**Original Article**

# A STUDY TO EVALUATE INTERNET ADDICTION DISORDER AMONG STUDENTS OF A MEDICAL COLLEGE AND ASSOCIATED HOSPITAL OF CENTRAL INDIA

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## ABSTRACT

**Background:** Internet Addiction is an addiction like any other: it is defined as a compulsive loss of impulse control resulting in damage to the user and his or her relationships, schoolwork, or employment. Online gaming, compulsive use of social networking, and marathon Internet surfing sessions are all included in this powerful addition.

**Objective:** To study Internet dependence among undergraduate students of MGM Medical College Indore and to determine prevalence of Internet addiction disorder among these students.

**Materials and Methods:** A cross sectional study was carried out from Sept.2011 to January 2012 among 242 undergraduates of MGM Medical College of Indore city selected by simple random sampling. The data was collected by inter personal interviews using a standardized 'Internet Addiction Test' questionnaire developed by Dr. Kimberly S. Young in 1998.

**Results:** Among 242 study subjects, 164 (67.8%) were males and 78 (32.2%) were females. Overall analysis to find out proportion of study subjects falling in the category of internet addicts on the basis of scoring system adapted for the study reveals that 23 (9.5%) subjects have been found to be internet addicts i.e. have scores 80-100. Among 23 (9.5%) internet addicts found in the study, 15 (6.1%) were males and 8 (3.3%) were females. (n=242).

**Conclusion:** The data is indicative of Internet addiction to be an emerging problem of the modern era

**Keywords:** Internet Addiction Disorder, Internet Addiction Test

## INTRODUCTION

An Internet addiction is an addiction like any other: it is defined as a compulsive loss of impulse control resulting in damage to the user and his or her relationships, schoolwork, or employment. Online gaming, compulsive use of social networking and marathon Symptoms are comparable to other behavioral addictions, most similar to pathological gambling. Researchers believe that like other addictions, it often masks other problems such as depression, low self-esteem, and social anxiety and may even stand in a surrogate for other addictions. The term "Internet Addictive Disorder," (IAD) was coined by a New York psychiatrist, Ivan Goldberg in 1995. [6]

The IAD is a compulsive-impulsive spectrum disorder consists of at least three subtypes: excessive gaming, sexual preoccupations, and e-mail/text messaging. All of the variants share the following four components:

1) *Excessive use*, often associated with a loss of sense of time or a neglect of basic drives,
2) *Withdrawal*, including feelings of anger, tension, and/or depression when the computer is inaccessible,
3) *Tolerance*, including the need for better computer equipment, more software, or more hours of use, and
4) *Negative repercussions*, including arguments, lying, poor achievement, social isolation, and fatigue.

***Types:-*** Internet Addiction is an impulsive-control problem and five subtypes have been defined:

1. Cybersexual Addiction
2. Cyber-Relational Addiction
3. Net Compulsions
4. Information Overload
5. Computer Addiction

Because Internet addiction is relatively new to society, less research was done on it than more established addictions like as drug and alcohol abuse. India is

ranked fourth among the highest number of internet users subsequent to China, U.S., and Japan. The studies conducted in various countries have resulted in significant data by which this addiction can be considered as a public threat along with several distinctive cases that truly show the intensity of seriousness this problem deserves. To measure its impact on medical students, this study was undertaken in MGM Medical College Indore with the objective to detect prevalence of IAD in medical undergraduates.

## MATERIALS AND METHODS

A cross sectional study was carried out from Sept.2011 to January 2012 among 242 randomly selected undergraduates of MGM Medical College of Indore city.

**Sample Size:** For sample size calculation, results of various studies on this subject were considered and lowest reported prevalence of IAD was taken. For this, results of study of *Arak University Iran (2011)*[1] was taken in which the prevalence of IAD was found to be 10.8 %. The sample size was determined by using the formula $n= ((z^2_{1-\alpha/2}) pq) / d^2$ where $z_{1-\alpha/2} = 1.96$ (at 5% α error); d=0.05; and p = expected proportion in population. This has been taken from literature (reference study of Arak University [1] (2011) where prevalence of IAD was found to be 10.8% i.e. 0.108; q= 1-p. By using this formula sample size of 148 has been calculated.

M.G.M Medical College undergraduate students who gave consent and who were using internet for more than 1 hour a day were included in the study.

On the basis of inclusion criteria, a list of students was prepared and 148 students were selected randomly by lottery method. To make our sample more representatives of target population we went on selecting students who were willing to participate in the study and this gave us a sample size of 242 subjects.

The data was collected by inter personal interviews using a standardized 'Internet Addiction Test' questionnaire. It is a type of questionnaire developed by Dr. Kimberly S. Young in 1998[6] which was slightly modified to commonly used language among the group screened. It chiefly contains two parts: The demographic aspects included name, age, sex and batch and the qualitative variables incorporating subjective response on the usage of the internet.

There were 20 questions with 6 options for each. The scoring for each option was done as follows: F=Not Applicable=0; A = Rarely = 1; B = Occasionally = 2; C=Frequently=3; D = Often = 4; E = Always = 5

**Assessment**

- 20 - 49 points: You are an average on-line user. You may surf the Web a bit too long at times, but you have control over your usage.
- 50 -79 points: You are experiencing occasional or frequent problems because of the Internet. You should consider their full impact on your life.
- 80 - 100 points: Your Internet usage is causing significant problems in your life. You should evaluate the impact of the Internet on your life and address the problems directly caused by your Internet usage

The data collected in the study was entered in Microsoft Excel spreadsheet and analyzed by using SPSS.

