

# Prevalence of Internet Addiction and Its Association with the Quality of Sleep among First and Second Year MBBS students

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**Abstract:** ***Background:** Internet addiction could be a major concern in medical students aiming to develop into health professionals. The implications of this addiction as well as its association with the quality of sleep can hinder their studies, impact their long-term career goals and have wide and detrimental consequences for society as a whole. **Aims:** The objective is to know the level of internet addiction and its correlation with the quality of sleep **Materials and methods:** A cross sectional study was performed on first and second year medical students with young's internet addiction test and Pittsburgh sleep quality scale to assess the level of internet addiction disorder and the quality of sleep. The data was tabulated using MS Excel sheet and was analyzed. **Results:** A total of 232 students participated; 114(49.1%) were males and 118(50.9%) are females. Internet addiction was found to be mild in 146(62.93%) individuals and moderate in 74(31.89%) individuals and severe in 12(5.17%) individuals, whereas poor sleep quality is found in 64(27.85%) individuals. A significant correlation was found between internet addiction and quality of sleep. Other significant association linked to the internet addiction is gender, mostly male students are affected. **Conclusion:** Sleep problems and poor sleep quality among medical students are related to high Internet use. And majority of internet usage is due to games and browsing further studies are needed to fully understand the factors that affect sleep behavior and Internet addiction among the medical students.*

**Keywords:** association, Internet addiction disorder, medical students, prevalence, quality of sleep

## 1. Introduction

There is an extensive growth in the usage of **internet** during the past 10 years in Indian. In 2007 only 4% of the country's population uses internet in 2017 it grows to 34%. It has enabled the flow of information, including entertainment, news, financial, and academic material. It has brought people closer together by enabling various forms of interpersonal communication, notably E-mail, instant messaging, video conferencing, social networking and gaming. Internet addiction Disorder (IAD) was originally proposed as a disorder by Ivan Goldberg, M.D., in 1995. He coined the name and registered its diagnostic symptoms.[1]

**Sleep** is an essential need of humankind, important for quality of life and health at all ages. Quality sleep has been associated with multiple factors including environmental factors, social life, and general health status. Guidelines advocate 8.5 – 9.5 hours of sleep per night for adolescents 10 to 17 years old, while young adults, over 18 years, need 7 – 9 hours of sleep[3]. Sleep has been found to be fundamental for memory consolidation, learning, critical thinking and decision making. Now a days the quality of sleep is getting disturbed due to many reasons, the most common and important reason is the usage of internet. Sleep deprivation can result in serious outcomes including reduced coping mechanisms, poor academic performance, and increased risk of motor vehicle accidents[2]. Students who use the Internet excessively have a higher chance of experiencing sleep problems. The study is aimed to investigate the quality of sleep and the level of internet addiction in early medical life.

## 2. Materials and Methods

A cross sectional study was conducted in Konaseema Institute of Medical Sciences located in the Amalapuram, Andhra Pradesh among the first year and second year students. The study period was May-June 2019. Institutional Ethical Committee's approval was taken before starting the study.

### Inclusion Criteria

- 1) First year medical students
- 2) Second year medical students
- 3) Both the sex.
- 4) Willing to give consent

### Exclusion Criteria

All the students who are not willing to give a valid consent.

## 3. Procedure

In this cross-sectional study, a self-administered, pre-designed, pre-tested anonymous questionnaire which are in English language was distributed after obtaining an informed written consent from each participant. Information was collected on basic socio-demographic like age, gender and year of the study. A previously validated and standardized scales like young's internet addiction scale, Pittsburgh Sleep Quality Index (PSQI) are used to measure the level of internet addiction and the quality of sleep respectively.

### Young's internet addiction scale

Internet Addiction Test (IAT) is a reliable and valid measure of addictive use of the Internet, developed by Dr. Kimberly Young. It consists of 20 items that measure mild, moderate and severe level of Internet Addiction. Examinees respond to each statement with a number between 1 and 5. 20 – 49

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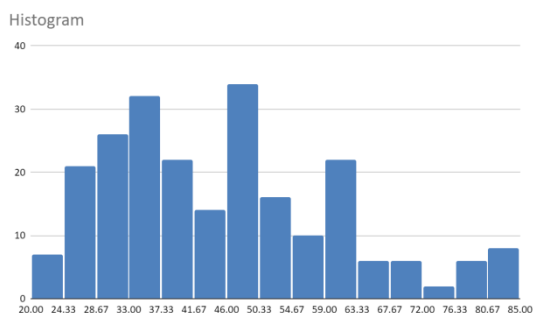
points: You are an average on-line user;50 – 79 points: You are experiencing occasional or frequent problems because of the Internet;80 – 100 points: Your Internet usage is causing significant problems in your life[4].

**Pittsburgh sleep quality index**

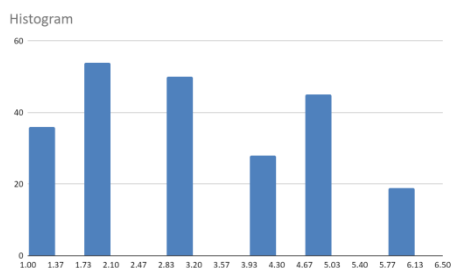
The Pittsburgh Sleep Quality Index (PSQI) is an effective instrument used to measure the quality and patterns of sleep in the older and younger adult. It differentiates “poor” from “good” sleep by measuring seven domains: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication, and daytime dysfunction over the last month [8]. The client self rates each of these seven areas of sleep. Scoring of the answers is based on a 0 to 3 scale, whereby 3 reflects the negative extreme. A global sum of “5”or greater indicates a “poor” sleeper [7].

