

## PREVALENCE OF INSOMNIA AMONG NURSES WORKING IN TERTIARY CARE HOSPITALS OF ISLAMABAD

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### Abstract

*Insomnia is a sleep disorder that affects a person's ability to sleep, resulting in impaired functioning. Nurses are more likely to be affected by insomnia, given their hectic schedules, long working hours, and irregular working shifts. This study was conducted to assess the prevalence of insomnia among nurses in tertiary care hospitals of Islamabad. A descriptive cross-sectional study was conducted, and data was collected from a sample of 120 nurses through simple random sampling. Insomnia was measured by standardized tools, including Athens Insomnia Scale and Insomnia Severity Index. According to this study, it was revealed that 40.8% of nurses were suffering from insomnia, as measured by Athens Insomnia Scale, whereas 61% of nurses were suffering from insomnia symptoms, as measured by Insomnia Severity Index. A significant number of nurses were suffering from insufficient sleep duration and poor sleep quality, affecting their daily functioning. This study revealed that insomnia is a serious health issue affecting a large number of nurses, and it may compromise their mental health and patient care quality.*

## Introduction

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), Insomnia is defined as having trouble getting asleep, staying asleep, or waking up early for more than three months. It is linked to daytime dysfunction and poor sleep quality. One prevalent sleep disorder among people is insomnia. Over one-third of people worldwide experience Insomnia. Because of the nature of their work, nurses are susceptible to a variety of sleep issues. Worldwide reports on a prevalence of insomnia in nurses range from 30 to 65.4%. (Wang, 2023)

In many countries, sleep disorders, particularly insomnia, are a major public health concern. In the overall population, the incidence increased from 2.3 to 25.5% per annually. Higher rates of sleep disorders among healthcare professionals have been found in a number of studies, including those conducted in China (21–65.5%), Japan (30.7%), Iran (43%), and the United States (73.4%). (Tsou, 2022)

Moreover; when insomnia occurs it frequently affects social function during the day. The symptoms of insomnia, which might include restlessness, tiredness, lack of attention, impaired performance, decreased job efficiency, and a low quality of life, frequently impact social functioning during the day. (Zhan, 2020)

Night shift work is a common for those working in the health sector, particularly nurses who play a vital role in providing direct patient care. Nurse tiredness after night shifts can cause serious concerns not only to the safety of patients and their care, but also to the nurses' own safety in condition like driving home after shift. (Ielapi, 2021)

Research has indicated that insufficient sleep has an adverse effect on the immune system and metabolism, raising the possibility of mental illnesses, depression, morbid obesity heart attacks, strokes, etc. Insomnia can also cause nurses to have less focus and impaired memories, which can result in emotional instability and other mental health problems. Consequently, insomnia is one of the common health problem within the nursing community. (Wang et al., 2023)

Frontline healthcare workers have had significant psychological effects as a result of the COVID-19 outbreak. Significant psychological impacts were seen in healthcare professionals who treated Covid-19 patients, including insomnia and trouble sleeping. Their sleep quality has been negatively impacted by their often increased workload, and inconsistent shifts. (Nazir et al., 2023).

Along with food, fluids intake, air, and sleep is a biological need for human survival and it is also requirement for health, preserving life, and work place environment. so seven to eight hours sleeping is required for healthy life and it's also reduce the risk of hypertension, diabetes, headache, stomach issues, obesity , stroke , myocardial infarction and also reduced the chances of injuries and fatigue related errors in life. Health care providers like doctors and nurses are working frequently for long duration (hours) and in different shifts .These challenging and tough duties can increased sleep problems among health care workers. (Tselebis et al., 2020)

According to a study one third of adult Westerners stated that they have trouble falling or staying asleep at least once a week. In Norway the diagnosis rate of insomnia increased 11.9% to 15.5 % from 2000 to 2010. A study conducted in 2012, in which total participants were 2,861 and 1,095 were randomly selected from the United States and the United Kingdom to determine sleeps problems. This study showed that the incidence of acute insomnia was 7.9% in the UK and 9.5% in the US. Furthermore, 31.2% to 36.6% of the UK population experienced acute insomnia annually. (Zhan et al., 2020) .

## Problem Statement

Insomnia is an important concern for all healthcare professionals, especially nurses because they are at greater risk to insomnia. Sometimes nurses are working for long hours and stressful duties which can increased sleep problems such as insomnia.

## Purpose of the Study

The purpose of this study is to evaluate and identify insomnia among nurses in different tertiary care hospitals of Islamabad.

### Objective of Study

The objective of this study to determine prevalence of insomnia in nurses.

### Research Question

What is the prevalence of insomnia among nurses?

