



Original Research Article

THE STUDY OF INTERNET ADDICTION AND ITS ASSOCIATION WITH POOR SLEEP AMONG MEDICAL STUDENTS

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ABSTRACT

Background: Use of internet has increased exponentially worldwide with prevalence of internet addiction ranging from 1.6% to 18% or even higher. The use of internet is both beneficial and detrimental to the user's health. Internet addiction is not only affecting the quality and duration of sleep, it is also leading to a higher incidence of insomnia, psychiatric disorders such as depression, anxiety, alcohol addiction, and attention deficit in college students, it has also negatively influenced the duration of bedtime sleep, caused daytime fatigue, and impaired work performance. Objective of the study was to report internet addiction and its association with poor sleep and depressive symptoms among medical students.

Materials & Methods: A cross-sectional, questionnaire-based study was conducted among 275 undergraduate medical students at Government Medical College, Ambikapur, Chhattisgarh. Data pertaining to pattern of internet use, socio-demographic characteristics, sleep quality and depressive symptoms were collected with the help of pre designed and pre tested questionnaire. Data entry will be done by using MS word excel sheet and data analysis will be done by using epi info software.

Results: Out of the 275 undergraduate medical students, 41.1% Participants are normally using internet while 2.5 % participants are severely addicted, majority are female (56%) and between 18-22 years age group. Most of the students belonged to the urban domiciles (64.7%) and among them only 16.5% was living with their family. Direct association between internet addiction and insomnia is seen among medical students. More internet addiction was seen among upper and upper middle-class people. The place of residence was significantly associated ($p = 0.03$) with internet addiction. Stress and depression were independent predictors of sleep quality.

Conclusion: Quality sleep is the key for good health. Based on limited samples, this study showed that pattern of internet use was associated with poor sleep quality. Hence, continuous counselling is suggested for supporting students managing their use of internet and stress. Stress and depression were independent predictors of sleep quality.

Keywords: Internet addiction, Insomnia, undergraduate.

INTRODUCTION

Over the last two decades, Internet use has become one of the most important tools of information, education, job opportunities, entertainment including

social media gaming and networking. Internet use has grown exponentially worldwide to more than 2.5 billion active users,^[1-2] with the majority being adolescents and young people.^[3] It is estimated that in India, about 18 per 100 of the general population are active Internet users and most are young adults.^[4]

According to various studies in world, internet addiction can affect occupational and academic goals leading to psychological distress.^[5-8] Globally, the prevalence of internet addiction ranged from 1.6% to 18%,^[9] and it is more common in young age groups. World health organization has not included internet addiction in the list mental disorders but gaming disorder is present in international classification of Diseases (ICD11).

- India is ranked as the second largest online market in the world, behind China with over 560 million internet users. by 2021, it is predicted there will be over 600 million internet users in India; currently almost 71% of the internet users are men compared with 29% female.^[10]
- Internet addiction has been described in terms of a loss of control in internet use, lack of time management and craving for the internet, and the cause of social problems.^[11] The global prevalence of internet addiction among 3,651 medical students was reported as 30.1%, anxiety in 40,348 medical students globally was observed as 33.8%, and depression in 62,728 medical students globally was determined as 28%.^[12]
- The use of internet is both beneficial and detrimental to the user's health. internet addiction has led to an increase in mental health disorders.^[13] internet addiction is not only affecting the quality and duration of sleep, it is also leading to a higher incidence of insomnia, psychiatric disorders such as depression, anxiety, alcohol addiction, and attention deficit in college students.^[14] it has also negatively influenced the duration of bedtime sleep, caused daytime fatigue, and impaired work performance.^[15] The internet has become a basic necessity in people's lives leading to internet addiction which is associated with depression, poor sleep quality, severe mood changes, low self-esteem, impulsivity, suicide, lack of physical activity, and various health concerns including lifestyle disorders such as obesity, back pain, and migraine.^[16,17] internet addiction is a major contributor to anxiety and stress, impaired quality of life, lack of physical activity, trouble in communication and interaction with others in a healthy, positive, and meaningful way.^[18]

Tobacco use is one of the major preventable causes of morbidity and mortality in the world. it currently account for over 4 million deaths annually, which is project to rise to 10 million by 2030, with 70% of this death occurring in developing countries. this will make tobacco the largest cause of death in the world.^[18]

- Poor quality of sleep is closely associated with mobile phone use, especially among those individuals who use their phone before going to sleep. Many of the young students in medical college

have come out of their home for the first time and take their decision independently. This makes them vulnerable to various bad habits also and internet addiction is one of them in today's technology dependent World. A substantial focus is recently being given to internet addiction and quality of sleep, and studies are underway in developed countries to establish their association with various socio-demographic risk factors leading to development of Internet addiction. However, in India, there is paucity of literature regarding this issue. Therefore, this study was planned to find out the prevalence, pattern and associated factors of Internet addiction among medical students of Ambikapur.

MATERIAL AND METHODS

Study area and population: Government Medical College, Ambikapur, chhattisgarh. This cross-sectional study was conducted by the Department of Community Medicine among undergraduate medical students.

Inclusion Criteria -were undergraduate medical students of Phase 1,2 and 3 and those who were using smartphone for minimum 1 year. Students those who did not give consent were excluded from the study. The data collection was done over a period of 3 months in Jan-march 2024.

Sample size: According to a study conducted by Farah Younes et al, the prevalence of internet addiction was 16.8%. Using the formula $4pq/L2$, sample size of 250 was obtained at 95% confidence and 5% absolute error, including 10% non-response.

