Assessment of internet addiction and violent behavior in children and adolescents before and after COVID-19 lockdown.

Eman Ahmed Zaky[1], Essaam Eldeen Gad Elrab Ahmed[2], Ashraf Sayed Kamel[2], Fatma Said Abdeltwab Hassan[2*], Reham Ibrahim Abdel Mageed[1]

[1]Department of Pediatric, Ain Shams University, Cairo, Egypt
[2]Department of Pediatric, Fayoum University, Egypt

Abstract

Background: Internet use has naturally increased to around 2 billion users worldwide, across all age categories, and the trend is rising, most pronounced among kids. This study aimed to ascertain the burden of COVID-19 as an unexpected risk factor for the development of internet addiction, the prevalence of online addiction and aggressive behavior in children and adolescents, and the influence of COVID-19 on such a behavior.

Methods: Five hundreds kids and teenagers between the ages of 8 and 18 were enrolled in this cross-sectional study either at their first appointments at the Fayoum University Outpatient Clinic or *via* an online survey administered using Google Forms in compliance with the eligibility requirements. The survey included questions by socioeconomic status scale, internet addiction test, strengths and difficulties questionnaire, pediatric symptoms checklist, and media violence exposure scale.

Results: Participants average scores for internet addiction showed that 27% had mild addiction, 45% had moderate addiction, and 5% had severe addiction. After the COVID-19 lockdown, signs of child internet addiction appeared in 34% of the participants and increased in 47% of cases, while signs of violence appeared in 26% of the participants and increased in 50% of cases. The participant's average total strength and difficulty was 20.04 ± 10.03; 53% of the participants showed substantial total difficulty. The pediatric symptoms checklist showed 48% had internalizing problems, attention problems represented 57%, and externalizing problems represented 58%. The participant's highest proportion of videogame violence exposure was daily violent shots, which varied in frequency from 70% to 79%.

Conclusions: We concluded that internet addiction and behavioral violence among children and adolescents increased after the COVID-19 lockdown. Children and teenagers who were addicted to the internet were typically younger, male, in primary and preparatory school, living in rural areas, and having a moderate socioeconomic standing. On the other hand, there was no association between internet addiction and the appearance of symptoms of violent behavior in children. Participants with internet addiction showed impairment of attention, externalizing and internalizing issues, difficulties in peer relationships, conduct disorder, and total difficulties. In addition, they showed an increased number of movies, videogames, and total media hours watched.

Keywords: Internet Addiction, Violence, Adolescence, COVID-19.

Introduction

The internet is an essential part of modern life since it provides quick and easy ways to communicate, learn, and socialize [1]. The youth of today are the first generation to have grown up with the internet ingrained in their daily lives. Like radio in the 1920s and television in the 1950s, the internet has gotten ingrained in society fast and is now available for work and pleasure in homes, workplaces, libraries, and coffee shops. Every year, 30 million children use the internet, placing them at the forefront of this technological revolution [2].

It has been reported that, particularly for those who belong to complicated social environments, users may develop deviations in personality and mental health problems when using the internet in the absence of appropriate guidance [3].

An obsession with using the internet, frequent thoughts about limiting and controlling use, an inability to control the desire to access the internet, continued use of the internet despite functional limitations at various levels, a gradual increase in the amount of time spent on the internet, and an uncontrollably strong desire to access the internet are all characteristics of Internet Addiction (IA) [4].

Humanity has just found itself in one of the worst crises since World War II, the COVID-19 pandemic, which has over 2.62 million documented cases [5].

COVID-19, a once-in-a-lifetime phenomenon, is a problem for human existence as well as public health. There will be long-lasting social, economic, behavioral, and psychological repercussions. Most people now spend a lot more time at home, which may result in a decrease in or lack of daily routine and structure. Being on "lockdown" by yourself (or with family members) can result in elevated stress, anxiety, and sadness, as well as a general loss of psychological wellness, in addition to high levels of future uncertainty and financial insecurity [6].

