

Research Paper

Internet Addiction and Relationship with Depression Anxiety and Stress

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ABSTRACT

Introduction: Internet is one of the greatest technologies developed, which has aided mankind in every way to make his life easier. Like any pathological disorder, internet addiction is also impulse – controlled without any specific intoxicant. The negative effects of internet use have been described in a few studies and characterized as depression, anxiety, craving, hostility, loss of control, low self-esteem, social phobia, poor sleep quality, preoccupation and withdrawal. **Materials and methods:** This cross-sectional study was done on 277 children and adolescents between the ages of 6 – 18 years who had approached the outpatient ward of our hospital. Information about the internet addiction was collected by using the questionnaire according to the young's criteria. Depression, Anxiety and Stress were measured according to the Depression, Anxiety, Stress Scale-21 (DASS-21), which is a questionnaire consisting of 21 points using 4-point Likert's scale for the measurement of all the 3 parameters. **Results:** 76% of the children showed mild to severe levels of addiction to the internet with the most common age group being 10-14 years. 37.4% of the children spent 4-6 hours on the internet per day while 24.2% spent more than 6 hours per day. Over 68% of them used internet late into the night. Over 62% of the children addicted to internet were depressed while 65% of them were overtly anxious and nearly 70% of them were stressed. **Conclusion:** Internet addiction should be treated similar to drug or alcohol addiction. Identifying such children and adolescents who are on the verge of internet addiction or already addicts is highly important so that timely treatment or rehabilitation may be taken at the earliest.

Keywords: Internet Addiction, Depression, Anxiety, Stress

Internet is one of the greatest technologies developed, which has aided mankind in every way to make his life easier. It has today become an integral part of our daily life with over 3.8 billion users¹. It has presented us with great many opportunities in every field, be it educational, for the improvement of career, in keeping abreast of the happenings around the world, recreational interests, entertainment to mention only a few. It is one of the

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Internet Addiction and Relationship with Depression Anxiety and Stress

means with people communicate with their near and dear today using many different applications such as WhatsApp, Facebook, which have become indispensable.

As internet meets with a number of interests on the go, that is even when the person is moving, has increased the amount of time the person spends on it. With many internet providers competing with each other, the access to the internet also has become quite economical, and is easily available to even the lower socioeconomical group. As it is used everywhere and at any time, addiction to the internet has become a potential problem, more so among the highly influenced younger generation².

Internet addiction basically is the excessive amount of time that a person spends on the net and the problems that are associated with this use³. This issue was studied initially by Young et al and they state that this addiction had 5 subtypes – Cybersex, cyber relationship, compulsions such as gambling, excessive shopping etc, compulsive web surfing and online gaming^{4,5}.

As with the substance abuse, now addiction to the internet is observed with people especially the younger ones having compulsive behavioral disorder⁶. Like any pathological disorder, internet addiction is also impulse – controlled without any specific intoxicant⁷. The negative impact of internet addiction has been observed with various frequency throughout the world and has affected the people in academic, financial, occupation fields and also in relationships among people^{8,9}. The negative effects of internet use has been described in a few studies and characterized as depression, anxiety, craving, hostility, loss of control, low self-esteem, social phobia, poor sleep quality, preoccupation and withdrawal^{10,11}. Amongst all these, the most remarkable results of the addiction of internet among the young is depression, anxiety and stress¹².

There have been a few studies on internet addiction among the college students, and it has been estimated that around 8-13% of the college students face addiction problems¹³.

MATERIALS AND METHODS

This cross-sectional study was done by the department of Psychiatry at Malla Reddy medical college for women during the period of 6 months i.e., November 2020 to April 2021. 277 children and adolescents between the ages of 6 – 18 years who had approached the outpatient ward of our hospital were included into the study after it was cleared by the Institutional Ethical Committee. The nature of the study was explained to the subject as well as their parents or guardians and informed consent was taken from all of them. Only those children who had used internet and had access to it in the past 6 months were included into the study.

Those students who did not wish to participate in the study, or those whose parents objected were excluded from the study. Those who had any major surgical or medical problems, which could influence the nature of the study, patients with psychosis or mania or any mental disorders were also excluded from the study.

Information about the internet addiction was collected by using the questionnaire according to the Young's criteria¹⁴. This test is a 20 questions test with a 5 point Likert scale for measuring the compulsive usage of the internet and the results are assessed according to the following table (Table: 1)

Internet Addiction and Relationship with Depression Anxiety and Stress

Point	Assessment
≤30	Normal
31-49	Mild Addiction
50-79	Moderate Addiction
≥80	Severe Addiction

