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Research Article

School-based Prediction and Prevention of Adolescent Internet Addiction towards Touch Screen Mobile by Motivational Therapy

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Abstract

The Internet is frequently used in touch screen mobile. Excessive affinity towards internet-based online data collection, downloading pictures, videos, cyber relationships, and social media may produce addiction disorders and anxiety caused by an imbalance of neurotransmitters. The present study is an attempt to discuss internet addiction disorder (IAD), internet gaming disorder (IGD), and give awareness to society to get rid of this addiction. The adolescent having 14 - 17 years old has a greater affinity towards the internet and touch screen mobile. The present study is an attempt to survey school-based prediction of adolescent internet addiction towards touch device and to know the number of students badly affected with symptoms like eye pain, headache, loss of attention, shortness of temper, depression, loss of appetite and sleeping disorder. The badly affected adolescents can be prevented by delivering a motivational lecture to increase awareness and to prevent the attack of this internet addiction and gaming disorders.

Keywords: *Adolescent Internet Addiction; Touch Screen Mobile; IAD; IGD; Motivational Therapy*

Introduction

In the 21st Century usage of touch screen mobile has become an indispensable component in the adolescent's lives. Growth in the uses of touch screen mobile has been expanded in all over India. People are using touch screen mobile because various features are available in the touch screen mobile such as internet approaches, vocabulary, games, and other social networking sites like WhatsApp, Facebook, music apps and, online shopping, etc. Now a day the use of touch screen mobile starts from the age of 12 years because of the offering by their parents. The plurality of touch screen mobile users is found in the 15 to 25 years age group. The main advantage of touch screen mobile is that it helps maintain the communication either by calling or messaging among people. It is used by people to combat against desolation and all other problems. They also think that their contacts may establish by the use of touch screen mobile [1].

Presently, 300-400 million people are using touch screen mobile in India. 291.6 million Touch screen mobile users were found in 2017. 490.9 million users are expected in 2020 [2,3]. In the whole world, India stands 2nd position where relatively 500 million people are using the internet in all peer groups. Based on the report of internet utilization in India found 481 million in December 2017 and 500 million in June 2018 and it was expected that it will reach 730 million in 2020 Internet and Mobile Association of India (IAMAI) [4,5]. In the world, 1.85 billion people were using touch screen mobile in 2014, 2.32 billion in 2017, and 2.87 billion touch screen mobile users are expected in 2020 [6].

Now touch screen mobile becomes an integral part of human lives. It is used by every age group of people including children, adults, and elders. With the help of touch screen mobile individuals may gather lots of information related to their fields [7]. Touch screen mo-

biles can access the internet by which individuals can upload games, movies, videos, pictures, download books, etc. Various social networking sites are also available in this which makes connections by calling, messaging, sharing of videos, and pictures.

Excessive use of touch screen mobile may impact badly on the children's health. Various health consequences such as depression, pain in eyes, neck, shoulders, and the backside, sleeping problems, and other negative behavior with their family members also associated with the excessive use of touch screen mobile. Many so different studies have been carried out, which indicate the correlations between touch screen mobile and depressed adults. One of the Taiwanese studies carried out by Yen., *et al.* concluded that depression problems in people occurred due to addiction to touch screen mobile [8].

