

**The prevalence and associated factors of occupational stress among nurses in Kabul University of Medical Sciences Teaching hospitals****Momina Sadat Hussaini<sup>1\*</sup>, Walima Shirzad<sup>2</sup>, and Ahmad Khalid Aalemi<sup>3</sup>**<sup>1</sup> Department of adult nursing, nursing faculty, Kabul University of Medical Science Abu Ali Ibn Sina<sup>2</sup> Department of community health, nursing faculty, Kabul University of Medical Science Abu Ali Ibn Sina<sup>3</sup> Freelance researcher**Abstract**

**Background:** Occupational stress is a mental and physical challenge that causes high rates of absence at work, exhaustion, and turnover. Nursing is thought of as one of the most demanding and stressful occupations. Job-related stress is a recognized health problem among nurses. Nurses suffer from stress and health problems owing to the features of their occupation, their contact with patients, and their death. This study aims to assess the prevalence and associated factors of occupational stress among nurses in Kabul University of Medical Sciences Teaching hospitals.

**Methods:** This is a descriptive cross-sectional study involving 193 nurses working at Kabul University of Medical Sciences teaching hospitals. Data was collected using a self-administered structured questionnaire (Expanded Nursing Stress Scale) and analyzed using IBM SPSS Statistical Version 20.

**Results:** The study was conducted among 193 nurses, including 91.7% females and 1.3% males. Most of the participants (62.7%) were less than 30 years old and married (88.6%). The majority (61.1%) of the participants had a bachelor's degree and 97.1% had less than five years of working experience. Prevalence of the occupational stress was found 84.1%. Nurses, who were under 30 years of age and who had a diploma degree experienced more stress (97.1% and 88.2% respectively). Regarding the source of stress, inadequate emotional preparation, workload, and patients' and their families' emotions were the main sources of stress.

**Conclusion:** In this study, more than half of the nurses reported being occupationally high stressed. Inadequate emotional preparation, workload, patients' and their families' emotions were the main factors associated with stress.

**Keywords:** Occupational Stress, Nurses, Kabul University of Medical Sciences

**Introduction**

Stress is defined as the body's psychobiological reaction to physical or mental challenges that disrupt an individual's comfort[1]. It happens when a person's ability to cope is overwhelmed by environmental demands, leading to reduced attention, decision-making, and judgment skills[2]. Tension doesn't just affect a person's health, happiness, or how much they enjoy their job — it also impacts the whole organization. For example, it can lead to more absences and higher staff turnover, which can ultimately affect the quality of care patients receive[3]. Professional tension can be defined as a sensitive and mental response to the negative pressures and challenges that come with work. [4]. Working pressure occurs when someone is unable to handle the demands of their situation, which can lead to various health and safety issues [5]. Prolonged work-related tension can harm health and well-being, potentially leading to serious conditions like high blood pressure, heart problems, digestive issues, and mental health disorders[6-8]. Job pressure affects staff wellbeing significantly, contributing to 80-85% of illnesses that are either mental or directly linked to tension. Additionally, stress-related disabilities are becoming more common over time[9,10]. It has been reported that 80% of employees in the U.S. experience pressure at work, which leads to about 30% of all absenteeism [11,12].

The healthcare sector is thought to be more demanding than other job environments in which both patients and health workers feel tension very often[13]. In this field, nurses spend the maximum time with patients and are recognized to have elevated workloads, increased job-related stress, decreased work enjoyment, and increased levels of exhaustion[14]. Nurses

are recognized to face further pressure than most people due to the environment of their profession and the system in which they work[15]. Professional pressure amongst nurses is a worldwide matter for all directors and managers in the healthcare zone[16]. Due to the nature of nursing work such as delivering direct care to patients, human anguish, duration of work, and low payment, this field is recognized as stressful over time[17]. It is revealed by several reports that the nursing profession is highly worrying, which can negatively influence both physical and psychological well-being [18].

The rate of work-related stress among nurses varies widely, ranging from 9.2% to 78.7%[19]. A study in India found that 89.7% of nurses experienced professional pressure. In comparison, the rates were lower in other countries—49.8% in Ethiopia, 41.2% in Australia, and 21.1% of nurses in Ghana reported experiencing moderate to severe work-related tension [20,21,22]. A study conducted in Karachi, Pakistan, reported that 20.3% of nurses experienced mild pressure, 39.6% moderate pressure, and 39.1% severe pressure [23]. Meanwhile, research at a German university hospital showed that nurses tend to face more stress compared to other healthcare professionals like doctors [24]. Several factors contribute to job pressure among nurses, including constant contact with ill patients, challenging working conditions, heavy workloads, lack of proper guidance, insufficient support, low pay, and irregular work schedules[25,26]. A study in a Greek regional hospital in 2018 discovered that death and dying, the

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demands of patients and their relatives, and indecision about treatment were the most challenging situations experienced by nurses [٢٥].

