

# Insomnia and Associated Factors among Healthcare Students: Post Pandemic Cross Sectional Survey

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**Abstract Background:** Insomnia is the most ignored problem among healthcare students. The complexity of the healthcare courses gives more academic pressure. The pandemic had significantly affected health, the educational system, and students' habits. The pre-pandemic studies reported more sleep problems among healthcare students. So this study is essential to identify the current status of insomnia among students. **Aim:** The major aim of this study was to identify the prevalence and severity of insomnia among healthcare students after the COVID-19 pandemic and to examine the association between insomnia and selected variables. **Materials and methods:** This cross-sectional web-based survey was conducted among 300 healthcare students at the University of Tabuk, Saudi Arabia. Students were surveyed using the Insomnia Severity Index (ISI) to identify the prevalence of insomnia. **Results:** The prevalence of insomnia among healthcare students is as follows: No insomnia (17.33%), subthreshold insomnia (49.33%), moderate insomnia (31.33%), and severe clinical insomnia (2%). The mean score on the ISI was  $12.37 \pm 4.77$ . 77% of the students reported that academic load affected their sleep patterns. The usage of social media and online games at night was high among students. Participants' age, sleep hours, quality of sleep, academic load, drinking coffee or tea before bedtime, snoring, medical problems, smoking, and usage of social media & online games at night had a significant effect on the sleep pattern. **Conclusions:** The results of this study emphasized the necessity of sleep education and sleep hygiene among medical students. There is an urgent need for further studies to focus on health status and sleep

disturbance, sleep patterns and learning capabilities, and interventional studies to improve sleep patterns. Enhancing sleep self-awareness among medical students is necessary for managing this issue.

**Keywords** Insomnia, Health Care Students, Quality of Sleep, Insomnia Severity Index, Prevalence of Insomnia

## **1. Introduction**

In everyone's life, sleep is an important phenomenon. We spend around one-third of our life on that. Sleep is an important part of the physiological phenomena of nature for every organism as a resting period. Insomnia is a sleep disorder that is characterized by an inability to initiate or stay asleep for long [1]. Insomnia is the perception of a lack of sleep or an abnormal sleep pattern. In this study, insomnia is defined as "difficulty in falling asleep or staying asleep". The person with insomnia might have difficulty initiating sleep, shorter duration of sleep, frequent awakenings, and nonrestorative sleep. Globally, more than 1 billion are thought to suffer from sleep disorders [2].

Insomnia causes daytime tiredness, excessive daytime sleepiness (EDS), mind or feeling changes, and reduced mental as well as physical functioning. The following factors can contribute to insomnia: depression, anxiety, stress, drug abuse, medical problems, or other sleep disorders, but for some persons, it might be without any

underlying cause [3]. Inadequate sleep results in several disorders such as physical, mental, and emotional well-being [1]. Inadequate sleep pattern is associated with the development of chronic diseases such as hypertension, diabetes, depression, obesity, and cancer [2]. Insomnia could lead to irritability and increased possibility of accidents in working with machines and also in driving. The major concern among healthcare students regarding the effect of insomnia is errors in patient care. The first and most common effect of insomnia is daytime sleepiness. Insomnia is also secondary to other medical problems. Adequate rest and sleep are important for every individual to maintain good health. Sleep problems can contribute to the risk of health problems [4]. Early diagnosis is important to treat appropriately.

Globally medical students are more prone to sleep disorders. The prevalence rates among medical students are not only common, but it was also higher than that of non-medical students. The prevalence of insomnia among the various international studies had shown a rate of 27.32% to 82.5% [5-7]. Studies from various parts of Saudi Arabia had shown a high percentage of insomnia among the students: Majmah University - 37.7% [9], Eastern province - 80.6% [10], Riyadh - 75.3% [11], Qassim - 63.2% [12] and Umm Al Qura - 73.8% [13]. Most of these studies had focused on all the university students; some studies indicated the rising concern of insomnia among medical students, too. It was also reported high among the general population. Forty one percent of the general population reported sleep disorders from a study at King Fahd City, Saudi Arabia [2]. Primary care setting, Saudi Arabia reported a prevalence of level 1 (19.3%) and level 2 (57.1%) insomnia among the population who attend primary health care in KSA. But none of them have reported or taken treatment for their insomnia in their previous visits to the health center. This study reveals the severity and public ignorance of insomnia [14].

