

Internet Addiction in Mexican Medical Students and Family Functioning

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Abstract

Introduction: Internet addiction is a deterioration in the control of the Internet, manifested in various cognitive, behavioral, and physiological symptoms. Internet addiction affects family functioning by generating problems in relationships with family members. The disturbed functioning of the family also makes individuals vulnerable to internet addiction.

Objective: To determine the relationship between family functioning and internet addiction.

Methods: A descriptive, cross-sectional, survey-type observational study was carried out on 358 students of the Faculty of Medicine of the Universidad Autonoma de Nuevo Leon, Mexico. to measure the presence of internet addiction.

Result: A prevalence of 28% for internet addiction was found in medical students.

Conclusions: This research found that following Olson's model, family functioning is not significantly related to internet addiction. The overall prevalence of internet addiction was higher than that found in other countries. Since the family plays an essential role in preventing internet addiction, it should be considered to reduce excessive Internet use.

Keywords: Internet addiction; Family functioning; Medical students.

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Introduction

The Internet is a device that was originally designed to improve research between academic and military agencies [1]. Nowadays, it has become a daily tool to find information, communicate in academic and professional contexts, and be a means of socialization and entertainment, especially among young people [2].

“However, despite being a helpful tool in our daily lives, it can also have negative consequences, especially when users lack self-control regarding the time, they spend online related to Internet use. Abuse or dependence, with adolescents and young adults being the most vulnerable groups” [3].

Currently, according to the Internet World Stats, it indicates that the number of Internet users worldwide is 3,885,567,619, which represents a penetration of 51.7% of the world population in 2017. In the American continent, there are 724,328,531 users, and in Mexico, an average of 85,000,000 users, which ranks 10th worldwide [4].

“71% of the population between 16 and 74 years old use the Internet frequently (at least once a week in the last three months), and 60% have intensive use (every day) of this medium” [3].

These data are relevant since there is a disproportionate increase in Internet use. This increase has brought problems such as exposure to inappropriate images and content, the lack of privacy, and Internet addiction due to this growing use. [5]

Young refers that addiction symptoms are comparable to the symptoms of addiction to nicotine, alcohol, or drugs. Like other addictions, dependence is at the core of Internet Addiction, which is defined by the presence of factors such as withdrawal syndrome, tolerance, impulsive use, and the inability to control use [1].

Also, Young defines Internet addiction as a deterioration in the control of Internet use, manifested in various cognitive, behavioral, and physiological symptoms.¹ Although Internet addiction is a severe clinical disorder. It has not been registered in the Diagnostic Manual and Statistical of Mental Disorders (DSM V), mainly due to the absence of a diagnostic criteria [6].

In a recent study carried out in European adolescents, “an association of this problem with other addictive behaviors, such as alcohol, tobacco, and other illegal drugs, was found. On the other hand, some authors warn of the possible association with physical and psychological problems (lack of sleep, headaches, back pain, depression, or anxiety)” [7].

Therefore, the analysis of risk factors for internet addiction is of interest and serves to improve our collective understanding of the development of this problem among young people [8,9].

Adolescents who use the Internet to form interactive social relationships have more developed social skills than adolescents who participate in individual activities. Frequent and prolonged periods of Internet use are associated with psychological and sociological problems in adolescents, one of

which is addiction [5,10]. In this context, adolescents who are not yet psychologically mature and are still trying to adapt to social settings are at risk for Internet Addiction [11].

Compared to most segments of society, college students are more vulnerable to Internet addiction. College campuses offer easy and unlimited access to the Internet. In this way, students experience freedom from parental control for the first time in their lives.

The need to use modern technologies is vital in young people than in any other age group, including medical students [11,12].

However, losing control of its use can result in negative consequences, such as difficulty completing tasks, lack of sleep, and poor academic performance. Surveys have reported that the prevalence of Internet addiction in medical student's ranges from 5.5 to 44.6% [13,14].