Unhealthy internet use causes severe distress and/or functional impairment in crucial domains such as personal, family, social, educational, and vocational functioning [7]. Research on COVID-19 has shown that worry and dread of the virus are signs of acute psychological suffering that the general public experienced throughout the pandemic [8].

This might lead to more people using the internet for online social interaction. This makes internet addiction more common among people, especially in times of stress brought on by national and global crises like the COVID-19 lockdown [9].

Bullying is a less severe form of aggressive conduct that may result from exposure to violent media, as aggression has been linked to such exposure [10].

Prior studies have demonstrated a connection between exposure to violent media and bullying at school [11].

In the present investigation, our goals were to ascertain the frequency of violent behavior and internet addiction in kids and teens, as well as the impact of COVID-19 on these behaviors and its burden as an unforeseen risk factor for the development of internet addiction in kids and teens.

Methodology

Study population

This cross-sectional study included 500 children aged 8 to 18 who used the internet and were recruited from the Fayoum University outpatient clinic, those with a history of internet addiction, or by an online survey using Google Forms in this age group. Parents or caregivers of the included children were asked to provide informed written consent. The researcher informed participants about the study's objectives and the confidentiality of their information before distributing the questionnaires. All participants had the option not to participate in the study. The Ethics Committee of Fayoum University Hospitals approved the study at its meeting in January 2021 (Ethical Code 241, Committee Number 80), and the data collection extended from January 2021 to March 2022. Entry and analysis of the collected data were done, as were the interpretation and writing of the thesis. This phase ended in August 2022.

Research setting

In order to collect data on demographics, socioeconomic status, the Internet Addiction Test (IAT), the Strengths and Difficulties Questionnaire (SDQ), the Pediatric Symptoms Checklist (PSC), and the media violence exposure scale, the author developed

an online survey using Google Forms. The survey began with a title page that detailed the goals of the investigation, the criteria used to choose respondents, and data management when the link to it was clicked.

In addition to being asked for their freely provided consent, all respondents were provided with the author's email address in case they had any further inquiries. The survey's demographic segment encompassed inquiries regarding gender, age, consanguinity, place of residence, educational attainment, and duration of internet usage. The validated Arabic version of the socioeconomic status scale was used to assess socioeconomic standards in a research study conducted in Egypt [12].

Then followed internet usage and the relationship between it and COVID-19 lockdown quarantine, as well as the relationship between internet usage and behavioral violence.

Children and teenagers with a history of internet addiction, who were between the ages of 8 and 18 when they visited the Fayoum University outpatient clinic, completed an online survey using Google Forms, or both. Children with debilitating chronic illnesses, children with inadequate data, children who refused to participate in the study on their own behalf or with their parents' consent and children receiving treatment for a well-known co-morbid mental illness or neurological condition were also eliminated.

Instruments and measures

Internet Addiction Test (IAT): to assess the client's level of computer use and categorize their addictive behavior into mild, moderate, and severe impairments. The IAT is a testing tool that has gained international acceptance and validation. It can be used in both inpatient and outpatient settings, and it can be customized to meet the requirements of the clinical setting [13].

We used the Arabic validation of the internet addiction test made by Hawi [14]. The IAT is intended for the seasoned internet user who regularly makes use of this technology. The 20-item questionnaire assesses traits and behaviors such as compulsivity, escapism, and dependency that are connected to excessive internet use.

Arabic-validated version of the Pediatric Symptom Checklist (PSC): PSC is one of the most frequently used psychosocial screens in a primary care setting to evaluate clinical performance and assess behavioral health concerns [15]. Scoring and interpretation for the pediatric symptoms checklist Number 35 has two versions: The youth PSC report used for children aged 11-18 who can complete the questionnaire, and the parent PSC report that we used for children aged 6-11 whose parents complete the questionnaire. Clusters of answers suggest specific areas of concern: Internalizing problems, attention problems, and externalizing problems [16].

The Strengths and Difficulties Questionnaire (SDQ): Arabic-validated version [17], The 25 SDQ items are broken down into 5 scales of 5 items each, including the scales for hyperactivity, emotional symptoms, conduct issues, peer issues, and prosocial scales to screen child behavior and its impact on the child and others. We used two forms of questionnaires: the first for parents, which we used in our study from 8-12 years old, and the second for adolescents, which we used from 12-18 years old [18].

