The Prevalence of Internet Addiction and Its Relations to the Self Esteem and Life Satisfaction in Students of a Medical University

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Abstract- Using internet has a growing popularity, especially among students. The aim of this study was to determine the prevalence of internet addiction and its relationship with the level of self esteem and life satisfaction in students of lorestan university of medical sciences in Iran. A cross-sectional study, with applying stratified sampling and then multi-stage cluster sampling method was performed. The sample size was 160. Four questionnaires (Demographic characteristics, Internet Addiction Test (IAT) by Dr. Kimberly Young, Rosenberg's Self esteem Scale and Diener's Life Satisfaction Scale) were used to collect data, the software spss 16 was used for data analysis. Prevalence of internet addiction was 10%, and this problem was more prevalent in male students (P<0.05). Moreover, there was a significant and adverse relation between internet addiction score and self esteem score (P=0.015), and life satisfaction score (P=0.012). There was a significant and direct relationship between life satisfaction and self esteem (P=0.001). Young people should be encouraged to use the internet as a more useful and efficient tool and become aware of the internet and its harmful effects.

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Keywords: Internet addiction; Life satisfaction; Self esteem; University of medical sciences; Students

Introduction

The age of information has brought us technology that facilitates the sharing of information faster and easier throughout the world (1). The Internet plays an important role in the daily lives of most people (2), and the internet is a social and communication tool which changes our daily lives at home and workplace (3) and particularly has a great impact on education (4). It's quite predictable that this new technology, or business method should come with a variety of human reactions, some good, and some not so good (3). With the growth of information technology over the last decade, young people are now spending more time in the virtual world (5). People depend on it for various reasons, then they will be far from real life and will have a negative impact on their lives (6). Given the vast majority of adolescents are students, addicting to the internet and spending hours with computers, tablets, mobile phones or laptops will keep them away from studying and learning. In addition, the internet is understood by young people as a primary means of communication. Prolonged use of information technology leads to negative outcomes including narrowing the scope of interests and escaping reality into the virtual world (7). It also leads to Problematic Internet Use (PIU) and internet addiction (IA) (8). Internet addiction is an emerging public health problem (9) over the past few decades, the internet has changed people's working, play, learning, and communication styles, this phenomenon has lead to studies that examine the impact of using the internet on people's lifestyle (10). Over the past decade, there has been a huge increase in research into the newly emerging mental health problems of IA (11,12).

Orsal quoted by Young describes IA as such: "IA is generally defined as an uncontrolled desire for overuse of the Internet, reducing the value of time spent without the internet connection, anxiety, and intense invasion during

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the deprivation and gradual deterioration of social and family life" (13). The prevalence of young people's IA is widespread among countries, with a prevalence of 8% and 26% in Asia (9), and the prevalence in Europe and America is between 2% and 8% (14). In the university students' population, the prevalence of IA ranges from 0.8% in Italy (15), 5.6% in China (16), 10.8% in Iran (17), 15.1% in Taiwan(18), 16.2% in Poland (19). According to research conducted in other countries and our country, IA is rising in the student population (20).

In addition to the advent of IA, there are other implications of the problem of using the internet, including the impact on the life satisfaction and young people's self esteem. Although low self esteem is conceptual, practically, understanding of dropping out, or being indifferent by important individuals, the degree of self esteem must be a predictor of the PIU (21,22,23). A study by Lachmann *et al*., examined the relationship between life satisfaction and PIU; The aspects of health, recreation, and life satisfaction were reversely correlated with the PIU (8).

As mentioned, using the Internet has a growing popularity, especially among teenagers and students in Iran. Nonetheless, the issue of IA has been widely considered in limited studies (24). In Iran, several studies have documented the prevalence and association of IA and students' general health (25,26). But the assessment of the impact of IA on both components of life satisfaction and self esteem has not been found in studies. To the extent possible, we will be able to find useful solutions to this problem and prevent these issues in the future and control and direct them to the goal. The aim of this study was to determine the prevalence of IA and its relationship with the level of self esteem and life satisfaction in students of a medical university.

Materials and Methods

A cross-sectional study was performed for assessing the prevalence of internet addiction and its relation to the self esteem and life satisfaction level in students of Lorestan University of medical sciences. According to some studies and considering r=0.35, the probability of first type error 5% and second type error 10% and addressing 100% increasing sample size, the last sample size was estimated 160. All students of Lorestan University of Medical Sciences in the second semester of the academic year 2016 comprised statistical population. We applied stratified sampling and then multi-stage cluster sampling method, as follows; each faculty was as a stratum and each educational department was considered as a substratum, then there was also several entries of different years as the head of the cluster, which two entries or cluster headers were selected. In each selected entry, a systematic sampling method, proportional to the size of the cluster or stratum, was used.