**4. Results**

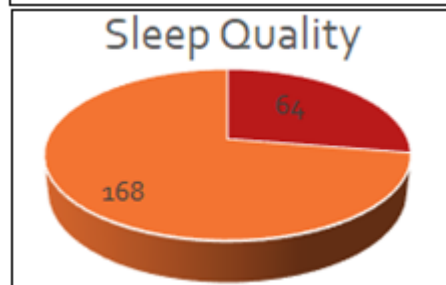
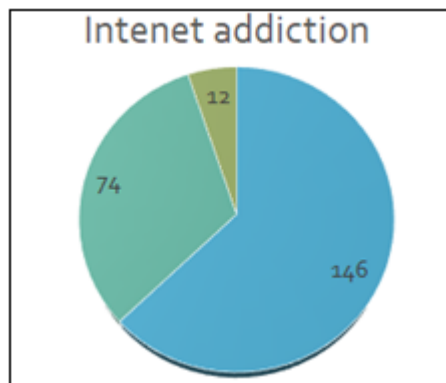
Our aim is to examine the relationship between the level of internet addiction and the quality of sleep among medical students. Our sample consisted of 232 medical students out of which 118(50.9%) are women and 114(49.1%) are men. The Pittsburgh sleep quality index with a varied score of 1 to 6 with an average of 3.21 and young’s internet addiction scores fell between 21 and 83 with an average of 45.90 . they were classified into mild in 146(62.93%) individuals and moderate in 74(31.89%) individuals and severe in 12(5.17%) individuals (graph-1). according to the survey conducted the prevalence of poor sleep quality is 64(27.85%) and on the other hand 168(72.15 %) of them have good sleep quality(graph -2).A significant statistical correlation was established between sleep quality and level of Internet addiction. Of the total sample, 15(23.43%) women and 49(76.56%) men were categorized as poor sleepers.



**Graph 1**



**Graph 2**

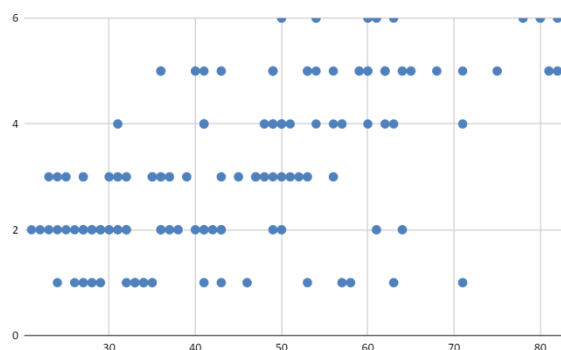


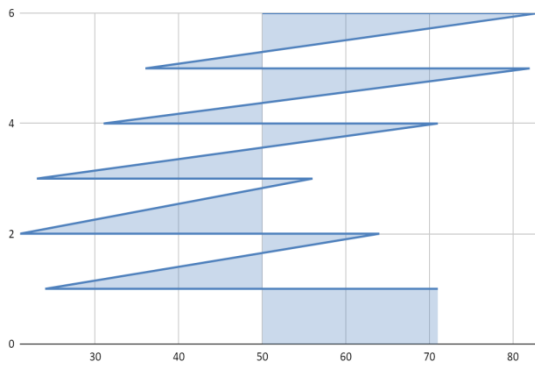
Gender wise distribution of internet addiction test scores

Score	pattern	Male	Female	Total
20-49	Mild (average line users)	52	94	146
50-79	Moderate (possible addicts)	52	22	74
80-100	Severe (addicts)	10	2	12

Association between internet addiction and quality of sleep. A significant correlation was found between internet addiction and quality of sleep(p=0.00). The quality of sleep is poor in al all the severe(internet addicts) i.e 12(100%) and the quality of sleep is poor in 36(48.64%) members who are moderate(possible addicts) and the quality of sleep is poor in 16(10.95%)members who are mild(average line users).

The below graph shows the relationship between Internet addiction and Quality of sleep:-





## 5. Conclusions

The present study is possibly one of the first studies to determine not only the prevalence of the sleep quality in KIMS students but also its correlation with Internet addiction. Our findings showed that sleep quality is strongly correlated with Internet addiction level. This indicates a growing need to increase awareness of healthy sleep habits to improve the quality of sleep[6]. Furthermore, strategies are required to moderate the use of Internet. Different study designs with larger sample sizes are needed in order to fully explore the factors that affect sleep behavior and Internet addiction among medical students in amalapuram. Sleep problems and poor sleep quality among medical students are related to high Internet use. And majority of internet usage is due to games and browsing[5], Further studies are needed to fully understand the factors that affect sleep behavior and Internet addiction among the medical students.

## 6. Recommendation

Universal diagnostic guidelines for internet addiction disorder need to be developed. Characteristics of internet usage and factors found to be associated with internet addiction needs to be considered while developing strategies for interventions. Cautious monitoring of hours and purpose of internet usage by parents and college authorities may help in controlled internet use.

## 7. Limitations

- 1) Only one medical college students were included in our study.
- 2) This study was limited to only one geographical area.

## 8. Acknowledgements

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## 9. Financial support and sponsorship

Nil

## 10. Conflicts of interest

There are no conflicts of interest.

## 11. Ethical approval

The study was approved by the Institutional Ethics Committee

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