



The Effect of Internet Addiction on Health-Related Quality of Life among Medical Students

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ABSTRACT

Background Young people with internet addiction (IA) have been shown to be at risk for having a lower Health-Related Quality Of Life (HRQOL). This study aimed to identify the risk of internet addiction on health-related quality of life among medical students at Zagazig University during academic year 2022-2023.

Subjects and Methods: A cross-sectional comparative study was performed on 280 undergraduate medical students of Faculty of Medicine, Zagazig University. Diagnosis of internet addiction was by using a self-administered Arabic semi-structured questionnaire of internet addiction test (IAT). Also, the questionnaire involved socio-demographic data, as well as the World Health Organization Quality of Life Questionnaire-short version (WHOQOL-BREF) questionnaire.

Results: About 64% of the studied students were internet addicts and 71% of them were moderate internet addicts. A significant association was revealed between internet addiction and academic performance as 100% of non-internet addict passed the exam and about 3% of internet addicts failed to pass. Also, it was found that internet addict group had significantly lower mean scores on subjective feelings about overall quality of life, all domains of QOL (physical, psychological, social, environmental) and total QOL score compared to non-internet addict group ($p < 0.001$). Also, a highly statistically significant negative correlation was found between internet addiction score with total quality of life score ($r = -0.64$, $P < 0.001$).

Conclusion: More than half of the studied students were internet addict and most of internet addict group suffered from moderate internet addiction. IA was associated with poorer quality of life regarding subjective feelings about overall quality of life and health, all QOL domains' mean scores and global QOL mean score. The negative correlation between internet addiction score with total quality of life score indicating the needs of preventing IA in medical students.

Keywords: Internet addiction, Quality of life, Medical Students.

INTRODUCTION

In recent times, the Internet has grown to become one of the most crucial tools that adults and teenagers can utilize for both educational and recreational needs. It gives users a quick and easy way to find information and connect with people worldwide. Due to the widespread use of social networking sites as an essential component of daily social interaction, internet usage has dramatically

increased. Although the internet and its technologies have given human societies beneficial opportunities in the scientific, communicative, and economic fields, their inappropriate and extreme application often for recreational purposes poses a serious risk to the health and welfare of the general population, particularly young people [1,2].

Internet addiction is defined as compulsive internet use or uncontrollably recurrent thoughts, feelings,

or actions that are connected to using a computer and the internet and that result in harm or damage. It had an adverse effect on people's lives, families, productivity, academic achievement, and infrequently leading to illegal activities like drug or alcohol addiction or compulsive gambling [3,4] The particular internet addictions are as addictions to particular online behaviors like playing video games or using social media). Because they are so satisfying and encourage prolonged use, these activities are thought to be addictive. Because of their psychosocial and environmental aspects, young individuals, in particular college students, are more susceptible to internet addiction [5].

The World Health Organization (WHO) defines quality of life (QoL) as "How a person sees themselves in the world in respect to their own personal aspirations, hopes, and worries, as well as the bigger picture of their culture." [6]. This definition has long been the most significant and prominent one, although, in recent years, the idea of quality of life (QoL) has undergone some changes. The phrase "The term "Health-Related Quality of life " (HR-QoL) was later adopted to describe a person's physical, mental, and social health as well as their overall functioning in life. [6,7]

Internet addiction negatively affects several aspects of adolescent lifestyle and is linked to lower well-being because it can harm one's physical health, including physical inactivity, irregular eating patterns, weight gain, shoulder and back pain, eye strain [1,8]

The IA causes many psychological issues, such as stress, mood and anxiety disorders, and depression [9]. In addition to the symptoms of sadness and anxiety, patients with IA are more likely to exhibit introversion, neurotic personality traits, hyperactivity, obsessive-compulsive disorder, and impulsivity [10].