Four questionnaires were used to collect data; 1) Demographic characteristics contained questions about age, sex, marital status, field of study, the students'mean scores, accommodation, and smoking. 2) Internet Addiction Test (IAT) by Dr. Kimberly Young: It consists of 20 items by 5 points Likert scale (Does not apply, Rarely, Occasionally, Frequently, Often, Always) that measures absence of IA (20-49 points), moderate (60-79 points), and severe level of Internet Addiction (80-100 points). This is a standard questionnaire that its reliability and validity was reported in previous studies with Cronbach's alpha 0.90. The Persian version of this scale was used in Iran and Nastizai, and Ghasemzadeh has confirmed its reliability with Cronbach's alpha 0.81 and 0.88, respectively (26,27). Also, Alavi *et al*., reported this questionnaire has good psychometric properties in Iranian society, which can be used in research, especially among students (6).

3) Rosenberg's Self esteem Scale; the total score is 0-30, and the scores below 15 indicate low self esteem and scores between 15 and 25 are normal self esteem and the scores above 25 are the sign of high self esteem level.

4) The Satisfaction with Life Scale (by Diener): total score is between 5-35, the scores between 30-35 indicate very highly satisfied, the scores between 25-29 are high satisfied, the scores between 20-24 indicate the average of life satisfaction, the scores between 15-19 indicate slightly below average in life satisfaction, the scores between 10-14 indicate dissatisfied and the scores between 5-9 are very dissatisfied.

The both of Rosenberg's Self esteem Scale and the Life Satisfaction Scale were used in Iranian studies, and their reliability and validity with Cronbach's alpha 0.80 and 0.90, respectively are confirmed (28,29). In this study, Cronbach's alpha was used for determining the reliability of this questionnaire and was obtained 0.94. These questionnaires were completed by self-administration. To describe the data, frequency distribution tables, and statistical indices such as mean and median and standard deviation, Spearman correlation coefficient, and ANOVA were used. The SPSS software version 16 was used for data analysis.

Ethical considerations

After providing necessary explanations about the importance and objectives of the research, informed

consent was obtained from the participants, and it was explained to them that they were free to opt-out of the research. Individual characteristics of the participants were kept completely confidential at all stages of the research. The results of the research were available for the participants.

Results

A total of 160 questionnaires were distributed according to sampling method and all of them were completed by participants (response rate: 100%). Participants comprised of 88 male (55%) and 72 female (45%) students. The mean of participants' age was 21±1.11 years. The majority of participants; 144 were single (90%). The results showed that the majority of participants (125) were non-native (78.1%), and 117 of participants (73.1%) were residents of the dormitory. 124 of participants (77.5%) did not have the experience of smoking. This study reported 11 (6.9%) of students had low self esteem, 71 (44.4%) of participants had dissatisfied and very dissatisfied levels in life satisfaction scale (Table 1). This study found 16 participants (10%) with IA or at risk of IA that indicates the prevalence of IA. Also, this study showed the prevalence of IA among male students to be 5.8% and it was more than female students (4.2%) (P<0.05).

Table 1. Individual characteristics of participants and frequency distributions of the levels of self esteem, life satisfaction and the internet addiction

Individual characteristics		Number (percent)
Gender	**Female**	72(45%)
	Male	88(55%)
Marital status	**Single**	144(90%)
	Married	16(10%)
Accommodation	**Family home**	28(17.5%)
	Rented home	15(9.4%)
	Student dormitory	117(73.1%)
Smoking	**Yes**	36(22.5%)
	No	124(77.5%)
The level of the self esteem	**High self esteem**	28(17.5%)
	Normal self esteem	121(75.6%)
	Low self esteem	11(6.9%)
The level of the life satisfaction	**highly satisfied**	7(4.4%)
	High score	41(25.6%)
	Average score	41(25.6%)
	Slightly below average	31(19.4%)
	Dissatisfied	19(11.9%)
	Extremely Dissatisfied	21(13.1%)
Level of the internet addiction	**Significantly Above Average**	6(3.75%)
	Above Average	10(6.25%)
	Average Range	60(37.5%)
	Below Average Range	84(52.5%)

The results of ANOVA showed the mean of life satisfaction score to be significantly lower in addicted students to the internet compared to other students (P=0.008). The mean of self esteem score in students with higher IA score was significantly lower than other students (P=0.026) (Table 2). Also, the mean of IA score of students residing in the dormitory was significantly higher than other students who were not in dormitory (P=0.030) (Table 3).

