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Research Article

EXCESSIVE DAYTIME SLEEPINESS AMONG PHYSICAL THERAPY STUDENTS

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Abstract:

Introduction: Excessive daytime sleepiness (EDS) is referred to as difficulty staying awake and alert during most of the waking hours of the day resulting in involuntary intervals into drowsiness. Disturbed sleep of an individual can result in adverse health penalties and decreased work potential. In Pakistan, most of the medical fields are under development process and Physical therapy is one of the neglected fields in Pakistan due to poor resources and awareness. Physical Therapy students are considered to be at high risk of developing sleep-related problems as they usually experience poor field satisfaction along with high psychological pressure and academic demands. Therefore, sleep-related problems such as excessive daytime sleepiness, sleep disturbance, and poor sleep quality remain major issues of interest in physical therapy students.

Objective: To describe the daytime sleepiness among Physical Therapy Students of Lahore college of physical therapy Pakistan.

Methodology: A descriptive cross-sectional study was conducted on physical therapy students of Lahore College of Physical Therapy. A total of 114 students were recruited through nonprobability convenience sampling. Data was noted through a self-administered questionnaire. Epworth scale of sleepiness was used to assess the daytime sleepiness among Physical Therapy students and data was analyzed through SPSS version 21.

Results: The majority of participants reported severe daytime sleepiness. In a sample size of 144 (n=114), 11.4% of students reported no daytime sleepiness (score within normal range 1-6), 16.7% of students reported mild to moderate daytime sleepiness (score 7-8), 71.9% of students reported severe daytime sleepiness (score above 9).

Conclusion: In conclusion, most physical therapy students suffer from excessive daytime sleepiness. Efforts directed towards educating physical therapy students about proper sleep hygiene can have a positive impact.

Keywords: Medical students; excessive daytime sleepiness; Sleep hygiene; Physical Therapy, Anxiety

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INTRODUCTION:

Sleep is an indispensable event for every individual as it is a vital physiological component of a healthy life. Sleep quality largely depends on an individual's mental and physical health, along with several other factors affecting overall well-being [1]. For adolescents (10-17 years old), recommended duration of normal sleep is 8.5- 9.5 hours/night, and individuals more than eighteen years of age are suggested to obtain 7-9 hours of sleep/night [2].

However, in addition to the normal sleep duration, individuals also need a proper sleep pattern which varies widely between entities and is affected by many factors. Moreover, sleep deprivation is known to cause adverse health consequences. Many sleep-related problems such as excessive daytime sleepiness (EDS), sleep disturbance, and poor sleep quality are chief problems of interest in the general population with inauspicious health events [3]. Excessive daytime sleepiness (EDS) is referred to as difficulty staying awake and alert during most of the waking hours of the day resulting in involuntary intervals into drowsiness [4].

Physical therapy students are one of the significant subgroups of the general populace who appear to be especially at high-risk of developing sleep-related problems, possibly due to lack of instructive and professional prospects, unfortunate prospects despite the long duration and high intensity of study schedules, hectic clinical duties late-night work shifts, work that can be emotionally provocative. Unnecessary daytime drowsiness can occur among physiotherapy students due to sleep disturbance caused by huge professional competition, hectic clinical work, daily exposure to numerous patients, enormous academic demands especially during the period of exams which cause lassitude, anxiety, and somnolence [5].

Investigations on sleep-related difficulties in undergraduate physical therapy students are of explicit

concern because of the noteworthy association between sleep and mental wellbeing and the interest that the academic demands of medical training can cause fairly huge stress [6].

Foremost risk factors related to unnecessary daytime sleepiness among physical therapy students include sleep disturbance, psychological stress by time pressure, use of sedative drugs, inordinate working hours, obligations they have toward patient's health, the burden of studies, late-night shifts, environmental stress, depression, substance abuse, bad sleep habits, dormitory environment, late bedtimes and physical illness [7]. Pre-sleep thoughts i.e., active thinking, badgering, designing, and analyzing at bedtime are strongly associated with insomnia [6]. Excessive use of electronic media at the time of bed is also related to sleep difficulties and unnecessary daytime sleepiness [8]. Sign and symptoms of sleepiness include trouble staying alert in important hours of daytime, exhaustion, irritability, poor attention, concentration, and diminished cognitive function [9, 10]

In Pakistan, literature about sleep hygiene among physical therapy students is deficient; no studies have been accompanied on excessive daytime sleepiness among physical therapy students in Pakistan and Lahore College of physical therapy (LCPT).