An individual's social, professional, and daily lives can be significantly harmed by excessive internet use as they have issues with their families because they are internet addicts. Numerous studies have found a persistent link between strained family ties and internet addiction [11]. Research has shown that individuals with IA report lower levels of satisfaction with their social and environmental environments, as well as with their families and friends. This suggests that IA may negatively impact both the social and environmental components of health [12]. Higher compulsive Internet users also reported worse environmental (HR-QoL), according to college students with

higher compulsivity might spend more money on internet-related activities like cybersex chats and online gaming. As a result, they can experience a feature of environment (HR-QoL), related to financial inadequacy, which could be associated with a worse (HR-QoL), overall [13]. So, this study aims to identify some risk factors of internet addiction and to compare health related quality of life between internet addicts and non-internet addicts among medical students at Zagazig University.

SUBJECTS AND METHODS

A comparative cross-sectional study was conducted on medical students of Faculty of Medicine, Zagazig University during the period from October 2022 to July 2023. The study was done on two stages: 1st stage 415 medical students were included by Stratified cluster random method. Medical students at the faculty of medicine were stratified into grades, each grade was divided into groups. Two groups were randomly selected from each stratum (to cover the needed sample). Ten groups were collected, and each student was classified into either internet addict or non-internet addict using the internet addiction questionnaire [14]. 2nd stage by using simple random technique, 140 students were chosen from each group for the main study. Before the interviews, informed consent was obtained from the study participants after clarification of the nature and objectives of the study.

Sample size: The sample was calculated using computer software open Epi-info program at CI 95% and power of test 80% assuming that the number of undergraduate medical students of faculty of medicine, Zagazig university during the academic year 2022-2023 was 7720, and the prevalence of internet addiction among medical students was 61.4% [15] and by adding 20% non-response, the sample was 415 in the 1st stage of the study. And by assuming the mean of subjective sleep quality is 1.09 ± 0.64 in the internet addict group and 0.88 ± 0.61 in the non-internet addict group [16]., so the sample size was 280 (140 in each group). The sample was calculated using computer software open Epi-info program at CI 95% and power of test 80%.

The included sample size was from different undergraduate students in the Faculty of Medicine who have internet access and willing to participate in the study and complete the questionnaire.

The following individuals were excluded: who had any confirmed psychological problem, those who were at sick leaves at time of the study.

Data collection tools: the data was collected through self-administrated Arabic semi-structured questionnaire which included questions about Socio-demographic characteristics (age, sex, residence), academic data (academic year, academic performance), and past medical history of any confirmed psychological problems. Also it contained Young K internet Addiction Test (YIAT) [14]. It's valid and reliable and the validated Arabic version of the test is 0.9 (Cronbach alpha = 0.9) [17]. The test included 20 items which were assessed on a six-point Likert scale (from 0 to 5), where 0 (not applicable), 1 (rarely), 2 (occasionally), 3 (frequently), 4 (often), and 5 (always). The sum of the student evaluations for the 20-item replies was used to get the overall IAT score. 100 points is the highest possible score, with 0 points serving as the lowest. The severity of internet addiction increases with a higher score on the YIAT total score range. According to the computed score, the total score was interpreted as follows: A score between (0 and 30) points is thought to represent normal users of the internet. A score between (31 and 49) indicates the presence of a mild case of internet addiction. A score between (50 and 79) indicates a moderate internet addiction. A score between (80 and 100) indicates a severe internet addiction [14].

The third part was the World Health Organization Quality of Life Questionnaire-short version (WHOQOL-BREF) [17]. It's a valid and reliable test (Cronbach alpha = 0.89) [19]. The validated Arabic version of (WHOQOL-BREF) (Cronbach alpha = 0.87) [20]. It consists of 25 questions, out of which the first 2 items assess the subjective overall quality of life and the rest 23 items evaluate four domains (physical, psychological, social, and environmental) of health; the domains have seven, six, two, and eight questions respectively using a 5-point Likert-type scale.

ETHICAL CONSIDERATIONS

An informed consent was taken from the studied participants. The ethics of the current research as put by the Institutional Research Board (IRB) of Zagazig Faculty of Medicine, Zagazig University were followed up thoroughly with IRB number 10474 on 26/2/2023. The Declaration of Helsinki, issued by the World Medical Association to ensure the protection of people participating in medical research, was strictly followed during this study.