In addition, they seemed to have a more unsatisfactory academic performance and a lower quality of life in physical, psychological and social relationships than the unaffected group [15].

It is imperative to study Internet Addiction in this vulnerable group, which are young university students.

Family functioning and internet addiction

The family plays an essential role in people's ability to cope with life stress [13]. Since the family plays a central role in the socialization of adolescents, it is noted that family factors

are one of the main factors in the risk of substance use by adolescents [16-18].

A deficient function has also been reported with Internet Addiction in adolescents [7,19].

Internet addiction disrupts family functioning by leading to problems in users' daily lives and relationships with family members.

The disturbed functioning of the family also makes people vulnerable to Internet addiction. Yen et al. found that "unhealthy family functioning and family conflict were related to Internet addiction in a large sample of young people" [6].

Domestic violence and unhealthy communication could increase "Internet addiction in young people and programs to prevent addiction should include the families of patients" [6,7,20].

However, if family functioning interacts with stressful life events to influence Internet addiction has been little investigated; therefore, family functioning was considered in this study.

A systematic review was carried out in a previous study, and the associations between family dysfunction and internet addiction in youth were demonstrated. Given the increasing spread of the Internet around the world, there is concern by some observers that the growing number of young people with Internet Addiction in China may herald what will eventually become a global phenomenon [19].

Siew Mooi Ching et al. conducted a study determining "the prevalence and factors

associated with Internet use among medical students at a public university in Malaysia.” The study was conducted among 426 students. The study population consisted of 156 men (36.6%) and 270 women (63.4%). The mean age was 21.6 ± 1.5 years.

According to the IAT, 36.9% of the study sample was addicted to the Internet. They conclude that Internet addiction is a relatively frequent phenomenon among medical students.

The predictive factors of Internet addiction were male students who used it for browsing and entertainment purposes [12].

Another study examined the association between adolescent internet addiction and various family factors based on empirical research. The conflict between parents and adolescents, lower family function, habitual alcohol consumption by siblings, and positive attitudes perceived by parents regarding substance use by adolescents were shown to predict Internet addiction by adolescents [7].

Maryam Salehi et al. and collaborators carried out an investigation in 2013 where the prevalence of Internet addiction and associated factors were studied among medical students from Mashhad, Iran, where a population of 383 students was studied, and the result that was found was that 2.1% of the population studied was at risk, and 5.2% were addicted users. Chatting with new people, communicating with friends and family, and playing games were the most popular activities in these groups [5].

Another study aimed to determine the relationship between Family Functioning and

Internet Addiction of adolescent students from a public educational institution in North Lima. The result was that 44% of adolescents present a mid-range Family Functioning, and only 21.7% have extreme functioning. Likewise, 86% of the participants show normal Internet use; 13% are at risk of addiction, and only about 1% have addictive Internet use. In addition, a significant relationship of family cohesion was found ($r = -.223$, $p < 0.01$) [2].

In Mexico, there are very few studies on this phenomenon. Only one thesis has been documented in the Autonomous University of the State of Mexico. It was found that 39% of the students are categorized as users above the average, with a score between 50-79.

It indicates that they are possibly experiencing problems due to excessive use of the Internet, where it is recommended to continue studying this phenomenon, along with its associated factors [3].

The aim of the study was to determine Internet addiction in medical students and the relationship between family functioning and Internet addiction and to classify family functioning in these students.

Methods

The design of this study was descriptive, cross-sectional, survey-type observational. It was carried out between January and February 2018 at the Faculty of Medicine, Universidad Autonoma de Nuevo Leon, Mexico (UANL). The surveys were conducted in groups of 5 to 10 students in an estimated 15 to 20 minutes from 2nd to 6th grade.

Inclusion criteria

- Student of the Faculty of Medicine UANL.
- Over 18 years.
- Indistinct sex.

Exclusion criteria

- Be under 18 years of age.

Elimination criteria

- Incomplete surveys.

