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Original Research Article

A study on anxiety disorder among college students with internet addiction

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ABSTRACT

Background: The last decade has seen a tremendous growth in internet usage with 3,486,642,862 present users worldwide with India contributing 462,124,989 users. Out of this 70% are young. In this scenario there is also drastic increase in the prevalence of psychiatric illness among the same vulnerable group. A lot of studies have been conducted to bring out the association of the psychiatric disorders with internet addiction. This study aims to estimate the prevalence of internet addiction among college students and bring to light the degree of association of anxiety disorder with internet addiction.
Methods: A cross sectional study is carried out in 2 arts colleges in Tirunelveli city among 200 students (aged 19-21 years) using internet addiction test by Dr. Kimberly young and anxiety rating by Hamilton anxiety scale.
Results: Among the 200 students, only 22% did not have internet addiction. 52% are average on-line users, 20% are possible addicts and 6% are addicts. Among these 59.6% had mild anxiety, 22.4% moderate anxiety and 17.9% suffered severe anxiety. 56.4% had anxious mood and fear and 38.5% suffer intellectual deterioration, 30.8% had depressed mood. 33.3% had experienced muscular somatic symptoms, 23% autonomic, 14.1% gastrointestinal symptoms and 7.7% cardiovascular symptoms and 24% respiratory symptoms.
Conclusions: Internet addiction is an emerging health issue among youth, if left unattended will compromise the mental and physical well being of the youth. It is also mandate that a holistic education program that is based on positive youth constructs is the need of the hour.

Keywords: Internet, Addiction, Anxiety, Students

INTRODUCTION

The Internet has become one of the most important information resources for students. However, addiction to the Internet can also have a negative impact on academic performance, family relationships, and emotional state among them. There has been an enormous growth in the internet usage worldwide particularly in the last decade. Around 46.1% of the world population has internet connection today.[1] In 1995, it was less than 1%. The number of internet users has increased tenfold from 1999 to 2013. The first billion was reached in 2005. The second billion in 2010. The third billion in 2014 with a 7.5% one year user change in 2016 globally

The internet is the global system of interconnected computer networks that use the internet protocol suite (TCP / IP) to link devices worldwide. It is a network of networks that consists of private, public, academic, business and government networks of local to global

scope, linked by a broad array of electronic, wireless and optical networking technologies. The internet carries an extensive range of information resources.

Internet addiction (IA) has been defined as "excessive or poorly controlled preoccupations, urges or behaviors regarding computer use and internet access that lead to impairment or distress. Internet addiction disorder (IAD) is defined as any online –related compulsive behaviour which interferes with normal living and causes severe stress on family, friends, loved ones and one's work environment. This could involve any of the following, cybersex addiction, cyber-relationship addiction, information overload, compulsions (online gaming, online gambling, online shopping), online social networking, blogging. Internet addiction disorder, more commonly called problematic internet use (PIU), refers to excessive computer use which interferes with daily life.[2,3] PIU is also called compulsive internet use (CIU), Internet overuse, problematic computer use or pathological computer use or internet addiction disorder (IAD).[4] In the most recent version of the DSM-5, internet gaming disorder is the latest term to describe this problem.[5]

IAD was originally proposed as a disorder in a satirical hoax by Goldberg.[6] He took pathological gambling, as diagnosed by the diagnostic and statistical manual of mental disorders (DSM-4), as his model for the description of IAD.[7] IAD receives coverage in the press and the possible future classification of it as a psychological disorder continues to be debated and researched in the psychiatric community.[8] A systematic review of PIU literature identified the lack of standardization in the concept as a major impediment to advancing this area of study.[9]

A conceptual model of PIU has been developed based on primary data collected from addiction researchers, psychologists and health providers as well as old adolescents themselves.[10] That study identified seven concepts that make up PIU using a concept mapping approach.[11] These seven clusters are psychological risk factors, physical impairment, risky internet use impulsive internet use and Internet use dependence.

