Original Research Article

The Relationship Between Sleep Quality and Internet Addiction Among Physiotherapy College Students: A Cross-Sectional Observational Study

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ABSTRACT

Background- Medical students rank the highest on the prevalence regarding poor asleep. It is said that one who has trouble falling asleep or sustaining sleep is progressively inclined to have an Internet addiction. The purpose of the study was to find out the correlation between sleep quality and Internet addiction among physiotherapy students in Jalgaon.
Methodology and analysis- A cross sectional observational study was conducted among 61 students aged 21-30 on the basis of inclusion and exclusion criteria. Internet addiction test and Pittsburgh sleep quality index scale was used to determine the correlation between Internet addiction and sleep quality.
Result- Study showed that 40.98% mild,18.03% moderate,1.64% had a severe internet addiction level and 80.33% mild,16.39% moderate and 1.64% had a severe sleep quality.
Conclusion- The study concludes that there was a significant correlation between Internet addiction and sleep quality among Physiotherapy students.

Keywords: [Sleep quality, Internet addiction, Pittsburgh sleep quality index scale, Internet addiction test]

INTRODUCTION

Internet addiction (IA) has been defined as an impulse-control disorder that does not involve an intoxicant. Recent studies using functional magnetic resonance imaging have reported that IA is related to structural and functional damage in the prefrontal cortex [1].Cellini et al. [2] found that spending ample time on internet was associated with poor sleep quality and may further lead to an increase of psychological distress (i.e., stress, anxiety and depression) among young adults. Additionally, internet addiction resulted in the dysfunction of daily activities, including neglect of household chores and reduced productivity [2]. Therefore, one can tentatively conclude that pathological internet usage can also negatively affect the circadian rhythm causing insomnia and other sleep disturbances [3-6]. the increasing popularity of smartphones makes the use of a smartphone before sleep has become a habit for students [7]. Moreover, it was found that teenagers who had trouble falling asleep or sustaining sleep were progressively inclined to have an internet addiction, and people who were dependent on the internet had their basic circadian rhythms altered[8]. With portable smartphones and Wi-Fi access,

internet (including of social media) may constitute an unstructured activity, one not limited in time and one that can displace time [9]. light-emitting screens (i.e., light may suppress sleep-promoting hormones like melatonin that are typically elevated before bedtime) [10], and shortened sleep duration [11] Increasing access to internet has brought about a new kind of addiction called IAD (Internet Addiction Disorder) which is considered the progressive problem of age. Internet addictions symptoms include depression, bad-temperedness, restlessness, schizophrenia, as well as failure in social relationships and education [12]. Internet addition Disorder (IAD) was originally proposed as a disorder by Ivan Goldberg, M.D., in 1995. He coined the name and registered its diagnostic symptoms. About one third of our life is spent sleeping. Good sleep is necessary for optimal health. It is one of the most important needs of human to revitalize energy and help physical appearance and well-being. Sleep disorder is disorder in regularity, quality, and quantity of sleep which leads to impairment in activities of daily living including: Risk of death in people who sleep more than 8.5 hours or less than 3.5 hours a day is 15% higher than in those who sleep 7 hours a day [13]. Sleep disorders in university students, particularly medical students, is of greater importance. Students of medical sciences are at risk of sleep disorder due to the intrinsic work-related stress and pressure as well as night-time activities when they are on night shifts. Living in dorms is another factor that may cause poor quality of sleep and life [13]. Etiology of sleep disorders is extremely complicated. One of the factors effective in the quality and quantity of sleep is pathological internet use or addition to internet which refers to excessive or problematic use of internet [14].Sleep and internet addiction are of concern: Insufficient sleep and poor sleep quality may result in poor memory and weakened learning abilities, which jeopardize the academic performance of students and can also result in other growth and developmental disorders [15-17]. Excessive internet usage may lead to grey matter atrophy, which negatively affects one's ability to concentrate and hinders their decision-making capacity [18]. Azad et al. [19] compared these sleep related issues among medical students and economics and law undergraduates. He mentioned that medical students rank the highest on the prevalence regarding poor sleep and even worse quality of life in comparison of students from other subject groups. Matter of fact that segregate these medical graduates from other peer groups included their overall lifestyle, attitude towards study and more academic pressure. Therefore, it is important to understand internet addiction and sleep among medical students. people suffer from internet addiction, like those addicted to drugs and alcohol, are faced to excessive problems such as academic problems, social and occupation [20,21]. However, in view of psychologists and sociologists, addictive use of the internet is identifying as behaviour problem that affect the sleep quality [22.23,20,24]. Good quality sleep is essential for health and life quality in all. We hypothesized that sleep disorders in puberty are associated with a general degree of Internet dependence and that this association is also attributable, in part, to other lifestyle habits. It is important to take lifestyle habits into account, because they can weaken the relationship between sleep disorders and Internet dependence.