The rationale of the current study is to draw attention towards daytime sleepiness and sleep hygiene among Physical Therapy students to improve their general health, cognitive and physiological function through appropriate measures thus curtailing the adversative penalties linked with sleepiness and sleep disturbances in the future researches.

MATERIAL AND METHODS:

A descriptive cross-sectional study was conducted in the Lahore College of physical therapy (LCPT), Lahore, after approval from the ethics committee of LCPT. The study included a total of 114 students of LCPT (89 females and 25 males) by using a

nonprobability convenient sampling technique according to a set inclusion and exclusion criteria. Students with diagnosed pathological disorders affecting sleep and taking sedative drugs or narcotics for any acute or chronic conditions were omitted from the study. Consent was taken from the students before participation in the study and data was calculated by using the Epworth scale of sleepiness (ESS), which consists of a total of 8-items for measuring the overall aptitude of an individual to stay attentive and awake during fundamental instants of daytime. These eight items internment an individual's predisposition to fall asleep during generally encountered situations. Zero to three (0-3) scores of the Likert scale are used to measure each item of the Epworth scale of sleepiness (individual's answer according to their agreement/disagreement). A single score (0-24) is

obtained by adding scores of eight questions of ESS, (score=10 is taken as excessive daytime sleepiness, a score ranging from 1-6 or less than 6 indicates good quality of sleep), [11].

Data interpretation was completed by using SPSS version 21. The respondents were assured that their responses will remain confidential.

RESULTS:

A total of 114 students from Lahore College of Physical Therapy, Lahore were included in the study. Results of this descriptive cross-sectional study showed a large number of students suffering from severe daytime sleepiness whereas, scores of only a few students showed that they do not experience excessive daytime sleepiness.

Table 1: shows the frequency of males and females, in a sample size of 114 students, 89 participants were females and 25 were male participants

Frequency		Percent
Female	89	78.1
Male	25	21.9
Total	114	100.0

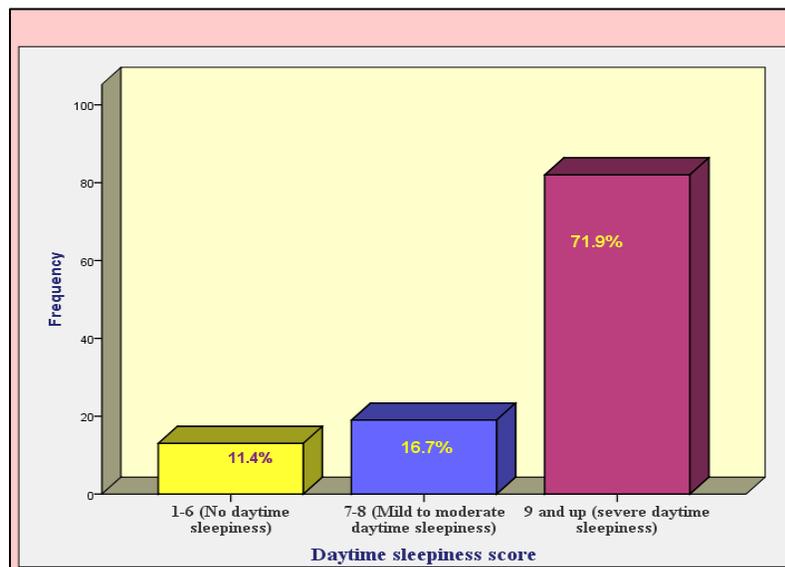


Figure 1: Total Score of Epworth Scale Sleepiness, shows the total score of the Epworth scale of sleepiness (ESS) of all the participants. In a sample of (n=114), 13 (11.4%) students reported no daytime sleepiness (score within normal range 1-6), 19 (16.7%) students reported mild to moderate daytime sleepiness (score 7-8) and 82 (71.9%) students reported severe daytime sleepiness (score above 9).

