

Assessment of Internet Addiction among Adolescents in Mansoura City



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1.ABSTRACT

Introduction: Internet addiction is an increasing problem among adolescents worldwide. The Internet provides educational advantages, but internet over use can lead to negative outcomes such as social isolation and poor academic achievement. This study aimed to assess the prevalence of “Internet Addiction (IA)” among adolescents in Mansoura city, Egypt. A cross-sectional study design was used to accomplish this study. Multi stages stratified cluster-sampling technique was done of 2340 students located at Mansoura city. Data for this study was collected by using Fahmy and El-Sherbini Socio Economic Scale and Internet Addiction Scale. **Results:** The study results revealed that. 44.7% of the adolescents had moderate internet addiction, 12% had severe internet addictions and 43.3% of the adolescents were average Internet users. Most adolescents (96.9%) preferred home to access the internet. Social media was the main purpose of using the internet as reported by 81.5% of the adolescents. Most of them (89%) utilized mobile phones for internet access. **Conclusion:** Moderate and sever IA was prevalent among more than half of studied adolescents. Most adolescents used internet for entertainment purposes. Finally, it is recommended conduct health education program about safe internet usage and the importance of sports and social activities.

Keywords: Internet addiction, Adolescents, Internet overuse

2.Introduction:

Today the internet is a revolution in information technology. It is altering how the people to socialize, study, gathering information, work, shop, search for jobs, research purposes and spend their leisure time. Especially adolescents who spend a lot of time daily in using electronic media such as television, radio, internet, and cellphones. This lifestyle may affect other life activities such as play, learning, doing homework and social relationships (Nafee, Mohammed & Al-Hamdan, 2018).

The World Internet Users Statistics reported that the number of worldwide internet users , especially adolescents and young people, had grown from 2.5 billion persons in 2014 to 3.7 billion persons in 2017 to 3.97 billion user in 2019 (R. Ali, Mohammed&H.Aly,2017; Johnson, 2021). Internet users are increasing in Egypt, as more than 80% of the Egyptian internet café clients are young people (Saied, Elsabagh & El-Afandy, 2016). The percentage of internet users in Egypt was 21.6% in 2010, which became 37.82% in 2015 (around 35 million users) and 54% in 2020, that constitute around 54.74 million internet users (Gammal, Elsheikh & Abozahra, 2019; Kemp, 2020).

Adolescence is a transition stage that is the most dynamic critical short period in the human life cycle; in which internet is attracting agent for young people that affects their identities. Adolescents are using internet to interact with each

other, gain online social support, and build new relationships through sites of social networking. In addition, the internet is the main source of information and is tool in academic contexts for electronic learning (El-Zeftawy & El- Mezayen, 2017).

Unlimited internet use may lead to internet addiction, which has been defined as “maladaptive pattern of internet use leading to clinically significant impairment or distress and in which internet use has become excessive, uncontrolled, and time-consuming to the point of timelessness and severely trouble some people’s lives” Internet addiction induce core symptoms of excessive online time, social withdrawal, poor planning abilities, preoccupation, and impairment of control (Younes et al., 2016).

Among factors that are contributing to internet addiction low parental involvement, negative relationship with classmates, teachers and parent (Xin et al., 2018). Beginning of using internet at young age, overuse of using internet for gaming or social goal, and excessive daily time in using internet are main factors of internet addiction. Being a male would increase the unlimited internet use that consequently led to internet addiction. Low socioeconomic level and low self-concept are reported as causative factors of internet addiction (Zenebe et al., 2021& Tóth et al., 2021).

Worldwide Internet addiction has become an emerging social, education and mental health issue around the world. Prevalence of internet addiction among adolescents tend to be the highest compared to other age groups (Chahar, Chandio& Chaturvedi, 2014; Lin et al., 2018). Europe and the United States showed a prevalence of internet addiction ranged from 7.9 to 25.2% among adolescents. The rates of internet addiction among adolescents ranged from 1.3% in Turkey to 12.1% in Italy, and 15.2% in Greek, while Honk Kong reported 17–26.8% of adolescents have internet addiction. (Hassan, Alam, Wahab& Hawlader, 2020). Asia have shown a higher variation in prevalence of internet addiction among young people and adolescents that is ranging from 8.1 to 50.9%. Taiwan and China reported that 17.4% of young people use internet and had Internet dependence (Xu et al., 2020).