A questionnaire with the following sections was applied

- Socio-demographic aspects.
- Internet Addiction Scale. (Internet Addiction Test). IAT
- FACES III scale (Family Adaptability and Cohesion Evaluation Scale).

Measurement of variables

Family functioning was measured by FACES III, composed of 20 questions, Likert type with a minimum score of 1 and a maximum of 5. It has been widely used in previous studies, with construct validity in Mexico, and has Cronbach's alpha .70 [21,22].

According to the cohesion score: 10-34 (Unrelated) 35-40 (Semi-related) 41-45 (Related) 46-50 (Agglutinated). Based on the adaptability score: 10-19 (rigid) 20-24 (Structured) 25-28 (Flexible) 29-50 (Chaotic).

Internet addiction was measured by IAT, composed of 20 questions, Likert type with a

minimum score of 0 and a maximum of 5. It has been widely used in previous studies, with construct validity in its Spanish version and a value of Cronbach's alpha=.91 [23-25]. According to the IAT score: 0-39 (Normal Internet use) 40-100 (Internet addiction).

Analysis of data

It was captured, processed, and analyzed using SPSS version 20 for Windows. Descriptive statistics were performed with percentages and frequencies for categorical variables. Inferential statistics were used to cross demographic variables with the levels of addiction in students using the chi2 test for categorical variables with a value of $p < .05$ as statistical significances.

Ethical aspects

The protocol was submitted for approval by the Ethics and Research Committees of the University Hospital UANL, under the number: MF18-00001.

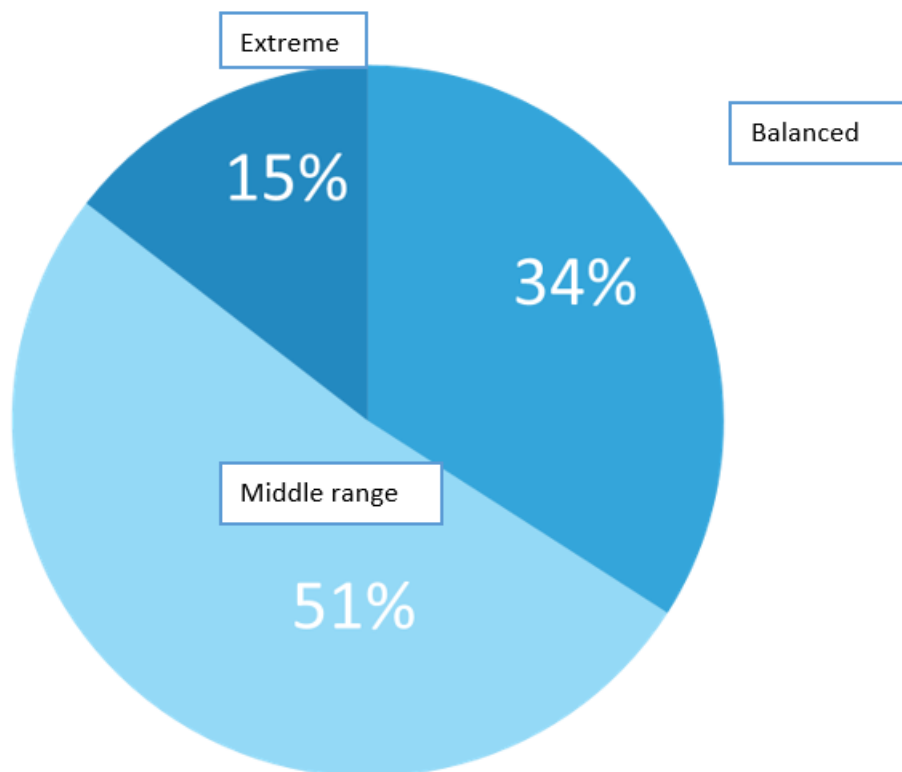
Results

The Table 1 refers Socio-demographic data of the population. A higher frequency is found in the female gender 182 (50.8%). In addition, in most of those surveyed, their marital status is single, with 349 (97.5%). 24.9% are second-year students, the predominant type of family is nuclear family, 297 (83%) and most of those surveyed live with their family of origin, 195 (54.5%). The minimum age was 18, and the maximum age was 30 with a mean of 21.6 and a Standard Deviation of 2,105.

