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Sleep Disorders Among Students of Baquba Technical Institute

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Abstract

The descriptive study was conducted at the Technical Institute in Baquba from 14/2/2024 to 20/3/2024, to identify sleep disorders among students of the Technical Institute. A non-probability sample was selected for a purposive sample consisting of (100) male and female students. A knowledge-monitoring questionnaire was used to collect students' data, comprising two sections. The first section covered the students' demographic information, and the second section examined the axes of sleep disorders. The Statistical Program for Social Sciences, version 20, was used to analyse the collected data using descriptive and inferential statistics. The test results revealed that most students suffer from sleep disorders. The study concluded that there is no statistically significant relationship between the effectiveness of guidance programs, years of experience, educational level, number of caregiver training courses, and the occurrence of emergency cases at the $P \leq 0.05$ significance level. The study recommended the need to conduct research on a broader scale for students of different universities due to its importance on the students' academic performance. The study recommends including the research topic in the vocabulary of scientific curricula.

Keywords: Sleep disturbance; Sleep Questionnaire; Descriptive study.

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Introduction

Sleep disorders are conditions that cause changes in the way you sleep. They can affect your overall health, safety, and quality of life [1]. Sleep deprivation can affect your ability to drive safely and increase your risk of other health problems. Some signs and symptoms of sleep disorders include excessive daytime sleepiness, irregular breathing, or increased movement during sleep. Other signs and symptoms include an irregular sleep-wake cycle and difficulty falling asleep. There are many different types of sleep disorders [2].

They are usually grouped into categories that explain why they occur and how they affect you. Sleep disorders can also be classified by behaviours, problems with normal sleep-wake cycles, breathing difficulties, difficulty falling asleep, or how sleepy you feel during the day [3]. Sleep disorders are among the most common psychological disorders, especially among students, because they are one of the problems that university students suffer from as a result of the psychological pressure caused by academic demands and fear of the future, which may lead to some sleep disorders, such as insomnia and irregular sleep-wake cycles [4].

The most important causes of sleep disorders among university students are stress and anxiety, as the individual may face difficulties in both sleeping and maintaining a good night's sleep in the event of stress, anxiety, especially exams [5]. This can cause physiological and psychological consequences, including feelings of physical tension and anxiety. Worrying about not getting enough sleep can also often make the problem worse. The effects of anxiety

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about sleep can lead to a closed cycle that maintains the initial problem [6]. This research aims to assess students' knowledge of sleep disorders.

Nightmares also affect the quality of sleep, and you may face difficulties in returning to sleep, especially after repeated nightmares, which is why the individual may avoid or postpone sleep. Sleep disturbances may also be due to the surrounding environment, including temperature and the mattress's hardness, softness, and noise level. Sleep disturbances may occur as a result of excessive use of electronic devices, such as mobile phones, or playing video games, especially violent and complex ones [7].

The iPad and playing video games, especially violent and complex ones, and the use of stimulants such as caffeine or nicotine can also affect the quality of sleep. Studies also indicate that eating more saturated fats and more sugar may cause sleep disturbances, and some foods can lead to stomach acid reflux and contribute to difficulty starting sleep [8].

One of the medical causes of sleep disorders is sleep apnoea, which occurs when a person is asleep. Its signs include stopping and starting breathing, gasps, snoring or choking sounds, frequent waking, and loud snoring. Chronic pain, especially back pain, is also one of the medical causes, as it is the most common type of chronic pain. Research has shown that disturbed sleep exacerbates chronic back pain, thus continuing the vicious cycle of pain impeding sleep and difficulty sleeping, which makes the pain worse. The change in sleep schedule has negative effects, such as poor mood and concentration, increased anxiety symptoms and possibly depression, and daytime sleepiness, which negatively impacts exam performance [9].

Students with sleep disorders feel more stressed before and during exams. As a result, episodes of severe stress and behaviours such as appetite problems and sleep deprivation are more common. When students are sleep deprived, they suffer from symptoms such as weakened immune function, increased susceptibility to illness and infection, increased levels of stress, weight gain or loss, increased risk of depression, decreased motor performance, increased risk of driving accidents due to drowsiness, and poor cognitive performance [10].