STATISTICAL ANALYSIS

SPSS version 22.0 was used for the collection, tabulation, and statistical analysis of all the data. Categorical qualitative variables were expressed as absolute frequencies (number) and relative frequencies (%), whereas continuous quantitative variables were expressed as the mean \pm SD & median (range). Continuous data were subjected to the Shapiro-Wilk test to ensure normality. Independent specimens to compare two sets of quantitative normally distributed data, the student's t-test was employed. Quantitative normally distributed data from more than two groups were compared using the one-way ANOVA (F) test. When the ANOVA was significant, post hoc test was used to see differences between specific groups. The χ^2 test, which is a Chi-square test, was used to compare categorical data. Each evaluation has an opposing viewpoint. Pearson correlation was used to test significant linear relation between numeric variables. For statistical significance, a plot size of less than 0.05 was considered significant (*), a plot size less than 0.001 was considered very significant (**), and a plot size greater than 0.05 was considered statistically insignificant (NS).

RESULTS

In the first stage of the study, the prevalence of internet addiction among 415 students was 64%. In the 2nd stage of the study, it was found that among internet addict students (140) 33% had mild internet addiction, 71% had moderate internet addiction and only 8% had severe internet addiction (Figure 1).

The age of the studied participants ranged between (18 and 22) years in both groups with a mean of (20.1 \pm 1.42) years for the non-internet addict group and (19.9 \pm 1.37) years for the internet addict group. More than half of them were males (52.1%) in non-internet addicts, (57.1%) in the internet addict group. About (64.3%) of the non-internet addict students & (57.1%) of internet addict students lived in urban areas, and there wasn't statistically significant difference between both groups regarding residence, age, and sex. Regarding academic performance there is a significant association between internet addiction and academic performance. As (100%) of non-internet addict group has passed the exams while (97.1%) of internet addict group passed but (2.9%) of them failed in the exam (Table 1).

In the first stage of the study, the prevalence of internet addiction among 415 students in 1st stage of the study was 64%. In the 2nd stage of the study, it was found that among internet addict students (140)

33% had mild internet addiction, 71% had moderate internet addiction and only 8% had severe internet addiction (Figure 1).

There were highly statistically significant differences between non-internet addict and internet addict groups regarding subjective feelings about overall quality of life, all QOL domains' mean scores and total QOL mean score which were found to be statistically significantly higher among the non-internet addict group when compared to the internet addict group indicating better quality of life among non-internet addict group. (Table 2)

In comparing degrees of internet addiction, it was found highly statistically significant difference regarding academic performance between degrees of internet addiction ($p = <0.001$) where (72.7%) and (89.9%) of students suffering from mild and moderate addiction respectively got excellent and very good score compared to only (50%) of severe addict groups. However, there was no statistically

significant difference between the different degrees of internet addiction regarding (age, sex, and residence) (Table 3)

There were statistically significant differences between the degree of internet addiction and subjective feeling about overall quality of life and health. Also, there were statistically significant differences between the severe addict and the mild internet addict groups regarding physical and psychological and total QOL mean scores, where the mild internet addict group has a higher mean score than the severe internet addict group. (Tables 4 and 5)

A significant negative correlation ($r = -0.64$, $P < 0.001$) was found between the internet addiction score and the whole quality of life score. This suggests that the quality-of-life declines as internet addiction increases (Figure 2).

Table (1): Sociodemographic & academic data of the studied groups:

Variable	Non-internet addict	Internet addict	t-test	P value
	(n=140)	(n=140)		
Age				
mean ± SD	20.1 ± 1.42	19.9 ± 1.37	1.14	0.26 (NS)
Range	(18-22)	(18-22)		
	No. (%)	No. (%)	χ ² Tests	P value
Sex				
Female	67 (47.9)	60 (42.9)	0.706	0.4 (NS)
Male	73 (52.1)	80 (57.1)		
Residence				
Rural	50 (35.7)	60 (42.9)	1.5	0.22 (NS)
Urban	90 (64.3)	80 (57.1)		
Clinical level				
Preclinical	56 (40)	65 (46.4)	1.18	0.28 (NS)
clinical	84 (60)	75 (53.6)		
Academic performance				
(Excellent, very good)	129 (92.1)	117 (83.6)	6.72	0.035*
(Good, pass)	11 (7.9)	19 (13.6)		
Fail	0 (0)	4 (2.9)		