DISCUSSION:

Scant sleep and unnecessary daytime sleepiness can cause invigorating and ruinous effects on the learning process and can induce decreased cognition, poor performance, decreased capacity to perform, intellectually demanding or non-stimulating tasks, and concentration. It can lead to poor academic performance as well as various undesirable effects that might be life-threatening for an individual [12].

Likewise, previous literature states that medical students are one subgroup of the overall populace who appear to be particularly at great threat of evolving sleep-related difficulties, due to extended periods of work and high intensity of study causing anxiety and restlessness [13].

The frequency of depression, anxiety, and stress was measured in a descriptive cross-sectional study in undergraduate physical therapy students and measured 48%, 68.54%, and 53.2% of the frequency of depression, anxiety, and stress among these students. The study concluded that there is a high level of stress among undergraduate physical therapy students and recommended that there is an urgent need to take important measures to promote the overall well-being among physical therapy students [14].

Moreover, the literature on professional satisfaction and the future perspective of physical therapists concluded that physical therapists demonstrate poor satisfaction regarding the quality of education and job earnings [5]. In addition to that a study on medical students of Tripoli University, Libya stated that out of 201 participants, 79 students showed ESS score greater than 10 demonstrating excessive daytime sleepiness while 92% of participants reported poor satisfaction of sleep quality [15]. In addition to that, Surani et al, 2015 also concluded that 40% of medical students experience poor sleep quality with 21% of students experiencing excessive daytime drowsiness more frequently associated with the female gender [16].

The current study showed that in a sample of (n=114), 16.7% of physical therapy students reported mild to moderate daytime sleepiness with an average score (7-8), and 71.9% of physical therapy students reported severe daytime sleepiness with a score (above 9). Daytime sleepiness among medical students of LCPT (Lahore College of Physical Therapy), stated by our study is constant with the results described by Taher YA et al, 2012 but greater as compare to other studies conducted on medical students and study accompanied by Surani et al, 2015 [16].

A possible explanation of this high rate of daytime sleepiness in our study can be that Surani et al accompanied study on overall medical students with a higher sample size 504 and included students from the first year to final year and separate data on physical therapy students was deficient, while in our study sample size was small 114 students but the data was specifically taken from physical therapy students of 3rd, 4th, and final year students. It can also be accredited to differences in study design, traditional, cultural, and geographical variability between studied populations and it can also be due to the higher frequency of female participants in our study and differences in geographical variability between studies and population. Deprived sleep and poor quality among females can be somewhat elucidated by reportedly increasing sleep complaints and sleep instabilities among females. Ethnic and social standards of our civilization where ladies are vigorously involved in domestic responsibilities can also explain such gender numerousness [16].

This study has some gaps which author wants to highlight. First, since the study population was taken from one setting Lahore College of Physical Therapy, LMDC Pakistan due to shortage of time, it doesn't represent all university students of physiotherapy. Second, the self-reported questionnaire might contain inaccurate answers, although we tried to eliminate this defect by having direct contact with the participants. A third limitation is that the current study is cross-sectional, the possibility of recall bias cannot be ruled out. Finally, our study lack baseline data about the sleep habits of students at the time of admission to the college.

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Conflict of Interest:

There was no conflict of interest among the writers.

Ethics Approval:

The study was permitted by the ethics committee of Lahore College of Physical Therapy, Lahore, Pakistan.

Funding:

This study was not funded by any source.

Consent:

The purpose of the study was clearly explained and consent (written + verbal) was taken from all the participants.

Author's Contribution:

SM persuaded the idea and accomplished the bench work, ZM transcribed the manuscript, MR assisted in sampling and data analysis, MN facilitated in designing the project, MN and MH assisted in data collection, ZM generally supervised the project and confirmed the manuscript.

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