However, the Middle East and Africa had rates of internet addiction ranged from 17.3% to 23.6% among young age population (Hassan et al., 2020). In Egypt the prevalence of excessive use of internet ranged from 10.69 to 35.2% among adolescents in Alexandria and Sohag (Azab, Effat& Mahmoud, 2019; Abou El Wafa, Ashry, Mekky& Elweshahi, 2021). Facebook addiction reported among 92.9% of studied Egyptian youth followed by Gaming addiction and among 61.3% (Khalil, Kamal& Elkouly, 2020).

Internet addiction destructively affects adolescent’s social and academic life in addition to its physical and psychological effects. They often neglect their school duties and studying, as well as lose family ties and friendships that lead to social isolation. Accordingly, feelings of loneliness and depression manifestations and personality disorders would be occurred. Physically the internet addiction can induce sleeplessness, fatigue, poor dietary habits, and lack of physical activity (Sikora& Rebisz, 2016).

Community health nurses have important role in investigating public health problems to formulate appropriate educational and nursing interventions that improves adolescents' overall physical, social and psychological wellbeing

(Ragheb, El-Boraie, Shohda& Ibrahim, 2018). So that investigating the level of internet addiction among adolescents, is important as a high-risk group.

3.Method

3.1.Design

A cross-sectional study design was utilized to accomplish this study, which was conducted at preparatory, secondary, and technical schools located at Mansoura District in Dakahlia Governorate.

3.2.Subjects and Sampling

Multi stages stratified cluster-sampling technique was used in this study throughout two stages (Figure 1). The first stage was selecting schools by stratified sampling technique; in which schools were divided into three strata according to the geographical division of Mansoura education directorate, which include: Central sector, East sector and West sector. Schools at each sector includes three levels of education. Once again schools were divided into three strata according to their level and type of education. This stratification included preparatory schools, general secondary schools and technical schools. The second stage was selecting schools from each stratum and selecting classes from each selected school. Simple random technique was used to select schools from each stratum and classes from each school. According to Hoshaw-Woodard, (2001) total number of 2340 adolescents were involved in the study whose ages ranged from 11 to 19 years old and use internet. The sample size was obtained when the anticipated internet addiction is 50%, the desired precision is 5% with 95% confidence, and 30 clusters, 26 adolescents per cluster (cluster size) to be surveyed. The probability proportionate to the size (PPS) of the population will be used to determine the number of clusters that will be obtained from each stratum.

Number of adolescents from each stratum = 30 (clusters) × 26 (cluster size) = 780 adolescents

The total number of adolescents = 780 adolescents/ strata × 3 strata = 2340 adolescents.

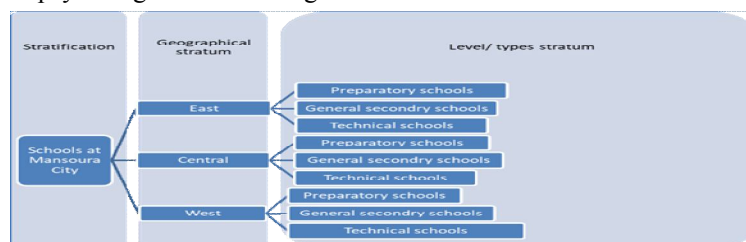


Figure1: Stratification technique of Study target group

3.3. Data Collection:

Data was collected by using self-administered structured questionnaire that included assessment of demographic data of adolescents and their socioeconomic level by using updating socioeconomic status scale (El-Gilany, El-Wehady & El-Wasify, 2012; Fahmy & El-Sherbini, 1983). This scale includes seven domains with total score out of 84. It classifies socioeconomic level into very low, low, middle and high levels depending on the quartiles of the score calculated as the following: Very low socio-economic level. (0-20) Low socio-economic level. (21-40) Middle socio-economic level. (41-60) High socio-economic level. (61-84).

