

Internet Addiction among Junior Doctors: A Cross-sectional Study

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ABSTRACT

Background: The number of Internet users in India crossed 205 million in October 2013. Excessive internet use has been attributed to socio-occupational dysfunction, and this study is targeting the junior doctors on whom not many studies have been done till date. **Objective:** The objective of this study was to analyze the proportion of junior doctors with internet addiction and whether there is any relation between increased internet use and psychological distress, assessed using General Health Questionnaire (GHQ). **Materials and Methods:** One hundred postgraduate students and house surgeons were requested to fill out the specially prepared pro forma, Internet Addiction Test Questionnaire and GHQ, and the data were analyzed. $P < 0.05$ was considered statistically significant. **Results:** Among the 100 study participants, 13% were found to have moderate addiction and none were in severe addiction range. Internet addiction was more common among those from urban areas ($P = 0.011$). A significant association was found between GHQ score and internet addiction test score ($P = 0.031$). **Conclusion:** The Internet is a double-edged social revolution. Further studies are required to delineate the specific effects on human behavior.

Key words: Internet addiction disorder, doctors, addiction

INTRODUCTION

The Internet has become an integral part of life. The number of internet users in India crossed 205 million in October 2013.^[1] Although the Internet had revolutionized all spheres of life, its misuse has also been widely reported. India's first internet de-addiction center was started at New Delhi in 2014. The term "internet addictive disorder" was coined by a New York psychiatrist Ivan Goldberg in 1996. Young and Kandell identified college students as the group most highly

susceptible to internet addiction.^[2] Internet gaming disorder was included among conditions for further study in Diagnostic and Statistical Manual of Mental Disorders, fifth edition. Excessive use of Internet, not involving playing of online games, is not considered analogous to internet gaming disorder.^[3]

A cross-sectional study by Christakis *et al.* found 4% of college students in problematic or addicted range

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on internet addiction test (IAT) and a significant association between moderate-to-severe depression and problematic internet usage.^[4] Another study reported 11.5% of medical students of Santiago de Chile to have problematic internet use, and a statistical association was obtained between positive results on IAT and positive scores on General Health Questionnaire (GHQ).^[5] Among 426 medical students of Iran, 2.8% had a severe addiction and 8% had a moderate addiction. The overall prevalence of internet addiction was 10.8%.^[6] Morrison *et al.* reported a significant association between internet addiction tendencies and depression and that addictive tendency is more among males and younger age group.^[7]

In a study by Grover *et al.*, among 104 respondents, 3.8% satisfied the criteria of internet addiction according to the Internet Addiction Diagnostic Questionnaire and 51.9% satisfied the International Classification of Diseases-10th edition substance dependence criteria, showing a sharp difference in prevalence based on the type of criteria used.^[8]

Goel *et al.* reported that among 987 adolescents, 0.7% were addicted to the Internet and 74.5% were moderate (average) users and that the participants with excessive internet use had high scores on anxiety and depression.^[9] In a study done among the 242 MBBS students at Indore, 9.5% were severe internet addicts with IAT score between 80 and 100 and 18.6% were moderate addicts. Among them, 6.1% were males and 3.3% were females, with no significant association between IAT scores and gender.^[10] In a study on comorbid psychiatric symptoms of internet addiction, higher ADHD symptoms, depression, and hostility were associated with internet addiction among male adolescents and only higher ADHD symptoms and depression among females. Depression and symptoms of ADHD had a significant and consistent correlation with pathological internet use.^[11] A positive correlation has been reported between IAT scores and negative affect scores.^[12]

Excessive internet use has been reported to cause socio-occupational dysfunction, and this study is targeting the junior doctors on whom not many studies have been done till date. The objectives were to study the proportion of junior doctors with internet addiction and whether there is any relation between increased internet use and psychological distress, assessed using GHQ.

MATERIALS AND METHODS

A cross-sectional study was done at a teaching hospital of Central Kerala over a 1-month period, among 100 house surgeons and postgraduate students below 30 years of age. Specially prepared pro forma, IAT

Questionnaire, and GHQ were completed and collected from the study group.

IAT was developed by Dr. Kimberly Young. It consists of twenty items and is based on 5-point Likert scale. Participants with average online use have a score of 20–49, those with a score of 50–79 are likely to have occasional or frequent problems due to internet use and a score >79 in those with significant problems due to internet use. IAT analyzes six factors – salience, excessive use, neglecting work, anticipation, lack of control, and neglecting social life. These factors have a good internal consistency and concurrent validity, with salience being the most reliable. The internal reliability of the scale is 0.93.^[13,14] For the purpose of this study, participants scoring 50 or above in IAT were considered to have internet addiction. Those who scored 50–79 in IAT questionnaire were considered to have a moderate addiction and those who scored above 79 were considered to be severe addicts.