Internet addiction per se can lead to various conditions like Anxiety, Depression, dishonesty, euphoric feelings, unable to keep schedules, no sense of time, feeling of guilt, isolation, defensiveness, agitation.[12] In addition many physical symptoms like backache, headache, weight gain/loss, sleep disturbances, blurred/strained vision, carpal tunnel syndrome are also reported.[13]

Measuring internet addiction is a challenge. Goldberg developed the internet addictive disorder (IAD) scale.[14] Brenner developed the Internet related addictive behavior inventory (IRABI). Young initially developed 8-question internet addiction diagnostic questionnaire (DQ). Later, she included 12 new items in addition to those to formulate an internet addiction test (IAT). Young's IAT is the only available test whose psychometric properties have been tested by Widyanto and McMurran.[15]

Since young populations are more vulnerable to internet, this study aims to bring out the prevalence of internet addiction and associated anxiety disorder among college students.

Aim

- To estimate the prevalence of internet addiction among college students in Tirunelveli City.
- To determine the psycho somatic anxiety levels associated with internet use among these students.

METHODS

A cross sectional study was carried out after obtaining approval from the institutional ethical committee among arts and science college students undergoing undergraduate education in Tirunelveli city during July 2018. Two colleges in the city were randomly selected and the college administration was approached for permitting to conduct the study. Then the students were explained about the study and encouraged to participate. Students who offered consent were included and those unwilling to participate and absent on the day of data collection were excluded from the study.

Internet addiction assessment was done using internet addiction test (IAT) by Young.[15] Hamilton anxiety rating scale was used to assess the severity of anxiety among these students.[16]

Young's IAT is a 20 item 5–point Likert scale that measures the severity of the self-reported compulsive use of the internet. The IAT total score is the sum of the ratings given by the examinee for the 20 item responses. Each item is rated on a 5-point scale ranging from 0 to 5. The maximum score is 100 points. The IAT total score ranges, with the higher the score representing the higher level of severity of Internet compulsivity and addiction. Total scores that range from 0 to 30 points are considered to reflect a normal level of Internet usage; scores of 31 to 49 indicate the presence of a mild level of Internet addiction; 50 to 79 reflect the presence of a moderate level; and scores of 80 to 100 indicate a severe dependence upon the Internet,

Hamilton anxiety rating scale consists of 14 items, each defined by a series of symptoms, and measures both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety). Each item is scored on a scale of 0 (not present) to 4 (severe), with a total score range of 0–56, where a score <17 indicates mild anxiety, 18-24 mild to moderate anxiety and 25-30 moderate to severe anxiety levels. The participants are asked to choose the response which suits their feeling after internet usage.

The data was collected from 206 students and 6 students' provided incomplete data and thence excluded. The information was tabulated and analyzed using Microsoft Excel and SPSS software. Statistical association was analyzed using chi-square test and z score.

RESULTS

The study population comprises of totally 200 students with 50% representing each of the two chosen colleges. Out of the study population 61% were males and 39% were females. The mean age of the students was 18.5 years. 40% of the students belonged to the Computer Science Department, and 50% from Commerce Department and 20% from English Department.

Internet addiction

Based on the IAT test score, Among the 200 students, only 22% did not have internet addiction. 52% are average on-line users (33.5% males and 18.5% females). They surf the web too long at times, but they have control over their usage. 20% (16.5% males and 3.5% females) are possible addicts, experiencing occasional or frequent problems because of the internet And 6% (5.5% males and 0.5% female) are addicts (Table 1). The difference in the usage pattern with a higher prevalence among males over females was statistically significant ($p<0.05$).

Table 1: Internet usage and addiction pattern among students.