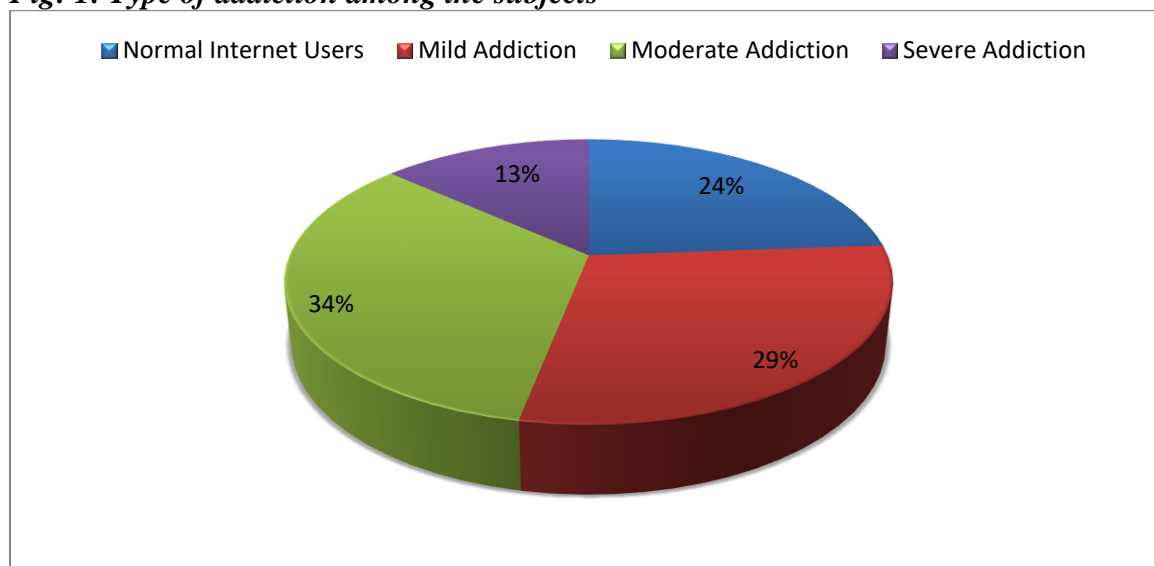
Depression, Anxiety and Stress were measured according to the Depression, Anxiety, Stress Scale-21 (DASS-21), which is a questionnaire consisting of 21 points using 4-point Likert's scale for the measurement of all the 3 parameters¹⁵.

All the data were entered into Excel Sheets and descriptive analysis was done using bar charts and tables. Chi square test was done to analyze the significant difference between the parameters

RESULTS

There were 277 children under study out of which, the predominant condition was moderate addiction seen in 93 (34%) of children, followed by mild addiction as seen in 81 (29%) of the children. 37 (13%) of the children were severely addicted to the internet while 66 (24%) were normal internet users and not addicted (Fig: 1).

Fig: 1: Type of addiction among the subjects



There were 66 children between the ages 6-9 years, out of which 28(42.4%) were moderately addicted to the internet, while 21(31.8%) had mild addiction. Out of the 111 children between 10-14 years, 43 (38.7%) had moderate addiction while 21(18.9%) of them were severely addicted. This was the most common age group to be addicted to the internet. Among the 15-18 years age group, predominantly, they were normal users with 39 (39%) subjects, while 32 (32%) of them were mildly affected. 7(7%) were severely addicted. The most common gender to be affected was males, with 153 (55.2%) and 124 (44.8%) were females. However, 43 (34.7%) of the females were normal users while only 23 (15.1%) of the males had a control over their internet use. 147 (53.1%) of the children under study were the only child of the parents (Table: 2).

Internet Addiction and Relationship with Depression Anxiety and Stress

Table: 2: Demographic variables of the children

Variables	Normal Users	Mild Addiction	Moderate Addiction	Severe Addiction	Total
Age					
6-9 yrs	8	21	28	9	66
10-14 yrs	19	28	43	21	111
15-18 yrs	39	32	22	7	100
Total	66	81	93	37	277
Sex					
Male	23	42	62	26	153
Female	43	39	31	11	124
Single child	34	52	45	16	147
Economic Status					
Lower class	9	11	7	1	28
Middle class	15	17	11	8	51
Upper middle class	12	24	38	12	86
Upper class	30	29	37	16	112

Most of the children (93(33.6%)) under study used the internet 1-3 times during the day, out of which, 34 (36.6%) had mild addiction while 27 (29.03%) were moderately addicted. 7(7.5%) were severely addicted. 37 (13.4%) of the children used the internet many times during the day out of which 12 (32.4%) were severely addicted and 21 (56.8%) were moderately addicted. 104 (37.4%) of the children spent an average of 4-6 hours on the internet per day and 43 (41.3%) were moderately affected and 42 (40.4%) were mildly affected. 67 (24.2%) of the 277 children spent more than 6 hours a day on the internet, out of which 31(46.3%) were severely addicted and 27 (40.3%) were moderately addicted. 189 (68.2%) of the children used the internet late into the night out of which 37 (19.6%) were severely addicted and 87 (46.1%) were moderately addicted (Table: 3)

