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Impact of Internet Addiction on Obesity and Sleep Quality among Youth: A Study Based on Students of the University of Lucknow

Lalit Kumar Singh^{1,*}, Kiran Srivastava², Shweta Gupta³

Abstract

Technology dependence is an important public health problem. The objective of this research is to investigate the association between rapidly increasing internet addiction, obesity, and sleep quality, a major health problem in youth. In total 30 university students (15 males and 15 females; age 18-22 years) were included in the study from Lucknow University with a purposive sampling method. Sleep Quality Scale was used to evaluate sleep quality; Overweight related well being (ORWELL) evaluates obesity and Young's Internet Addiction Test was used to assess Internet addiction among university students. Pearson's correlation coefficient and t-test were used in data analysis. In this study, findings revealed that the Internet Addiction Test scores of males were significantly higher than females. Positive correlations were found between the Internet Addiction Test scores and sleep quality scores whereas a negative relationship was found between the Internet Addiction Test and Obesity scores. 57.3% of students were not addicted to the Internet. 35.0% of students were mildly addicted while 7.4% of students were moderately addicted and 0.3% of them have a severe addiction to the internet. A significant association was found between academic performance and Internet Addiction. Also, Internet Addiction had no significant association with Sleep quality and Obesity.

Keywords: Internet Addiction, Excessive Internet Use, Obesity, Sleep problems, Sleep quality.

Introduction

Chisholm (2006) observed in his study done on children and adolescents aged between 8 and 18 years using computers and the Internet for an average of 8 hours a day which is a huge time amount and expressed that a great majority of the Internet users were adolescents.

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There is a positive and statistically significant correlation among students between the Internet Addiction and Sleep Quality Index. Internet addiction disrupts sleep quality in university students and causes sleep disorders (Ayran, 2019).

Internet addiction can cause issues related to poor sleep–wake balance (Demirci, Doğan, Matrak, Kuruoğlu, & Mevsim, 2015) among users. Gamble reported prevalence rates using the IAT ranged from 1.2% of Internet users in the UK to 9.7% of Turkish college students (Gamble, D’Rozario, Bartlett, Williams, Bin et al 2014).

A number of adolescents are using the internet beyond the required level. A total of 24.6% of obese children and adolescents were diagnosed with IA according to IAS. Children and adolescents have higher scores on IA than their healthy peers, and the results are suggestive of an association between IA and BMI (Bozkurt, 2018). Another study done in Indonesia in the year 2022 suggested a significant relationship between internet addiction with a potential of gained weight and quality of life among students (Slametiningsih, Khlila, 2022)

Rational

- A rapid increase has been observed in low and middle-income countries in recent years (Murugiah, 2020). This creates a window in developing countries like India to look into this issue afresh.
- Students from universities set up in Uttar Pradesh including the Lucknow region have not been assessed from the above-mentioned context.

Method

The population for the study includes students from Lucknow University from graduation courses along with a range of ages 18-22 years. The investigator has selected 30 students from the University i.e., both male and female for the purpose of the study. Participants were contacted personally on the university campus. The purposive sample method was used for collecting data. Informed consent was taken. All the participants were made comfortable and objective and the needs of the study were discussed with them. A list of the scales was given to participants and collected from them.

Sleep Quality Scale (Shin & Shin, 2006) to measures suitable for evaluating the sleep quality of the student. Internet Addiction Test (Young, 2016) to assess the level of internet addiction among students. Obesity scale (Kolotkin, Head, Hamilton, & Tse, 1995) to measure the impact of internet addiction on the body weight of the participants.

Result

Simple descriptive statistics were applied to see the impact of internet addiction on sleep quality and obesity. Below given are the details of the participants including the percentage of the gender in the context of severity of the internet addiction.

Table 1, Categories of Internet Addiction Test on the basis of Gender (N=30) and Age (18-22)

CATEGORY	NORMAL	MILD	MODERATE	SEVERE
	%	%	%	%
MALE	1(6.6%)	9(60%)	5(33%)	0
FEMALE	3(20%)	12((80%))	0	0
TOTAL	4(13.3%)	21(70%)	5(16.6%)	-
Age	18-19	19-20	20-21	21-22

Table 1 shows the percentage of Internet Usage by students. These variables were asked in a separate questionnaire as there is no standardized questionnaire to assess the purpose and time spent on the Internet. They were chosen after reviewing previous studies done on this topic. Females are found more addicted to internet use (80%) than that of males (60%).

