

A study of relationship between internet addiction and emotional disturbances in medical students

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Abstract

Objective: To know the relationship between internet addiction and depression, anxiety, stress in medical students of Mamata Medical College, Khammam. **Materials and methods:** The study was conducted over a period of 6 months from 1st november2015 to 30th april2016. A total of 350 students are enrolled in the study. The tools used were IAT Scale and DASS 42 Questionnaire. Pearson Correlation was used to assess the relationship. **Results:** The results revealed a significant relationship between internet addiction and depression, anxiety and stress factors in medical students. **Conclusion:** This study would help students to know the deleterious effects of internet addiction. The message must be conveyed through awareness programs to combat against reduction of self esteem, academic performance and social communication.

Keywords: internet addiction, anxiety, stress, depression, medical students.

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INTRODUCTION

There has been an explosive growth in the use of internet not only worldwide but also in India in the last decade. The usage of internet in India reached to 354 million in 2015 with a growth of 17 percent in the first six months¹. It is a mechanism for information dissemination and a medium for collaborative interaction between individuals and their computers without regard for geographic limitation of space². Internet addiction is characterized by excessive or poorly controlled preoccupations, urges or behaviours that lead to impairment and distress³. It is associated with a wide spread and significant decrease of functional connectivity in cortico-striatal circuits, in the absence of global changes in brain functional network

topology⁴. The Internet has become one of the most popular media among adolescents worldwide. The rapid increase in Internet use in recent years has both advantages and disadvantages. A number of studies have been done which investigate the negative use of the internet. Internet addiction is characterized by psychomotor agitation, anxiety and craving⁵. It also leads to hostility, substance abuse, preoccupation, withdrawal, reduced decision making ability^{6,7}. The greater use of the internet is associated with some social and psychological variables such as, declines in the size of social circle, loneliness, lower self-esteem, poor mental health and low family function^{8,9,10}. A handful of studies on patterns of college student internet use have been published in recent years. The general results seem to indicate that the rate of problem Internet use among college students is between 8-13%. The prevalence of Internet addiction is the lowest among adolescents, with ranges of 4.6 to 4.7%. That number goes up among the general population of Internet users, with ranges of 6 to 15% fitting the signs of addiction; and it goes up to 13 to 18.4% among college students, who appear to be the most at risk¹¹. These numbers estimate the scope of the problem and suggest that a significant proportion of online users suffer one or more signs of Internet addiction. The excessive growth of the internet has had a huge influence on psychological

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research in understanding its role in emotional states and there has been increased interest in the addictive potential of the internet¹². Studies report that there are a number of emotional factors which may be related to college students' internet addiction. Among these factors the most remarkable are depression, anxiety, and stress¹³. Internet addiction relates to psychological variables such as shyness, loneliness, depression, and interpersonal relations¹⁴. It seems that one of the variables that could predict internet addiction is stress. Stress is a state or psychological process in which the individual finds his/her physical and psychological well-being as a threatening situation¹⁵. In fact, creating stress depends on how the individual perceives the situations and events. A situation may be safe for someone and may be perceived as a threat for someone else. Those who suffer from anxiety and stress often have a great deal of trouble communicating and interacting with others in a healthy, positive, and meaningful way. These individuals may therefore use the internet as an escaping way, that is, when a person does not have access to the internet, becomes anxious and to reduce anxiety uses internet¹⁶. Other consequences that are documented as neglect of academic work, and domestic responsibilities, disruption of relationships and financial problems^{17, 18}. A study showed that there is a significant positive relationship between Internet addiction and each of the clinical variables of depression, anxiety, stress and social phobia¹⁹. Thus these human characteristics are viewed as important determinants of internet addiction. Based on the above literature the present study was aimed to study the relationship between internet addiction and depression, anxiety and stress levels in medical students.

MATERIALS AND METHODS

The current study is a descriptive and correlative study, was carried out on undergraduate medical students of Mamata Medical College, Khammam. Both male and female undergraduate medical students in the age group of 18-22 years are included in the study, conforming to internet use for the last 6 months were enrolled. A total of 350 students volunteers were thus selected by random sampling. Study period is from 1st November 2015 to 30th April 2016.

The study was approved by the research ethics committee. Subjects were briefed in detail about the nature and purpose of the study. Confidentiality was assured and informed consent was taken. A total of two questionnaires were administered to the students.