MATERIALS & METHODS
MATERIAL:
Pen
Paper.
Consent form.
Internet addiction Test Rating Scale.
Pittsburgh's Sleep Quality Index Rating Scale.

METHODOLOGY:
Study Design – A Cross-Sectional Observational Study.
Method of Sampling- Purposive.
Sample Size-61.
Sampling Formula: $n = Z1^2 S^2 / d^2$
$(1.96)^2 (3.96)^2 / (+\_ 1)^2 = 61$

Place of Study- Dr. Ulhas Patil College of Physiotherapy, Jalgaon.
Study Duration- 6 Months.
Selection Criteria-
Inclusion criteria-
- Physiotherapy Students from 1st year to Final year.
- Age Group between 21 to 30.
- Students willing to participate.
- Students using more Internet at Night time.

Exclusion criteria-
- Other Faculty Students.
- Students not willing to participate.
- Students on Antidepressant.

PROCEDURE:
Ethical clearance was taken from the ethical committee of Dr. Ulhas Patil College of Physiotherapy, Jalgaon prior to the commencement of the study.
A cross-sectional study was administered and subjects was screened on the basis of inclusion and exclusion criteria.
A brief demographic data was obtained and a written consent was taken from all the participants, and the nature and purpose of the study was explained to them.

Kimberly's Internet Addiction Test (IAT), the first validated test and most utilized instrument to measure addiction to internet was used. It comprises of 20 questions based upon a five-point Likert scale which measures the severity of internet addiction (weak, moderate, severe).

The lowest and highest score are 31 and 100 respective. Higher score indicates severer addiction to internet.

Scoring Scores in the 20-49 range are indicative of little or no internet addiction- a normal user, Scores in the 31-49 range are indicative of Mild internet addiction, Scores in the 50-79 range are indicative of Moderate internet addiction, Scores in the 80-100 are indicative of Severe internet addiction.

Pittsburgh's Sleep Quality Index (PSQI) is one of the most widely-utilized self-report questionnaires that assess sleep quality over a 4- week time interval. It generates seven "component" scores: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medication, and daytime dysfunction. The survey contains 19 questions, each weighted on a 0-3 interval scale indicating no, moderate, and sever sleep disorder respectively. A global PSQI score is taken from the survey, with lower scores correlating to better sleep quality. The PSQI will be shown to be reliable (89.5) and valid (86.5). Collected data was captured in SPSS20 and analyzed using descriptive-analytical statistics.

SCORES	INTERPRETATION
0	No Sleep Difficulty
1-7	Mild Sleep Difficulty
8-14	Moderate Sleep Difficulty
15-21	Severe Sleep Difficulty