Internet addiction predominance in adults is found 0.3 - 8.1% in USA [9] and 8.1 - 26.5% in adolescents and young people of China, South Korea etc. [10,11] and 1 - 11% in children of Europe [12]. Touch screen mobile addiction may affect the work adequacy and change in physiological behavior in individual [13]. Touch screen mobile addiction affects work adequacy and changes in physiological behavior in an individual. After numerous studies, it was found that In India 24.6% of adolescents were addicted to the internet. It's a potential problem among adolescents [14]. According to the survey done by Indian Council of Medical Research on 2,775 subjects in Bengaluru, 13% internet addiction was found among of them 4.1% internet used by touch screen mobile, 3.5% were busy on social networking sites such as WhatsApp, facebook, twitter, etc., 4.0% to shopping sites, 2% to porn movies sites, and 1.2% were busy to online gambling [15]. The number of surveys has been done also in other cities such as Jabalpur, Jaipur, and Mumbai where internet addiction rate was found 24% to 34% [16,17]. Muller., *et al.* examined 1.6% to 5.1% was affected by internet gaming [18]. There are no specific synthetic medicines developed to date for the treatment of internet addiction and gaming disorders. Only motivational therapy is very effective to leave internet addiction. Motivational therapy includes cognitive-behavioral therapy (CBT), motivational interviewing, and family therapy. CBT analyses ideas, feelings, and behavior of the patient and recognize the actual reason behind addictive behavior and make people aware of this disorder [19,20]. CBT stimulates the patient's activity to cooperate in physical exercise which reduces the frequency of internet use. It will happen due to decreased levels of dopamine [21,22]. In this method, patients learn how they can change themselves by observable accomplishment, unlimited interrogation, deliberative pay attention, confirmation, and explanation which help to analyze and deal with uncertainty causes by addiction [23]. Family therapy through the family members of addicted person may positively encourage the recovery of addictive behavior; nonetheless, this therapy diminishes the frequency of time uses on computers, touch screen mobiles, and laptops also [24], So motivational therapy by counseling process as well as skill development programs may combat addiction towards the internet as well as internet gaming [25]. The present study is an attempt to survey the school-based prediction of adolescent internet addiction towards touch screen mobile and to give motivational therapy through counseling to make them understand how internet addiction hampers their lives.

Methodology

In the present study, several schools going adolescent students of Class X - XII and undergraduate 1st year have been selected. The selection criterion is based on their affinity towards touch screen mobile. Interesting results have found while promoting awareness about the bad effects of excessive use of touch screen mobile. Several 652 young adolescent students from different schools have been taken into consideration in the present study. The study was being carried out on different dates on prior permission of the head of the institution. We have visited the following institution in the Kashipur, Uttarakhand areas such as Udayraj Hindu Inter College, GGIC, Shri Gurunanak Girls Inter College, Krishna Public Collegiate, Pt. G.B. Pant Inter College, Tularam Rajaram Vidya Mandir Inter College, St. Mary's School, Kendriya Vidyalaya, and GIPER. In Uttar Pradesh, we have interacted with the students of R.K College of Pharmacy, Moradabad, Adarsh Inter College Umri, and Chaudhary Yashpal Singh Smarak Inter College and KK coaching center, Bijnor. There are three age groups such as 15 - 16, 17 - 18, and 18 - 19 of adolescent have interacted. All are healthy individuals. None of them reported any acute and chronic diseases. Participants who accepted the assignment first completed a consent form and then were given access to a survey that contained questions about their affinity towards access of online networking, social media and whether suffer from any symptoms like eye pain, headache, loss of attention, shortness of temper, depression, loss of appetite and sleeping disorder.

Results and Discussion

The excessive use of touch screen phones leads to addiction and causes many physiological disturbances like pain in different organs, sleeping disorders, digestion related problems, etc. Internet addiction and gaming disorders especially affect adolescents because it is the

age of growth and also they spend most of the time with internet access via mobile which is also not good for mental growth. To access the situation practically the survey was conducted in the schools among the adolescents of age group 14 - 17. This was conducted between November 2019 and February 2020. The outcome and measure of adolescent students are summarized in table 1. A total of 652 adolescent students were responded in the survey. In which 34.25% of students were suffered from eye pain, headache, and loss of attention and shortness of temper while 6.44% had depression and loss of appetite and 6.6% were being affected with a sleeping disorder.