Media violence exposure scale: Arabic validated version [19], to ascertain the behavioral consequences of exposure to various media genres (TV, movies, DVDs, videos, and video/computer games) that contain violent content. Media violence exposure measures how often viewers interact with representations of various anti-social media content, such as violence, sex, drug use, and other general anti-social behaviors (like stealing, shooting, and destroying someone else's property), regardless of the type of media consumed.

The questionnaire assesses the respondents' exposure to three categories of violent media: video and computer games, movies, DVDs, and television. The seven items on the scale are used to evaluate a variety of violent and aggressive behaviors, such as fights, aggravated assaults, robberies (with a knife, gun, or other weapon), murder (by stabbing or shooting someone), and causing property damage to others [20].

Statistical analysis

Based on the prevalence of outcomes at confidence intervals of 95% and 80% for the study, the sample size was determined by epidemiological information 2000 software. The sample was raised by 10% to account for missing data, meaning that 500 children will be included.

Data collection was done using SPSS software version 22 on a Windows 7 computer. Data was also double-entered into Microsoft Access and coded to facilitate data manipulation. (Chicago, IL, USA: SPSS Inc.), Standard deviations are used to quantify the dispersion of parametric quantitative data; arithmetic means are used to measure central tendency; and percentages and numbers are used for simple descriptive analysis of qualitative data. Independent samples were employed for quantitative data. The t test was used to compare quantitative measurements between two independent groups.

The chi-square test is used to compare two or more qualitative groups when comparing qualitative data. Using a bivariate Pearson correlation test, you can determine if two variables are related. study of many variables using linear regression to predict the dependent variable, P-values 0.05 and above were regarded as statistically significant.

Results

The demographic characteristics of children and adolescents are summarized in Table 1. The mean age among participants was 12.1 ± 2.8 years old, the mean number of years of internet usage (years online) was 3.7 ± 1.6, and 56% of participants were males. Fathers had no work for 27% of children, and 59% were educated to the primary level. Finally, 76% had a middle level of socioeconomic status.

Variables	Number (n=500)	
Mean ± SD		
Age (years)	12.1 ± 2.8	Aug-18
Birth order	2 ± 1	01-Apr
Years online	3.7 ± 1.6	02-Aug
Gender		
Male	280	56%
Female	220	44%
Father work		
No	135	27%
Yes	365	73%
Child education		
Primary	295	59%
Preparatory	125	25%
Secondary	80	16%
Internet use in school		
No	325	65%
Yes	175	35%
Family consanguinity		
Negative	275	55%
Positive	225	45%
Residence		
Rural	245	49%
Urban	255	51%
Socioeconomic status		
Low	50	10%
Middle	380	76%
High	70	14%

Table 1. *Socio-demographic characteristics of the studied participants.*

Table 2 showed that the mean internet addiction score among participants was 47.3 ± 22.1, with 27% having a mild degree of internet addiction, a moderate degree representing 45%, and a severe degree representing 5%. Symptoms of child attachment to the internet after the COVID-19 lockdown showed the appearance of symptoms in 34% of the studied group, and 47% showed an increase in symptoms. For violence, it appeared in 26% of the studied participants, and 50% showed an increase in symptoms after the COVID lockdown.

Variables	Number (n=500)	
Total Internet addiction score		
Mean ±SD	47.3 ± 20.1	
Range	Dec-90	
Internet addiction levels		
Normal level of internet usage	115	23%
Mild level	135	27%
Moderate level	225	45%
Sever level	25	5%
Symptoms of child attachment to the internet after COVID-19 lockdown		
No relation	95	19%
Increased after COVID-19	235	47%
Appeared after COVID-19	170	34%

Appearance of symptoms of behavioral violence after COVID-19 lockdown		
No relation	120	24%
Increased after COVID-19	250	50%
Appeared after COVID-19	130	26%

