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A Study to Assess the Level of Internet Addiction and its Association with Depression and Insomnia among Students of SGT University

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***Abstract*---**The Internet is a global system that is quickly becoming one of the most important tools for obtaining information on the planet. The current research looks at how often people use the internet on a daily basis, as well as the negative consequences it has on people, particularly college students. Individuals may also experience major implications as a result of a lack of public awareness about problematic internet usage and instruction about how to use the internet safely. The objectives of the study are to determine the level of internet addiction and its association between depression and insomnia among students of SGT University, Gurugram. A cross-sectional approach was used to estimate the magnitude of internet addiction. Using the convenience sample technique, 842 SGT University, Gurugram students were chosen. The collected data was analysed using descriptive and inferential statistics. Chi square test was used to find out association between the level of internet addiction and depression and between the level of internet addiction and insomnia among students. By using statistical analysis, the study found significant regarding internet addiction among students of SGT University. The result of the study shows that less than half number of students had mild internet addiction i.e., 254(30.1%) and internet addiction is associated with depression (F=4.51, P=0.01) and insomnia

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(F=6.20, P=0.00). It states about the internet addiction which is a very common problem among young population due to lack of awareness and knowledge which can causes negative effects on individuals.

***Keywords*---**depression, insomnia, Internet addiction, students.

Introduction

The Internet is a worldwide system that is becoming one of the most significant instruments for accessing information in the world (Goswami & Singh, 2016). Once upon a time, the internet was thought to be a rare resource only available to magicians and nerds. It's been embedded in our way of life (Goel et al., 2013). In 1995, Dr. Ivan Goldberg invented the term "internet addiction" to describe compulsive excessive usage of the internet (Kaplan et al., 1994). People do not develop Internet Addiction Disorder just because they use the Internet often - for example, by watching a lot of YouTube videos, making regular purchases online, or checking social media. The issue emerges when your hobbies start to interfere with your regular schedule. Addiction disorders can manifest itself in a variety of ways, including physical impairments, social and functional impairments, emotional impairments, and impulsive Internet use (Gregory, 2017).

Internet addiction rates are relatively high in a few European countries, such as Israel, and Asian countries, such as South Korea, Japan, Taiwan, and China (Jain et al., 2020). India has an 82 percent percentage score, the United Kingdom has a 78 percent score, China has a 77 percent score, Germany has a 73 percent score, and the United States has a 73 percent score. In the first half of 2015, India's internet users increased by over 17% to 354 million, bringing the total number of internet users globally to over three billion (Kumar et al., 2019).

Excessive internet use has been linked to a number of mental diseases, such as anxiety, depression, and sleeplessness. In a study of Turkish students conducted by Akini and Iskender, depression and anxiety were found to be major predictors of internet addiction (Akin & Iskender, 2011). It is estimated that the burden of depression will increase to 5.7% and it would lead to leading cause of disability adjusted life years (DALY) (Theodore, 2014). Sleep habits are influenced by problematic internet use or internet addiction. Population surveys show a 1-year prevalence rate of 30 to 45% in adults. Increased internet usage can dramatically interrupt the sleep-wake cycle, and heavy internet users have a greater risk of sleep disruption (Thomée et al., 2007). Wong investigated the effect of online addiction on insomnia and depression in Hong Kong teenage boys and girls. "Internet addiction was connected considerably with insomnia and depression," according to the research. These findings suggest that insomnia, internet addiction, and depression may all share complicated causes (Cheung & Wong, 2011).

Need of the study

The internet has become an indispensable aspect of modern life in recent years. Our everyday lives are greatly influenced by the internet. Anxiety, despair, and

sleeplessness have all been linked to too much internet use. Internet addicts are considerably more likely to suffer from depression than non-addicts, according to many research. There has been a lot of research on internet addiction throughout India, but there hasn't been much research in Haryana. As a result, the goal of this study was to look at the prevalence of online addiction among young adults, as well as the association between internet addiction and insomnia and depression among college students.

Purpose of the study

The goal of this study was to determine the prevalence of internet addiction and its association to depression and insomnia among SGT University students.

Delimitations

The study is delimited to:

- Student of selected institution only
- Onetime assessment of internet addiction depression and insomnia.

