



Effects of internet addiction on mental health of physiotherapy students in Surat: A cross sectional survey

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Abstract

Background and Purpose: Internet addiction is reported to cause anger, depression, mood swings, anxiety, fear, irritability, sadness, loneliness, boredom, restlessness, upset etc. Also, it causes physical discomfort or medical problems such as carpal tunnel syndrome, dry eyes, backache, headache, eating irregularities, sleep disturbance, etc. While internet addiction is considered a barrier for students by majority, its effects as facilitator for students' academic performance and psychological health remains understudied. The purpose of our study was to answer the question, "Does internet addiction act as a barrier or facilitator for mental health among physiotherapy students?"

Methods and Material: A cross-sectional survey of 150 undergraduate physiotherapy students between 19-23 years of age was conducted. Students participated by providing their responses to Young's Internet Addiction Test (IAT) and Beck Depression Inventory (BDI) after signing written informed consent. Descriptive statistics was used to express internet addiction and depression. Pearson correlation coefficient was used to find out the correlation between internet addiction and depression.

Results: Result of this study shows that there is inverse correlation between internet addiction and mental health of students.

Keywords: addiction, depression, internet, mental health, students

Introduction

Internet addiction is described as an impulse control disorder, which does not involve use of an intoxicating drug and is very similar to pathological gambling.¹ Internet use is a facilitator in academics for students as it gives advantages like assortment of information, online medical guidance, looking for jobs, communication, online training, encyclopaedia, online result, online railway and airplane schedules, advertisements etc.¹ Internet addiction is a barrier for students as it can cause anger, depression, mood swings, anxiety, fear, irritability, sadness, loneliness, boredom, restlessness, upset etc. Also, it causes physical discomfort or medical problems such as carpal tunnel syndrome, dry eyes, backache, headache, eating irregularities, sleep disturbance etc [1-3].

Research indicates that internet addiction is often associated with other forms of mental distress such as depression, compulsive behaviour, impulse control disorder, and low self-esteem. Greenfield (1999) suggested that as many as 6% of internet users may suffer negative outcomes such as marital disruption, decreased school performance, increased financial expenditures on internet shopping, or illegal activity.³ Amongst these negative outcomes, internet is not an exception to addiction, as discussed in many studies conducted, but there are few studies focusing on the addiction, focusing on separate domains of internet usage, but for various domains (including newly popular domains in India such as online shopping) there are limited studies.^{4,5} Compared to social networking websites, after introduction of Private Chat Rooms (PCR), there has been a shift in the purpose of use of internet. Because of that, possibility of exploitation and addiction leading to impairment in

academic performance and emotional balance in medical students, using such domains; cannot be denied. Thus, this study was aimed to measure the degree of internet addiction among medical students in 10 different domains of internet; Privat Chat Room (PCR), Social networking (SN), Educational, Shopping, Gaming, Surfing, Gambling, Cyber relations, Cybersex and Cyber hacking [4-6]. The study was aimed at determining the extent and effects of internet addiction among physiotherapy students as a barrier or facilitator for their mental health.

Material and Methodology

A cross-sectional study was carried out on undergraduate physiotherapy students from Surat having age 19-23 years through convenient sampling. 150 undergraduate physiotherapy students were invited and explained about the purpose and objectives of study. Questionnaires were then handed out amongst the students in the classrooms and collected after being filled. Their responses were recorded after receiving signed informed consent. The students not willing to take part and those who don't use internet at all were excluded from the study.

The assessment form included basic demographic details and outcome measures of interest i.e., Internet Addiction Test (IAT) and Beck Depression Inventory (BDI) [7-9]. In IAT, participants were assessed by a semi-structured questionnaire which includes demographic data, internet use profile across 10 domains and propensity for use of internet. IAT is 20 items, 6-point Likert scale with scores ranging from 0 to 5 for each item; and includes questions that reflect typical behaviours of addiction - obsessive behaviour related to Internet use, withdrawal symptoms, tolerance, slump in

school performance, negligence of family and school life, personal relationship problems, behavioural problems, health trouble, and emotional problems. Total Internet addiction scores were calculated, with possible scores for the sum of 20 items ranging from 0 to 100. Based on the scoring, subjects were classified into normal users (<20), mild (20-49), moderate (50-79) and severe (>79) Internet addiction groups. Normal and Mild users were classified as non-problematic internet users while moderate and severe addiction groups were categorized as Internet addicts or problematic users [7, 8]. BDI consists of 21 questions multiple choice self report inventory, one of the most widely used psychometric tests for measuring the severity of depression. When test is scored a value of 0 to 3 is assigned for each answer and then the total score is compared to a key to determine the depressions severity. The standard cut off scores are minimal depression (0-9), mild depression (10-18), moderate depression (19-29), severe depression (30-63) [9].