Table 2. *Description of internet addiction test of the studied participants.*

Figure 1 illustrates that 53% of the studied participants showed significant total difficulties, 17% had significant pro-social difficulties, 34% showed hyperactivity, 41% had conduct problems, 24% had emotional problems, and finally 63% had peer problems.
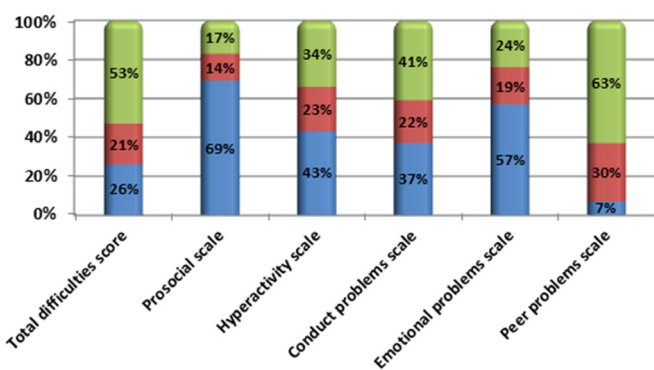

Figure 1. *Description of strengths and difficulties questionnaire of the studied participants.* ***Note:*** *Normal (■); Border line (■); Significant (■)*

Our results revealed that the mean PSC score among studied participants was 34.8 ± 18.3, with 56% showing impairment in total PSC and attention problems and 48% having impairment in internalizing problems suggesting depression or anxiety. For the attention problem, it represented 57%. Externalizing problems suggesting conduct disorders and oppositional defiant disorder impairment represented 58%, as shown in Figure 2.
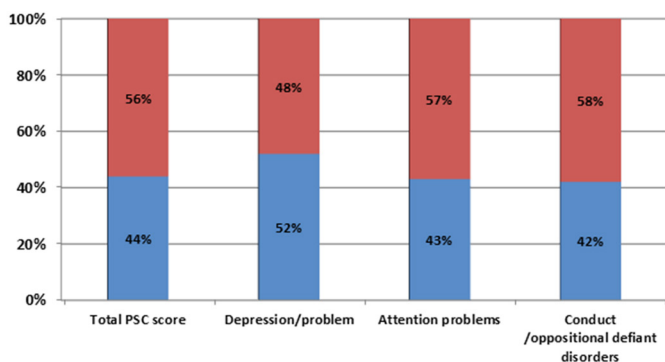

Figure 2. *Description of pediatric symptoms checklist of the studied participants.* ***Note:*** *No imparment (■); Imparment (■)*

The present investigation revealed that participants with greater percentages of frequency saw daily violent shots that varied between 53% and 74% on different television shows. While illustrating the prevalence of various violent films and videos among participants, the highest percentage of prevalence was daily viewing of violence shots, which varied from 52%-75%. The frequencies of different videogame violence among participants with a higher percentage of frequency were daily watching violence shots that ranged between 70% and 79%, as shown in Figure 3.
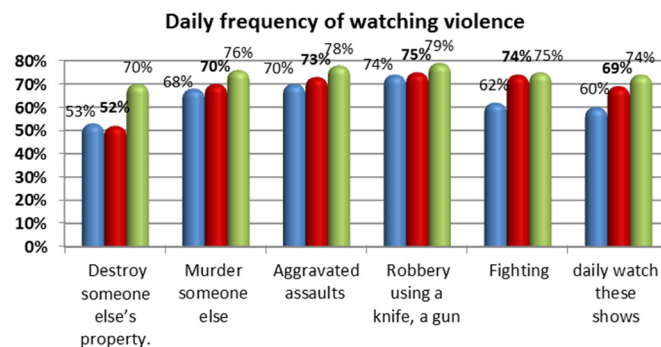

Figure 3. *Daily frequency of watching violence of the studied participant.* ***Note:*** *TV (■); Movies (■); Videogame (■)*

The IA score and the PSC total score showed a statistically significant positive connection, with a P-value of less than 0.05. Furthermore, as Table 3 demonstrates, there was a statistically significant positive link between the IA score and the length of time spent watching movies, video games, and media in total.

