



## Original Article

## Prevalence of Sleep Disturbance Among DPT Students

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## ABSTRACT

Sleeping is essential for student physical as well as mental health. Sleep disturbance is distressing state that affect quality of work. **Objective:** To determine the sleep disturbance in DPT students. **Methods:** This observational study recruited 884 participants out of which 800 filled the questionnaire with mean age  $21.54 \pm 1.76$  from different medical universities and medical colleges of Punjab. Non probability convenient sampling technique was used. Both male and female students of all the years of DPT were included. Students with psychiatric illness, chronic medical illness, smoking and taking drugs excluded from the study. The effects of insomnia were checked by Athens Insomnia Scale (AIS) questionnaire. For data analysis SPSS version 26 was used. **Results:** Mean age of the physical therapy students was  $21.54 \pm 1.76$ . Out of 800, 61.75% students were insomniac. Most of the students had unsatisfactory sleep quality (55.87%), awakening at the night time (62%), and day time sleepiness (76.25%). **Conclusion:** According to present study prevalence of sleep disturbance was very high among physical therapy students.

## INTRODUCTION

Sleep is a dynamic, recurring and reversible behavior that serves a no. of functions through brain and body. Learning abilities of students and their academic rewards are strongly associated with sleep timing, sleep quality and quantity. An individual sleep habits are measured by using quality and duration of sleep, regular sleep wake cycle and daytime napping [1, 2]. Adolescent sleep is defined as large difference between weekend and week days sleep patterns, including 1 and 2 hours longer sleep at weekend [3, 4]. While sleeping, nervous system is sluggish/inactive, eyes closed, postural muscles are relaxed and consciousness is delayed [5]. Alteration in sleep pattern is highly associated with adolescence duration. These changes ultimately will results in sleep deprivation in many adolescent students [3, 6]. Both, the environmental and

biological factors causing delay in bed time [3]. The most common medical conditions of sleep problems are insufficient sleep and excessive sleep that causes abnormal function and quality of life [7]. Insomnia, the most frequent sleeping problem, is the perception of poor-quality sleep because of certain conditions: awkwardness in falling asleep, awakening during the night, getting up too early in the morning [8]. Insomnia may be an existing problem in initiating sleep three nights in a week with a problem of poor sleep within a life span [9]. The sleep cycle of medical student is characterized by inadequate sleep duration, fluster sleep and the frequent episodes of daytime napping [10]. Many factors can change the sleep habits including use of coffee and tea, excessive internet use, and sleep medications. Furthermore, more than a few

medical issues disrupt sleep, consisting of obstructive sleep apnea, depression, continual sleep deprivation, narcolepsy [11]. Due to poor sleep, Human cognitive functions such as "learning and information processing are highly affected. Poor sleep quality decreases learning capabilities as well as academic performance. Napping help to improve academic performance as compared to short sleepers [8]. Sleep deprivation is the condition of no longer having enough sleep; can be both acute and chronic. Sleep deprivation is frequent among university students in both East and the West [12]. Females and higher-grade students are most commonly affected by sleep disorder [13]. Medical students are susceptible to poor sleep due to high workload of studies, duties in clinical areas, emotionally difficult work and lifestyle choices [5]. To find out the causes and ways for improving quality of life, there should be strong correlation between life style factors and sleep disturbances [14]. The mental health, physical health and working ability of a medical student is affected by sleep quality [15], these changes lead to medical errors and accidents [11]. The major concept of sleep assessment is also extremely sensitive to recognize the effects of sleep deficiency by MSLT (The Multiple Sleep Latency Test). Sleep latency value is typically declined by 60% or more after one night of total sleep deficiency [16, 17]. College students are at high risk of developing sleep disorders and their academic performance may be adversely affected [18]. Taking into consideration, their academic requirements, medical students may not find sleep as a top priority because they minimize their sleep time to have extra hours to study and work. They become apparent to poor sleep habits particularly during examination [19]. Sleeping hours before exam time has close association with exam scoring in medical students. Similarly, sleep disturbance before exams has been correlate with poorer academic grades[20].

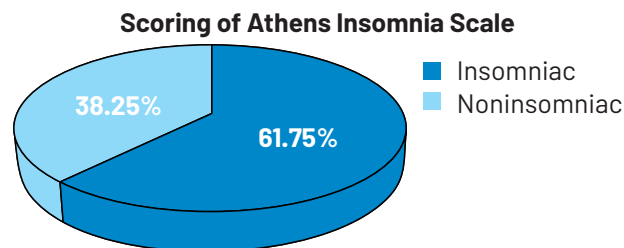
## METHODS

This cross-sectional observational study recruited 884 participants out of which 800 filled the questionnaire. Sample size was calculated through open Epi-tool. Students were recruited through non-probability convenient sampling method. Data were collected from different cities of Punjab. The inclusion criteria included both male and female students of physical therapy of all years. Students with psychiatric illness, chronic medical illness, smoking and taking drugs cause sleepiness were screened during interview and excluded from the study. Athens Insomnia Scale (AIS) questionnaire was used to assess insomnia, which contains 8 questions. The total score of these questions ranges from 0 to 24, higher the score the worse the sleep quality. According to scale