Long working hours and feelings of sleepiness reported with work-related accidents in the medical field [14, 15]. The following lifestyle practices of the modern era are reported to affect sleep patterns. This includes taking caffeinated beverages, alcohol consumption, smoking habits, heavy exercising, napping during the daytime, improper bedtime, smartphone addiction, television watching habits, and waking up habits [12-18]. Academic load, clinical duties, and physical inactivity were reported as factors for insomnia among the students [8-10]. Students are not aware of the importance of good sleep. Most of them neglect to have good sleep patterns. They are not aware of the poor sleep and sleep deprivation effects on the overall health of the human being.

COVID-19 had a significant effect on mental health and sleep pattern. The most vulnerable population was healthcare students with poor quality of sleep and stress during the pandemic. Medical students had shown an alarming level of sleep deprivation [19]. Irregular sleep patterns and psychological stress levels increased among

the students during the pandemic [20]. The identified risk factors causing sleep disturbance during the COVID-19 pandemic were physical inactivity, more screen time, anxiety, and being dissatisfied. A study reported 45% of prevalence of poor sleep patterns during the pandemic among medical students [21]. During the pandemic, most of the students were on electronic devices and they spent less time on physical activities.

The general health and academic performance of the students are affected by sleep problems [9]. Stress, anxiety, and depression are the major psychological effect of sleep problems [12]. The students from the medical courses face more challenges in terms of learning and assessment. The balanced curriculum with theory and clinical courses increases the stress level. Sound physical and mental states are important for the active learning process. Most of the available studies are conducted among general students. COVID-19 had significantly affected study habits, learning processes, sleeping habits, and academic success. Most of the literature on insomnia is on general students. Very few studies are focused on medical students. Especially there was no such study conducted in the Tabuk region during and after the pandemic. This study helps to identify the severity of after pandemic. This study's results could be more beneficial to improve the student's health and academic performance. So the researcher was interested in conducting this study among the healthcare students at the University of Tabuk.

## Objectives

1. To assess the levels of insomnia among healthcare students.
2. To identify the factors contributing to insomnia among healthcare students.
3. To examine the association between good quality of sleep, academic scores, academic load, and the levels of insomnia.

## 2. Methods

### 2.1. Design, Setting, and Population

This cross-sectional descriptive web-based survey was conducted among healthcare students at University of Tabuk from January to April 2022. The study design was chosen because of its ability to answer the study goals in a time and resource-efficient manner. The study populations included healthcare students from three distinct colleges: Medicine, Pharmacy, and Applied Medical Sciences (Nursing, Physical Therapy (PT) and Medical Lab Technology (MLT)).

### 2.2. Sampling

The sample size was estimated with Rao soft based on

the prevalence rate of previous studies with a 95% confidence level & precision of 5%. The sample size was 300. The participants were recruited by convenience sampling. The participants were contacted through social media and also through the department. The participants were included based on the following criteria:

#### Inclusion Criteria

- The students who were willing to participate in the study.
- Only healthcare students from medical, nursing, pharmacy, lab technology and physical therapy were included.

#### Exclusion Criteria

- The students who were not interested or not consented to participate in the study
- Students from outside of the main campus of the University of Tabuk were excluded.

### 2.3. Data Collection Procedure

Initially, the researcher took permission from the local ethical committee of the University of Tabuk and the department. The data were collected by web-based survey in google forms. The initial section of the survey was given with adequate information about the need and usefulness of this study. Participation in this study was purely based on their interest.

This survey consisted of 3 sections.

Section A: It consisted of 8 items related to sociodemographic variables. It includes age, gender, course of study, year of study, hours of sleep per day, good quality of sleep, academic load and academic performance. Academic performance was assessed using students' Cumulative Grade Point Average (CGPA).

Section B: It consisted of 10 items related to the factors or habitual pattern that contributes to insomnia. These factors were identified in the previous literature.

Section C: It included the validated Insomnia Severity Index (ISI) in English [19]. This tool includes seven items regarding students' perception of insomnia in the last month. These items are targeted towards initiation of sleep, maintenance of sleep, awakening in the early morning, dissatisfaction with sleep, interference of sleep with day-to-day activities, distress due to sleep problems and noticeability of sleep problems by others. The items of this scale were on 5-point liker scale and scored 0-4, with total scores ranging from 0 to 28.

