DOI: https://doi.org/10.54393/nrs.v4i01.68

NURSEARCHER
https://www.nursearcher.com/index.php/nrs
ISSN (P): 2958-9746, (E): 2958-9738
Volume 4, Issue 1 (Jan-Mar 2024)

Original Article

Insomnia Among Nursing Students: A Cross-Sectional Investigation in Peshawar, Pakistan

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ARTICLE INFO

Keywords:
Insomnia, Nursing Students, Sleep Health, Athen's Insomnia Scale, Male gender

How to Cite:
Bibi, A., Khaliq, F., Younus, M., Ullah, I., & Khan, M. A. (2024). Insomnia Among Nursing Students: A Cross-Sectional Investigation in Peshawar, Pakistan : Insomnia Among Nursing Students . NURSEARCHER (Journal of Nursing & Midwifery Sciences), 4(01). https://doi.org/10.54393/nrs.v4i01.68

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Received Date: 13th February, 2024
Acceptance Date: 29th March, 2024
Published Date: 31st March, 2024

ABSTRACT

Sleep health is integral to the overall well-being of nursing students, yet it is prevalent. **Objective:** The primary objective of this study was to determine the insomnia among nursing students. **Methods:** A total of 100 nursing students, both male and female, from different academic years participated in the study. A structured questionnaire was utilized to collect demographic information, including gender, age, and academic year. The Athens Insomnia Scale (AIS) was employed to assess the prevalence of insomnia among participants. **Results:** The study findings revealed that most participants, constituting 70%, identified as male, while the remaining 30% identified as female. The analysis of insomnia status revealed that 37% reported no insomnia and 63% experienced insomnia. **Conclusions:** The findings highlight a diverse landscape of insomnia prevalence among nursing students, necessitating targeted interventions to promote sleep health.

INTRODUCTION

The most prevalent sleep issue in the industrialized world is insomnia [1]. Furthermore, in the past, complaints of sleep disturbances occurred even when there were sufficient conditions and opportunities for sleep. The disruption could manifest as any one of three symptoms: trouble falling asleep, trouble staying asleep, or too early wakefulness. Non-restorative or low-quality sleep, a fourth feature that has sometimes been added in the definition, is debatable as to whether those who experience it have similar pathophysiologic mechanisms to the others. The impact of sleep disturbance on an individual's ability to operate during the day is often what makes it significant [2]. Moreover, global epidemiological research indicates that the disorder's symptoms, including daytime impairment, are highly prevalent. The prevalence of symptoms in the general population ranged from 10 to 40 percent. Depending on the definition, there are outliers, but a credible estimate of the prevalence of insomnia symptoms including daytime impact is between 5 and 15 percent [3]. In Addition, students at universities are particularly prone to sleep difficulties. Specifically, there is a higher prevalence of sleep disorder symptoms among medical students [4]. Additionally, among healthcare students, in particular, the prevalence of related symptoms including increased daytime weariness, depressed features, and irritability is very significant. Sleep

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disturbances are more common in people who are at risk for certain risk factors. For example, among medical students, sleep disturbances are associated with higher levels of stress and subclinical depression [5]. Along with this, participating in internships and studying late at night might cause sleep disturbances and sleep deprivation. Numerous researchers have discovered a link between shift employment and the frequency of sleep disorders [6]. Furthermore, insomnia and emotional self-efficacy are interconnected, as the presence of insomnia can influence one's emotional well-being, and emotional self-efficacy, in turn, can impact the ability to manage and cope with insomnia-related challenges [7]. While emotional self-efficacy refers to an individual's belief in their ability to recognize, understand, and effectively manage their own emotions [8]. In this regard, a study was carried out in an Indonesian nursing school. There were 492 undergraduate students in all (389 females and 103 males). Insomnia, daytime sleepiness, and poor sleep quality were more common in male nursing students (66.0%, 45.6%, and 24.3%) than in female nursing students (71.5%, 52.4%, and 28.8%, respectively) [9]. In this context another cross-sectional analytic research, this study involved 379 nursing students enrolled in a western Anatolian university in Turkey between 2014 and 2015. Finding out what influences nursing students' sleeplessness is the goal of this study. An average of 11.51 ± 5.04 is the pupils' Insomnia Severity Index score. The students' Insomnia Severity Index scores increased along with increases in anxiety and depression, and a weak positive association was seen. The degree of insomnia and the quality of sleep were also found to be somewhat positively correlated [10].

The objectives of the study are to assess the research linking stress-related issues to sleeplessness and the proportion of women who have headaches in addition to stress. The conclusion is that stress is bad for girls of all ages. Insomnia is primarily caused by stress. Stress need not be taken as a result. An increase in stress is correlated with an increase in headache frequency [11]. About this understanding, the prevalence of insomnia can shed light on the overall health of nursing students. Insomnia not only affects sleep but can also have a cascading impact on mental and physical health, potentially influencing academic performance.