S.NO.	Name of the school	Date of study	Candidate's data				
			No of students interacted	Age group	No. of students badly affected with symptoms		
					Eye pain, headache, loss of attention, shortness of temper (%)	Depression, Loss of appetite	Sleeping disorder
1.	Udayraj Hindu Inter College	30/11/2019	60	16-17	25 (41.66%)	5 (8.33%)	1 (1.66%)
			32	14-15	12 (37.5%)	4 (12.5%)	2 (6.25%)
2.	GGIC, Kashipur	02/12/2019	48	16-17	13 (27.1%)	3 (6.25%)	2 (4.16%)
3.	Shri Gurunanak Girls Inter College	02/12/2019	16	16-17	4 (25%)	1 (6.25%)	1 (6.25%)
4.	Krishna Public Collegiate, Kashipur	04/12/2019	53	16-17	15 (28.30%)	1 (1.88%)	1 (1.88%)
5.	Pt. G.B. Pant Inter College, Chattri Chauraha, Kashipur	04/12/19	60	16-17	11 (18.33%)	2 (3.33%)	1 (1.66%)
6.	Tularam Rajaram Vidya Mandir Inter College, Chaiti chauraha, Kashipur	05/12/19	95	16-17	45 (47.36%)	13 (13.68%)	6 (5.26%)
7.	St. Mary's Aliganj road, Kashipur	28/11/2019	45	16-17	16 (35.55%)	5 (11.11%)	1 (2.22%)
8.	Kendriya Vidyalaya, Bazpur road, Kashipur	01/12/2019	40	16-17	18 (45%)	2 (5%)	5 (12.5%)
9.	Global Institute of Pharmaceutical Education and Research (GIPER) Kashipur	01/02/20	39	18-19	16 (41.02%)	1 (2.56%)	4 (10.25%)
10.	Adarsh Inter College Umri Bijnor	04/02/2020	42	16-17	15 (35.71%)	2 (4.76%)	8 (19.04%)
11.	Chaudhary Yashpal Singh Smarak Inter College, Bijnor	05/02/20	41	16-17	10 (24.39%)	1 (2.23%)	3 (7.31%)
12.	R.K College of Pharmacy, Moradabad	07/02/20	39	16-17	11 (28.20%)	2 (5.12%)	5 (12.82%)
13.	KK Coaching Centre, Bijnor	08/02/20	42	16-17	13 (30.95%)	-	3 (7.14%)
		Total	652		224 (34.25%)	42 (6.44%)	43 (6.59%)

Table 1: *Candidates' data.*

Many institutions were visited to conduct the study. Through the lectures, students were briefed about the touch screen phones, their merits, and demerits on the excessive use, IGD, etc. The radiation of mobile phones, their harmful effects on fetuses, infants, pregnant women, and kids and how they interfere with the development and functioning of the vital organs were also made clear. To make it less complex the symptoms were divided into three categories. The first category includes symptoms like eye pain, headache, loss of attention, shortness of temper followed by the second category with depression, loss of appetite, and sleep disorders in the third category. During the visit to Udayraj Hindu Inter College, several 60 students age 16 - 17 and 32 students age 14 - 15 were present. Among the first group, the symptoms like eye pain, headache, loss of attention were shown by a total of 41.66%, depression, loss of appetite by 8.33% and sleeping disorders occurred in total 1.66% of all the students. Of the 32 students of the second group, 37.5% showed pain, headache, and attention loss, 12.5% have depression, no appetite while 6.25% have sleeping disorders. The 48 students of GGIC, Kashipur were in the 16 - 17 age groups. The first, second, and third category symptoms were seen in 27.1%, 6.25%, and 4.16% of total students respectively. A total of 16 students were present in the Gurunanak Girls Inter College between the ages of 16 - 17. Eye pain, loss of attention, and shortness of temper were seen in 25% of children while the loss of appetite, depression in 6.25%, and sleep disorders occurred in 6.25%. On the visit to Krishna Public Collegiate 53 students, age 16 - 17 participated in the survey. On the completion of the lecture, different symptoms were discussed with them and the result was similar to that of other schools. Many students were seen with the side effects, among them 28.30% were affected by first category symptoms like headache, 1.88% with a loss of appetite, depression, and 1.88% with sleeping disorders. In December 2019, 60 students having the age range of 16 - 17 of Pt. G. B. Pant Inter College interacted. The discussion disclosed that 18.33% of students were suffering from headache, pain, shortness of temper like symptoms. Apart from these 3.33% were affected with low appetite, depression while 1.66% was having sleep-related problems. The report of Tularam Rajaram Vidya Mandir Inter College showed more numbers. Among 95 students of the same age as mentioned above approximately 47.36% have the first category of symptoms while depressive symptoms and sleep disorders were shown by 13.68% and 5.26% respectively. The details of the St. Mary's School were not different from other schools. It also showed many students affected by the excess use of touch screen phone and some addicted to them. From 45 students 35.55% have first category symptoms, 11.11% have depressive disorders and 2.22% were suffering from sleeping disorders. Kendriya Vidyalaya, Kashipur was also part of a study where 40 students were present. A total of 45% of students have a loss of temper, pain, and headache, 5% felt the loss of appetite, depression, and 12.5% were having problems sleeping which is a serious problem. Among the 42 students of Adarsh Inter College nearly 35.71% have anger issues, pain and headache, 4.76% have depression-related problems, and 19.04% suffer from the problems of sleep and digestion. Chaudhary Yashpal Singh Smarak Inter College was visited in February 2020 where 41 students were present. Eye pain, anger-related problems were found in 24.39%, depression and appetite-related issues occurred in 2.23% and sleeping disorder was prevalent in 7.31% people. In the Global Institute of Pharmaceutical Education and Research situated in the same city, 39 students with the age of 18 - 19 were present and their data was collected. Their data shows that 41.02% have short temper, pain, and headache, 2.56% feeling depressed, no appetite, and many of them nearly 10.25% were having sleeping problems. R.K College of Pharmacy was visited for a survey, 28.20% has pain in eyes, headache, and shortness of temper, 5.12% suffers from depression and 12.82% have sleep disorders among a total of 39 students. KK coaching was also visited for the study and 42 students responded to the discussion. The symptoms like anger problems or pain and sleep disorders were seen in 30.95% and 7.14% of students respectively. A total of 652 adolescents were interviewed for the study regarding addiction to touch screen mobile and internet gaming disorder and their side effects. Most of the population was nearly addicted to their mobiles for gaming, internet browsing, social media, and many other activities. They spend lots of time on their phone because it has also become a mode of entertainment. Its radiations affect the vital part of the human body which can interfere in the growth of children, decrease creativity, intelligence, and studies. It can result in low grades and lower intelligence quotient of a person and also cuts a person from his social life.