This weakens all the skills students need for the final exam. When students do not get enough sleep, they have more difficulty paying attention, and they have difficulty remembering and recalling. Chronic sleep disorders lead to negative thinking and emotional disturbance. In addition, intermittent sleep loss that affects neurotransmitters and stress hormones leads to weakness in brain function, resulting in disorders of thinking and emotional regulation [11].

Exam anxiety is an emotional reaction to situations that involve assessing abilities and stress due to the possibility of failure and preoccupation with the results of failure. That is, exam anxiety is not necessarily related to ability level but rather depends more on the individual's perception of their abilities; therefore, exam anxiety is associated with fear of assessment, a generalised hatred of exams, and weakness in effective exam skills [12].

Sleep disorders are a group of conditions that cause loss of sleep or complications during sleep. These disorders are classified as either excessive sleep, which includes daytime sleepiness or nighttime sleepiness, or insomnia, which is the inability to sleep. Different types of sleep disorders fall into three main groups: endogenous sleep disorders, exogenous sleep disorders, and sleep disorders due to biological factors. It is usually caused by stress or a traumatic event [13].

Literature review

This section presents a comprehensive overview of studies examining the prevalence and effects of sleep disorders among medical and nursing students, predominantly in the context of the post-COVID-19 era and various regional factors. In this regard, Jiao et al. [14] conducted an investigation that highlighted an alarming 82.3% prevalence of sleep disorders among medical students. Indeed, this indicates a noteworthy increase in sleep disturbances following the pandemic, with depression and high academic pressure contributing to this increase.

Another study of Ridwan et al. [15] focused on Saudi University students. This revealed that 56.6% of patients have extreme daytime sleepiness, while 78.4% of patients have faced insomnia. This study suggested that these disorders intensely impact academic performance.

A meta-analysis of medical students was conducted by Sonia et al. [16] in the MENA region. This study revealed that insomnia and hypersomnolence are particularly prevalent and negatively impact students' well-being. Also, Fatma et al. [19] conducted a study on nursing students. This depicts that 30.6% of samples have experienced sleep disorders, with insomnia again being the most common concern, which is significantly impacting their academic outcomes. Overall, the associated studies underscore the need for targeted interventions to address sleep disturbances in academic settings, emphasising the strong links among sleep quality, mental health, and academic performance. Table 1 summarises the associated studies and the key findings.

Table 1. Literature review

Ref.	Insights	Methods used	Results
Jiao et al. [14]	The study indicates that the rate of sleep disturbance among students reached approximately 82.3% after the spread of Covid-19.	Self-administered scale for demographic characteristics collection. SDS, SAS, and PSQI for assessing depression, anxiety, and sleep disorders.	%82.3prevalence of sleep disorders among medical students post-COVID-19 Depression and high academic level increase sleep disorder risk
Ridwan et al. [15]	56.6% of students reported excessive daytime sleepiness, 78.4% had insomnia, 6.7% experienced sleep-disordered breathing, and 13.6% reported restless leg syndrome, significantly impacting academic performance.	Online screening surveys for sleep disorders assessment. Statistical analysis using SPSS version 29.0.	Sleep disorders prevalent among Saudi university students. Sleep disturbances reduce grade point averages.
Sonia et al. [16]	Sleep disorders are prevalent among medical students in the MENA region, with insomnia and hypersomnolence being the most common, significantly impacting academic performance and wellbeing	Meta-analysis with random-effect models Self-reported screening tools for assessing sleep disorders	High prevalence of sleep disorders among MENA medical students. Associated factors include female sex, anxiety, and poor performance.
Zhihui et al. [17]	Sleep disorders in university students can significantly impact their quality of life, but both traditional Chinese exercises and general aerobic exercises have been shown to improve sleep quality effectively.	Analyzed data from 21 randomized controlled trials (RCTs). Used Review Manager 5.3 for data analysis.	GAEs improve sleep quality more than TCEs. Optimal regimen: 40-60 minutes, 3-5 times weekly.
Rheea et al. [18]	Sleep disorders are prevalent among medical students, affecting their physical, psychological, and mental health, with females at higher risk and issues persisting from first year to post-graduation.	Interviewed 270 students using sociodemographic data. Evaluated data using SPSS software for results.	270medical students surveyed; 66% were medical students. Sleep disorders common, affecting physical and mental health.
Fatma et al. [19]	30.6% of nursing students experienced sleep disorders, with insomnia being the most prevalent (37.5%), significantly impacting their academic performance, particularly linked to restless leg syndrome.	Cross-sectional research method among 177 nursing students. Two tools: sociodemographic classifications and SLEEP-50 questionnaire.	30.6 % of nursing students had sleep disorders. Insomnia was the most prevalent disorder at 37.5%
Bin et al. [20]	39.30% of university students in Jiangsu Province experience poor sleep quality, influenced by factors such as gender, academic stress, and psychological resilience.	Cross-sectional web-based survey conducted in Jiangsu Province. Utilized Pittsburgh Sleep Quality Index for sleep quality assessment.	39.30% prevalence of poor sleep quality found Identified protective and risk factors for sleep quality.