Data		f	%
Gender	Male	176	49.2
	Female	182	50.8
Marital status	Single	349	97.5
	Married	4	1.1
	Divorced	1	0.3
	Unmarried cohabitation	3	0.8
	Separated	1	0.3
Types of families	Nuclear Family	297	83
	Single Parent Family	40	11.2
	Re-constructed Family	4	1.1
	Extended Family	17	4.7
Age	Average	21.6	2.105

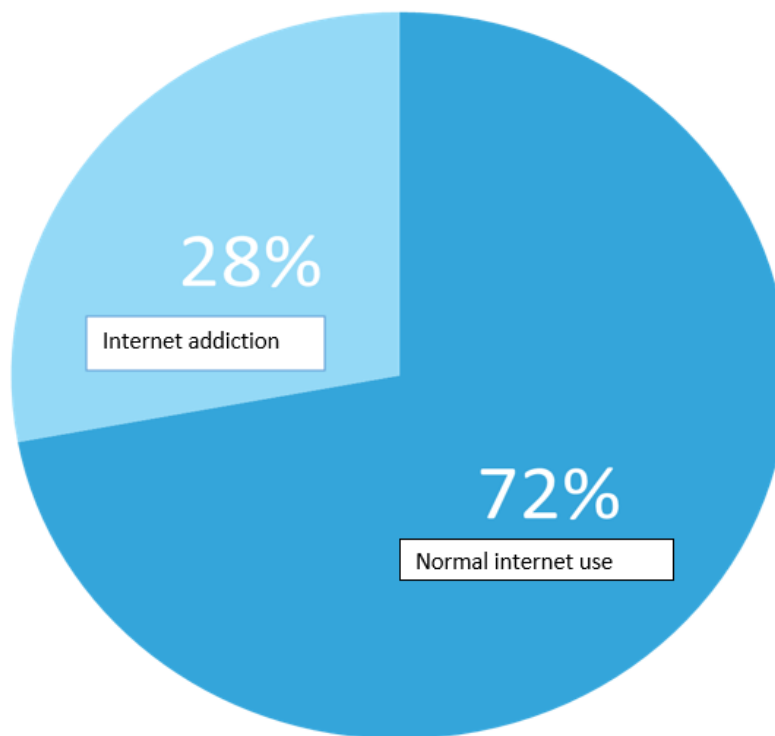
Table 1: Sociodemographic data (n=358).

Graph 1 refers the prevalence of family functioning in medical students is described, where the middle range predominates with 51%.



Graph 1: Prevalence based on Family Functioning (n=358).

Graph 2 refers the prevalence based on the Internet Addiction Scale score. The students of the Faculty of Medicine present 28% of addiction to the Internet.



Graph 2: Prevalence based on the IAT score (n=358).

Table 2 describes the relationship between the scale score and the gender of medical students, where it was found that the male gender has a higher prevalence 53 (14.8). However, no statistical significance was found.

Gender	Male		Female		Total	p value
	f	%	f	%		
0-39 normal internet use	123	34.40%	135	37.70%	72.10%	not significant
40-100 internet addiction	53	14.80%	47	13.10%	27.90%	not significant

Table 2: Description of the IAT by Gender.

Table 3 describes the relationship of the IAT scale score and the year in which the student is currently studying, where we found that the majority, 28 (7.8%), were second-year students. However, no statistical significance was found.