S. no	Sex	No addiction	Moderate users	Possible addicts	Addicts	Total
		N (%)	N (%)	N (%)	N (%)	
1	Male	11 (5.5)	67 (33.5)	33 (16.5)	11 (5.5)	122
2	Female	33 (16.5)	37 (18.5)	7 (3.5)	1 (0.5)	78
	Total	44 (22)	104 (52)	40 (20)	12 (6)	200

($p<0.05$).

Table 2: Internet usage vs anxiety levels.

S. no	Internet usage pattern	Anxiety levels			Total
		Mild	Moderate	Severe	
1	Moderate users	74	21	9	104
2	Possible addicts	17	10	13	40
3	Addicts	2	4	6	12
	Total	93 (59.6%)	35 (22.4%)	28 (17.9%)	156

The p value is.000038. The result is significant at $p<0.05$.

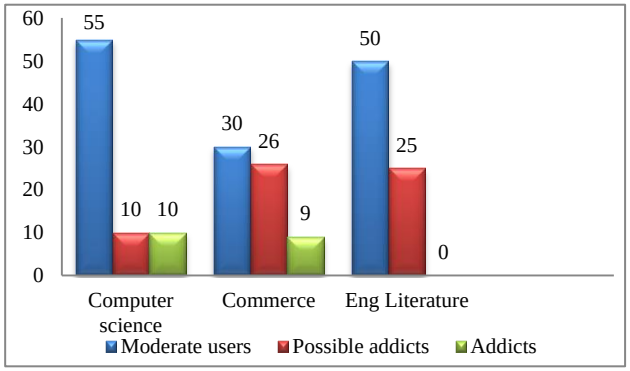

Figure 1: Department wise distribution of internet usage pattern of students in %.

Among the three different departments studied, Computer Science students rank first with the highest prevalence of internet addiction (53% moderate users, 10% possible addicts, 10% addicts). This is closely followed by the Commerce department students with 30% of moderate users, 26% possible addicts and 9% addicts. Among the students in English department, 50% are moderate users, 25% are possible addicts and there are no internet addicts. This difference between departments was analyzed statistically and found to be significant with $p<0.05$ (Figure 1).

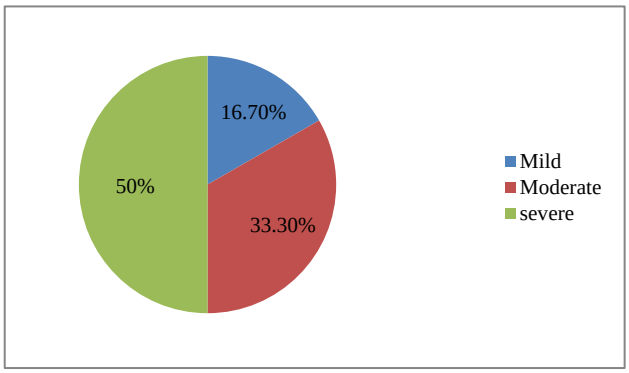

Figure 2: Levels of anxiety among internet addicts.

Psychosomatic effects of internet addiction

Anxiety: Among the 156 students based on the HAM-A score values it was found that, 59.6% had mild anxiety, 22.4% moderate anxiety and 17.9% suffered severe

anxiety (Table 2). However among the addicts, 16.7% had mild anxiety, 33.3% moderate and 50% suffered severe anxiety (Figure 2). This difference in the anxiety levels between the moderate users, possible addicts and addicts were analysed statistically and found to be significant ($p<0.05$)

Psychic anxiety (mental agitation and psychological distress)

Out of the 156 students- 56.4% were found to have anxious mood and fear.41% had experienced tension and insomnia, 38.5% intellectual deterioration, 30.8% had depressed mood (Table 3).

Table 3: Distribution of psychic anxiety symptoms experienced by the users.