- *p is significant ($p < 0.05$)

Table (2) Relationship between degrees of internet addiction with students subjective feeling about overall quality of life (QOL) and health, and different quality of life (QOL) domains

Subjective feeling about overall quality of life	Non-internet addict (n=140)	Internet addict (n=140)	χ^2 Tests	P value
How would you rate your quality of life?	NO. (%)	NO. (%)	58.2	< .001**
Very good, Good	113 (80.7)	54 (38.6)		
Neither good nor poor	25 (17.9)	52 (37.1)		
Poor, Very poor	2 (1.4)	34 (24.3)		
How satisfied are you with your health?			46.9	< .001**
Very satisfied, Satisfied	115 (82.1)	66 (47.1)		
Neither satisfied nor dissatisfied	20 (14.3)	35 (25)		
Dissatisfied, very dissatisfied	5 (3.6)	39 (27.9)		
Quality of life (QOL) domains	Non-internet addict (n=140) Mean \pm SD	Internet addict (n=140) Mean \pm SD	t-test	P
<i>Physical health</i>	28.4 \pm 3.5	22.4 \pm 5.24	11.3	< 0.001**
<i>Psychological health</i>	23.4 \pm 2.74	17.56 \pm 4.79	12.5	< 0.001**
<i>Social Health</i>	8.14 \pm 1.48	6.28 \pm 1.89	9.2	< 0.001**
<i>Environmental Health</i>	29.23 \pm 5.19	23.9 \pm 5.61	8.2	< 0.001**
<i>Total QOL score</i>	22.29 \pm 2.47	17.53 \pm 3.58	12.9	< 0.001**

**p-value is highly significant (p = < 0.001)

- *p is significant (p = < 0.05)

Table (3): Relationship between degree of internet addiction& sociodemographic &academic data:

Variable	mild addiction (n=33)	moderate addiction (n=99)	severe addiction (n=8)	one-way ANOVA	P
Age				0.842	0.45 (NS)
Mean \pm SD	19.6 \pm 1.27	19.9 \pm 1.39	20 \pm 1.51		
Variable	No. (%)	No. (%)	No. (%)	χ^2 for trend Tests	P
Sex					
-Female	15 (45.5)	42 (42.4)	3 (37.5)	0.192	0.91 (NS)
-Male	18 (54.5)	57 (57.6)	5 (62.5)		
Residence				3.95	0.14 (NS)
-Rural	12 (36.4)	42 (42.4)	6 (75)		
-Urban	21 (63.6)	57 (57.6)	2 (25)		
Clinical level				0.541	0.76 (NS)
-Preclinical	17 (51.5)	44 (44.4)	4 (50)		
-Clinical	16 (48.5)	55 (55.6)	4 (50)		
Past academic grades				26	0.001**

-Excellent, very good	24 (72.7)	89 (89.9)	4 (50)		
-Good, pass	9 (27.3)	7 (8.1)	2 (25)		
-Fail	0 (0)	2 (2)	2 (25)		

- **p is highly significant (p = < 0.001)

Table (4) Relationship between degrees of internet addiction & students subjective feeling about overall quality of life (QOL) and health.

	Mild addiction (n=33)	Moderate addiction (n=99)	Severe addiction (n=8)	χ^2 for trend Test	P value
	No. (%)	No. (%)	No. (%)		
1)How would you rate your quality of life?					
Very good, Good	15 (45.5)	38 (38.4)	1 (12.5)	17.5	0.025*
Neither good nor poor	13 (39.4)	37 (37.3)	2 (25)		
Poor, very poor	5 (15.2)	24 (24.2)	5 (62.5)		
2) How satisfied are you with your health?					
Very satisfied, Satisfied	15 (45.5)	49 (49.5)	1 (12.5)	22.4	0.004*
Neither satisfied nor dissatisfied	9 (27.3)	23 (23.2)	2 (25)		
Dissatisfied, very dissatisfied	9 (27.3)	27 (27.3)	5 (62.5)		

- *p is significant (p = < 0.05)

Table (5): Relationship between degree of internet addiction & different quality of life (QOL) domains.