Considering the negative impact of stress such as its influence on employees, organization, and quality of care, it is needed to assess the prevalence and cause of job pressure among nurses in order to take preventative action[٢٦]. Since there is no research done to identify the prevalence and source of stress among nurses in Kabul University of Medical Science teaching hospitals, this study aimed to study the prevalence and source of job-related tension among nurses. The present study will fill the knowledge gaps about the prevalence and source of work-related pressure among nurses and may provide a hint to eliminate or minimize the source of stress among nurses. This was a cross-sectional study designed to recognize the prevalence and source of occupational stress among nurses in Kabul University of Medical Science teaching hospitals in ٢٠٢٤.

Methods and Materials

This was a descriptive cross-sectional study conducted among ١٩٣ nurses in the Kabul University of Medical Science teaching hospitals including Ali Abad, Maiwand, and Shaharara. The sample size was calculated using the formula:  $N = \frac{Z^2 \cdot P(1-P)}{W^2}$  where P is the expected proportion (٨٧%) based on a study done in Delhi, India(٢٦), W: total width of confidence interval (١٠), CL: confidence interval (٩٥%),  $\alpha = (1-CL) \div 2 = 0.025$  and standard normal deviate for  $\alpha = Z_{\alpha} = 1.96$ . According to this calculation, ١٩٣ nurses were enrolled in this study.

We employed a stratified sampling method to determine the number of study participants from each hospital. As we visited the Aliabad, Maiwand, and Shahararra hospitals and asked the human resource manager, the total nursing staff across these three hospitals consisted of ٢٤٧ nurses: ١٥٠ nurses at Ali Abad Hospital, ٨٦ nurses at Maiwand Hospital, and ١١ nurses at Shaharara hospital. We enrolled ١٩٣ nurses in this research allocated proportionally as follows:  $193 \div 247 \times 150 = 117$  nurses from Ali Abad Hospital,  $193 \div 247 \times 86 = 67$  nurses from Maiwand Hospital, and  $193 \div 247 \times 11 = 9$  nurses from Shaharara Hospital. Then we used a convenience non-probability sampling method to approach the nurses from different wards who constituted our study population.

The data collection tool used in this study was a questionnaire consisting of two sections. The first section gathered demographic details, including age, gender, marital status, and years of experience. The second section utilized the Expanded Nursing Stress Scale (ENSS), which is an updated and extended version of the original Nursing Stress Scale (NSS), initially developed by Pamela Gray-Toft and James Anderson[٢٥]. The Extended Nursing Stress Scale (ENSS) is a tool designed to assess work-related pressure among nurses, developed by French and colleagues (١٥,٢٧). The ENSS is one of the most widely used instruments for measuring stress levels, identifying sources of tension, determining dominant categories of stressors, and examining their association with other variables [١١,٢٨]. The ENSS comprises ٥٧ items divided into nine subgroups, each rated on a five-point Likert scale [١٩]. The subgroups cover areas such as handling death and dying, conflicts with doctors, insufficient readiness to address patients' emotional needs, difficulties with coworkers and supervisors, amount of work, indecision about treatment, stressful interactions with patients and their families, and experiences of prejudice by nurses and other healthcare professionals. [٢٥]. the answer choices are from ١ for never demanding to ٥ for very stressful. Additionally, ٠ indicates that the person has never encountered that specific condition in their job[١٥,١٩].

After collecting the questionnaires, the responses were coded and entered into a computer for analysis. The statistical analysis was carried out using SPSS version ٢٤.٠ (IBM Corp., Armonk, NY, USA).To evaluate the prevalence of work tension, contributors who marked below the mean value were considered as not stressed while those who scored the mean value or higher were classified as stressed [١٥]. The mean score of job-related subgroups was calculated. The total score of each subgroup was divided by the number of items to get the mean score of every subgroup [٢٩].

Result

Table ١ presents the sociodemographic details of the participants. The study included ١٩٣ nurses from three teaching hospitals, with ١١٥ (٥٩,٦%) females and ٧٨ (٤٠,٤%) males. The majority of participants were under ٣٠ years old (٦٦,٧%) and married (٥٨,٥%). In terms of education, most held a bachelor's degree (١١٦ nurses, or ٦٠%). Additionally, nurses with less than five years of work experience accounted for ٥٧% of the sample.