### Significance of Study

This study will be provide information and identify the rate of insomnia among nurses in different hospitals of Islamabad. When this issue is resolved, the nurses mental health will be improved and as well as nurses will provide quality care to the patients and it will minimize errors like medication errors, documenting errors and equipment injuries.

### Literature Review

A cross-sectional study has been carried out in 2023 in a tertiary grade hospital china. The goal of this study was to identify the possible connection of insomnia and occupational stress among nurses. According to this study the prevalence of insomnia among nurses was found to be 57.3%. In this study Athens Insomnia scale was used for finding the result. The entire sample size, comprising 658 nurses as participants in which men are 109 and 549 women. Outcomes Of them, 71.9% were under 30 years, 20.0% were between 30 and 40, and 8.1% were over 40. (Wang et al., 2023)

Similarly, (Nazir et al., 2022 ) conducted a study at the Pakistan Institute of Medical Sciences (PIMS) among in healthcare professionals working in Covid-19 care units. The total sample size is 160 healthcare workers which includes (58.1%) of the population was females, while (41.9%) were males. The majority of participants had sub threshold insomnia (38.8%), which was followed by clinically non-significant insomnia (37.5%), moderate clinical insomnia (21.8%), and severe clinical insomnia (1.9%).The study showed that there was a markedly increased prevalence of sleep disturbances and insomnia, in healthcare professionals working in Covid-19 care units.

In addition, a study shows that nurses face 61% insomnia. In which 199 nurses participated of two public and one private hospital in Peshawar. This study shown that 24% of Nurses get to sleep for four hours, 42% of Nurses get to sleep for four to six hours, 33.5 % Nurses sleeping for six to eight hours. Mental effects on nurses are found that 57% face lack of sleep (sleep insufficiency), 61%

face insomnia (inadequate sleep quality and quantity), and 63% of participants identified that they face cognition trouble in work like communication or social skills. Social impacts: 57% of nurses responded that their interest has been decreased in the social activities, 59% of the participants answered that they are not giving much time to their families and 54% of nurses reported that they do not take part in their social events. (Khan & Sultan, 2022)

However, an observational cross sectional study done by Tsou (2022) in twenty two different departments of two tertiary care hospital in Taiwan. There were total 2811 participants (women 88.75%, and 317 men 11.3%) who were investigated in the study. This study indicated that the insomnia is significantly high in women (61.7%) than men (52.7%).(Tsou, 2022)

However, (Ielapi et al., 2021) conducted a study in 2021 Italy to investigate the prevalence and risk factors for insomnia among Italian nurses. This study aims to assess the prevalence of insomnia among nurses who work night shifts. This study consisted 2355 participants, in which the prevalence rate of insomnia in the overall population was 65.4%. This study shows that there an important prevalence of insomnia in night shift nurses. This may also probably be due to their high occupational stress compared to other health professionals. Actually, nursing is a high-stress job with demanding responsibilities, significant professional risks, and low salaries in comparison to that of doctors. All these causes may lead to the increase the risk of insomnia.

Similarly, a survey was carried out in Polish UK in 2020. The total 200 nurses were inspected in this study. According to result 62.7% nurses who works night shifts and 37.3% nurses were working only at daytime. According to the result that 47.8% of the nurses reported insomnia. More than half of nurses who have over 20 years of experience in the profession of nursing. About half (50.0%) of the participants were more tired than the average person. Even so, there were no significant changes of fatigue and sleepiness in level of insomnia between those who work night or not.(Zdanowicz, Turowski, Celej-Szuster, Lorencowicz, & Przychodzka, 2020)

Comparatively, a study done among nurses working in a tertiary care hospital India 2019. The total participants were 120 nurses. In this survey it was found that prevalence of insomnia was 15.8% and it was more in senior nurses. According to ESS, (9.2%) having moderate extreme day time sleepiness that they are close of severe excessive day time sleepiness and (2.5%) had severe excessive day time sleepiness.(Francy, Nisha, Abraham, & Nisha, 2019).

### Methodology

#### Study Design

A descriptive cross-sectional study design was used to study of insomnia among nurses in tertiary care hospitals of Islamabad.

#### Settings

The study was conducted at government and private tertiary care hospitals of Islamabad.

#### Population

All nurses who are currently working at bedside in different shifts at different tertiary care hospitals in Islamabad.

#### Sample Size

The size of the sample was one hundred and Twenty from three tertiary hospitals including Pakistan institute of medical sciences (PIMS), Federal Government Poly Clinic, and Akbar Niazi teaching hospital.

#### Inclusion Criteria

All the shift nurses which are working directly at bed side such as registered nurses (RN) were included.