Variable	Mild addiction (n=33)	Moderate addiction (n=99)	Severe addiction (n=8)	One-way ANOVA	P	Post-hoc
	Mean ± SD	Mean ± SD	Mean ± SD			
Physical health	23.7 ± 5.3	22.3 ± 4.9	18.3 ± 7.2	3.67	0.028*	A=0.37 B=0.02* C=0.09
Psychological health	19.1 ± 4.8	17.3 ± 4.4	14.5 ± 7.6	3.61	0.03*	A=0.14 B=0.04* C=0.24
Social health	6.8 ± 1.9	6.2 ± 1.8	5.3 ± 2.7	2.68	0.072 (NS)	
Environmental health	25.1 ± 6.6	23.7 ± 4.8	21.3 ± 9.4	1.66	0.195 (NS)	
Total QOL score	18.7 ± 3.7	17.4 ± 3.2	14.78± 6.2	4.24	0.016*	A= 0.17 B=0.02* C= 0.1

- *p is significant (p = < 0.05)
- A is the difference between mild and moderate
- B is the difference between mild and severe
- C is the difference between moderate and severe

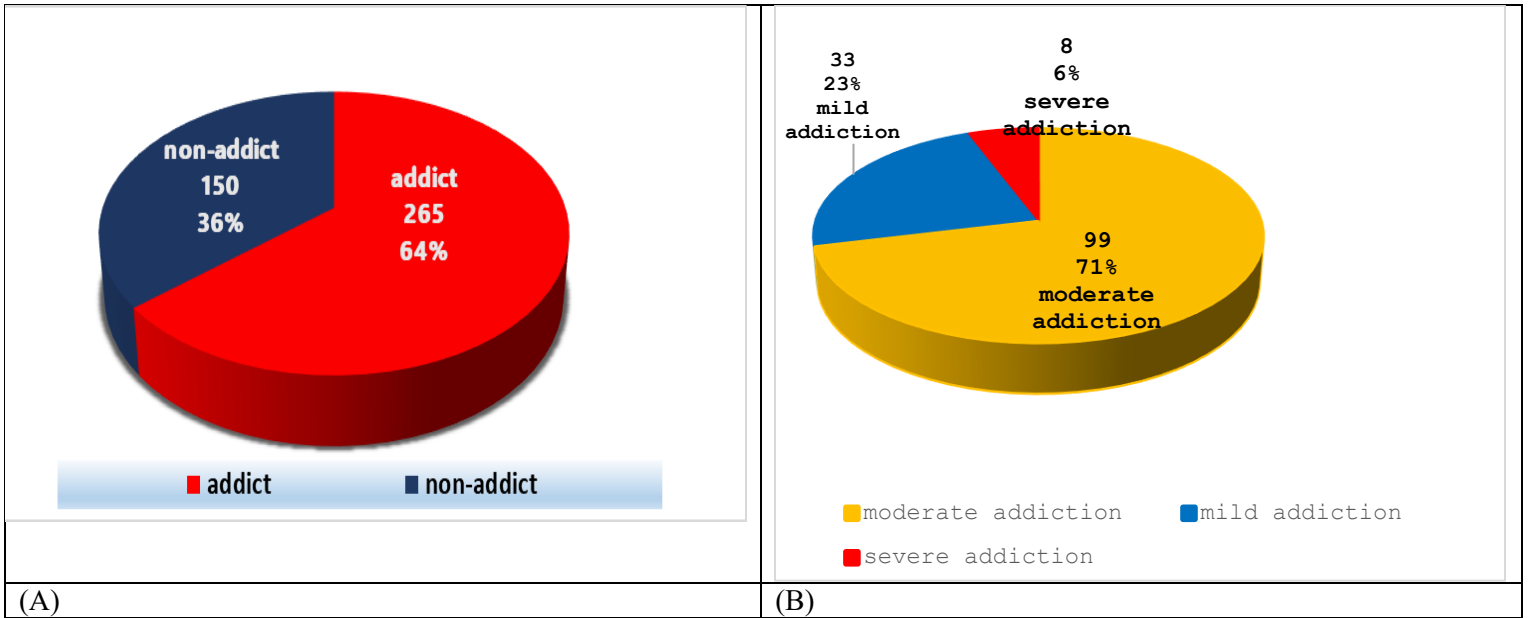


Figure 1: Pie charts showing: (A): The prevalence of Internet addiction among medical students at the first stage of the study (415 students), (B): the degree of Internet addiction among the studied internet addict group (140).