The motivational lecture was given to explain the addiction towards touch screen mobile followed by the interaction with throwing asking several questions who are suffering from the symptoms like eye pain, headache, loss of attention, shortness of temper, depression, loss of appetite, and sleeping disorders. The number of affected individuals admitted with a positive response has been tabulated in table 1. Apart from motivational lectures, students have been advised to take green vegetables like such as broccoli, ladyfinger, bitter guard, guard, spinach, chili. The leafy vegetables such as broccoli, kale, collards are rich sources of vitamin K responsible for the formation of sphingolipids. Brain cells store sphingolipids. Thus, vitamin K containing vegetables act as antioxidants as well as anti-inflammatory effects. Pumpkin seeds also beneficial for the treatment of neurological disorder including depression because it contains zinc, iron, mag-

nesium, and copper elements. These all trace mineral regulates brain functions. For nerve signaling, zinc elements play an important role. Insufficiency of magnesium may lead to cephalalgia, depression, and other neurological conditions. Copper also controls nerve signaling. Beans, ladyfinger, spinach contains fiber, iron, and vitamin B. Thus, diet and exercise therapy may produce a positive effect on IAD and IGD affected individuals [26].

To ensure the motivational lecture has been repeated for the same class of students of Krishna Public Collegiate and GIPER Kashipur after one month. It was responded that 90% of the badly affected students have left the uncontrolled uses of the touch screen mobile and these students do not feel the symptoms like eye pain, headache, loss of attention, shortness of temper, depression, loss of appetite and sleeping disorders. Therefore, the students suffering from the above symptoms are due to excessive uses of the touch screen mobile. So, the study is interesting and created awareness to society.

Conclusion and Future Direction

The interacted fellows are school going students. The badly affected students have been motivated to quit the addictive behaviors towards uncontrolled uses of the touch screen mobile. They have also promised to the lecturers, not to the frequent use of the mobile after knowing the bad effects of uncontrolled uses of the touch screen mobile. They are not allowed to use a mobile at the school campus. Despite that great percentage are affected by IAD and IGD symptoms by mobile using at home. So, what is going on for the students who are staying independently in a hostel, mess, and in rent without having parent's controls? The college students are being allowed to use mobile at the college campus. The only treatment is motivational and counseling therapy to avoid touch screen mobile and internet addiction. IAD and IGD can cause abnormal signal transduction mediated imbalance of dopamine and serotonin neurotransmitters. It was found that some fruits and vegetables such as broccoli, ladyfinger, bitter guard, guard, spinach, guard, chili can provide neuroprotection. The health professional should give awareness to society and counseling therapy to the badly IAD and IGD affected adolescents. The above study reflects the teachers' and child-level interactions that enhance the association between emotion socialization and youth outcomes having a great role in the development of emotion regulation by motivational therapy and counseling.

Conflict of Interest

The authors declare no conflict of interest, financial or otherwise.

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