Data Analysis and Results

The collected data was analysed by using SPSS 20.0 software for Windows. Results were illustrated using tables.

Table 2: Severity of Depression as per Beck Depression Inventory Scores (n=150)

Severity of Depression	Score Range	No. of Participants (n)	Percentage (%)	Mean	SD
Mild	0-9	62	41.33	13.60	2.67
Minimal	10-18	48	32.00	6.71	2.40
Moderate	19-29	35	23.33	23.63	3.63
Severe	30-63	5	3.33	34.20	4.21

As shown in table- 2, scores of BDI suggest that 41.33% respondent had mild (13.60 ± 2.67), 48% respondent had minimal (6.71 ± 2.40), 23.33% respondent had moderate

Normality of the data was measured by using the Kolmogorov–Smirnov test. As the data followed a normal distribution, descriptive statics were expressed as mean ± standard deviation. Pearson’s Correlation coefficient was used to find out association between variables.

Table 1: Descriptive Statistics (n=150)

Characteristic	Categories	No. of participants n (%)
Gender	Female	85 (56.67)
	Male	65 (43.33)
Year of Study	Third Year BPT	47 (31.33)
	Fourth Year BPT	45 (28)
	Internees	58 (38.67)

The mean age of students is 21.00 ± 1.47 years, with a range of 19-23 years. The mean age for female participants (n=85) was 21.05 ± 1.56 years and for male participants (n=85) was 20.96 ± 1.41 years. Table-1 shows that approximately 57% of the participants were female, and most of them were internees (i.e., 38.67%).

Table 3: Internet Usage as per Internet Addiction Test Scores (n=150)

Internet usage	Range	No. of Participants (n)	Percentage (%)	Mean	SD
Normal Users	<20	100	66.67	34.58	9.14
Mild	20-49	24	16.00	58.42	7.13
Moderate	50-79	25	16.67	12.04	5.30
Severe	>79	1	0.67	96.00	---

As shown in table- 3, scores of IAT suggest that 66.67% respondent were normal users (34.58 ± 9.14), 16% respondent were mild (58.42 ± 7.13), 16.67% respondent were moderate (12.04 ± 5.30), and 0.67 % respondent were severe (96.00 ± 0.00) internet users.

Table 4: Correlation between IAT and BDI

	BDI Score (out of 63)	IAT Score (out of 100)
BDI Score (out of 63)	1	0.429** p=0.000
IAT Score (out of 100)	0.429** p=0.000	1

Note:

1. BDI: Beck Depression Inventory; IAT: Internet Addiction Test
2. **. Correlation is significant at the 0.01 level (2-tailed).

As shown in table 4, there exists a positive correlation between scores of BDI and IAT with significance of p< 0.01

Discussion

The result of the study indicates the prevalence of internet addiction and mental depression among undergraduate

physiotherapy students which were as follows: out of 150 students 110 were found to have minimal/mild depression and 40 were found have moderate/severe depression due to the use of internet. Majority of the students i.e., 100 were normal internet users, 45 were mild to moderate users and 1 was severe internet user. P value is <0.05 so there is an association between internet addiction and depression (performance and mental health) which is statistically significant at 95% significant level. This study revealed a significant relationship between internet addiction and mental health.

This study was a preliminary step toward understanding the extent of internet addiction in different domains among undergraduate physiotherapy students. In the era of the advance technology and introduction of the private chat rooms; the use of internet for the secretive chats has become excessive worldwide. Use of internet for online gaming, hacking and cybersex has also been studied and the results are more negative for the individual. Learning theory emphasizes the positive reinforcing effects of internet use, which can induce feelings of wellbeing and euphoria in the user and works on the principle of operant conditioning.¹⁰

the similar theory of learning is also applicable for the use of such domains. When accessibility to internet is free and continuous, and when the use is free and unmonitored, there are high chances of becoming problematic users. The average time spent was 3.05 hours per day, which was quiet high time, so it may affect their other functional activity.

The result gained in the present study goes on the same track with results of the previous research conducted by Jahanian and Seifury (2013)^[11] which reveals that there is a significant and inverse relationship between internet addiction and student's mental health. In addition the obtained results indicate that regarding the occurrence of addiction to the internet 36.6% of the subject were slightly addicted to the internet, 55.3% subjects were mildly addicted to the internet, 7.3% of the subjects were moderately addicted to the internet and 0.6% subjects were severely addicted to the internet^[11].

The limitation of this study is that the data collected are limited and also only one group of population is involved, and the present study does not reveal the type of addiction among the students.

Conclusion

From this study it is concluded that there is prevalence of internet addiction among undergraduate students of physiotherapy. It also concludes that there is an inverse relationship between internet addiction and mental health. Thus through this study it can also be said that students who are addicted to internet are at risk of minimal, mild, moderate and severe depression.

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