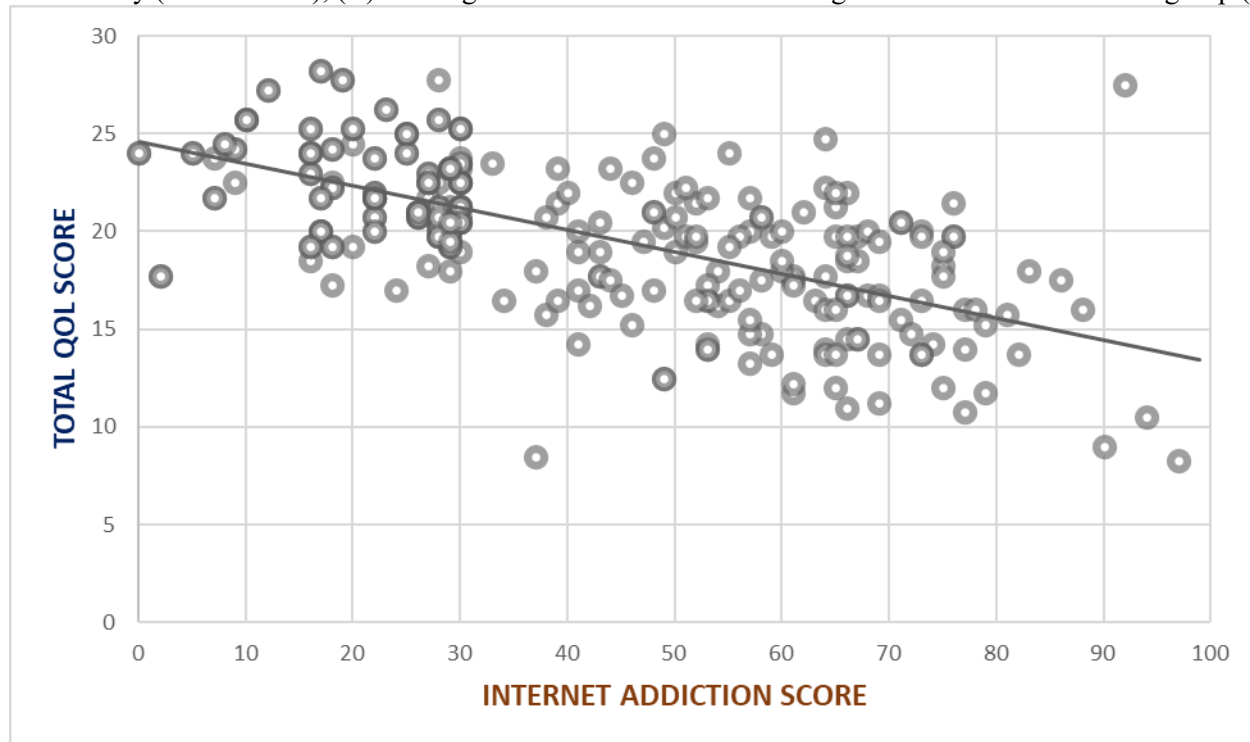


Figure 2: Correlation between internet addiction and total QOL score

DISCUSSION

The projected global expansion of the internet presents a great opportunity for medical students to become continuously educated by keeping them current of the exponential growth of knowledge.

Internet addiction has a negative impact on a person's life and is linked to sadness, significant mood swings, poor sleep quality, worsening health consequences like obesity, low self-esteem, and a lower quality of life [21].