Research Methodology

The study's aims are fulfilled through the use of a quantitative research method-convenient sampling. In this cross-sectional one-time test design, just the experimental group is chosen as the study subject. Students from SGT University in Gurugram, Haryana, took part in the research. Students seeking a degree at SGT University are required to attend classes. 842 samples were taken.

Development and description of tools

Various literatures were reviewed, including previous researches, journals, articles etc. Standardized tool was taken from experts after seeking permission. After the permission, the tool used for data collection. The standardized tools consist of rating scale to assess the level of Internet Addiction, depression and insomnia.

- *Section A:* Demographic variables which had 10 items.
- *Section B:* It comprised of Young's Internet Addiction Test (Young, 1998), questionnaire to assess the level of Internet Addiction. It consists of 21 multiple choice questions.
- *Section C:* It comprised of Patient Health Questionnaire-9 (PHQ-9) (Kroenke et al., 2001), rating scale to assess the level of Internet Addiction and its association with depression. It consists of 09 items.
- *Section D:* It comprises of Insomnia Inventory Index (ISI) (Bastien et al., 2001), scale to assess the level of Internet Addiction and its association with insomnia. It consist of 07 items.

Pilot study

The try out was conducted at SGT University, Haryana. The subjects chosen were similar to the characteristics to those of the population under study. It took 15-20

minutes to complete the four tools. The items were found to be unambiguous. The tool was found to be feasible for the study.

Reliability

Reliability is the degree of consistency with which the attributes or variables are measured by an instrument. However, if a research instrument yields similar or close to similar results on repeated administration of instrument, it is considered a highly reliable research instrument.

Table 1
Research instrument

Tools	Method/techniques	Values	Acceptable range
Young's Internet Addiction Test (IAT)	Cronbach's Alpha Internal consistency	0.7	0.7-1
PatientHealth Questionnaire(PHQ 9)	Cronbach's Alpha Internal consistency	0.7	0.7-1
Insomnia Inventory Index (ISI	Cronbach's Alpha Internal consistency	0.8	0.7-1

Data analysis

Section-I:
Frequency, percentage or Mean in terms of demographic variables such as Age, Gender, Religion, Type of family, Education of father, education of mother, Area of residence, Diet, Source of information, Enrolled course and Year of course.
Figure 1 revealed that most of the people were belong to the age group18-20 years 525 (50.4%), 21-23 years 306 (36.3%), 24-26 years 74 (8.8%) and above 26 years 37 (4.4%).Gender, Male335 (39.7%) and Female507 (60.1%). Religion, Hindu764 (90.6%), Christian41 (4.9%), Muslim12 (1.4%), Sikh14 (1.7%) and Others11 (1.3%).Type of family Nuclear family 452 (53.6%), Joint family318 (37.7%), Extended family62 (7.4%) and Single parent10 (1.2%). Education of mother, Illiterate15 (1.8%), Elementary education48 (5.7%), Secondary education119 (14.1%), Senior secondary education199 (23.6%), Graduation298 (35.3%) and above graduation163 (19.3%). Education of father, Illiterate50 (5.9%), Elementary education97 (11.5%), Secondary education 178(21.1%), Senior secondary education 175(20.8%), Graduation 222 (26.3%) and above graduation120 (14.2%). Area of residence Urban529 (62.8%) and Rural313 (37.1%). Student who have knowledge about internet addiction, who said yes 717 (85.1%), who said no 53(6.3%) and who said may be 72(8.5%). Source of getting information about internet addiction through Newspaper/ Magazine/ T.V/ Radio were 229 (27.2%), Internet 428(50.8%), Health personal 31(3.7%), Family member/ Neighbours/ Friends were 155(18.4%). What do you learnt from it, who said Signs and symptoms of internet addiction 119(14.1%), who said Consequences of internet addiction92 (10.9%), who said Management of internet addiction 44(5.2%) and who said All of above 587 (69.6%)