S. no	Symptoms	Male (n=111)	Female (n=45)	Total (n=156)
				N (%)
1	Anxiety mood	50	38	88 (56.4)
2	Tension	34	30	64 (41)
3	Fear	50	38	88 (56.4)
4	Insomnia	38	26	64 (41)
5	Intellectual deterioration	46	14	60 (38.5)
6	Depressed mood	26	22	48 (30.8)

Table 4: Distribution of somatic anxiety symptoms experienced by the users

S no	Symptoms	Male (n=111)	Female (n=45)	Total (n=156)
				N (%)
1	Somatic (muscular)	28	24	52(33.3)
2	Somatic (sensory)	28	12	40 (25.6)
3	Cardiovascular symptoms	12	-	12 (7.7)
4	Respiratory symptoms	14	10	24 (15.4)
5	Gastro intestinal symptoms	16	6	22 (14.1)
6	Genitor urinary symptoms	10	6	16 (10.3)
7	Autonomic symptoms	22	14	36(23)
8	Behaviour at interview	38	36	74(47.4)

Somatic anxiety (physical complaints related to anxiety)

33.3% of the students were experiencing muscular somatic symptoms like pains and aches, twitching, myoclonic jerks, unsteady voice, grinding of teeth etc. 23% of the students had autonomic symptoms have increased sweating, tremors, dry mouth, tension headache, rising of hair and flushing. 25.6% of students had experienced somatic sensory symptoms like blurring of vision, tinnitus, hot and cold flushes, pricking sensation. 14.1% of the students had gastrointestinal symptoms like dysphagia, nausea, vomiting, abdominal pain, abdominal fullness, looseness of bowel, constipation. 10.3% of students had experienced genitourinary symptoms like increased frequency, urgency of micturition, amenorrhoea, menorrhagia.7.7% of the students had suffered cardiovascular symptoms like palpitations, pain in the chest, throbbing of vessels, fainting fee1ings,missing beat etc. 24% of the students had experienced respiratory symptoms like pressure in the chest, breathlessness, choking feelings, sighing. 47.4% had one of the following behavior tremor of hands, fidgeting, furrowed brow, rapid respiration, swallowing etc. at the time of interview reflecting the anxiety status (Table 4).

DISCUSSION

Studies have been conducted worldwide especially among young with respect to internet addiction. This study aimed at assessing the prevalence of internet addiction and associated psychosomatic effects (anxiety in particular) among college students.

In this study, 52% were moderate users, 20% possible addicts and 6% addicts. The study done by Goel et al in Mumbai among adolescents found 74.5% as moderate users, 24.8% possible addicts and 0.7% addicts.[17] In the study conducted by Gupta, the prevalence of IA was 25.3%.[18]

This study also showed a difference in the addiction levels between males (5.5%) and females (0.5%). The study by Toe et al also shows a high prevalence of internet usage among males than females.[19]

In this study, the level of internet addiction varied between the course type of the students with more number of addicts among students of computer science department. Because of the differences in the content and density of education and in the field of application, the level of internet addiction is expected to differ among students in various faculties. In the study by Orsal, a high level of internet addiction was found in students at the Faculty of Economics and Administrative Sciences.[20]

In this study it was found that the addicts had high anxiety mood and fear (56.4%), and tension (41%). This value correlates well with the study by Kratzer where in the group with PIU, a psychiatric diagnosis of anxiety disorders was found to be 50.0%. Males are predominantly affected by anxious mood, tension and Intellectual deterioration. However, these symptoms were considerably less among females.[21]

In the study conducted by Cheung, Wong, there was significant association ($p<0.001\%$) of insomnia with internet addiction among Hong Kong Chinese adolescents.[22] This is similar to this study which confirms a significant association of Insomnia with internet addiction ($p<0.05$).

CONCLUSION

Internet addiction is an emerging health issue among youth. The psychosomatic effects associated with internet addiction if left unattended shall definitely compromise the mental and physical well being of the youth adding to the burden of non communicable disease in the society. Early intervention by teaching the young on time management, self-discipline and self-control is more essential in cultivating a positive attitude towards internet use. It is also mandate that a holistic education program that is based on positive youth constructs is the need of the hour.

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