Data analysis was done using statistical software SPSS 16.0 version (IBM, SPSS statistical). The level of significance was at $P < 0.05$ and high significance was at $P < 0.01$.

RESULTS

Of the 100 participants, 47 were males and 53 were females. This study comprises 68 house surgeons and 32 postgraduate students. Most of them (69%) were in the age group of 20–25.

Analysis of IAT score to determine the category of internet addiction found that 13 participants (13%) had IAT score between 50 and 79 showing a moderate addiction and none (0%) scored above 80. Age-wise distribution of the participants with a moderate addiction showed that eight were below 25 years of age and five were above 25 years of age. No significant association was found between age and internet addiction score (Pearson's $\chi^2 = 0.389$, $P = 0.533$) [Table 1]. Gender-wise distribution showed that there were eight males and five females in the moderate addiction group. No significant association was found between gender and internet addiction score (Pearson's $\chi^2 = 1.268$, $P = 0.260$) [Table 2]. A significant association was found between the

Table 1: Comparison of iat score and age

Age	IAT Score		Total
	0-49	50-100	
20-25	61	8	69
26-30	26	5	31
Total	87	13	100

Chi-Square Value 0.389, P value 0.533

domicile of participants and IAT score. Participants from urban area were found to have more addiction compared to others ($P = 0.011$) [Table 3]. An analysis showed that 57 study participants (57%) had GHQ value above 12 and 43 (43%) scored below 12. Among the participants with IAT score above 50, 11 had GHQ score above 12. This was found to be statistically significant with Pearson's $\chi^2 = 4.649$ and $P = 0.031$ [Table 4]. Hence, a high GHQ score was found to be associated with more internet usage.

DISCUSSION

The study was undertaken among junior doctors to understand whether there is a morbid use of the Internet. In this study, 13% of the participants had a moderate internet addiction. These results are comparable with the previous studies done by Berner *et al.* and Ghamari *et al.* which showed a prevalence of 11.5% and 10.8%, respectively.^[5,6] None of the participants had a severe internet addiction. In this study, no significant association was found between gender and internet addiction, which was in line with a study done by Malviya *et al.* among MBBS students in Central India.^[10] However, in a meta-analysis done by Morrison *et al.*, there was a definite association between male gender and internet addiction.^[7] This disparity could be due to the fact that both these studies were among medical professionals where the access to the Internet is the same despite gender difference.

Table 2: Comparison of iat score and gender

Gender	IAT Score		Total
	0-49	50-100	
Male	39	8	47
Female	48	5	53
Total	87	13	100

Chi-Square Value 1.268, P value 0.260

Table 3: Comparison of iat score and domicile

Domicile	IAT Score		Total
	0-49	50-100	
Rural	44	3	47
Urban	19	8	27
Semi urban	24	2	26
Total	87	13	100

P Value 0.011

Table 4: Comparison of iat score and ghq score

Ghq score	IAT Score		Total
	0-49	50-100	
<12	41	2	43
>12	46	11	57
Total	87	13	100

Chi-Square Value 4.649, P value 0.031

In this study, internet addiction was more common among participants hailing from urban background. This result has not been found in other studies. This may be a direct reflection of increased internet access for those hailing from urban areas. Early exposure to the Internet can increase the chance of internet addiction in those from urban settings. A statistically significant association between psychological distress and excessive internet use has been obtained which is in line with studies by Christakis *et al.* and Berner *et al.*^[4,5] Excess internet use can lead to difficulties with academic work, physical and mental health problems, and problems in relationships. Psychological distress in an individual can lead him/her to use the Internet as a faulty coping mechanism. This may even indicate a parallel relationship between substance use and internet addiction.

CONCLUSION

The Internet is a double-edged social revolution. This study throws light into the negative sphere of internet use. Further studies are required to delineate the specific effects on human behavior. Future studies may be directed toward the duration and pattern of internet use and its association with psychological distress and on the effect of the Internet on human behavior.

Limitations of the study

There are no definite criteria to diagnose internet addiction. Young's IAT is the only validated instrument currently available to assess internet addiction. Sample size for this study was insufficient considering the low prevalence of severe addiction reported in the medical community. Due to the limited sample size, there were only 13 cases with score in moderate addiction range. Studies on larger samples are needed for the detailed evaluation of psychological distress and to ascertain a cause-effect relationship between psychological distress and internet addiction.

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Conflicts of interest

There are no conflicts of interest.

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