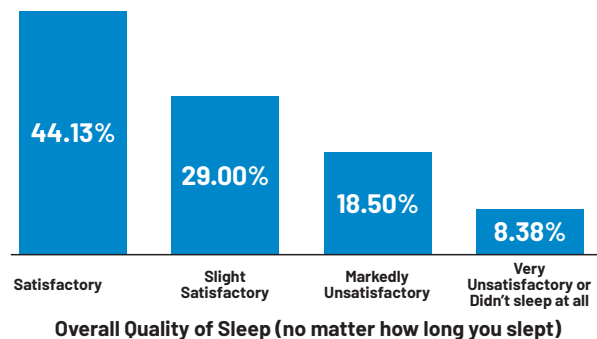
students with score of 6 or greater than 6 were considered insomniac, <5 no insomnia, 6-9 mild, 10-15 moderate, 16-24 severe insomnia. SPSS version 26.0 was used to analyze the data.

## RESULTS

Out of 800 respondents who filled the questionnaire 85.5% were females and 14.5% were males. The mean age of the students was  $21.54 \pm 1.76$ . According to scoring of Athens insomnia scale 61.75% were insomniac and 38.25% were non-insomniac (Figure 1).

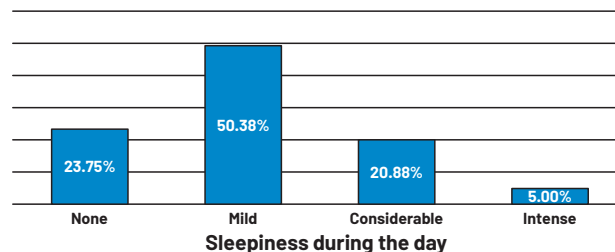


**Figure 1:** Total distribution of insomnia among students Majority of the students had sleepiness during the day (76.11%) while 23.75% had no problem at all (Figure 2).



**Figure 2:** Quality of sleep in DPT students

Results showed majority of the students had unsatisfactory sleep (55.86%) that categorized slightly, markedly and very unsatisfactory sleep 29%, 18.50%, 8.36% respectively (Figure 3) and awakening during the night 61.89% (Table 1).



**Figure 3:** Sleepiness during the day

Awakening during night	Frequency (%)
No problem	304 (38%)
Minor problem	289 (36.1%)
Considerable problem	164 (20.5%)
Serious problem / did not sleep at all	43 (5.4%)
Total	800 (100%)

**Table 1:** Awakening during the night

## DISCUSSION

For learning and memory, adequate and efficient sleep play important role. In this study our main focus is to find out the prevalence of insomnia in physical therapy students. In current study, 61.75% students were insomniac. A cross-sectional study was conducted at Debre Berhan University that showed similar results, prevalence of insomnia was high among students 61.6% [10]. In Brazil, a study reported that the prevalence of insomnia was 28% among medical students [21]. Likewise, another research was conducted in Iran on same topic revealed 42% students suffering from insomnia [19]. In all over the world this difference of insomnia prevalence among medical students may be due to different lifestyle, mode of study and working hours [22]. Current study determined sleep disturbance and reported 61.89% students had problems in awakening during the night that fall in various categories like serious, considerable and minor problem. Previous study conducted in 2011 among Palestinian students showed similar results on sleep problems, 64.8% students had at least one nocturnal awakening per night. In that study nightmares were the most common cause of nocturnal awakening reported by students [23]. Another study on disturb sleep that was held in 2018 in Tripura showed 57% students were complaining of sleep disturbance and 73.4% being wakeful whole night [5]. Above studies showed a large percentage of students had disturbed sleep and night awakening. Furthermore, Present study reported high prevalence of poor sleep quality and sleepiness during the day. According to research conducted on medical students in king Abdul Aziz University, Saudi Arabia revealed similar results [24]. Day time sleepiness may be due to less sleep duration during the night. By our research, we concluded that physical therapy students have high prevalence of sleep disturbance and poor sleep quality Majority of the students are insomniac, therefore students should be educated about the significance of adequate sleep and its beneficial effects on mental and physical health and on academic performance as well.

## CONCLUSIONS

The conclusion of the present study suggests that the prevalence of sleep disturbance is alarmingly high among physical therapy students. This means that a significant number of students pursuing physical therapy are

experiencing difficulties with sleep, which can negatively impact their academic performance, mental health, and overall well-being. It is important for educational institutions to acknowledge and address this issue, and to provide resources and support to help students manage their sleep-related difficulties. Furthermore, the findings of this study may have implications for other health professions students as well, as the demands of these programs can be similarly intense.

## Conflicts of Interest

The authors declare no conflict of interest.

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