

Sleep Deprivation and Quantity related Incidence in Students of Medicine

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ABSTRACT

Aim: To assess the sleep deprivation and quantity related incidence in students of medicine.

Study design: Descriptive cross sectional study.

Place and duration study: Psychiatry Department, Balochistan Institute of Psychiatry and Behavioural Sciences, Quetta from 1st October 2020 to 31st March 2021 at the

Methodology: One hundred thirty-five students, both males and females, took part in this research. After obtaining written agreement, the detailed demographics of study participants such as age, body mass index, gender, marital status, socioeconomic and 18-30 years were recorded. Athens scale for insomnia was used for the estimation of how frequently people experienced insomnia.

Results: The mean age was 23.04±11.33 years and mean BMI 21.43±21.45 kg/m². There were 81(60%) males and 54(40%) females. One hundred and one (74.8%) patients had middle socio-economic status and 31 (25.2%) had upper class. Majority of the patients 135 (85.2%) were unmarried. The use of the AIS scale revealed that 59 (43.7%) of the patients had insomnia, among these majority were 39 (28.9%) females.

Practical Implication: The report is not accessible at the time of this writing. The outcomes of this study will allow insomnia specialists to develop evidence-based recommendations for the prevention and treatment of insomnia in students who are at risk of developing the condition in the first place. This analysis serves as a baseline for investigators.

Conclusion: Incidence of insomnia amongst medical students was significantly increased as a result of the stress of overachievement and late-night study sessions to achieve good grades and significantly higher as one's age increased. Furthermore, it is possible to reduce it to the entire sleeping period (8-12 hours) at night.

Keywords: AIS scale, Insomnia, Medical students, Demographic

INTRODUCTION

As the most widely recognized sleep disturbance and the most frequently reported sleep complaint^{1,2}, insomnia is the most common sleep complaint. The majority of people who suffer from insomnia have trouble commencing the sleep process or remaining asleep for more than seven hours³. As revealed by the National Sleep Foundation³, roughly 30 percent of adults suffer with insomnia. Individualized instructional environments, greater responsibilities, rigorous examinations, and the amount of time spent on studying can all contribute to sleep deprivation⁴. It is recommended that students sleep for around 7 to 9 hours every night^{5,6}. Medical students, on the other hand, are particularly susceptible to sleep-related issues. For students, sleep is not regard% to 77% of students suffer from poor sleep quality, with frequent awakenings, difficulty initiating sleep, unrefreshing sleep, or insufficient sleep. According to research conducted in different nations, the prevalence of insomnia among college students ranges from 9.4 percent to 56.7%⁸.

Despite the fact that the frequency of insomnia is escalating with each passing day, university students have not been received an attention as compared to their peers⁹⁻¹¹. An investigation indicated that approximately 30% of adult population is suffering from some degree of insomnia¹⁰ according to the findings. The estimated prevalence of sleeping problems among university students was reported to be in the range of 15-70%. There appear to be a variety of factors that influence the occurrence of sleep difficulties, including geographic location and testing methods among others. According to the studies, the way of evaluating insomnia differed from one another. Few studies suggested that frequency of insomnia was not relatively high when the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) or the International Classification of Sleep Disorders (ICSD) were used, whereas other studies highlighted that higher incidence of insomnia was observed when no restrictive and standardized

criteria were used¹⁰, and in some studies, the rate of insomnia was determined solely by using quantitative scales^{10,11}.

Sleep deprivation has been shown to be significantly connected with memory impairment and impaired learning capacity in university students¹², which can eventually lead to worse academic achievement. This has been demonstrated in particular with medical students.¹³In recent studies¹⁴⁻¹⁶, it has been found that the prevalence of insomnia among those students can range from 9.5 to 27%, stress, the pressure to attain notable accomplishments, physiological sleep issues throughout adolescence, and the irritating lifestyle of university dorms are only a few of the elements that can influence the mode of sleep for this group of students.

It has been found that a high frequency of sleep disorders among college students in various parts of the world, according to the researchers. Present literature suggested that exact prevalence of sleep disorders amongst college students of Jordan is still unknown. It is extremely crucial to recognize sleep disorders in this population since they are highly contagious. Result of the present findings will help to understand the academic burden on college students which is adversely impacting their academic accomplishments.

MATERIAL AND METHODS

A descriptive cross-sectional study was conducted at Department of Psychiatry, Balochistan Institute of Psychiatry & Behavioural Sciences, Quetta 1st October 2020 to 31st March 2021 and comprised 135 cases. After receiving informed consent, detailed demographics of the patients were recorded. Patients who had schizophrenia or any other psychiatric disease were eliminated, as were those who did Patient's detailed demographics were recorded after taking written consent not agree to participate. The patients ranged in age from 18 to 30 years. Class administrators were notified in advance of the session's time and location so that they could set up the lecture theatre. All participants were informed of the research objectives, the methodology of the analysis, and the proper approach to complete the questionnaire. Both

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procedures were carried out only with the consent of the participants, and all data was utilised solely for the purposes of the study. The Athens Insomnia Scale was used to determine how frequently people experienced insomnia (AIS). In addition, the socioeconomic and marital status of those who participated in the study was calculated by SPSS-25.