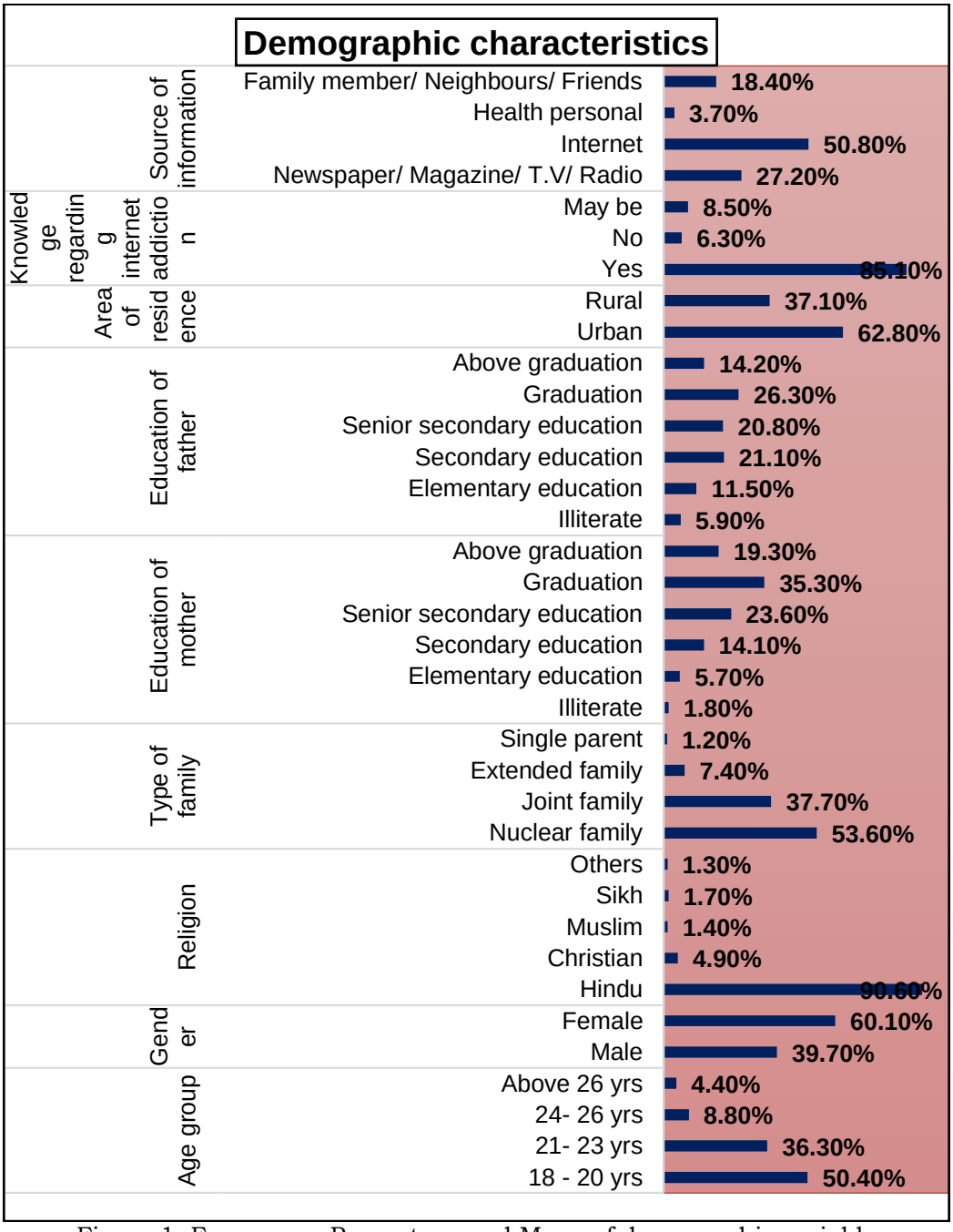

Figure 1. Frequency, Percentage and Mean of demographic variable

Section-II

Table 2
Frequency, Percentage, Mean and SD in terms of Level of Internet addiction
n=842

Sl. No	Level of Internet addiction	Scoring	f (%)	Mean	SD
1.	Normal	0-30	532 (63.1%)		
2.	Mild level	31-49	254 (30.1%)	1.44	0.65
3.	Moderate	50-79	45 (5.3%)		
4.	Severe	80-100	10 (1.2)		