Variables	Internet addiction score		
	r	P-value	Sig.
Total score of PSC	0.17	<0.001	HS
Strength and difficulties scores	0.29	<0.001	HS
Duration of watching violent items per week (in hours)			
Television shows	0.07	0.2	NS
Movies/video	0.63	<0.001	HS
Videogames	0.57	<0.001	HS
Total media hours/weeks	0.75	<0.001	HS
Scores			
TV total score	0.12	0.06	NS
Movies/Video total score	-0.02	0.6	NS
Videogames total score	0.06	0.1	NS
Total media score	0.07	0.1	NS

Table 3. *Correlation between scores of participants with IA and media violence exposure scale, strength and difficulties questionnaire in addition to PSC scores.*

Table 4 demonstrated that there was a statistically significant difference (P-value<0.05) in terms of age, years on line, gender, use of the internet in school, educational attainment, place of residence, and socioeconomic status between the participants with and without IA.

Variables	No IA (n=115)	IA (n=385)	P-value	Sig.
	No. (%)	No. (%)		
Mother education				
Literate – primary	5 (4.3%)	15 (3.9%)		
Preparatory	0 (0%)	70 (18.2%)		
Secondary	0 (0%)	135 (35.1%)	<0.001	HS
University	95 (82.6%)	155 (40.3%)		
Postgraduate	15 (13%)	10 (2.6%)		

Father education				
Primary	0 (0%)	10 (2.6%)		
Preparatory	0 (0%)	50 (13%)		
Secondary	10 (8.7%)	145 (37.7%)	<0.001	HS
University	60 (52.5%)	155 (40.3%)		
Postgraduate	45 (39.1%)	25 (6.5%)		
Mother work				
No	80 (69.6%)	160 (41.6%)	<0.001	HS
Yes	35 (30.4%)	225 (58.4%)		
Father work				
No	25 (21.7%)	115 (29.9%)	0.09	NS
Yes	90 (78.3%)	270 (70.1%)		
Computer use				
Never	60 (52.2%)	105 (27.3%)		
Sometimes	40 (34.8%)	195 (50.6%)	<0.001	HS
Lot of time	15 (13%)	85 (22.1%)		
Income				
Not enough+loan not repaid	10 (8.7%)	30 (7.8%)		
Not enough+big loan	0 (0%)	100 (26%)	<0.001	HS
Not enough+small loan	75 (65.2%)	225 (58.4%)		
Enough and save	30 (26.1%)	30 (7.8%)		
Family size				
≥ 7	0 (0%)	20 (5.2%)		
6	20 (17.4%)	95 (24.7%)		
5	80 (69.6%)	240 (62.3%)	0.01	S
<5	15 (13%)	30 (7.8%)		
Crowding index				
≥ 4	0 0 (%)	100 (26%)		
2-	95 (82.6%)	270 (70.1%)	<0.001	HS
<2	20 (17.4%)	15 (3.9%)		
Socioeconomic status				
Low	10 (8.7%)	40 (10.4%)		
Middle	80 (69.6%)	300 (77.9%)	0.02	S
High	25 (21.7%)	45 (11.7%)		

Table 4. *Comparison of internet addiction in different socioeconomic characters among participants.*

To investigate the explanatory potential of several risk variables in the anticipation of internet addiction, a multivariate regression model analysis was carried out. It demonstrated that there were statistically significant predictors associated with gender, years of online use, children's educational level, total PSC score, sleep disorders, violence exposure total score, total media hours exposure per day, father's educational attainment, mother's occupation, using a computer, crowding index, and socioeconomic status, as shown in Table 5.