The results were interpreted as follows: Total score categories:

- 0–7 = No clinically significant insomnia
- 8–14 = Subthreshold insomnia

15–21 = Clinical insomnia (moderate severity)

22–28 = Clinical insomnia (severe)

The internal validity of the ISI was 0.75. It is a commonly used insomnia severity scale among students. This tool was found to be more suitable for this study [19].

### 2.4. Ethical Consideration

As the part of ethical consideration, this study was approved by the local ethical committee of the University of Tabuk and also permission was taken from the head of the departments. The participation was voluntary with sufficient pre-instructions about the study along with the link. An anonymous self-administered questionnaire was used to collect the data with the assurance of confidentiality of information.

### 2.5. Statistical Analysis

Data were organized and analyzed by Statistical Package for the Social Sciences (SPSS) (Version 21.0). Computation of frequencies and percentages was done for the analysis of sociodemographic and other factors contributing to insomnia. Mean and standard deviation (SD) were used to analyze the insomnia severity. The chi-square test was used to analyze the association between the selected factors and insomnia level at a 95% confidence interval (CI) and 0.05 significant levels. The difference between selected groups was analyzed by ANOVA with Post Hoc Test -Tukey Test.

## 3. Results

Table 1 describes the socio-demographic characteristics of the participants. More than one-third of the students were in the age group of 20-21 (37%), and only 11% of the participants were between 18 -19 years of age. The male participants (52%) were slightly higher than the female participants (47.6%). This study includes participants from various healthcare programs: Nursing (32%), Medical Lab Technology (18%), Medicine (17%), Physical therapy (16.3%), and Pharmacy (16.6%). More than one-fourth of the students were studying in the fourth year (26.6%). Nearly one-fifth of the participants were in the internship or in the fifth year of the medical program (24%). More than one-fifth of the participants reported less than 5 hours of sleep on average/ day. More than three fifth of the participants (64.6%) reported not having a good quality of sleep at night. More than two fifth of the participants (41%) had an academic score of 3.5 and above.

**Table 1.** Frequency and percentage wise distribution of demographic data. (n=300)

Demographic variables	Frequency	Percentage
1. Age in years:		
18-19	33	11
20-21	111	37
21-22	79	26.3
23 and above	77	25.7
2. Gender:		
Male	157	52.33
Female	143	47.67
3. Course studying currently:		
Medicine	51	17
Nursing	96	32
Medical Lab technology	54	18
Physical therapy	49	16.33
Pharmacy	50	16.67
4. Academic year:		
First year	53	17.67
Second year	42	14
Third year	53	17.67
Four year	80	26.67
Five year and above	72	24
5. How many years you sleep average per day:		
<5 hours	66	22
6 hours	85	28.33
7 hours	100	33.33
8 hours and above	49	16.33
6. Good quality of sleep:		
Yes	106	35.33
No	194	64.67
7. Academic score Cumulative Grade Point Average (CGPA):		
<2.49	63	21
2.5-2.99	55	18.33
3-3.49	59	19.67
3.5 and above	123	41

**Table 2.** Item wise distribution to assess the questions related to the habitual pattern

QUESTIONS	'Yes' answered		'No' answered	
	f	%	f	%
Drink coffee or tea before the bed time	100	33.3	200	66.7
Any medical problem that affects your sleep pattern	80	22.6	220	73.3
Snoring at night	111	37	189	63
Exercise regularly	125	41.67	175	58.33
Consume dinner late at night	169	56.33	131	43.67
Sleep at Day time	183	61	117	39
Smoke	74	24.6	226	75.3
Spend more time at night in social media	201	67	99	33
Spend more time in online games at night	137	45.67	163	54.33
Any over the counter pills to improve the sleep pattern	119	39.67	181	60.33

Table 2 identifies participants' responses to insomnia risk factors. From the total participants, one-third of them reported drinking coffee or tea before bedtime (33.3%), one-fourth of them perceived that having a medical problem that affect their sleeping pattern(25.3%), more than half of them reported eating dinner at late night(56.33%), 37. percent of the participants reported snoring at night, more than half of the participants did not have regular exercises (58.3%), more than three-fifths of them reported day time sleepiness (61%), nearly one-fourth of them were smokers (24.6%), more than two thirds of them spend a lot of time at night in social media(67%), forty six percent of the students spend more time in online games at the night, nearly two fifths of the participants were taking over the counter pills to improve their sleeping pattern (39.6%).

