

مقاله مروری

چکیده

مقدمه: ویژگی‌های منحصر به فرد اینترنت از جمله سهولت دسترسی، سادگی کار، هزینه پایین، گمنام ماندن کاربران و جذابیت کار کردن با آن، باعث بروز مشکلاتی مانند اعتیاد به آن شده است. آمارهای متفاوتی در مورد میزان شیوع اعتیاد به اینترنت گزارش شده است، اما هنوز برآورد کلی از میزان شیوع این نوع از اعتیاد در ایران وجود ندارد. هدف از انجام مطالعه حاضر، بررسی شیوع اعتیاد به اینترنت در ایران به روش متاآنالیز بود.

روش‌ها: با جستجو در پایگاه‌های اطلاعاتی Magiran، SID، Scopus، ISI و Embase و استفاده از کلید واژه‌های «اعتیاد به اینترنت»، ۳۰ مقاله انتخاب و یافته‌های آن‌ها با استفاده از روش متاآنالیز (مدل اثرات تصادفی) با هم ترکیب گردید. داده‌ها در نرم‌افزارهای R و Stata مورد تجزیه و تحلیل قرار گرفت.

یافته‌ها: در ۳۰ مقاله با حجم نمونه ۱۳۰۵۳۱، میزان شیوع اعتیاد به اینترنت بر اساس مدل اثرات تصادفی ۲۰ درصد (با فاصله اطمینان ۹۵ درصد: ۱۶-۲۵) گزارش شد. مدل متارگرسیون نشان داد که روند شیوع اعتیاد به اینترنت در ایران طی سال‌های ۱۳۸۵ تا ۱۳۹۴ صعودی بوده است.

نتیجه‌گیری: شیوع اعتیاد به اینترنت در ایران در حد متوسطی می‌باشد. بنابراین، ضرورت شناسایی، درمان و پیگیری گروه‌های در معرض خطر توسط نهادهای مسؤول و مرتبط احساس می‌گردد.

واژگان کلیدی: اینترنت، اعتیاد، شیوع، متاآنالیز، دانشجویان

۱- استادیار، گروه نورولوژی، دانشکده پزشکی، دانشگاه علوم پزشکی ایلام، ایلام، ایران

۲- دانشیار، گروه مهندسی صنایع، دانشکده فنی و مهندسی، دانشگاه قم، قم، ایران

۳- مرکز تحقیقات آسیب‌های روان‌شناختی، دانشگاه علوم پزشکی ایلام، ایلام، ایران

۴- دانشکده فن‌آوری، مؤسسه آموزش عالی مهر البرز، تهران، ایران

۵- دانشیار، مرکز تحقیقات آسیب‌های روان‌شناختی، دانشگاه علوم پزشکی ایلام، ایلام، ایران

۶- استاد، مرکز تحقیقات پروتئومیکس، دانشگاه علوم پزشکی شهید بهشتی، تهران، ایران

نویسنده مسؤول: نادر سایه‌میری   Email: nadersayehmiri@gmail.com

http://ahj.kmu.ac.ir,   7 October