Model	Un-standardized coefficients		Standardized coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.844	0.217		8.483	0
Gender (male)	-0.095-	0.037	-0.054	-2.597	0.01
Years online	0.096	0.018	-0.169	-5.219	0
Child education level (primary)	0.146	0.04	0.124	3.602	0
Residence (rural)	0.019	0.034	0.011	0.56	0.575
Increase or appearance of symptoms of child attachment to the internet after COVID 19 lockdown (increased after COVID 19)	-0.049	0.025	-0.039	-1.947	0.052
Total score strengths and difficulties (peer problem scale)	-0.002	0.002	-0.02	-0.959	0.338
Total score of PSC (externalizing problems)	0.003	0.001	0.07	3.329	0.001
Sleep problem (sometimes)	0.424	0.029	0.362	14.859	0
TV total score	-0.006	0.005	-0.039	-1.1	0.272
VEDIOS total score	-0.018	0.009	-0.108	-2.023	0.044
Total media score	0.006	0.004	0.096	1.416	0.158
Total media hours per day	0.012	0.001	0.232	9.207	0
Mother education	-0.041	0.028	-0.048	-1.494	0.136
Father education.	-0.322	0.023	-0.427	-14.174	0
Mother occupation (working mother)	0.056	0.013	0.095	4.186	0
Computer use (sometimes)	0.079	0.015	0.129	5.163	0
Income (not enough with small lean)	-0.045	0.027	-0.05	-1.649	0.1
Family size (above 6)	0.019	0.017	0.026	1.148	0.251
Crowding index (around 4)	-0.048	0.019	-0.065	-2.5	0.013
Socio-economic status (middle to low)	0.536	0.061	0.297	8.767	0

Table 5. *Multivariate linear regression analysis to determine of total level of internet addiction score.*

Discussion

There are around 4.66 billion internet users globally. While having strong social networks makes people happier, healthier, and more resilient to adversity, excessive internet use has drawn attention to the potential negative effects it may have on one's physical and mental health [21].

Due to government-imposed lockdowns and other societal restrictions, the global COVID-19 pandemic has had previously unheard-of physiological, financial, and social repercussions, including dramatic alterations to interpersonal and workplace behavior. The way that people have responded to the infection and these government-imposed restrictions has differed greatly. Some people have dealt with the pandemic by adopting good or adaptive coping mechanisms, such as leaning on more social support; others have chosen more dysfunctional strategies, like increasing drug or alcohol usage, disobeying isolation regulations, and experiencing increased anxiety and terror about COVID-19 and/or one's post-pandemic future [22].

The distribution of the high school students studied regarding IA showed lower scores for moderate and severe levels of addiction, according to Alya et al., Of the study subjects, 40.3% were normal users, while 34.8% had mild internet addiction, 21% had moderate internet addiction, and 4% had severe internet addiction. Our results were consistent with their findings [23].

In contrast to a study by Siste et al., which found that 75.2% of respondents who met the study's criteria for internet addiction were female, our study showed that there was a statistically significant negative correlation between the internet addiction score and both age and years of internet usage. Cases of internet addiction were found to be younger, male, and have fewer years of internet usage. The age distribution of first internet use showed notable variations. By the age of twelve, about half of the non-IA respondents had accessed the internet, and by the age of eleven, the IA samples had done the same [24].

Another demographic characteristic that significantly influences problematic internet use is socioeconomic status. Teenagers whose household income was less than their expenses were 3.4 times more likely to have problematic internet use, according to a study conducted by Ozturk et al. It is also believed that parents with higher incomes spend more time with their kids and teach them the fundamentals of responsible internet use. Research has also shown that there is a significant correlation between low socioeconomic status and the risk of problematic internet use and that a high socioeconomic level is a protective factor for problematic internet use. The majority of internet addiction patients, in contrast to our research, were found to be in middle socioeconomic positions [25].

Our study illustrated that symptoms of child attachment to the internet after COVID-19 lockdown appeared in 34% of the study group, and 47% showed an increase in symptoms. We found that, in line with Dong et al., who found that internet use during the COVID-19 epidemic, as well as the frequency and duration of using recreational electronic devices and the self-score of addiction to electronic products, were all significantly higher than those before the epidemic in all groups, there is a statistically significant increase in child attachment to the internet following COVID among participants with IA [26].