Methodology

A questionnaire consisting of general information and multiple questions about sleep disorders was adopted, where data was collected and statistically analysed in line with the objectives of this research paper, where information and data were collected from 100 students from the Technical Institute in Baquba city in the period from 20-28/2/2024, where the statistics of the questionnaire will be displayed from the general information of the participants in Table 2.

Table 2. General information about the participants

Questions	Variable (Age)	Repetition	%
1	21 - 25	80	80

	26 – 30	16	16
	31 – 35	4	4
	Total	100	100
	Mean	1.2800	
Questions	Variable (gender)	Repetition	%
2	Male	72	72
	Female	28	28
	Total	100	100
	Mean	1.2800	
Questions	Variable (Marital status)	Repetition	%
3	Married	20	20
	Single	78	78
	Absolute	2	2
	Total	100	100
	Mean	1.2800	
Questions	Variable (live)	Repetition	%
4	Countryside	23	23
	city	77	77
	Total	100	100
Questions	Variable (Level of education)	Repetition	%
5	Diploma	88	88
	Bachelors	12	12
	Total	100	100
Questions	Variable (Economic level)	Repetition	%
6	Week	8	8
	Medium	13	13
	Good	69	69
	Total	100	100

Table 2 shows that the highest percentage, 80%, is from the age group 21-25, while males were 72%, and 78% of the sample was single. Most of the students are residents of the city; most are diploma holders; the economic situation is not predominantly; the sample is good. As for the remaining questions in the questionnaire, Table 3 shows the number of responses for each question and the arithmetic mean for each.

Table 3. Questionnaire and answers

Questions	No(Yes)	No(No)	Total	Mean
1. Do you snore loudly?	65	35	100	1.7400
2. Do you suffer from sleep apnea?	28	72	100	1.3800
3. Do you sleep during the day?	32	68	100	1.6200
4. Do you feel tired during the day?	58	42	100	1.5200
5. Do you take medications to help you sleep?	21	79	100	1.5800
6. Are you having trouble falling asleep?	60	40	100	1.4700
7. Do you find it difficult to get back to sleep when you wake up?	64	36	100	1.4400
8. Do you feel sleepy after getting enough sleep?	39	61	100	1.4000
9. Do you take a long time to sleep?	69	31	100	1.5200

10. Have you ever fallen asleep while doing something without warning?	59	41	100	1.4600
11. Do you feel paralysis of movement when you get up from sleep?	62	38	100	1.4000
12. Do you feel sleepy when you wake up?	56	44	100	1.6000
13. Do you talk in your sleep?	53	47	100	1.3400
14. Do you scream loudly while sleeping?	44	66	100	1.4600
15. Do you feel your teeth chattering while you sleep?	54	46		1.6000
16. Do you feel difficulty in moving your limbs before and after sleeping?	56	44	100	1.6000
17. Do you move your head on the pillow while sleeping?	53	47	100	1.3400