Table: 3: Frequency of internet use

Frequency	Normal Users	Mild Addiction	Moderate Addiction	Severe Addiction	Total
Use per day					
< once	8	6	1	0	15
Once	28	15	10	4	57
1-3 times	25	34	27	7	93
4-6 times	5	22	24	14	65
Many times	0	4	21	12	37
Duration					
>6 hours	3	6	27	31	67
4-6 hrs	13	42	43	6	104
2-4 hrs	41	27	22	0	90
<2hrs	9	6	1	0	16
Use late into night	28	42	87	37	189

Out of the internet users, 103 (37.2%) were not depressed while 126 (45.4%) were mild to moderately depressed and 48 (17.3%) were severely depressed. 126 (45.5%) of the children were mild to moderately anxious and 56 (20.2%) were severely anxious. 95 (34.3%) of them

Internet Addiction and Relationship with Depression Anxiety and Stress

had no anxiety. Severe stress was observed in 50 (18.1%) of the cases while it was mild to moderate in 137 (49.5%) of the cases. No stress was observed in 90 (32.5%) of them (Table: 4).

Table: 4: Depression, Anxiety and Stress among the patients

	Normal Users	Mild Addiction	Moderate Addiction	Severe Addiction	Total
Depression					
None	62	25	13	3	103
Mild to moderate	4	51	56	15	126*
Severe	0	5	24	19	48*
Anxiety					
None	59	23	12	1	95
Mild to moderate	6	52	54	14	126*
Severe	1	6	27	22	56*
Stress					
None	56	19	12	3	90
Mild to moderate	9	59	55	14	137*
Severe	1	3	26	20	50*

DISCUSSION

76% of the subjects in our study were addicted to internet either in the mild, moderate or severe form. 34% of the children were moderately affected, 29% mildly and 13% severely while 24% were normal internet users without any addiction. Saikia et al found a prevalence of 80.7% addiction among the internet users¹⁶. In another study by Upadhyay et al, 74.5% were potential addicts to internet, similar to our study¹⁷. However, in another study from North India, only 24% were found to be addicted to internet with 6% severely addicted, while in our case, the severe addiction was seen in 13% of the cases¹⁸. In a study by Jain et al, 15.51% of the subjects were found to be addicts while 39.41% were found to be over users¹⁹.

In the present study, more number of males (55%) were addicted to the internet compared to the females. In a similar study by Saikia et al, a predominance of women 84% was found in comparison to the males¹⁶. However, Jain et al, reported a higher population of the males to be addicted to internet rather than females corroborating our study¹⁹. This probably because most of the males were addicted to the variety of internet games available. The most common age group to be affected in our study was 10-14 years age group. In a study by Saikia et al, the mean age of persons affected was found to be 17.21 years, corroborating our study¹⁶. A study by Bernardi and Pallanti reported a mean age of 16.67 ± 1.85 years²⁰.

Most of the children in our study (33.6%) were browsing the internet about 1-3 times in a day and 37.4% spent around 4-6 hours per day and 24.2% of them spent more than 6 hours in a day on the internet. In a study by Saikia et al, 42.1% of the children were on the net for 3-6 hours per day and 11.5% used the internet for more than 9 hours per day¹⁶. However, Sharma et al, in their study observed that the internet use by the children on an average less than 3 hours²¹. It is reported that the reason for such few hours of net use was because the

Internet Addiction and Relationship with Depression Anxiety and Stress

study was conducted on adolescents doing higher education with vast syllabus and less free time for internet browsing¹⁶.

We found internet users to be significantly associated with depression, anxiety and stress of the 48 children who were severely depressed, 39.6% were severely addicted to the internet while 50% were moderately addicted. Saikia et al also found a high association between the use of internet and conditions such as depression, stress and anxiety¹⁶. Other psychological morbidities such as aggression, intention of suicide, antisocial behavior apart from depression, stress and anxiety was observed in other studies by Chou et al, Akin et al and Seifi et al^{8,22,23}. Few other studies have described that internet addiction directly declines the size of the social circle, increases loneliness, lowers self-esteem and life satisfaction, and further increases poor mental health^{10,24}. Orsala et al also reported a very high incidence of depression among the internet addicts²⁵.

Other studies have positively associated alcoholism and smoking to internet addiction²⁶. It has been proposed that the neurophysiological reason for this is the common pathway shared by nicotine and alcohol includes the nature of the internet use²⁷.

CONCLUSION

It is found in the present study that internet addiction is as grave as alcohol or drug addiction and should be treated as such. This leads to depression, stress and anxiety and over a period of time it may lead to aggression, insomnia, mental disability, loneliness and lack of social life. Identifying such children and adolescents who are on the verge of internet addiction or already addicts is highly important so as to prevent other physiological problems and morbidity. Timely treatment or rehabilitation may be the action to be taken for the severely addicted.

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Internet Addiction and Relationship with Depression Anxiety and Stress

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Conflict of Interest

The author(s) declared no conflict of interest.

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