RESULT

TABLE 1
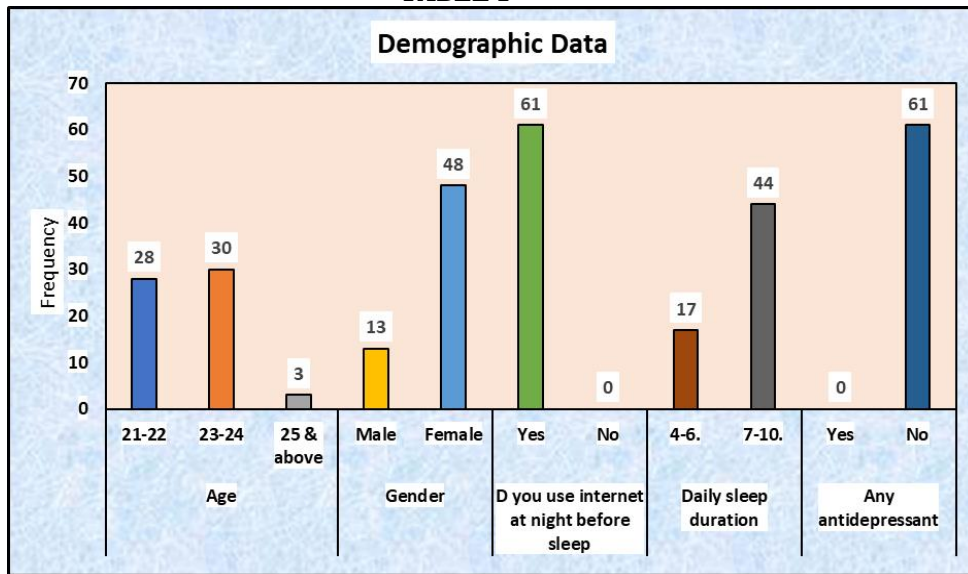
Variable	Groups	Frequency	Percentage
Age	21-22	28	45.90
	23-24	30	49.18
	25 & above	3	4.92
Gender	Male	13	21.31
	Female	48	78.69
Do you use internet at night before sleep	Yes	61	100.00
	No	0	0.00
Daily sleep duration	4-6.	17	27.87
	7-10.	44	72.13
Any antidepressant	Yes	0	0.00
	No	61	100.00

TABLE 2

Variable	Groups	Score	Frequency	Percentage
Internet Addiction	Normal	0-30	24	39.34
	Mild	31-49	25	40.98
	Moderate	50-79	11	18.03
	Severe	80-100	1	1.64
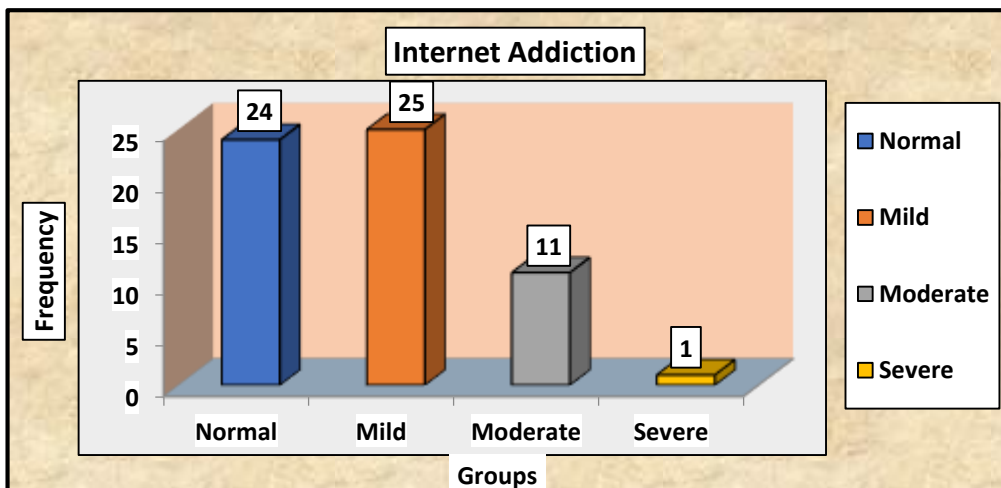
In the study, among the individuals, 39.34% of them had normal addiction level, 40.98% mild addiction, 18.03% had moderate addiction and among 1.64% had severe addiction level.