#### Exclusion Criteria

All health care providers which are not working directly with the patients at bed side like, nursing assistants, nursing students, , head nurses, nursing supervisors were excluded.

#### Sampling Techniques

A simple random sampling technique was used to collect the samples. Slovin's formula is calculated as

$$n = N / (1 + Ne^2)$$

N=population,

n=sample size,

e=Margin of error 0.05 (If we take confidence interval 95%)

$$n = N / (1 + Ne^2)$$

$$n=120/1+120(0.05)^2$$

$$n=120/1+120(0.0025)$$

$$n=120$$

#### Duration of Study

This study was completed in three months from September 10, 2023 to December 20, 2023 after the initial approval of the supervisor.

#### Data Collection Tool

For data collection a structured questionnaire adopted in which two scales are Athens Insomnia scale and Insomnia Severity Index were used to assess insomnia among nurses.

#### Data Collection Procedure

Informed consent was obtained from each participant before data collection; the objective and purpose of the study were explained to all the participants and were attached with the consent form. The data collection instrument was a structured questionnaire, which was reviewed by expert nursing professionals, and psychologists. The questionnaire was based on informed consent, demographic data, Athens Insomnia Scale and Insomnia Severity Index scale.

#### Results

This chapter provides a brief overview of the distribution of each variable. Additionally, this chapter explore responses to specific questions related to prevalence of insomnia and scales which were used in this study. Overall, the results provide useful information about the characteristics and findings of insomnia.

Among the participants 45.8% (n=55) were males and 54.2% (n=65) were females. Nurses having the age of 18 to 25 years were 51.7% (n=62), 26 to 35 were 43.3% (n=52), 36 to 45 were 4.2 % (n=5) and participants whose age is more than 45years are 0.8 % (n=1). Similarly 34.2% (n=41) were married and 65.8% (n=79) were unmarried. More over majority of participants were post Rn in nursing which was 44.2% (n=53), diploma in nursing was 33.3% (n=40), master in nursing were 5 % (n=06), generic BSN 16.7 % (n=20) and other 0.8 % (n=1) (see table 4.1.4). The participants of the study include majority of staff nurses which are 1 to 3 year experience were 54.2% (n=65), 4 to 6 year 23.3% (n=28), 7 to 9 years 11.7% year (n=14), while the nurses above from 9 year experience are 10.8% (n=13). (See table 1).