Table 2, Significance difference between Internet Addiction Test (IAT), Obesity, and Sleep Quality among University Students

Gender//Variable	N	Mean	SD	t-value	Remark
Male and Female (IAT, Obesity)	30	34.3 and 36.7	14.73	0.20	0.05&0.01 value
Male and Female (IAT, Sleep quality)	30	34.3 and 33.06	13.06	0.11	0.05&0.01 level

Table 2 shows that there was a significant difference between Internet Addiction and Obesity. Females are found to be more obese than males. (36.7 mean value). The mean of the male student was 34.3 and the female student was 36.7 with a respective SD value of 14.73. The Significant difference was also present between students of obesity in being addicted to the Internet (t-value=0.20, significant at 0.01). Internet addiction among students aged 18-20 years was higher and it was significant. There was a significant difference between Internet Addiction and sleep quality among University students. The mean of the male students was obtained at 34.3 and the female students were obtained at 33.06 with respective SD values of 13.06. The Significant difference present between students of sleep quality in being addicted to the Internet was found t-value=0.11, significant at 0.05 & 0.01.

Table 3, Correlation between Internet Addiction Test (IAT), Obesity and Sleep Quality

Variable	N	Obesity	Sleep quality	Remark
Male (IAT)	15	-0.59	-0.34	Both Negative
Female (IAT)	15	0.17	0.25	Both Positive
Students (IAT)	30	-0.17	0.19	Negative And Positive
Obesity and Sleep Quality	30		0.40	Positive (low correlation)

In this study, there was a significant relationship between internet addiction test scores, obesity scores, and sleep quality scores obtained by the students. The obtained 'r' males value for the internet addiction test and obesity was -0.59, internet addiction test and sleep quality was -0.34 indicating a negative relationship between these variables. The obtained 'r' female's value for the internet addiction test and obesity was 0.17, internet addiction test and sleep quality was 0.25 indicating a positive relationship between these variables. And overall, all students (30) obtained the 'r' value of the internet addiction test and obesity was -0.17 indicating a 'negative' relationship between these variables; the internet addiction test and sleep quality were 0.19 indicating a 'positive' relationship between these variables. In comparison to males, obesity was

higher than females but in sleep quality comparison females were higher quality than males. Overall, the significant relationship between obesity and sleep quality was calculated on 30 students, their obtained 'r-value' is 0.40 indicating there is a positive correlation (present but slight or low correlation) between obesity and sleep quality, it states that increase obesity increases the sleep quality of university students.

Discussion

The study was designed with the objective of finding out the relationship between Internet Addiction on obesity and the sleep quality of university students. The Internet has become an essential channel for personal communication, academic research, informative exchange, and entertainment purpose. For better or worse, the Internet has infiltrated every aspect of our lives. Current studies support that females outnumber males in terms of the harmful use of mobile. Female students are more addicted (80%) to the internet than male students. One study found opposite results where male students generally had higher internet addiction scores than female students (Rigelsky, 2021; Kannan, 2019).

Younger students (18-20 years) of age range, are more addicted to the internet when compared with those (20-22 years) of age range. Earlier study suggests that college students (20-22-year age group) had more use of mobile. According to Ghatge (2015), college students spend up to eight hours a day on their mobile phones browsing the internet. Whereas some Indian studies found no difference in terms of gender and internet use. Rajasekhar, Veena, & Kumar (2018) examined gender differences in internet usage and preferences with 120 medical students (60 male, 60 female) and found no gender differences.

There is a significant relationship between Obesity and Sleep Quality. A study conducted on Turkish adolescents (Canan, 2014) found a positive correlation between internet addiction and BMI. The prevalence of youth internet addiction reported by different researchers varies across different areas of the world. Male gender, hours of internet use per day, use of the internet for online friendships, shopping, watching movies, online gaming, searching information online, and instant messaging were found to be significantly associated with internet addiction (IA).

There is a strong correlation between sleep quality and Internet Addiction. College students were to have a poor quality of sleep in a study done with Indian students).

There is a significant relationship between Internet Addiction, Obesity, and Sleep Quality of University students. In this study, there was a significant relationship between Internet Addiction, Obesity, and sleep quality positively and their correlation shows the negative impact on Obesity and positive impact on sleep quality in Internet Addiction of University students. Students with poor quality of sleep were having high IAT scores compared to ones with good quality of sleep.

Internet addiction disrupts sleep quality in university students and causes sleep disorders (Ayran, 2019). Internet addiction is a growing problem among students of professional courses, which has psychological, physical, and social impacts on student's life. So, it is necessary to develop strategies for the prevention of internet addiction as well as therapeutic interventions, which are vital for promoting healthy and safe use of the Internet. Awareness should be created among the students to improve their ability to reduce internet addiction behavior promoting their healthy growth.

Limitations

First, information on the outcome is obtained via a self-reported questionnaire. The sample was also not broadly representative of the population; it was mainly comprised of students. Another limitation of this study was using the questionnaires developed in foreign countries. Hence, this constitutes a reporting bias in the outcome variable, although it would most likely be a non-differential bias. So, in further studies, it is necessary to use Indian tools which are yet to be more authentic and can be generalized to the other population as well.

Conclusion

There is a need for an improved questionnaire that can provide us with a better understanding of internet usage by people in terms of the amount of time and purpose of using the internet. Families and youngsters should be educated about the smart usage of the internet to prevent the damages of technology addiction and obesity upon mental and physical health. This education should be given before internet addiction begins.

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