Table 3 identifies the severity of insomnia among the healthcare students at the university of Tabuk. Out of the total participants; there were 17.33% of them in no clinically significant insomnia, half of them (49, 33%) were having subthreshold insomnia, and nearly one-third (31.33%) the participants were having moderate insomnia. And only 2% of the participants were having severe clinical insomnia.

Table 4 identifies the result of post hoc Tukey test with significant differences between ISI and age was identified (F=2.658, P=0.04). Lower scores on ISI were observed between 18-19 years of age (10.9±5.52) and higher scores of ISI were observed among 23 years and above (13.49±4.23). A significant difference was identified between ISI and average hours of sleeping (F=3.551,

P=0.015). Higher scores of ISI were found among the participants who sleep less than 5 hours(13.92±4.90) and lower scores of the participants who sleep 8 hours and above (11.39±5.21). This shows increasing sleep hours leads to less insomnia severity. The fifth year of students reported a higher mean in ISI than other groups. Medical Lab Technology and Physical therapy students reported a higher mean in ISI than other students. No difference in ISI scores was observed between the male and female students. However, the scores of the ISI among the female students were higher than the male students.

Table 5 depicts the association between the associated factors of insomnia and the insomnia severity index. The students who drink coffee or tea before bedtime ( $\chi^2=8.772$ , p=0.032\*), medical problems ( $\chi^2 = 8.772$ , p=0.032\*), a habit of snoring ( $\chi^2=7.770$ , P=0.051), smoking ( $\chi^2 = 10.71$ , p=0.01\*), spending more time at night in social media ( $\chi^2 =8.145$ , P=0.038) and online games ( $\chi^2 =11.768$  P=0.008) were associated with severity of insomnia.

Table 6 describes the associations between the quality of sleep, academic score, and insomnia severity index. The students who reported good quality of sleep reported fewer scores in the insomnia severity index. A significant difference was observed between the quality of sleep and insomnia severity index ( $\chi^2 =20.97$ , P<0.001). There was more percentage of students with a GPA of 3.5 and above scores reported insomnia. Overall no significant association was observed between the CCPA and insomnia severity index. A significant association was found between the academic load and the severity of insomnia ( $\chi^2 =9.98$ , P=0.018).

**Table 3.** Insomnia, ISI scores and Interpretation

Variable	Frequency	Percentage	Insomnia Scores (Mean & Standard deviation)
Insomnia			12.37 ±4.77
Present	248	82.7	
Absent	52	17.3	
ISI interpretation			
No Insomnia	52	17.3	
Subthreshold	148	49.3	
Moderate	94	31.3	
Severe	6	2	

**Table 4.** Differences between the selected demographic variables and severity of Insomnia

Demographic variables	n	Severity of insomnia	F/'t'-value (p-value)
		Mean $\pm$ SD	
1. Age in years:			F=2.658
18-19	33	10.9 $\pm$ 5.52	P=0.049*
20-21	111	12.05 $\pm$ 4.55	S
21-22	79	12.34 $\pm$ 5.08	^18-19
23 and above	77	13.49 $\pm$ 4.23	VS 23 and above(P=0.045)
2. Gender:			't'=1.324
Male	157	12.03 $\pm$ 4.81	P=0.186
Female	143	12.76 $\pm$ 4.72	
3. Course studying currently:			F=2.219
Medicine	51	11.29 $\pm$ 5.58	P=0.067
Nursing	96	11.72 $\pm$ 4.33	
Medical Lab technology	54	13.20 $\pm$ 5.03	
Physical therapy	49	13.39 $\pm$ 3.85	
Pharmacy	50	12.84 $\pm$ 5.00	
4. Academic year:			F=0.615
First year	53	12.45 $\pm$ 5.56	P=0.652
Second year	42	11.86 $\pm$ 4.43	
Third year	53	12.13 $\pm$ 4.72	
Four year	80	12.11 $\pm$ 4.78	
Five year and above	72	13.08 $\pm$ 4.39	
5. How many years you sleep average per day:			F=3.551
<5 hours	66	13.92 $\pm$ 4.90	P=0.015*
6 hours	85	11.78 $\pm$ 4.41	S
7 hours	100	12.34 $\pm$ 4.58	^<5 VS 6
8 hours and above	49	11.39 $\pm$ 5.21	(P=0.03)
			^<5 VS 8hrs above
			(p=0.024)