4.1 Demographic Analysis

4.1.1 Gender

Table 4. 1.1: Frequency Distribution Analysis of Gender of Respondents

	F	%
Male	55	45.8%
Female	65	54.2%

n=120

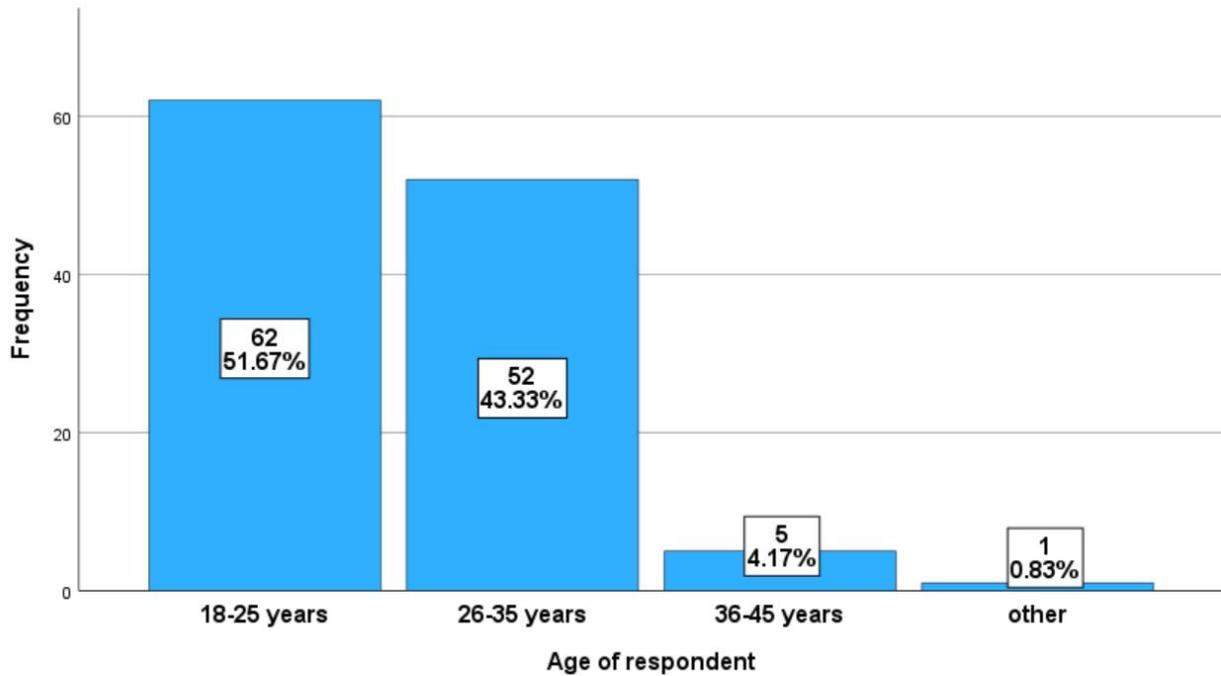


Figure 4.1.2: Age Distribution of Respondents

Marital Status

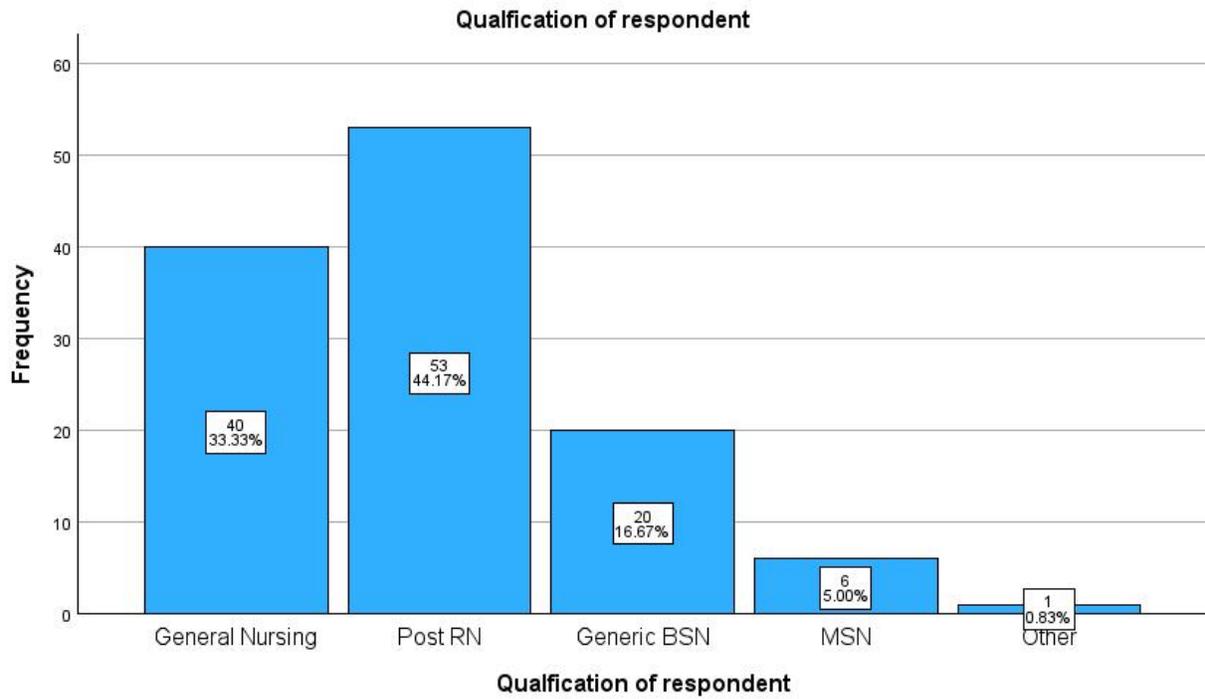
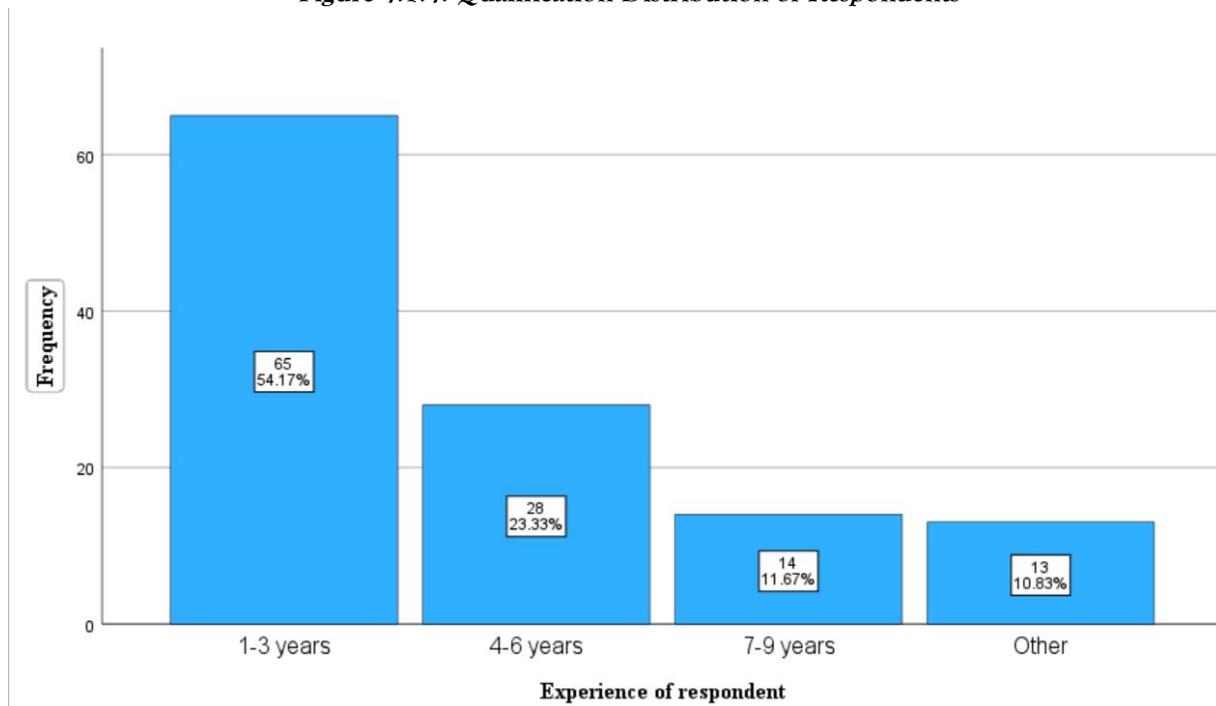