## RESULTS

Among 242 study subjects, 164 (67.8%) were males and 78 (32.2%) were females. Most of the study subjects fall in the age group of 21-25 years. There were 28 (11.6%) subjects, who always find themselves stayed online longer than they intend. As many as 29 (12.8%) subjects have been found who always neglect their chores to spend time online. There were 26 (10.7%) respondents, who accepted that they prefer internet over their friends and partners and can even hangout them while using internet. Thirty two (13.2%) subjects have been found to always get complaints from family members and friends about amount of time they spare online. Among the subjects who were screened 34 (14%), accepted that their college work always suffer because of longer time spent online and many of them 44 (18.2%) always feel that life appears deserted without internet. Twenty four (9.9%) subjects accepted that they get irritated on asking their whereabouts while they are online. Thirty three (13.6%) subjects were found to have sleep disturbance due to excessive late night use of internet and many of them 41 (16.9%) were found to be succumbed into their desire of using internet for just a "few more minutes". At least 20 (8.3%) subjects were found to always have depression and nervousness when they are offline.

**Table 1 : Overall analysis to find out proportion of study subjects falling in the category of internet addicts on the basis of scoring system adapted for study (n=242)**

| Scoring Interval | Frequency | Percentage (%) |
|---|---|---|
| <20 | 18 | 7.4 |
| 20-49 | 156 | 64.5 |
| 50-79 | 45 | 18.6 |
| 80-100 | 23 | 9.5 |
| Total | 242 | 100.0 |

**Table 2: Sex-wise distribution of internet addicts (n=23)**

| Sex | Frequency | Sex-wise Percentage (%) |
|---|---|---|
| Male | 15 | 65 |
| Female | 8 | 35 |
| Total | 23 | 100 |

Overall analysis to find out proportion of study subjects falling in the category of internet addicts on the basis of scoring system adapted for the study reveals

that 23 (9.5%) subjects have been found to be internet addicts i.e. have scores between 80-100. Among 23 (9.5%) internet addicts found in the study, 15 (6.1%) were males and 8 (3.3%) were females. (n=242).

Gender wise distribution of internet addicts found in the study shows that 15 (9.1%) of total males considered in the study have been found to have IAD (n=168) whereas 8 (10.2%) of total females included in the study have been found to have IAD (n=78). No significant association between gender and presence of IAD has been found. ($\chi^2$= 0.010, p= 0.922, p>0.05 ).

## DISCUSSION

At present there is not much information about the topic especially in Indian context. In this study the sample screened consisted of 67.8% males and 32.2% females of which 23% were found to be Internet addicts. The results of present study are comparable with a cross-sectional study conducted on 426 medical students of Arak University in 2009 where overall prevalence of internet addiction was found to be 10.8%.[1]

A study from Guangzhou city (Republic of China) assessed internet addiction using the Internet Addiction Test (IAT). Its results revealed that majority of respondents were classified as normal users of the Internet (*n* = 1,392, 89.2%), with 158 (10.2%) moderately and 10 (0.6%) severely addicted to the Internet.[2] Another study undertaken on 13,588 Internet users (7,878 males, 5,710 females) in Korea using modified Young's Internet Addiction Scale revealed that among the sample, 3.5% had been diagnosed as internet addicts (IA), while 18.4% of them were classified as possible internet addicts (PA). The Internet Addiction Scale showed a strong relationship with dysfunctional social behaviors. More IA tried to escape from reality than PA and Non-addicts (NA). When they got stressed out by work or were just depressed, IA showed a high tendency to access the internet. The IA group also reported the highest degree of loneliness, depressed mood, and compulsivity compared to the other groups.[3] A study conducted in school children 16-18 years old in India using the Davis Online Cognition Scale (DOCS) to assess pathological Internet use showed that on the basis of total scores obtained (*N* = 100) on the DOCS, two groups were identified—dependents (18) and non-dependents (21), using mean ± ½ SD as the criterion for selection. Dependents were found to delay other work to spend time online, lose sleep due to late-night logons, and feel life would be boring without the Internet. The hours spent on the Internet by dependents were greater than those of non-dependents. On the loneliness measure, significant differences were found between the two groups, with the dependents scoring higher than the non-dependents.[4] The largest survey to date on the subject was conducted in 1998 with 18,000 participants by David Greenfield (DeAngelis, 2000, par. 8). He found that 5.7 percent of those who participated in the survey met his criteria for compulsive Internet usage[5] The present study reveals that 23 (9.5%) subjects have been found to be internet addicts but Chawada BL et al [8] reported 93 (31%) respondents to be addict of using social networking sites which is a kind of internet addiction. The finding of the present study that, 29 (12.8%) subjects were there who always neglect their chores to spend time online, is in the line of finding of a study by Chawada BL et al who reported a striking 110 (37%) respondents who were agreed to the fact that because of using these Social networking websites, their academic studies suffers.

## CONCLUSION

The results of the study are suggestive of Internet dependence among students of M.G.M. Medical College, Indore. The data is indicative of Internet addiction to be an emerging problem of the modern era. , Internet addiction has commonly been viewed as an extremely broad topic with few common definitions and little guidance. Researchers should work to develop a standardized definition of Internet addiction with supporting justification Multi centric studies are required to assess the real problem and thereby take appropriate steps to tackle the growing problem.

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