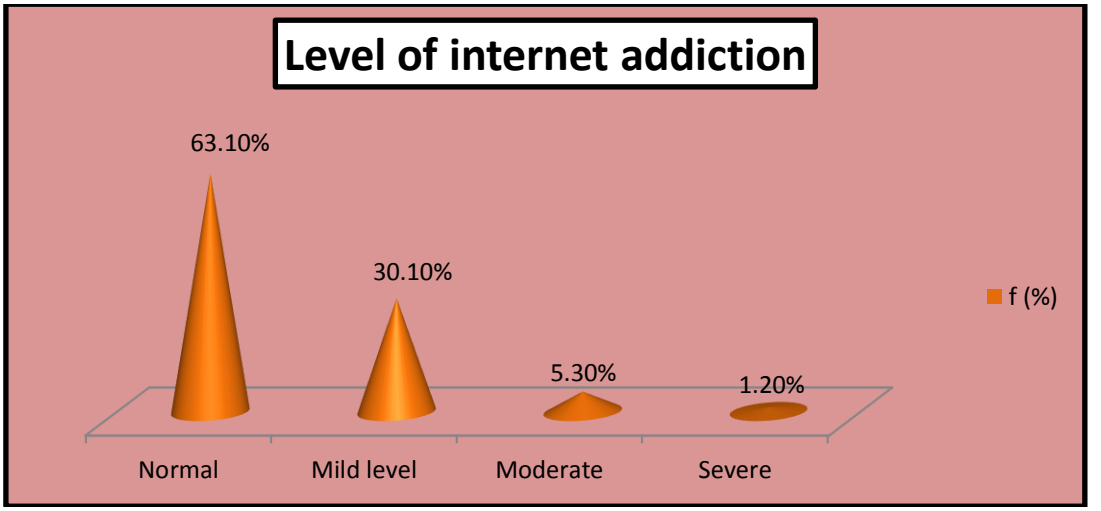

Figure 2. Graph shows level of internet addictions

Table 2 shows that more than half of the student 532 (63.1%) were having no Internet addiction, less than half of the student mild internet addiction 254 (30.1%), least number of students having Moderate internet addiction45 (5.3%) and Severe internet addiction10 (1.2%). Hence, Research Hypothesis (H1) was accepted and null hypothesis (H01) was rejected.

Table 2 shows that less than half of the student 266 (31.6%) were having minimal depression, mild depression 289 (34.3%) and Moderate depression 183 (21.7%), least number of students having Moderately severe depression 79 (9.4%) and Severe depression 24 (2.8%). Hence, Research Hypothesis (H2) was accepted and null hypothesis (H02) was rejected.

Table 3 shows that more than half of the student 532 (63.1%) were having No clinically significant insomnia, less than half of the student having Sub-threshold insomnia 254 (30.1%), least number of students having Clinical insomnia (moderate severity) 45 (5.3%) and Clinical insomnia (severe) 10 (1.2%). Hence, Research Hypothesis (H3) was accepted and null hypothesis (H03) was rejected.

Table 3
Frequency, Percentage, Mean and SD in terms of Level of depression n=842

Sl. No.	Level of Depression	Scoring	f (%)	Mean	SD
1.	Minimal depression	1-4	266 (31.6%)		
2.	Mild depression	5-9	289 (34.3%)		
3.	Moderate depression	10-14	183 (21.7%)	2.17	1.06
4.	Moderately severe depression	15-19	79 (9.4%)		
5.	Severe depression	20-27	24 (2.8%)		