Figure 4.1.4: Qualification Distribution of Respondents



### Demographics Frequency Distribution Analysis of Respondents

	F	%
Gender		
Male	55	45.8%
Female	65	54.2%
Age of respondent		
18-25 years	62	51.7%
26-35 years	52	43.3%
36-45 years	5	4.2%
Other	1	0.8%
Marital Status of respondent		
Married	41	34.2%
Unmarried	79	65.8%
Qualification of respondent		
General Nursing	40	33.3%
Post RN	53	44.2%
Generic BSN	20	16.7%
MSN	6	5.0%
Other	1	0.8%
Experience of respondent		
1-3 years	65	54.2%
4-6 years	28	23.3%
7-9 years	14	11.7%
Other	13	10.8%

According to Athens insomnia scale, the prevalence of insomnia was 40.8 % (n=49). While 19.17% were in men and 21.67% in women. 43.3% nurses respondents that their total sleep duration is sufficient, 38.3% nurses have slightly insufficient sleep duration and 15% indicated that they have markedly insufficient sleep and 3.3 % participants have very insufficient sleep or did not sleep at all. Furthermore, 26.75% nurses reported that they have slightly unsatisfactory and 15.8% respondents were analyzed that they have markedly unsatisfactory quality of sleep.

Similarly, according to insomnia severity index scale insomnia was reported among nurses is 61%. In 42.5 % (n=51) participants have sub threshold insomnia, 14.2 % (n=17) have moderate clinical insomnia, 4.2 % (n=5) nurses have severe clinical insomnia. Meanwhile 42.5% nurses answered that (n=51), 17.5 % (n=21) have moderate, 10 % (n=12) reported that they have severe sleep problem which impairing their quality of life. There are 24.2% nurses responds that they have less satisfied and

16.7% were dissatisfied from their current sleep pattern.

#### Conclusion

This study shows that there is significant insomnia among nurses in tertiary care hospitals of Islamabad. More than half of nurses have shown symptoms of insomnia which indicated that mostly nurses sleeping pattern is disturbed. Actually nursing is a stressful profession, with long hour's duties, low salaries, job stress and these factors can leads to sleep disorder such as insomnia. When nurses cannot sleep properly so it can effects the mental health, physiological, psychological which can leads to medical errors. Interventions needed to reduce the stress level of the healthcare professionals working directly especially nurses to provide quality of care.

#### Recommendations

Further studies are required to study insomnia among nurses in overall hospitals of Islamabad and Rawalpindi to explore insomnia results in large group of participants. Which provide more accurate and significant information about

insomnia and to identify risk factors associated with insomnia. Duty timings of nurses in Pakistan in mostly hospitals is very hectic especially night shifts are of 12 hours. We should change it like international hospitals because there is an eight hour per shift to decrease job stress and to improve quality of life in nurses.

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