The internet addiction was assessed by adopting the "Internet Addiction Scale (IAS) is a revisited version of *Internet Addiction Diagnostic Questionnaire*" Young (1996). The IAS is consisting of 20 items and translated into Arabic language. The items are rated on a 6-point scale of 0-5, where 0 indicates not applicable, 1 rarely, 2 occasionally, 3 frequently, 4 often and 5 always. Scoring is calculated in and interpreted in the following manner:

The total scores ranged from 20 to 100 and calculated as the following: Normal Internet Users with 20 – 49 points, they are considered as average on-line users. They may surf the web a bit too long at sometimes. Potential Problematic Internet Users with 50 – 79 points, they are experiencing occasional or frequent problems because of the Internet. Problematic Internet Users with 80 – 100 points, their Internet usage is causing significant problems in their life. The researcher added questions to assess the internet usage among adolescents such as duration, and purpose of use, Internet effect on student and family relationship.

Content validity of the developed tool as well as the translated scale was tested by a jury of five experts in the field of community health nursing and the required modification was carried out. Face validity of the developed tools was tested by conducting pilot study that was carried out on (10%) of study sample (234 adolescents) who had been excluded from the studied sample to evaluate the clarity and applicability of the study tools. Pilot study estimated the approximate time required for data collection. The modifications were made based on pilot results relevant to change in the structure of some questions. Reliability of the translated IAS was tested by Cronbach's α . that was emerged as 0.84.

Field visits were conducted too the selected schools after obtaining permission from the central agency for public mobilization and statistic (CAMPS). Data collected during the period from October 2018 to end of May 2019. Before distributing the questionnaire, the researcher explained the study's objective to the adolescents. Questionnaires were distributed to the selected adolescents who agreed to participate in the study. The average time consumed for completing questionnaire ranged from 20- 30 minutes.

3.4. Ethical consideration: An ethical approval was obtained from Research Ethics Committee of Faculty of Nursing, Mansoura University. Verbal informed consent was obtained from the adolescents. They assured that their participation in the study was voluntary. adolescents' information and responses were treated anonymously, only used for the purpose of the study and confidentiality was assured. The results were used as component of the necessary research as well as for further publications and education. Participants were informed that they have the right to withdraw at any time from the study without giving any reason.

3.5. Data analysis: Statistical analysis was done according to the most currently reliable and valid statistical methods. The collected data were coded, entered and analyzed by personal computer using Stand for statistical product and service solutions (SPSS) program version 20. Descriptive statistics are used to analyze the response to individual items and the respondents' characteristics. Quantitative variables are described by the Mean, Standard Deviation (SD). Chi-square test used to test association. For correlation testing, spearman test was used. All tests were performed at a level of significance (P value) equal or less than 0.05 was considered statistically significant.

4. Results

Table (1) shows that the mean age of the studied adolescents was 15.1 (1.92) and 67.5% of them were female. 66.7% of them were at secondary education level and 66.8% were in middle socio-economic level.

Table (2) clarifies that 98% of the studied adolescents used internet daily and 42.9% of them used internet for more than 5 hours per day with a mean of 4.8 (3.5) hours. Mobile phones were utilized by 89% of adolescents for internet access. Regarding to the place of using internet, 96.9% of the adolescents were use at home.

Table (3) represents 81.5% and 65.3% of adolescents used social media and YouTube as the most frequent visited websites. Only 13.2% and 8.4% of adolescents used blogging, forums websites and downloaded programs respectively.

Table (4) shows that 44.7% of adolescents experienced occasional or frequent problems followed by an average of online user among 43.3% among the adolescents.