This is also consistent with a study conducted in China in 2021 by Li et al., who found that the prevalence of internet addiction was higher than before the pandemic, with an overall prevalence of about 36.7% during the pandemic, 33.9% for moderate addiction, and 2.8% for severe addiction. This suggests that the COVID-19 pandemic has made this public health issue worse in China [27].

According to Usher et al., child abuse, neglect, exploitation, and domestic violence are horribly on the rise during the COVID-19 pandemic and lockdown. This is consistent with our study, which found that 26% of participants displayed violent behavior and 50% showed an increase in symptoms of violence following the lockdown. The significant rise in domestic violence during COVID-19 can be attributed to a number of circumstances, including concerns about one's health, finances, and forced homestay, as well as the partial inactivity of various welfare agencies owing to lockdown. Children, who are exposed to abuse, psychological aggression, and/or physical punishment by their caregivers at a young age, whether directly or indirectly, suffer lifelong consequences such as impaired brain and psychological development, increased rates of psychosomatic and neuropsychiatric disorders, multiple substance abuse, and suicidal thoughts [28].

In contrast to Jae et al., who reported that the internet addiction group had the highest scores on all the aggression and clinical scales, followed by the high-risk group, we found that there was no significant difference between participants with internet addiction regarding the appearance of symptoms of violent behavior after the COVID-19 lockdown. On the clinical and aggressive measures, the typical user group scored the lowest. The internet addiction group had the longest average usage duration for gaming on the internet [29].

Our study illustrated that children who suffered from difficulties represented 42% with a little degree, 19% with a clear degree, 4% with a severe degree of difficulties, and a higher percentage of cases noticed after more than one year (60%). Of the participants, 38% felt somewhat unhappy, 33% felt considerably upset, and 13% felt extremely upset as a result of these challenges. In line with Ryan et al., who discovered that, on the whole, caregivers of 68.3% of children with positive screens indicated at least one area of functional impairment based on the PBHS (Pediatric Behavioral Health Screen), 28% of participants reported issues that significantly interfered with daily activities. In the following domains, parents supported particular areas of functional impairment: causes the child discomfort, burdens the family, interferes with home life, interferes with the child's friendships, interferes with the child's activities, and interferes with education or learning [30].

Our study illustrated that 53% of participants showed significant total difficulties, 17% had significant pro-social difficulties, 34% showed hyperactivity, 41% had conduct problems, 24% had emotional problems, and finally 63% had peer problems. Comparable in percentages of conduct, emotional, and hyperactivity problems with a study by Kumar et al., that included six excessive internet users, four of whom had emotional problems, one of whom had conduct issues, three of whom had hyperactivity issues, three of whom had peer problems, and five of whom had high prosocial scores. However,

this study did not support our findings regarding prosocial and peer problems [31].

In line with our research, Majali, found that the group of cases with internet addiction had the greatest rates on the following criteria: emotional symptoms (61%), behavioral difficulties (43%), hyperactivity (33%), and (73%) represented peer relationship problems [32].

Our study illustrated that 56% showed impairment in the total PSC score and 48% had impairment in internalizing problems suggesting depression or anxiety. It was 57% for focus problems. In line with Cerruti et al., who found that depressive symptoms significantly predicted both internalizing and externalizing problems as well as internet addiction, our research showed that there was a higher percentage of significant impairment in the total PSC score among cases with internet addiction. Externalizing problems suggested conduct disorders, and oppositional defiant disorder impairment represented 58%, respectively [33].

Additionally, our research supported the findings of Akin et al., who found that internet addiction was positively correlated with stress, anxiety, and depression. This study demonstrated the direct relationship between internet addiction and stress, anxiety, and depression [34].

According to Huesmann, children in the United States watch television for three to four hours a day on average, and the best studies have shown that over 60% of programs contain some violence, and about 40% of those contain heavy violence. Our study showed the frequencies of different television shows of violence among participants, with higher percentages of participants daily watching violence shots that ranged between 53% and 74%. The mean duration of watching violence in television shows was (5.3 ± 4.6) hours [35].