Sampling Method: Stratified Random Sampling: According to the list from the academic section of the college, The sample size of 275 was covered in these 3 phases by stratified random sampling technique.

Data Collection Tools: A semi-structured self-administered questionnaire containing various socio-demographic variables along with Young's 20-Item internet addiction test were distributed to the students.

The participants were then assessed using Internet addiction test scale. IAT scale is a set of questionnaire consists of 20 statements. After reading each statement carefully, based upon the 5-point Likert scale, participants select the response (0, 1, 2, 3, 4 or 5) which best describes him or her. If two choices seem to apply equally well, circle the choice that best represents how you are most of the time during the past month. Be sure to read all the statements carefully before making choice. The statements refer to offline situations or actions unless otherwise specified. 0 = Not Applicable 1 = Rarely 2 = Occasionally 3 = Frequently 4 = Often 5 = Always

Statistical Analysis: The data was exported into Microsoft Office Excel spread sheet and analysis was done using epi info. Data was presented as tables and appropriate diagrams. Association

between qualitative variables was assessed using chisquare test.

RESULTS

As shown in table1, our sample consisted of 275 medical students who studied in GMC Ambikapur (C.G.). Out of the 275 study participants majority are female (56%) and 69.5% participants are age group between 18-22 years. Most of the students belonged to the urban domiciles (64.7%) and among them only 16.5% was living with their family. [Table 1]

As shown in table 2, 41.1% Participants are normally use internet while 2.5 % participants are severely addicted, it can be interpreted that there is direct relation between internet addiction and insomnia, the more the addiction the more is the possibility of insomnia p value is less than 0.05, hence there is high association between internet addiction and insomnia from table 4, it can be interpreted that there is possibly more internet addiction among upper and upper middle class people.

from table no.4, it can be interpreted that there is possibly more internet addiction among urban participants as compare to rural.

Table 1: Socio-demographic correlates of study participants

GENERAL INFORMATION	FREQUENCY (N=275)	PERCENTAGE (%)
Age (Years)		
<18 years	03	1.1
18-22 yrs	191	69.5
23-27 yrs	80	29.1
28-32 yrs	01	0.4
Gender		
Male	121	44
Female	154	56
Residence		
Rural	97	35.3
Urban	178	64.7
Family		
I live with my family	39	16.5
I Live away from my family	236	85.8

Table 2: Internet addiction score of Study population

IAT Category	IAT Score	Frequency	Percentages
Normal	0-30	113	41.1
Mild	31-49	92	33.5
Moderate	50-79	63	22.9
Severe	80-100	7	2.5

Table 3: Association between Internet addiction and Insomnia

Internet addiction	Not applicable	Rarely	Insomnia			
			Occasionally	frequently	Often	Always
Normal	36.4%	34.1%	25%	4.5%	0	0
Mild	12.2%	24.4%	22%	19.5%	17.1%	4.9%
Moderate	3.4%	3.4%	13.8%	17.2%	41.4%	20.7%
Severe	0	0	0	0	0	0

Table 4: Association between Internet addiction and Socio-economic Status

Internet addiction	Upper	Upper Middle	SES		P Value
			Middle	Lower Middle	
Normal	32.7%	58.4	8.8%	0	0.578
Mild	42.4%	46.7	9.8%	1.1%	
Moderate	39.7%	42.9	15.9%	1.6%	
Severe	42.9%	42.9	14.3%	0	

Table 4: Association between Internet addiction and place of Residence

Internet addiction	Residence		P Value
	Rural	Urban	
Normal	35.4%	64.6%	0.03
Mild	31.5%	68.5%	
Moderate	41.3%	58.7%	
Severe	28.6%	71.4%	

DISCUSSION

This study determined the prevalence of internet addiction, poor sleep quality and ultimately stress symptoms among medical students. The substantial findings of this study were the prevalence of internet addiction which occurred in 58.9% (Mild-33.5%, moderate-22.9% and severe-2.5% according to IAT score) of students. The place of residence was significantly associated with internet addiction ($p < .03$). Stress and depression were independent predictors of sleep quality.

This study's finding suggests that there was substantial effect of the use of the internet on sleep quality. Tao et al reported that internet dependence was a multidimensional phenomenon due to having a wide variety of uses. To evaluate an estimated mean number of hours of internet use per day may be a crude measure. Medical students usually have a high academic load which will have a major contribution to psychological distress, which may affect sleep disorder. Longitudinal and interventional studies are needed to understand the causes and consequences of sleep disorder among medical students.

There are few studies in Uttarakhand state which have examined sleep habits of medical students; this study assessed the sleep quality and its associated factors. The association among psychological disorders (depression, anxiety, and stress), sleep quality, and internet addiction was explored. To the best of our knowledge, there are few cross-sectional studies that have examined the association among psychological distress, internet use, and sleep quality using standardized measures (DASS-21, YIAT, and PSQI) on medical students in Uttarakhand States.

There are limitations in this study including the cross-sectional methodology which limited the capacity of this study to measure sleep quality changes during academic activity, and prevented study of associated relationships between the confounding factors. Although this study dealt with only some potential demographic variables (age, sex, and residency), other variables are associated with depressive symptoms including socio economic status, behavioral variables (tobacco use, alcohol use), and educational variables (class hours, academic year) and others are not included in study.

CONCLUSION

In this study most of the time internet users medical students reported poor sleep quality. Stress and depression were determined as independent predictors of sleep quality. However, because of the cross-sectional nature of this study, the causal mechanism behind this relation could not be determined. Further, longitudinal studies on larger sample sizes are required to understand this

observation. Considering findings of this study, counselling sessions for pattern of use of internet, stress, and depression would seem appropriate.

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