Table (5) Shows statistically significant negative correlation between internet addiction and hours spent on sports $p=0.002$. However, the internet addiction did not show any significant correlations with social relationship.

Furthermore, the adolescents-parents relationship was good among 63.6% of adolescents who showed average internet addiction and 50% of adolescents who reported significant problems of internet addiction. adolescents- parents relationship was bad among 9.3% of adolescents who showed average internet addiction and 17.5% of adolescents who reported significant problems of internet addiction (Table 6).

5. Discussion

Internet usage has rapidly increased; it represents the revolution in communication and information technologies and an important tool for connecting with others around the globe. Smartphones and easy access to the Internet have brought about many advantages. However, many people have developed concerns about such ease of addiction. In general, "Internet Addiction (IA)" is defined as excessive use of the Internet accompanied by withdrawal, tolerance, and negative repercussions (Chung, J. Lee & H. Lee, 2019). IA is considered a public health problem around the world particularly among adolescents (Ragheb et al., 2018). The present study was conducted to assess the prevalence of IA among adolescents using a representative sample of middle and high school adolescents in Mansoura city. The IA among adolescents is considerably high as reported in other studies as the same as in the present study. The IA would be potentially problematic internet use because this age group have greater level of independence, as well as their parents showed less controlled on adolescents' free time and social activities (Karacic & Oreskovic, 2017; Nafee et al., 2018).

The current study revealed that most of studied adolescents spend more than five hours daily. They are categorized as overuse internet users according to Gamitoa et al., (2016) who

reported that prolonged use of internet more than 3 hrs./day leads to internet overuse. They access internet by their smartphones mainly for social media which is a risk factor of IA as mentioned by (Gammal et al., 2019).

Several national and international studies reported severe IA among 4% of Egyptian adolescents (Ismail & Ali 2018). Half of studied adolescents in Morocco have moderate IA and 15.80% among students in Morocco adolescents have severe IA (Mohamed & Bernouss 2020). While In Asian countries a study mentioned a prevalence of moderate IA among 25.4% of Chinese adolescents and sever IA among 0.96% of them (Xina et al., 2018). Also, Chung et al., (2019) found that 72% of Korean Adolescents were categorized as moderate and severe internet addicts. However, the present study is not fare from findings of those studies, in which significant problem IA reported among 12% of studied adolescents and nearly half of them considered have occasional IA.

The internet is available tool and embedded in everyday routines, especially among adolescent (Faltýnková, Blinka, Ševčíková & Husarova, 2020). As a result of accessibility of internet all over the society, the current study revealed insignificant correlation between IA and socioeconomic level. The same results were reported in a Turkish and Iranian studies which found that socioeconomic level did not affect the IA (Seyrek, Cop, Sinir, Ugurlu & Şenel, 2017; Shoghli, Karamitanha & Soleimani, 2018).

However, the present findings indicated that spending hours in sports was significantly negatively correlated with IA. This might be related to the nature of studied adolescents as two-thirds of them were females. In Eastern culture females practice sports less than males so they might use internet more frequently (Abd El Aty, Rabie & Amin, 2019). In addition to, the current research included adolescents who are deeply occupied in electronics, and digitalized devices which in turn negatively affects their physical and recreational activities (El-Sherbiny & Elsary, 2018). These results are in agreement with findings of Koçak, (2019), Sahin and Lok (2018) and Park et al., (2016) who indicated significant relationship between IA and practicing physical exercises. Regular physical exercise improves the human well- being and decrease the time of internet usage. Consequently, IA will diminish the interest in exercising sports and physical activities.

Regarding the association between diagnosis of internet addiction and parent's relationship, the

present study revealed a highly statistically significant association between internet addiction and parent-adolescent relationship. Adolescents-parents relationship was good among less than two-thirds of adolescents who showed average internet addiction. While the half of adolescents who reported significant problems of internet addiction have either neutral or bad relationship with their parents. These results would be interpreted on the highlight of Vercillo (2020) who stated that IA led to social phobia. Other opinions believe that family disfunction and laissez-faire families induce a shallow relationship with children and may led to pathological online behavior and IA (Huang et al., 2019; Rikkers, Lawrence, Hafekost & Zubrick, 2016; Tajalli & Zarnaghash, 2017).