\*p<0.05 significant, \*\* p<0.01, & \*\*\*p<0.001 Highly significant., ^POST HOC TEST -TUKEY TEST

**Table 5.** Association between the insomnia risk factors and insomnia severity index

Clinical questions	No		Subthreshold		Moderate severity		Severe		Chi -square test	
	f	%	f	%	f	%	f	%	$\chi^2$ -test	p-value
Do you drink coffee or tea before the bed time?										
Yes	19	6.3	39	13	38	12.7	4	1.3	8.772	0.032*
No	33	11	109	36.3	56	18.6	2	0.7		
Are you suffering from any medical problem?										
Yes	9	3	37	12.3	30	10	4	1.3	8.772	0.032*
No	43	14.3	111	37	64	21.3	2	0.7		
Do you have the habit of snoring while sleeping?										
Yes	17	5.7	48	16	44	14.7	2	1.3	7.770	0.051*
No	35	11.7	100	33.3	50	15	4	0.7		
Are you doing exercise regularly?										
Yes	20	6.7	57	19	45	15	3	1	2.486	0.479
No	32	10.7	91	30.3	49	16.3	3	1		
Do you have the habit of eating before bed time?										
Yes	28	9.3	83	27.7	52	17.3	6	2	4.825	0.185
No	24	8	65	21.7	42	14	0	0		
Do you have the habit of day time sleep at most of days?										
Yes	28	9.3	90	30	62	20.7	3	1	2.397	0.494
No	24	8	58	19.3	32	10.7	3	1		
Do you have the habit of smoking at least 1 hour before sleep?										
Yes	10	3	30	10	30	10	4	1.3	10.719	0.01*
No	42	14	118	39	64	21	2	0.7		
Do spend more time in social media at night?										
Yes	41	13.7	103	34.3	54	18	3	1	8.145	0.038*
No	11	3.7	45	15	40	13.3	3	1		
Do you spend time in online games in the mobile phones at night?										
Yes	14	4.7	67	22.3	53	17.6	3	1	11.768	0.008*
No	38	12.7	81	27	41	13.7	3	1		
Did you take any over the counter pills to improve the sleep pattern?										
Yes	15	5	59	19.7	42	14	3	1	3.802	0.284
No	37	12.3	89	29.7	52	17.3	3	1		

\*p<0.05 significant

**Table 6.** Association between quality of sleep, academic scores, academic load and insomnia severity index

Demographic	No		Subthreshold		moderate severity		severe		Chi -square test	
	f	%	f	%	f	%	f	%	$\chi^2$ -test	p-value
1. Good quality of sleep:										
Yes	31	10.3	51	17	21	7	3	1	$\chi^2 = 20.97$	P<0.001*** HS
No	21	7	97	32.3	73	24.3	3	1		
2. Academic score CGPA:									$\chi^2 = 9.68$	P=0.377
<2.49	7	2.3	28	9.3	27	9	1	0.3		
2.5-2.99	10	3.3	31	10.3	12	4	2	0.7		
3-3.49	10	3.3	33	11	15	5	1	0.3		
3.5 and above	25	8.3	56	18.7	40	13.3	2	0.7		
3. Perceived academic load									$\chi^2 = 9.98$	P=0.018*
Yes	32	10.6	118	39.3	78	26	4	1.3		
No	20	6.6	30	10	16	5.3	2	0.6		

\*p<0.05 significant, \*\*\*p<0.001 Highly significant

## 4. Discussion

In this study, 83% of the students reported the following level of insomnia: subthreshold insomnia (49.33%), moderate insomnia (31.33%), and severe clinical insomnia (2%). Most of the studies had shown a significantly higher and moderate level of insomnia among undergraduate students, especially among medical students [20-23]. Alhadi & Alhuwaydi [23] and Alhusseini et al. [11] reported the high insomnia prevalence among Saudi university students during the COVID-19 pandemic. A study from India reported that 52% of undergraduates suffer from some form of insomnia, in that 29.8% of them were mild and 17.1% were moderate and 5.1% were severe [24]. These results necessitate the attention of the academician and the curriculum developers to plan interventional strategies. Various studies had used different scales on measuring sleep patterns and insomnia [9, 10, 12, 17]. The results of these studies indicated the necessity of the development of a unique tool for measurement.