In the present study, the prevalence of internet addiction was (64%) which was found to be consistent with Tahir et al. [22] who conducted a cross-sectional study in seven countries, and stated that (67.4%) of the students were internet addicts, also Asokan et al. [15] in India found that (61.4%) of Indian medical students were internet addicts. While lower prevalence of internet addiction was found by Kashfi et al. [23] in Iran who stated that the prevalence of internet addiction among medical students was (28.9%). However, a higher prevalence was stated by an Indian study Kumari et al. [24] where most of the studied students (78.7%) suffered internet addiction. There could be several reasons for the difference in the prevalence of IA between the current study and previous studies, including variations in sample size, methodological issues like inclusion criteria. Also, each nation has unique social and economic environments, as well as unique customs and traditions. Furthermore, there are differences in these nations' access to electronic devices and the internet.

In this study, most of internet addict group (70%) were moderate internet addicts, while (24%) were mild internet addicts, and only (6%) suffered severe internet addiction. These results were in consistent with Masud et al. [25] in Malaysia which declared that (80%) of the studied students were moderate internet addicts. Also results of the present study were less severe than a study carried by Mohammadnabizadeh et al. [26] in Iran who found that (16.5%) of the students suffered severe internet addiction while mild & moderate internet addiction were (21% and 62.5% respectively). In contrast to Omoyemiju et al. [27] in Nigeria who found that (50.1%) of the participants demonstrated a low level of internet addiction, (30.5%) of them demonstrated a moderate level of internet addiction while (14.1%) exhibited a severe level of internet addiction. Such variation in frequencies can be explained by different collages and differing cultural, environmental and social factors. In 2nd stage of the study, there were 280 students (140 non-internet addicts and 140 internet addicts). Regarding sociodemographic data of the studied groups, the age of the studied participants was ranged between (18 and 22) years in both groups with a mean of 20.1 (\pm 1.42) years for the non-internet addict group and 19.9 (\pm 1.37) years for the internet addict group. More than half of them were males (52.1%) in non-internet addicts and (57.1%) in the internet addict group and (64.3%) of the non-internet addict students & (57.1%) of internet addict students lived

in urban areas, and there were not statistically significant differences between both groups regarding residence, age or sex. These findings are in agreement with the study carried by Mukhlif et al. [28] in Iraq who stated that there wasn't statistically significant difference between internet addiction, age and sex.

The present study showed a significant association between internet addiction and academic performances as 100% of non-internet addict group has passed the exams compared to (97.1%) of internet addict group as (2.9%) of them failed in the exam. This finding is corresponding to study carried by Elbilgahy et al. [29] in Egypt and Saudi Arabia which showed significant association between internet addiction and academic performance among female Egyptian nursing students ($p=0.002$) and highly significant association among female Saudi nursing students ($p<0.001$), also Mahmoud et al. [30] in Saudi Arabia, Javaeed et al. [21] in Pakistan, who stated highly statistically significant difference between internet addiction and academic performance being much better among non-internet addict group.

In the present study, the internet addict was divided into 3 degrees (mild, moderate, severe addiction). There was highly statistically significant difference between 3 groups regarding academic performance ($p= <0.001$) as (72.7%) and (89.9%) of students suffering from mild and moderate addiction respectively got excellent and very good score compared to only (50%) of severe addict groups. But no statistically significance difference regarding sociodemographic data was detected. This was consistent with several studies; Hayat et al. [31] was done on medical students in Iran, Kheyri et al. [32] in Iran that was done on adolescents, and Khan et al. [33] in Pakistan who stated that academic performance of the students was significantly and negatively correlated with total internet addiction score, also Saraei et al. [34] in Iran who stated that A significant negative correlation ($r = -0.489$, $P= <0.001$) was found between students internet addiction and their academic achievement, evidently, students who exhibited a significant degree of internet addiction showed diminished levels of academic achievement. [21] This may be explained by that internet addiction prevents students from spending enough quality time on studies. Also, late-night internet usage may diverge students' concentration. They even neglect extracurricular activities in order to access the internet, which causes them to withdraw and

impairs their physical and emotional well-being. A student's academic success is influenced by his or her level of time and self-management as well as their physical and mental well-being.

In current study, the total QOL mean score and quality of life domains' mean scores (physical, psychological, social and environmental) were significantly higher among the non-internet addict group compared to internet addict group denoting better quality of life among non-internet addict group. These results were similarly found by Li et al. [35] in China, Chern et al. [13] in Taiwan, , also a multi-center study in China Lu et al.[36] and Lim et al. [37] who stated a highly statistically significant difference between internet addiction and quality of life in all domains.