6. Conclusion

Based on the findings of the present study, it can be concluded that most adolescents in Mansoura city suffered from potential problematic internet use. There was a negative statically significant correlation between internet addiction and hours spent on sports. There was a high

statistically significant association between parent relation and internet addiction.

7. Recommendations

In the light of study findings, the following recommendations were suggested:

1. Further studies are needed to address the underpinning causes of internet overuse among adolescents
2. Conducting health education campaigns about safe internet usage to control internet addiction among adolescents.
3. Conducting health education campaigns about the importance of exercising sports and physical activities as well as social activities.
4. An intensive awareness program to be prepared to target school specialists and parents regarding the adverse effect of internet use on adolescents and how to deal with it.
5. Planning prevention programs targeting adolescent.

Table 1:

Distribution of the studied adolescents according to their socio-demographic and economic characteristics

Item	n=2340	%
Age:		
11- less than 14 years	636	
27.2		
14- less than 17 years	1147	49.0
17-years	557	23.8
Mean (SD)		15.1 (1.9)
Gender:		
Male	662	32.5
Female	1678	67.5
Level of education:		
Preparatory	780	33.3
Secondary	1560	66.7
Working Condition		
Work	329	14.1
Don't Work	2011	85.9
Socioeconomic Level:		
Very low socio-economic level	2	0.1
Low socio-economic level	257	11
Middle socio-economic level	1564	66.8
High socio-economic level	517	22.1

Table 2:

Distribution of the studied adolescents according to their patterns of internet use

Item	n=2340	%
Rate of internet use:		
Daily	2293	98
Weekly	22	.9
Monthly	25	1.1
Daily using/hours		
< 3	743	31.8
3 - <5	592	25.3
5 – more	1005	42.9
Mean (SD)	4.8 (3.5)	
Device (s) used for internet access:		
Computers &Laptop	1100	47
Mobiles	2083	89.0
Tablets	513	21.9
Place of using internet:		
Home	2268	96.9
School	417	17.8
Café	455	19.4
Use of the internet is useful:		
Un usefulness:	224	11.4
Usefulness:	1162	45.3
High usefulness:	954	43.3

* The total number can be more than 2340 as more than one answer was awarded.

Table 3

Distribution of the studied adolescents according to their purpose of internet use

Item	n=2340	%
Purpose of internet use:		
Social media	1908	81.5
Blogging & Forums	310	13.2
Emails &News	574	24.5
You Tube	1527	65.3
Download Programs	196	8.4
Games or films or sounds	1217.5	52
Education	1099	47
Navigation	809	34.6

Table 4

Distribution of the studied adolescents according to their internet addiction level

Item	N (2340)	%
An average on-line user	1013	43.3
Experience occasional or frequent problems	1047	44.7
Causing significant problems	280	12.0

Table 5

Correlation between the scores of internet addiction and social-economic scores, Hours spent with family, Hours spent with friends and Hours spent on sports

Predictor	Internet addiction score	
	R	P value
Socio-economic score	0.007	0.73
Hours spent on sports	- 0.701	0.002**
Hours spent with family	0.016	0.44
Hours spent with friends	0.012	0.6

Note. r: for spearman correlation

* (P) Significant (p< 0.05) (-) negative correlation

Table 6 Association between level of internet addiction and adolescent-parents relationship

Diagnosis of internet addiction	Adolescent- parents relationship						X ²	P
	Bad		Neutral		Good			
	N	%	N	%	N	%		
An average on-line user	94	9.3	275	27.1	644	63.6	24.9	0.000**
Experience occasional or frequent problems	133	12.7	315	30.1	599	57.2		
Causing significant problems	49	17.5	90	32.1	141	50.4		

Note. χ^2 : Chi-square test .

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