TABLE 3

Variable	Groups	Score	Frequency	Percentage
Pittsburgh's Sleep Quality Index	No difficulty	0	1	1.64
	Mild sleep	1-7.	49	80.33
	Moderate Sleep	8-14.	10	16.39
	Severe Sleep	15-21	1	1.64
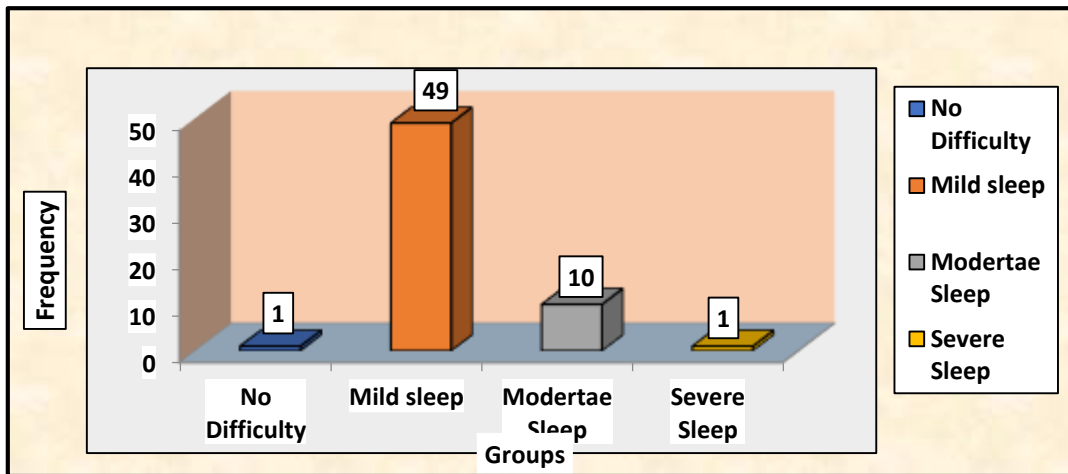
In the study, among individuals, 1.64% of them had no difficulty in sleep, 80.33% mild sleep 16.39% had moderate sleep and 1.64% had severe sleep.

TABLE 4

Karl Pearson correlation coif.		
	r value	**p value**
Internet Addiction with Pittsburgh's Sleep Quality Index	0.55	0.00
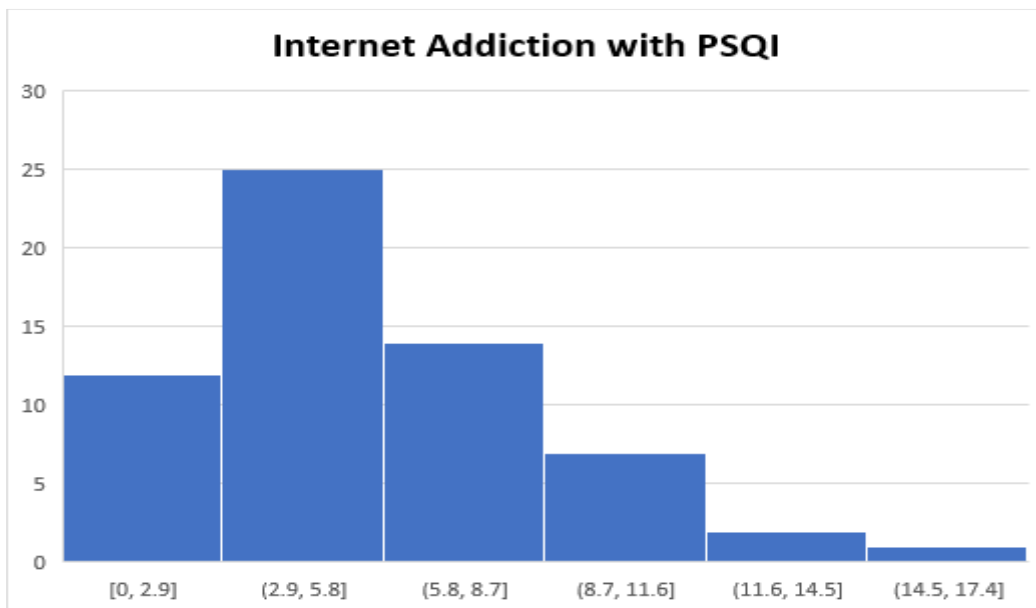
Karl Pearson's correlation coefficient was used to find the correlation between Internet Addiction and Pittsburgh's Sleep Quality Index score. The correlation coefficient was 0.55 with p value 0.00. The p value less than 0.05 shows the significant correlation between Internet Addiction and Pittsburgh's Sleep Quality index score.