Inclusion criteria

1. First year to final year students
2. Medical students who have given informed verbal consent

Exclusion criteria

1. Medical students who did not give informed verbal consent.
2. Students who don't have previous psychiatric illness.

Tools

1. The tool used to assess internet addiction is Young's internet addiction test (**IAT**). It is a 20 item scale with a scoring of 0-5 for each question and a total maximum score of 100. Based on scoring subjects were classified into normal users (<20), mild (20-49), moderate (50-79) and severe (>79). The internal reliability of scale is 0.93. Cronbach's alpha coefficient is found to be 0.90.
2. The tool used to assess emotional factors is Depression, Anxiety and Stress scale (**DASS 42**). The DASS is a 42-item self-report inventory that provides scores on three subscales: Depression (14-items), anxiety (14-items), and stress (14-items). Each item was rated on a 5-point scale. The internal consistency alpha coefficients were found for depression, anxiety, and stress .90, .92, and .92 respectively. The test-retest reliability scores were found .98 for three subscales.

Statistics

SPSS 16.0 version was used. Mean and standard deviation was calculated for the variables. Relationship between variables was assessed by correlation method.

RESULTS

This study was done among medical students and results came out to be in the following way. At first, the percentage of internet addiction was calculated among each year by taking number of addicted students with total number of students in each year. Among first year students, total no. of students were 55 and percentage of internet addiction was 42.5%. In second year, total no. of students was 85 and percentage of internet addiction was 56%. In third year, total no. of students was 110 and percentage of internet addiction came out as 72%. Finally among final year students, total no. of students were 100 and percentage of internet addiction came out as 64%. The maximum percentage of internet addiction was found out to be more in third year medical students which are 72%. (Table 1 and Figure 1)

Table 1: Percentage of internet addiction among medical students

Year of Study	No. of students	% of Internet addiction
FIRST YEAR	55	42.50%(23)
SECOND YEAR	85	56.00%(48)
THIRD YEAR	110	72.00%(78)
FINAL YEAR	100	64.00%(64)

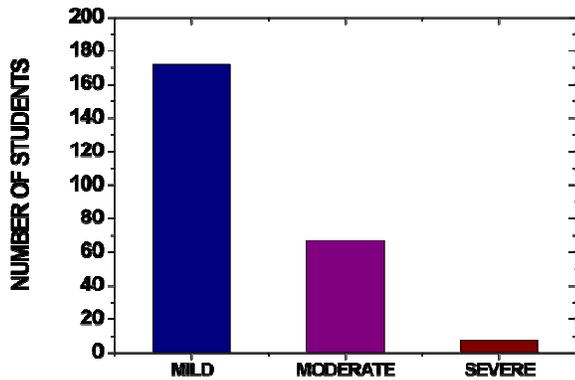


Figure 1: Shows degree of internet addiction among medical students

Students were assessed for the degree of internet addiction through Young’s internet addiction questionnaire. Total no. of students from all years was taken and scores of internet addiction were evaluated. Out of 350 students, 246 students came out to be internet addicted. Among the addicted students, 172 were having a score between 20to 49 suggesting to be mild internet addicts, 67 students scored within a range of 50 to 79 suggesting them to be moderated addicts and 7 members were having scores above 80 suggesting them to have severe addiction. The above graph1 shows that most of the students came out to be mild internet addicts.

All medical students were given DASS questionnaire for knowing the depression, anxiety and stress levels related to internet addiction after abandoning them from internet for 2 days. Among addicted students, 45 members found to have a mean score of 10.9 for depression suggesting mild depression, 96 students had a mean score of 11.58 for anxiety suggesting to be having mild anxiety and 88 students had a mean score of 18.59 for stress thus said to have mild stress levels (Table 2).