Our study showed the frequency of various violent films and videos among participants who watched violent scenes on a daily basis at greater percentages (52%-75%). The average amount of time spent watching violent movies and videos were 7.6 ± 8.4 hours. This is in contrast to the survey results, which highlight the fact that 44% of American teenagers had visited websites with sexual content, 25% had visited sites with hate groups, 14% had seen sites with instructions on how to build bombs, and 12% had visited sites with information on buying guns. Additional unsuitable websites include those that advocate for eating disorders, "safe" drug use websites (which describe drug usage as if it can be done thus), and those that encourage violence, suicide, or self-harm [36].

According to Roberts et al., children are also spending an increasing amount of time playing violent video games. Our study showed the frequencies of various violent videogames among participants with higher percentages of frequency were daily watching violence shots that ranged between 70% and 79%, with a mean duration of watching violence in videogames being 11.6 ± 10.9 hours. 83% of homes with children now have a video game console. In 2004, kids spent 49 minutes a day playing video games, and 52% of kids between the ages of 8 and 18 played video games on any given day. The average daily time spent playing video games peaks in middle childhood, when 8 to 10 year olds play for 65 minutes, and then drops to 33 minutes

for 15 to 18 year olds. These games are mostly violent: 94% of video games that the video game industry rates as suitable for teenagers are said to feature violence, and assessments from third-party studies imply that the actual number may be far higher [37].

According to our analysis, the overall score for movies and videos was 9.6 ± 5.2, the total score for video games was 9.2 ± 5.9, and the total score for television series was 10.3 ± 5.7. With a mean of 24.5 ± 16.7 hours per week of media violence, the total media violence score was (29.1 ± 14.3), higher than the study conducted by Winther et al., which found that the average estimated number of online hours was highest in Chile, followed by Bulgaria, the Philippines, and Ghana. However, there was no statistically significant difference between participants with IA regarding the total media violence score [38].

While Petruzelka et al., found that fathers' education had a significant effect on the risk of addictive behavior on the internet and gaming, our study demonstrated a statistically significant difference in internet addition according to different socio-economic characters. Specifically, students whose fathers had either lower or higher education than average had a higher chance of being at-risk. Additionally, our study demonstrated that both low and high status increased the chances of risky behavior as compared to the average status [39].

In contrast to Gunuc and Dogan, who discovered a significant difference between perceived social support and working/non-working mothers (t149=2.73), internet addiction and time spent with the mother (t147=2.80), perceived social support and time spent with the mother (t147=2.69), and perceived social support and spending time with friends (t145=2.61), our study revealed statistically significant predictors for working mothers and internet addiction. These results showed that the children of working mothers experienced more social support. Furthermore, there was a decrease in internet addiction and an increase in perceived social support among teenagers who spent more time with their mothers [40].

Conclusion

We concluded that internet addiction and behavioral violence among children and adolescents increased after the COVID-19 lockdown. Children and adolescents with internet addiction were younger in age; the majority were males, in the primary and preparatory level of education, in rural areas, and were in middle socioeconomic status. On the other hand, there was no relationship between internet addiction and the appearance of symptoms of violent behavior in enrolled participants. Part pants with internet addiction showed impairment of attention, externalizing, and internalizing issues. PSC also showed difficulties in peer relationships, conduct disorder, and total difficulties. In addition, they showed an increase in the number of movies, videogames, and total media hours watched. Finally, participants with internet addiction were among lower-educated parents, working mothers, computer users, low-income families, and middle-to low-income families.

Limitations

Our study was an online cross-sectional study, so there were a number of constraints that needed to be taken into account

for an accurate interpretation of the results. As a result, the study's findings cannot be attributed to chance. Additionally, we were unable to enter the field to gather data because of the lockdown. Data collection was done using electronic methods. Consequently, it is not possible to extrapolate the results to the whole population. Lastly, because survey responses were self-reported, biases for social desirability may have occurred, changing the outcome.

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*Correspondence to

Fatma Said Abdeltwab Hassan

Department of Pediatrics,

Faculty of medicine,

Fayoum university,

Egypt

E-mail: elzahraaelashery@gmail.com