Table: participant’s sociodemographic details

Variable	Class	Frequency	Percentage	Work-related Stress	
				Yes, N (%)	N (%)
Gender	Male	٧٨	٤٠,٤	٤٦(٥٩%)	٣٢(٤١%)
	Female	١١٥	٥٩,٦	٥٨(٥٠,٤%)	٥٧(٤٩,٦%)
Age	Less Than ٣٠ Years	١٢١	٦٢,٧	٦٩(٥٧%)	٥٢(٤٣%)
	٣٠-٤٠ Years Old	٦٠	٣١,١	٣٢(٥٣,٣%)	٢٨(٤٦,٧%)
	More Than ٤٠ Years Old	١٢	٦,٢	٣(٢٥%)	٩(٧٥%)
Marital status	Single	٨٠	٤١,٥	٤٦(٥٧,٥%)	٣٤(٤٢,٥%)
	Married	١١٣	٥٨,٥	٥٨(٥١,٣%)	٥٥(٤٨,٧%)
level of education	Diploma	٧٦	٣٩,٤	٤٢(٥٥,٣%)	٣٤(٤٤,٧%)
	Bachelor	١١٦	٦٠,١	٦٢(٥٣%)	٥٥(٤٧%)
work experience duration	٠-٥ years	١١٠	٥٧	٦١(٥٥,٥%)	٤٩(٤٤,٥%)
	٦-٩ Years	٥٦	٢٩	٣٥(٦٢,٥%)	٢١(٣٧,٥%)
	١٠ Years Or More	٢٧	١٤	٨(٢٩,٦%)	١٩(٧٠,٤%)

The findings revealed that work-related pressure was quite common among nurses, with ٥٤% of participants reporting they experienced tension at work. Nurses under ٣٠ years old reported higher stress levels (٥٧%) compared to those aged ٣٠-٤٠ (٥٣,٣%) and those over ٤٠ (٢٥%). The study also found that nurses holding a diploma experienced slightly more pressure

(٥٥,٣%) than those with a bachelor’s degree (٥٢,٦%). Additionally, the highest tension levels were observed in nurses with ٦ to ٩ years of experience (٦٢,٥%), while those with ١٠ or more years of experience reported the lowest stress (٢٩,٦%) (table ٢).

Table ٢: prevalence of job-related stress in relation to years of work experiences

Years of experiences	N(percentage)	
	Stress	No stress
٠-٥ years	٦١(٥٥,٥%)	٤٩(٤٤,٥%)

7-9 years	30(72,0%)	21(37,0%)
10 years or more	8(29,6%)	19(70,4%)

According to this research, the main causes of professional tension among nurses were insufficient emotive readiness, amount of work, people receiving care, and their relatives (60,1%, 07%, and 00,4%). The study

showed that problems relating to supervisors, doubt regarding cure, problems relating to colleagues and problems with doctors, prejudice, and death and dying also caused pressure (04,4%, 03,4%, 43,0 and 43%)(Table)

**Table 1:** percentage and frequency of stress subgroups

Subscales	Stress		No stress	
	Frequency	Percentage	Frequency	Percentage
Death and dying	83	43%	110	07%
Disagreement with doctors	103	03,4%	90	46,6%
Insufficient emotive preparedness	116	60,1%	77	39,9%
Conflict with colleagues	103	03,4%	90	46,6%
Problems relating to supervisor	100	04,4%	88	40,6%
Amount of work	110	07%	83	43%
Doubt regarding medical care	100	04,4%	88	40,6%
People receiving care and their relatives	107	00,4%	86	44,6%
Prejudice	84	43,0%	109	06,0%

## Discussion

The prevalence of job-related stress among nurses was found to be 04% in this study, which is higher than the finding of investigations done in Addis Ababa, Ethiopia, which discovered that the prevalence of stress was 47,8%(10). Possible variation may be due to different sample sizes, as their sample size was larger than ours (192 compared to 422). However, the finding of this study is considerably less than the study done in India, which uncovered that 89,4% of nurses had work-related pressure[26]. The differences could be due to the sample size and gender of the participant, as our study included both genders, while their study included only female nursing personnel, and their sample size was much smaller than ours.

According to this study, the main sources of stress for nurses were poor emotive preparedness, a high amount of work, and people receiving care and their relatives. This is in line with the outcome of a study in India, which revealed that disagreements with managers, people receiving care and their relatives, and a high amount of work were the main reasons for work-related pressure[19]. This study found that the prejudiced subgroup caused a low level of tension among nurses which is similar to the finding of a study in Iran, which uncovered that the prejudiced subgroup owned the lowest score [29]. However, our findings differ from the outcome of a study in Pune, India, which discovered that the key cause of tension among nurses was employee shortages resulting in delays in finishing work, negative interaction with relatives of sick people, overtime, and lack of payment [30]. The possible differences could be due to using different tools for stress assessment as extended nursing stress scale was used in our study, while they used nursing stress scale and ignored questions about sexual pestering, addiction, and substance abuse.

This study was carried out in three teaching hospitals and the result may not be generalizable to all public and private hospitals. So, further study is needed to assess work-related pressure among nurses in these settings.

**Conclusion:** In this study, over half of the nurses reported experiencing occupational stress, with insufficient emotive preparedness, heavy workloads, and interactions with patients and their relatives identified as the main sources of stress.

**Ethical considerations:** The proposal of research was approved by the research committee of Kabul University of Medical Science and permission was obtained to conduct the study. In the hospitals, nursing managers and nurses were informed about the research and purpose of it. Participants were allowed to leave the study if they wanted.

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