Table 2: Shows mean scores of addicted and non addicted students and their depression, anxiety, stress scores

Internet	Total no. of students	Mean Score
ADDICTED	246	41.6
DEPRESSION	45	10.9
ANXIETY	96	11.58
STRESS	88	18.59

Internet	N (No. of students)	Mean score
NON ADDICTED	104	11.9
DEPRESSION	16	10.2
ANXIETY	19	8.2
STRESS	24	15.6

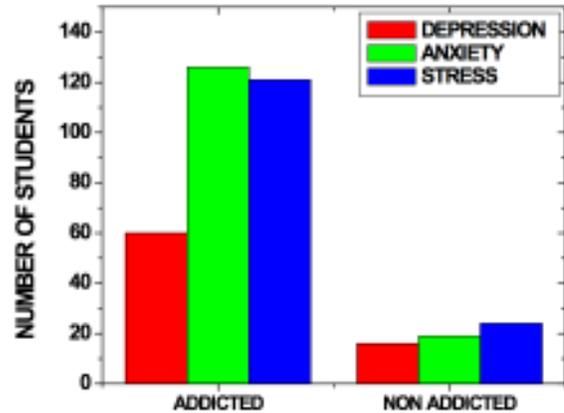


Figure 2: Shows depression, anxiety and stress levels among addicted and non-addicted students

Among addicted students, 45 students scored positive for depression and correlation coefficient was calculated between internet addiction mean score and depression mean score(10.59), it came out to be 0.36 and with p value <0.01 conveying that there is significant relation between internet addiction and depression. Thus as the degree of internet addiction increases, there is mild amount of raise in the level of depression. Similarly, 96 students were found to have anxiety among addicted and correlation coefficient for anxiety is found to be 0.53 with p value <0.001 showing it to be strongly correlated to internet addiction. Finally, 88 students were found to have stress among addicted and correlation coefficient between stress and internet addiction came out to be 0.49 with p value <0.001 showing significant relationship as shown in Table 3.

Table 3: Relationship between internet addiction and depression, anxiety and stress levels

Internet addiction	N (no. Of students)	MEAN	Corelation coefficient (r)	P value	Significance
DEPRESSION	45	10.59	0.36	<0.01	**
ANXIETY	96	11.58	0.53	<0.001	***
STRESS	88	18.59	0.49	<0.001	***

DISCUSSION

Our study showed that, 350 undergraduate students participated among whom 246 students showed addiction to internet. Majority of students found to be mild internet addicts. The percentage of internet addiction was found more in third year students. The mean scores of depression, anxiety and stress levels are found to be more in internet addicted medical students. To find the relationship between internet addiction and emotional factors, correlation was used and results showed that there is positive but mild correlation between internet addiction and depression, stress. There was strong correlation between internet addiction and anxiety levels among students. This result shows that excessive use of internet

may cause addiction to it and lead to consequences like anxiety, stress and depression. So it is indicated in the present research that medical students are using internet more than their need and so are addicted to it. Consequently they are having higher anxiety levels and stress levels mainly. Different dimensions of internet such as Facebook, online chatting, games and entertainment sites are so captivating for students that they make them addicted to it and finally psychological dependent. Our present research concurred with the previous researches in the aspect of positive correlation between internet addiction and anxiety^{5, 20}. The greater use of the internet is associated with some social and psychological maladaptive variables such as, declines in the size of social circle, loneliness²¹, lower self-esteem and life satisfaction²², poor mental health and low family function^{8, 23}. The internet addiction may enhance anxiety and stress. Consistent with this suggestion in our study internet addiction was linked positively to anxiety and stress. These results indicate that the more addictive to the internet a student is, the more stress and anxiety he/she has. Recent studies on internet addiction demonstrated that internet addiction related positively to decrease in social interactions, depression, loneliness, and lower self-esteem^{10, 22}. So, it can be said that this finding is consistent with other studies that have found a positive relationship between depression and internet addiction^{17, 24, 25}.

CONCLUSION

By this present study we can conclude that there is significant link between internet addiction and anxiety, depression and stress levels. Higher the addiction, higher the chance of emotional factors being disturbed and leading to depression, anxiety and stress.

LIMITATIONS

1. Cross sectional study
2. Small study sample
3. Generalisation of results cannot be made.

IMPLICATIONS

Excessive use of internet also effects the academic achievements of students. Students addicted to internet are more involved in it than their studies. So they have poor academic performance. There should be a campaign to inform parents, teachers and state officials about the danger of internet. Online wellbeing interventions can effectively enhance wellbeing and can help to reduce anxiety and depression symptoms. Parents, teachers and other authorities should have a check and balance over internet use by students; so that they may be saved from the destructions caused internet addiction. Seminars and

media can play an important role in making people aware of causes and effects of internet addiction.

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