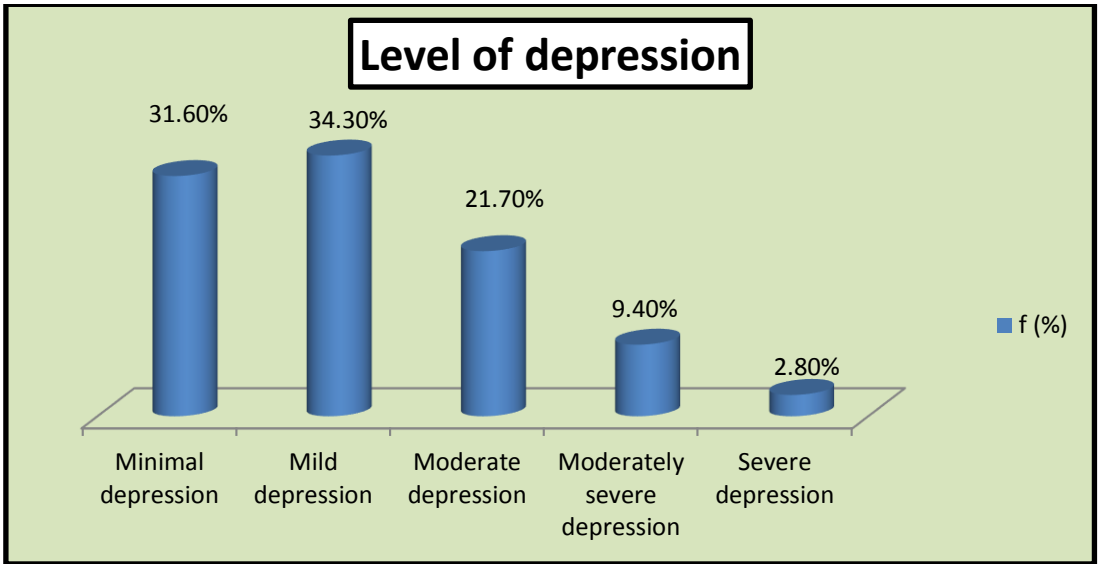

Figure 3. Graph showing Level of depression

Table 4
Frequency, Percentage, Mean and SD in terms of Level of Insomnia
n=842

Sl. No	Level of Insomnia	Range	f (%)	Mean	SD
1.	No clinically significant insomnia	0-17	532 (63.1%)		
2.	Sub-threshold insomnia	8-14	254 (30.1%)		
3.	Clinical insomnia (moderate severity)	15-21	45 (5.3%)	1.44	0.65
4.	Clinical insomnia (severe)	22-28	10 (1.2%)		

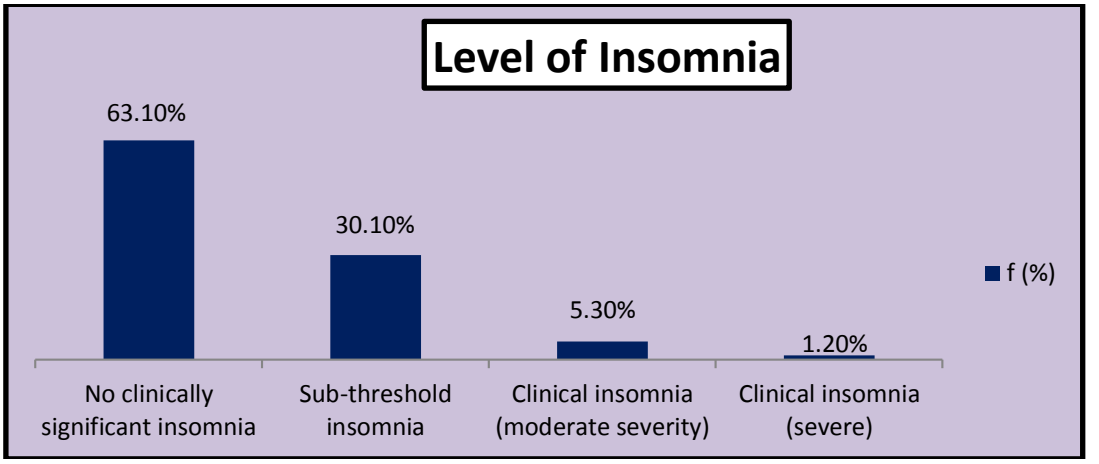

Figure 3. Bar graph showing level of insomnia

Section-III

Table 5 shows that chi square value for association of Internet addiction with depression. The finding revealed that computed F value between Internet addiction and depression (F=4.51, P=0.01). It infers that internet addiction was associated with depression which was found significant at 0.05 level of significance.

Table 6 shows that chi square value for association of Internet addiction with insomnia. The finding revealed that computed F value between Internet addiction and insomnia (F=6.20, P=0.00). It infers that internet addiction was associated with insomnia which was found significant at 0.05 level of significance.

Table 5
Chi square value showing association with internet addiction and depression

Variable	Mean square	df	F	P value
Depression	126.7	26	4.511	0.01

*Significant (p≤0.05)

Table 6
Chi square value showing Association with Internet Addiction and Insomnia

Variables	Mean	df	F	P value
Insomnia	166.9	25	6.201	0.00

*Significant (p≤0.05)

Discussion

Findings of the study showed that 842 students as respondents participated in the survey where majority of age group i.e., 50.4% belongs to 18-20 years, 36.3% belongs to 21-23 years and the other 13.2 % were 23 and above. Regarding their religious affiliations, 90.6% are Hindu, 4.9% are Christian while 1.7% are Sikh

and 1.4% are Muslim. Regarding their residence, majority of them, i.e., 62.8% belongs to urban area while 37.1% belongs to rural area. Two-thirds of the respondents come from Nuclear families while the other one-third from joint families. Both the parents of the majority of respondents were qualified till graduation level.