Results and Discussions

Figure 1 depicts an inclusive overview of the various issues reported by patients experiencing sleep disorders, such as insomnia, excessive daytime sleepiness, anxiety, and academic performance. Each group is characterised by a specific percentage, representing the proportion of patients affected by that issue. In this regard, the highest percentage, 65%, reports snoring during sleep. However, the majority of 72% of the patients are specifically not suffering from suffocation during sleep. Also, 68% of the patients answered that they do not sleep throughout the day. 58% of the patients have suffered from fatigue due to not getting enough rest. In this investigation, most of the participants do not take sedatives for sleep at 79%, while more than half of the students suffer from difficulty in starting sleep at a percentage of 60%, 64% of the students suffer from difficulty returning to sleep. Also, 61% of the students do not suffer from drowsiness after getting enough rest. Although 69% of the students suffer from falling asleep immediately, 53% of the students move their heads during sleep. Figure 1 summarises the above results. The current results were satisfactory and accurate in relation to the number of students who participated and were consistent with the research objectives from a theoretical perspective.

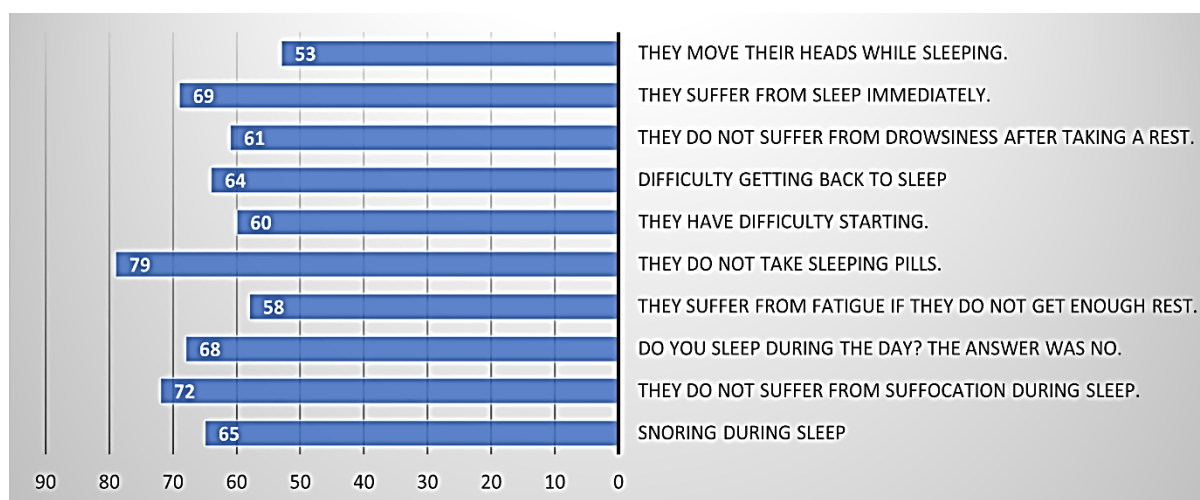


Figure 1. A summary of the results

Conclusions

This research conducted a study at the Technical Institute in Baquba to signify the prevalence and types of sleep disorders among students. The research intended to examine how these disorders can impact the students' overall well-being and academic performance. Specifically, descriptive research was conducted from February 14, 2024, to March 20, 2024. A purposive sampling method was used to select a non-probability sample of 100 male and female students. Data collection was enabled via a knowledge monitoring questionnaire, which contained two sections: Demographic information and sleep disorders assessment.

The Statistical Program for Social Sciences (SPSS) was used to analyse the collected data, employing both descriptive and inferential statistical analyses to understand the results. The research discovered a high prevalence of sleep disorders among students and determined that there was no statistically significant relationship between various factors (such as guidance program effectiveness, years of experience, educational level, and number of training courses for caregivers) and the incidence of these disorders, with a significance level set at $P \leq 0.05$.

Declarations

Data Availability Statement

Data is available upon request due to privacy and confidentiality concerns. The data presented in this study are available on request from the corresponding author. The data are not publicly available due to privacy and confidentiality.

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None.

Conflict of Interest

The authors declare no conflict of interest.

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