METHODS

The cross-sectional design of this study allowed for the collection of data at a particular moment in time to determine the prevalence of insomnia in nursing students. This study was conducted at the Khyber Institute of Nursing and Health Sciences Peshawar from November 2023 to January 2024. This study employed a convenient sampling technique. The inclusion criteria for this study encompassed male and female nursing students from the Khyber Institute of Nursing and Health Sciences, Peshawar, including those in their first and second academic years. Participation was voluntary, ensuring informed consent. Additionally, students who were not currently undergoing treatment for insomnia or any other sleep disorder, and who were not taking medication that could potentially affect their sleep patterns, were included. The sample size has been calculated through Open Epi with a 95% confidence interval Additionally, students who are presently receiving treatment for insomnia, have a history of sleep disorders, or are taking medication that affects their ability to sleep are excluded. Moreover, a study approval was taken from the Khyber Institute of Nursing and Health Sciences Peshawar with reference number (KINHS/Admin-275) Furthermore, each subject gave their informed consent. Furthermore, the study's objectives, methods, possible hazards, and advantages were all addressed in detail. Apart from this, a validated eight-item Athens insomnia scale that evaluates the severity of insomnia was used to quantify the degree of insomnia. Not only that, but it was used to determine the frequency of insomnia among the participants and was the main instrument for data collection. It is determined by evaluating eight parameters, the first five of which are connected to dysfunction during the day and the final three to nocturnal sleep. These are ranked from 0 to 3, and the sleep is ultimately assessed based on the total score of all the elements, which is then presented as the sleep outcome for each individual. Over time, AIS has been proven to be a useful tool for sleep analysis, and testing has confirmed this in several different nations. An AIS cut-off score of ≥6 is utilized to determine the presence of insomnia [12]. Similar to this, the planned and rigorous approach to data collecting ensured the accuracy and dependability of the information obtained. To further this end, the data were analyzed using SPSS version 26.0 following the completion of data collection. Furthermore, the privacy of the information provided by the participants was guaranteed. Participants were assigned unique identifiers rather than personal information. It should be mentioned that the data were kept in a safe location, with limited access available to only authorized staff.

RESULTS

Table 1 provides data about the study participants, primarily focusing on three distinct variables: Gender, Age, and Academic Year. Regarding gender distribution, the majority of participants, constituting 70%, identified as male, while the remaining 30% identified as female. Moving on to age demographics, participants were categorized into three groups. The largest cohort, comprising 49%, fell within the 19-22 age range, followed by 40% in the 23-26

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age range, and a smaller 11% above the age of 26. Lastly, when considering academic years, an equitable distribution was observed, with 50% of participants in their 1st year and an additional 50% in their 2nd year

Table 1: Demographic data of the participants (N = 100).

Variables		Frequency (%)
Gender	Male	70 (70)
	Female	30 (30)
Age	23-26	40 (40)
	Above 26	11 (11)
Academic year	1st Year	50 (50)
	2nd Year	50 (50)

Table 2 presents a comprehensive overview of the participants' insomnia status, 37% had no insomnia and 63% had insomnia.

Table 2: Status of insomnia.

Status of Insomnia	Frequency (%)
No Insomnia	37 (37%)
Insomnia	63 (63%)

DISCUSSION

A major health problem in the industrialized world is insomnia, a common sleep disease marked by early awakenings, trouble falling or staying asleep, and nonrestorative sleep. This disorder, which impacts both the amount and quality of sleep, is closely related to our circadian rhythm, and is impacted by several health issues, work schedules, physiological processes, and genetic variables [13]. Therefore, this study aims to measure insomnia among nursing students. Our findings show that 37% had no insomnia. However, a different survey discovered that 52.1% of undergraduates suffered from insomnia [14]. According to a different survey, 19.7% of students had insomnia [15]. In addition, another study conducted in Pakistan found that 52.8% of the participants had insomnia [13]. In this regard, another study shows that 40.2% of the sample had at least one insomnia symptom [16]. Additionally, another study conducted in China the study found that there was a 22.0% prevalence of insomnia [17]. Moreover, another study found that 18.5% of the participants had a prevalence of insomnia [18]. Furthermore, it should be noted that it is important to clarify that insomnia, which refers to persistent difficulties falling asleep, staying asleep, or achieving restorative sleep, is generally considered a health concern rather than having inherent advantages [19]. Equally important, chronic insomnia can have numerous negative consequences on physical and mental health, including impaired cognitive function, increased risk of certain medical conditions, and compromised overall well-being [20]. Our findings show that 63% had insomnia. Similarly, another study found that 68.6% of the individuals suffered from insomnia [21]. In addition to this, another study from Vietnam showed that 46.9% had sleep disruptions [22]. A different survey indicates that in America, 20% of people report having problems sleeping [23]. Another study conducted in Taiwan shows that 38% had sleep problems [24]. Moreover, severe insomnia can lead to difficulties in concentration, memory impairment, and reduced cognitive performance. This can negatively impact academic or work-related tasks [25]. Furthermore, persistent sleep deprivation may contribute to mood disorders such as anxiety and depression. Individuals with severe insomnia may experience heightened irritability, mood swings, and emotional instability [26]. Likewise, insomnia can have significant implications for nursing students during their clinical placements, impacting both their personal well-being and professional performance [27]. In connection with this, clinical placement refers to a structured component of healthcare education and training in which students, such as nursing or medical students, gain practical, hands-on experience in real healthcare settings [28-30]. Furthermore, our findings revealed that 63% had insomnia. Some literature suggests that anxiety can lead to heightened physiological arousal, making it difficult for individuals to relax and initiate sleep [31]. Pertaining to this, anxiety is a natural and adaptive response to stress or perceived threats. It is a normal part of the human experience and serves as a mechanism to alert individuals to potential dangers [32-35].

CONCLUSIONS

A notable 37% reported no insomnia, while 63% experienced insomnia. The results underscore the significance of addressing sleep health among nursing students, advocating for targeted interventions tailored to the specific needs of individuals experiencing varying degrees of insomnia severity.

Authors Contribution

Conceptualization: AB, FK
Methodology: IU, MAK, AB
Formal analysis: FK, MY
Writing-review and editing: AB

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

Source of Funding

The authors received no financial support for the research, authorship and/or publication of this article.

DOI: https://doi.org/10.54393/nrs.v4i01.68

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