The majority of students are at danger of acquiring an internet addiction, according to a recent study, and the results are similar to those of Piyush Upadhyay & Rakhi Jain at el (2017). 74.5 percent of the 1150 kids in the class were potential addicts. 0.7 percent of the individuals were proven addicts, according to Young's initial criteria. Participants were 15.46 years old on average. In the study, excessive internet use was connected to anxiety, depression, and anxiety depression.

Donald S. Christian and Bhavik Rana conducted a cross-sectional study on the prevalence of internet addiction among college students in Ahmedabad. According to the survey, 56.8% of people have an internet addiction, with 17.4 percent having a moderate level of addiction and 1.3 percent having a severe level of addiction. The students in the commerce stream had the highest incidence. Average internet usage (highest with use of 7 to 10 years), average daily internet use (highest with daily use of 11 hours or more), and continuous online access were found to be substantially linked. In the current study, the majority of the pupils were addicted to the internet in some way. The length of time spent on the internet, the amount of time spent on the internet on a daily basis, and constant access to the internet were all found to be significant factors in college students' internet addiction (Christian et al., 2019).

The current study revealed that most of the student were having potential internet addiction wherever the finding of the study is similar to the studies conducted by Nagori et el. (2019). 9.3% of all participants were classified as problematic internet users, with a prevalence of internet addiction of 0.9%. Participants who use the internet inappropriately are more likely to have poor sleep quality (p0.0001). 23.8 percent of all participants reported poor sleep quality, whereas 76.2 percent of students slept well. In comparison to individuals who had a good night's sleep, those who had a bad night's sleep had a higher IAT score. Internet addiction is connected with the severity of poor sleep quality (r2=0.233, p0.0001). Participants who used the internet in a problematic way were more likely to have poor sleep quality, and vice versa (Nagori et el., 2019).
The present study findings revealed that there is an association between internet addiction and depression and insomnia among the students.

To support this research, a cross-sectional study on Study of internet addiction and its connection with depression and insomnia in university students was undertaken by Jain et al. (2020). The frequency of internet addiction has expanded dramatically over the world, ranging from 1.6 percent to 18 percent or even more. To assess internet addiction, depression, and insomnia, the Internet Addiction Test (IAT), PHQ-9, and the insomnia Severity Index (ISI) were used. With a mean age of 23.81 (SD 3.72), 518 (60.59%) of the 954 individuals were male and 376 (39.41%) were female. 15.51 percent of the research participants were addicted to the internet, and 49.19 percent were heavy users. A total of 437

(45.81%) individuals had insomnia, with 107 (24.49%) internet addicts and 241 (55.15%) over users, compared to 47 (7.93%) addicts and 171 (33.08%) over users among those who did not have insomnia. This association was statistically significant. When it came to the existence of depression, similar findings were found. 421 (44.13 percent) of the participants were depressed, with 113 (26.84 percent) of internet addicts and 225 (53.44 percent) of overusers reporting depression. The number of internet addicts and over users among those without depression was 35 (6.58 percent) and 187 (34.96 percent), respectively. This was a statistically significant finding. Several parameters including graduation level, time spent per day on line, place of internet use, smoking and alcohol had significant association with internet addiction Jain et al. (2020).

Conclusion

The existing revealed that less than half number of students had mild internet addiction i.e., 254(30.1%) and internet addiction is associated with depression (F=4.51, P=0.01) and insomnia (F=6.20, P=0.00). And the discussion briefly states about the internet addiction which is a very common problem among young population due to lack of awareness and knowledge which can causes negative effects on individuals. Therefore, promoting awareness of problematic internet use and educating regarding healthy internet use among students is a precautionary measure.

Recommendation

- Precautionary measures can be adopted by every student such as reducing the time spent with mobile and laptop.
- Each student should have proper knowledge regarding internet addiction in order to take prevention timely.
- Educational curriculum should be updated to include comprehensive information about internet addiction to improve the awareness.
- A similar study can be conducted by assessing the level and knowledge regarding internet addiction among pre-university students.

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