School year								
IAT Score		2nd	3rd	4th	5th	6th	Total	p value
0-39 normal internet use	f	61	36	53	56	52	258	not significant
	%	17%	10.10%	14.80%	15.60%	14.50%	72.10%	
40-100 internet addiction	f	28	14	23	17	18	100	not significant
	%	7.80%	3.90%	6.40%	4.70%	5%	27.90%	
Total	f	89	50	76	73	70	358	
	%	24.90%	14%	21.20%	20.40%	19.60%	100%	

Table 3: Description of the IAT by School Year.

Table 4 describes the relationship of the IAT scale and students who are foreigners, where it was found that students with internet addiction mostly 66 (18.4) live with their families of origin. However, no statistical significance was found.

IAT Score		Foreign student	Local Student	Total	p value
0-39 normal internet use	f	80	178	258	not significant
	%	22.30%	49.70%	72.10%	
40-100 internet addiction	f	34	66	100	not significant
	%	9.50%	18.40%	27.90%	
Total	f	114	244	358	
	%	31.80%	68.20%	100%	

Table 4: Description of the IAT by Foreign Student.

Table 5 describes the relationship of the IAT scale and the family functioning of the students, where it was found that the students who present addiction to the Internet have family functioning in the middle range 58. However, it is not found statistical significance.

IAT Score				
Family Functioning	0-39 normal internet use	40-100 internet addiction	Total	p value
Balanced	95	27	122	not significant
Middle range	126	58	184	not significant
Extreme	37	15	52	not significant
Total	258	100	358	

Table 5: Description of the IAT and Family Functioning.

Discussion

When determining the relationship between Family Functioning and Internet Addiction, it was found that Family Functioning, following Olson's model, is not significantly related to Internet addiction.

Family Functioning evaluated from the student's perception showed that regardless of the level of Family Functioning, the adolescent may or may not acquire Internet Addiction.

It is important to note that these results could indicate the presence of other intervening variables, such as individual factors such as personality characteristics (impulsivity, shyness, introversion), low self-esteem or poor social skills; as well as the social factor (social pressure) involved in the risk of internet addiction.

These results were similar to the study carried out by Cristian Adriano et al., they reported that the family functioning of students is in the middle range 44% and in extreme 21.7% in a population of Lima [2,3].

The prevalence of Internet addiction among medical students was 28%. Findings show that one in three medical students was affected by Internet use. This prevalence was higher compared to other publications on medical students.

A study in Lima, Peru by Cristian Adriano et al. and in Turkey by Thummaporn Boonvisudhi revealed that the generalized condition of Internet Addiction among medical students was 13% with Internet Addiction risk and 1% with Internet Addiction. 24% with Internet addiction in the

study conducted in Turkey, representing a lower prevalence than the current study of 28%. The different assessment instruments can partly explain these discrepancies [2,10].

The results of the study could be representative of the entire population. Furthermore, to our knowledge, this is the first research to explore the association between Internet addiction and family functioning in medical students. Our findings raise serious concerns about the importance of this problem in Mexico, leading to the implementation of surveillance and interventions for medical students.

The difference in prevalence with other countries can be explained by demographic and cultural differences between European and Latin American countries.

Conclusion

- The overall prevalence of Internet addiction was higher than that found in other countries. This phenomenon appears to be universal. As long as the internet resource exists.
- Family functioning is not significantly related to Internet addiction in medical students; Probably because there is a good family life as a base.
- The main type of family in medical students is the nuclear family.
- The predominant family functioning in medical students was mid-range.
- The use of the Internet in society and on university campuses is growing at an exponential rate. This situation goes hand in hand with the growth of technology and the ability to acquire computer equipment.

Recommendations

The family plays an essential role in preventing Internet Addiction, so it should be considered to reduce its excessive use. Although the Internet is a perfect tool for gathering information and interpersonal communication, there are risks for those who

use it in an addictive way. University students can be susceptible to pathological use of the Internet, so the role of the family in this problem is fundamental.

Finally, other studies should be conducted to determine the causes and factors related to Internet Addiction among students.

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