The mean score of ISI in this study was  $12.37 \pm 4.77$ . This finding was slightly higher than the study from Jordan ( $11.2 \pm 5.2$ ). The finding of responses with the quality of sleep and sleep hours on the impact of sleep is similar to the Jordanian study [25]. These findings were also similar to the study in Multan on the prevalence of insomnia [26]. The post pandemic might have influenced the scores to the higher range.

A study from Riyadh, KSA reported a significant association between ISI and female sex, being married, living in the eastern region, studying in scientific colleges, and having a relative or acquaintances who got COVID-19 [11]. A study from King Saud university students and also from a study in Multan had reported significantly higher insomnia among female students than the male students [23, 26]. In the present study, there was no significant difference observed between the male and

female students, but a slight increase in ISI scores was noted among the female students. These results were congruent with the studies from national and international eastern provinces [10, 17]. These studies reported higher scores of ISI among female students. Female students take more efforts to succeed in their academic careers. The finding also proved that the students with higher GPAs had higher scores in ISI.

In the present study participants from the older age group reported significantly higher scores in ISI than the younger ones. These results were contrastingly higher among the younger students from another study in Saudi Arabia [11]. The students in the fifth year of Medicine and students from internship had higher insomnia severity than in other years. Busy academic schedules and heavy academic load are the leading factors for poor sleep quality [11]. Another study from Benghazi University reported that the younger students had two and half times poor quality of sleep than old students [17]. This finding was similar to the study from Multan [26]. Some of the studies reported different findings that the students from the middle of the program had higher insomnia scores than others [17, 23].

This study reported spending more time at night on social media and online games was significant in insomnia severity. These findings were congruent with the findings of a study from India, Umm Al Qura and Majmah University, KSA [13, 17, 27]. In these studies, Smartphone usage was highly prevalent among the students at bedtime which increased the chances of getting insomnia, poor sleep quality with low academic performance [27]. In a study from Bhubaneswar, India had reported that engagement of electronic devices for a longer period of time was significant with higher BMI (obesity)  $p < 0.001$  [28]. The same study from India reported the association between the sleep duration and the use of electronic devices [28].

In this study, there was a significant association between



the high academic load and the severity of insomnia on ISI ( $\chi^2 = 2.89$ ,  $P=0.040$ ). A higher CGPA with high scores on ISI was observed. A study from an eastern province reported a significant impact on academic performance was noted among students with poor sleep [11]. Most of the studies identified a significant association between poor academic performance among students with insomnia [11, 30, 31]. Surprisingly a study from Riyadh, Saudi Arabia reported no significant association between the academic performance and sleep quality [29]. This Saudi Arabian study also reported the compensation effect of day time nap with less sleep hours at night [29]. Similarly this study reported 61% students with the day time sleep habits.

This study reported a significant association between smoking habits and ISI & Medical problems and ISI. Similarly, a study from Majmah reported that the use of cigarettes, a combination of low physical activity, and poor self-reported health had a strong association with insomnia [27]. In the current study, a significant association was found between the quality of sleep and the level of insomnia. A higher level of insomnia is markedly decreased in quality of sleep. In these studies, students who slept more than 8 hours had significantly less ISI scores than students who slept less than 5 hours. Similarly, the students with fewer sleep hours had the highest ISI scores [11]. The results of smoking with ISI are congruent with the study from Philadelphia. Especially night time smoking is significantly associated with insomnia at a higher rate [32]. This study also reported the consumption of tea or coffee at night significantly causes insomnia. Caffeine in these beverages keeps the client awake by arousal of cognitive function [33].

#### 4.1. Limitations

The study design chosen for this study was a cross-sectional survey, so there is a need for further studies in the future to identify the causal relationship between the variables. A self-administered questionnaire was used for the study. This study was conducted only among university of Tabuk students who are taking health care courses; there is a need for a multi-centric study to generalize the results of the study.

## 5. Conclusions

The scores of this study emphasize prevailing insomnia among healthcare sector students. This area is often neglected by students due to academic load and lifestyle challenges. There is a need for emerging interventions to protect them from sleep problems. Careful planning and implementation are necessary. We need to educate the students about the importance of sleep and its effects on health. There is a necessity for further studies to develop more insights into this area. This study urges the need for interventional programs on a multifactorial basis for sleep

habits and sleep hygiene.

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## Conflict of Interest

None

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