The findings of the current study showed a statistically significant difference between those with mild and severe degree of internet addiction regarding (physical and psychological domains and total QOL score) and no statistically significant difference regarding (social and environmental). similar results were found in a meta-analysis study in Iran Noroozi et al. [38] which showed negative relationship between the severity of internet addiction and physical, psychological domains and total QOL, however no statistical significant reduction was observed in social and environmental domains. This may be due to internet improves the social connection and ways of communication between people including chat, video calls and social media websites. Also the internet has made the world as one smaller environment, where products, services and information can be accessed in the quickest and easiest ways.

The results of the present study showed a strong negative correlation between IA and quality of life that was highly statistically significant ($p < 0.001$). These results align with the results of Karimy et al. [16] in Iran and also Ragheb et al. [39] in Egypt who suggested that Internet addiction has highly significant negative impacts on life engagement and quality of life ($p = < 0.001$). The significant negative correlation between IA and quality of life can be explained by excessive internet usage has a negative impact on the physical health domain, as participants with higher compulsivity may have less control over internet use, leading to internet addiction problems manifested through bad lifestyles, such as poor diet and sleep deprivation, leading to lower physical QOL. Also, people may neglect their daily activities being physically less mobile and staying up late at

night could deplete their energy. Also, students who use the internet excessively may exhibit poor focus and attention. Consequently, this will have an impact on their academic performance. Students may become so involved in online activities and neglect to communicate with their peers and become less motivated to finish activities and spend less time with friends and family. This may lead to a greater sense of loneliness and online dependency. These results suggest that reducing internet over usage may improve QOL. Also, students may have to spend a lot of money to pay for the costs associated with utilizing the internet which impact the environmental domain of quality of life. Internet bullying, online blackmail, and cybercrime are just a few examples of how improper use of social media can compromise their security and safety [40]. As a result, there is a decline in general quality of life [9].

This study had some limitations: All data were obtained from self-reported questionnaires. The recall factor may have played a role. This study was carried out in only 1 university and thus our results cannot be generalized to all medical schools in Egypt or internationally.

CONCLUSION

The current findings indicated that the Internet has a detrimental impact on student's academic performance and quality of life and well-being. The prevalence of internet addiction among the university students was (64%), among those with internet addiction, there was (24%) having mild internet addiction, (70%) suffering from moderate internet addiction and (6%) suffering from severe addiction. Internet addiction was associated significantly with lower academic performance. There was a significant difference between the non-internet addict and internet addict groups regarding subjective feelings about overall quality of life, all QOL domains' mean scores and global QOL mean score. There was a statistically significant difference between the different degrees of internet addiction and subjective quality of life and highly statistically significant difference regarding health. There were statistically significant differences between the severe addict and the mild internet addict groups regarding physical and psychological and total QOL mean scores, where the mild internet addict group has a higher mean score than the severe internet addict group. The whole quality of life score was

significantly inversely correlated with the internet addiction score.

Author contribution: Every single one of the authors made important contributions to the final product. Data gathering, statistical analysis, and draught writing were all done, conceived of the study, coordinated its completion, and wrote the final manuscript.

RECOMMENDATIONS

For high authorities (Ministry of higher education): All Faculties should conduct an annual university-wide survey to determine which students are truly addicted to the internet. Addicts on the internet can then receive counseling to cut back on these harmful habits. Such counseling is thought to lessen not just Internet addiction but also other issues like poor performance, sadness, and social isolation. Giving lectures or distributing leaflets to encourage students who are experiencing psychological issues toward seeking medical attention. Provide workshops and seminars to first-year students about the negative effects of prolonged improper internet use from a health and social perspective. This will help to prevent the development of internet addiction.

For families: It is believed that planning entertaining activities for teenagers to do together aside from using the internet and keeping a careful eye on their internet usage status would be beneficial.

For further studies: Longitudinal studies should be carried out to determine the causality of risk factors in the occurrence of internet addiction. In the future, it would be suitable to include multiple cities, countries, or regions.

Conflict of interest

The authors declare no conflicts of interest.

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