RESULTS

Mean age of the patients was 23.04±11.33 years with mean BMI 21.43±21.45 kg/m². 81(60%) patients were males and 54 (40%) patients were females. We found that 101 (74.8%) patients had middle socio-economic status and 31 (25.2%) had upper class. Majority of the patients 115 (85.2%) were unmarried(Table 1)

Table 1: Demographic information of the participants

Variables	No.	%
Gender		
Male	81	60
Female	54	40
Mean Age (years)	23.04±11.33	
Mean BMI (kg/m ²)	21.43±21.45	
Socioeconomic status		
Middle class	101	74.8
Upper class	31	25.2
Marital Status		
Yes	20	14.8
No	115	85.2

The use of the AIS scale revealed that 59 (43.7%) of the patients had insomnia, among these majority were 39 (28.9%) females (Table 2).

Table 2: Insomnia among medical students

Variable	No.	%
Insomnia		
No	76	56.3
Yes	59	43.7
Gender		
Female	39	28.9
Male	20	14.8

Fourteen (23.7 percent) of the 59 patients with insomnia reported frequent overnight awakenings, compared to 45 (76.3 percent) of those who reported insufficient sleep (Table 3)

Table 3: Association of sleep disorderswithinsomnia

Insomnia patients	No.	%
Insufficient sleep	45	76.3
Nighttime awakening	14	23.7

DISCUSSION

Insomnia is a most common worldwide sleep problem and the number of people suffering from it continues to grow¹. It is well documented that insomnia affects students all around the world. In the present study, mean age of the study participant's was 23.04±11.33 years with mean BMI 21.43±21.45kg/m². 81(60%) patients were males and 54(40%) patients were females. We found that 101(74.8%) patients had middle socio-economic status and 31(25.2%) had upper class. Majority of the patients 115(85.2%) were unmarried. Results of our research was compared to the literatures^{16,17}. This study showed that frequency of insomnia found among 59(43.7%) cases. Different regions of the world also reported similar incidence of insomnia¹⁸⁻²⁰. According to another study conducted in Pakistan, 77% medical-students described poor quality of sleep and 7.6% of them blaming self-medication for their insomnia. The insomnia incidence among university students is lower in several industrialized countries than it is in the United States and Canada. Approximately, 12% adult population of US suffered from insomnia, with 8% males suffering from the condition and 14 percent of women. It was found that

18.80 percent of Chinese people suffered from insomnia²¹, whereas 25.6 percent of Japanese people suffered from it²².

A comparison of sleep concerns among medical students with those among law and economics student's revealed that medical students had the highest incidence of poorer sleep and lower quality of life when compared to other student communities. Another study examined the sleep patterns of medical students with law students in India, and found that 60.8% of law students experienced rejuvenating sleep during the night, compared to only 47.1% of medicine students who slept during the night. Prevalence of insomnia was found in 40% of the study participants and females were more in number. Twenty-seven (27.27%) and fourteen (12.73%) of the participants were men. There have been other earlier studies that have shown outcomes that are equivalent to this one²³⁻²⁵. According to the findings of the study, as GPA decreased, the proportion of medicine consumed by those who had at least one sleep issue significantly increased. Academic performance was found to be inversely correlated with a high incidence of OSA, insomnia, depressive disorder, SSM, narcolepsy, and chronic respiratory disease (CRD). The effects of gender and weight, it was discovered that OSA showed no connection with overall academic performance of the students. This observed not only higher in males but obesity also worsening the case²⁶.

Fourteen (23.7%) of the 59 patients with insomnia reported frequent overnight awakenings, compared to 45(76.3%) of those who reported insufficient sleep²⁷. According to the findings of the students, stress showed no impact on sleep quality and time during week/weekends. This study, as a result, their sleep quality and sleep levels throughout the day may be compromised. There has been an established correlation between increased stress levels and sleep problems among college students, according to prior research investigations. Furthermore, several researches have provided support for the concept that stress further worsens the sleep quality among school going children. Certain patterns of sleep can be influenced by the age-specific circadian rhythm features of this age group. Overall, teens and young adults appear to have the slowest circadian rhythms compared to other age groups, caused by the circadian clock occurring around the age of twenty. It has been postulated that changes in the circadian rhythmic clock are caused by endocrine variables. The report is not accessible at the time of this writing. The outcomes of this study will allow insomnia specialists to develop evidence-based recommendations for the prevention and treatment of insomnia in students who are at risk of developing the condition in the first place. This analysis serves as a baseline for investigators. It will also help in giving clinical and scientific information for health policy makers to improve quality of life of students²⁸.

CONCLUSION

Incidence of insomnia amongst medical students was significantly increased as a result of due to stress of overachievement and late-night study sessions to achieve good grades and significantly higher as one's age increased. Furthermore, it is possible to reduce it to the entire sleeping period at night.

Conflict of interest: Nothing to declare

Ethical consideration: This study was approved by ethical committee of the institution.

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