DISCUSSION
Adequate sleep is essential for proper body function. With the increasing popularity of smart phones and the increasing use of the Internet, especially among the youth, using them before bedtime has become a habit, which can negatively affect their quality of sleep. Therefore, the present study was conducted with the aim of determining the relationship between Internet addiction and sleep quality in a population of university students.

This survey, to our knowledge, is the first of its kind to investigate the relationship between internet addiction and sleep quality among physiotherapy students. The study revealed that approximately 1.64% of the participants exhibited severe internet addiction, with around 18.3% demonstrating moderate internet addiction, 40.98% showed mild internet addiction. The study also revealed that the sleep quality was mild in 80.33%, 16.39% was moderate and 1.64 had Severe sleep. Karl Pearson's correlation coefficient was used to find the correlation between Internet Addiction and Pittsburgh's Sleep quality index score. The correlation coefficient was 0.55 with p value 0.00. The p value less than 0.05 shows the significant correlation between Internet Addiction and Pittsburgh's sleep quality index score.

A Study by Purreza Abolghasem \, Mostafa Eftekhari, Saeed Rezania, Moslem Jafarisani, Rahim Soleimani, Ali Khalafi had also conducted the same study. There population comprised of all eligible university students in Torbat Heidariyeh City. There findings revealed that 74.1% of students were moderately addicted to the internet, 23.9% were highly, and 2% severely internet addicted. The average

score of sleep disorders and addiction to the Internet was 4.690 ± 0.050 and 33.98 ± 12.05, which represents the average sleep disorders and internet addiction among students. 32.50% of students were suffering from sleep disorders and 23.9% of students had high dependence on the Internet and 2% had severe dependence. Between internet addiction and sleep disorders components, sleep quality and overall score of Pittsburgh questionnaire there was a significant positive correlation (P≤0/05) [25]

There was also a cross-sectional study carried out by Abdulrhman Khayat, Prof. Mohamad Hasan Qari, Basmah Salman Almutairi, Bashayer hassan Shuaib, Marwah Ziyad Rambo, Manal Jobran Alrogi, Sulaf Zaki Alkhattabi, Dalya Abdulrahman Alqarni on July 2017 among 511 students aged 18-25 years enrolled at KAU in Jeddah, Saudi Arabia. The Pittsburgh Sleep Quality Index (PSQI) was used to evaluate sleep quality and habits, and Young's Internet Addiction Test was used to assess Internet addiction among students.

The main result of their study is that sleep quality was significantly higher in subjects with Internet addiction than those not addicted to the Internet. According to the results, more than half of the surveyed students (54.4%) reported being poor sleepers. They were also identified as mildly addicted to the Internet (22.8%). There 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. A total of 511 students participated; 350 (68.5%) were women. Poor sleep quality was found in 54.4% of the participants, whereas Internet addiction was found to be mild in 42.3 %, moderate in 29.9%, and severe in 1.8%. A significant correlation was found between sleep quality and Internet addiction (p = .00). [26]

CONCLUSION

Our findings show that there is a significant correlation between Internet Addiction and Sleep Quality among Physiotherapy College students, as using internet is increasing drastically in young people particularly university students.

FUTURE SCOPE AND SUGGESTIONS

Management should be planned to reduce harms of Internet addiction on young individuals and also to improve sleep Quality in Medical Students.

The Study must be conducted by making various groups such as First year, second year, third year, Final year, Interns and Post Graduate students.

LIMITATIONS

The Sample size is very small.

This study did not collect the diagnosis of sleep quality among participants, so there is no cut-off point of sleep quality based on clinical diagnosis, which may also limit the generalization of the results in this study.

Declaration by Authors
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