Table 2. The comparison of the Mean and standard deviation of life satisfaction and self esteem scores in terms of student addiction to the internet

Level of the internet addiction	Above average and addicted	Average range	Below average range	Significantly level
The level of the life satisfaction	17.34±7.03	22.14±5.65	21.06±7.35	P= 0.008/ F= 4.995
The level of the self esteem	18.88±4.27	21±1.10	20.79±4.32	P= 0.026/F= 3.753

Table 3. The comparison of the average and standard deviation of Internet addiction score according to the student's residence

Mean of internet addiction	Mean±SD	
Family home	11.98±8.44	*P*= 0.030 F=3.585
Rented home	13.26±11.32	
Student dormitory	18.50±13.77	

The results of Spearman correlation coefficient showed there is a significant and adverse relation between quantitative variables of life satisfaction and self esteem scores with IA score(respectively *P*=0.012, *P*=0.015), as higher IA score associated with lower life satisfaction and self esteem scores. But there was a direct relationship between life satisfaction score and self esteem score (*P*=0.001) (Table 4). Also, the results of Spearman correlation coefficient showed a significant and direct relationship between life satisfaction score and the students' mean scores, as higher life satisfaction score with a higher students'mean scores. But there was not any relation between the students' mean self esteem scores and IA scores (Table 5).

Table 4. Spearman correlation test between internet addiction scores with life satisfaction score and student self esteem score

Variable	Spearman correlation coefficient	Significance level
Internet addiction and life satisfaction	- 0.198	0.012
Internet addiction and self esteem	- 0.192	0.015
Life satisfaction and self esteem	0.535	0.001

Table 5. Spearman's correlation test between the students' mean scores with Internet addiction score, life satisfaction score and self esteem score of students

Variable	Spearman correlation coefficient	Significance level
Internet addiction	0.046	0.661
Self esteem	0.153	0.138
Life satisfaction	0.294	0.048

Discussion

This study aimed to determine the prevalence of IA and its relation to the level of life satisfaction and self esteem among students of Lorestan university of medical sciences. This study found the prevalence of IA among students of university of medical sciences to be 10%, Gamari, *et al*., showed the prevalence of IA among Iranian students 10.8% (17), and Bahri, *et al.*, reported 9.5% (25) that it is consistent with our study. But Ahangarzadeh's study showed the prevalence of IA is 5% (30) this differences may be due to the speed of internet and its availability which can motivate internet using. Of course, it also can be related to the number of native students living with family.

This study found the prevalence of the internet addiction for male students more than female students (5.8% versus 4.2%, respectively). Other studies confirmed that males have higher risk for IA than their female counterparts (6,8,27,30-33).

The results of the present study indicated the mean of IA score of university students residing in the dormitory to be significantly higher than other students. Maher *et al*., found the high prevalence of IA (28.3%) in students that inhabit in dormitory (34) and Lashkarara's study has reported the prevalence of IA (34%) among students living in the dormitory (35).

This study showed a significant and adverse relation between IAscore and self esteem score. Ghasemzadeh. *et al*., reported that IA users suffer from lower self esteem (27) while Bozoglan's study showed that one of the predictors of IA is low self esteem (36). Several studies reported interchangeably relation between self esteem and IA, some of them showed low self esteem is a synergic factor for IA (36,37). Another study reported that IA is a factor which causes low self esteem through decreasing social relationship and other factors (27).

Furthermore, this study indicated a significant and adverse relation between IA score and life satisfaction score. Kao *et al*., found that lower life satisfaction scores is associated with higher problematic use of the Internet (38). Another study with assessing the relationship between life satisfaction and the problematic use of the

Internet concluded that aspects of life satisfaction are correlated adversely with the problematic use of the Internet (8).

The present study found a significant and direct relationship between life satisfaction and self esteem which is not reported by other studies on this subject. Also, this study showed a significant and direct relation between the students'mean scores and life satisfaction score. It means that more life satisfaction scores associate with more students'mean scores. But ther was not any relation between the students' mean scores with self esteem and IA scores.

Other studies have reported the relation between the students'mean scores and self esteem differently, as Hosseini *et al*., indicated that the students with higher self esteem scores obtain better mean scores compared to their counterparts (39). In contrast, Zare *et al*., stated no correlation between the students'mean scores, the health condition, and self esteem (40).

This study showed the prevalence of IA as 10%, and this problem was more prevalent in male students. Also, there was a significant and adverse relation between life satisfaction and self esteem with IA scores, and there was a significant and direct relationship between life satisfaction and self esteem. Therefore, this study recommends considering the consequences of IA on individual, social, communicative, family, and economic health; individuals should pay more attention to this disorder. Young people should be encouraged to use the internet as a more useful and efficient tool and become aware of the internet and its harmful effects.

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