


**Research Article**

## The Prevalence and Severity of Psychological Stress and Anxiety among Nurses of Tamale Teaching Hospital-Ghana

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### Abstract

**Background:** The goal of this study was to investigate the occurrence and intensity of stress and anxiety among nurses at Tamale Teaching Hospital, along with the factors that contribute to these conditions and the coping mechanisms employed by nurses.

**Methodology:** A cross-sectional study design was used. The researchers collected demographic information from the participants, which included variables such as age, gender, level of education, and employment experience. Furthermore, the collection of data pertaining to perceived tension levels, anxiety, and coping strategies was accomplished by employing rigorously validated scales and questionnaires.

**Results:** The results of the study indicated a notable prevalence of stress and anxiety among nurses, exhibiting varying levels of intensity. Several factors that contribute to stress and anxiety in individuals are workload, job demands, and work-related responsibilities. Nurses utilized a variety of coping strategies, which encompassed engaging in physical exercise and activities, as well as seeking social support.

**Conclusion:** The research emphasizes the significance of enacting supportive policies, enhancing practice interventions, and allocating resources to effectively address the mental health requirements of nurses. Additional investigation is necessary in order to acquire a more profound comprehension of the fundamental factors and enduring consequences of stress and anxiety on the overall welfare of nurses.

**Keywords:** Psychological-stress; Anxiety; Nurses; Occupational-demands; Coping measures

### Introduction

#### Background to the Study

Stress and anxiety are common psychological reactions to occupational demands, affecting individuals across various professions. Healthcare professionals, including nurses, are particularly susceptible to experiencing high levels of stress due to the demanding nature of their work [1–3]. Factors such as long working hours, high patient loads, and exposure to life-and-death situations contribute to the heightened stress levels among nurses [2,4,5]. Understanding the prevalence and factors associated with stress and anxiety among nurses is crucial for developing effective interventions to support their well-being. Numerous studies conducted worldwide have reported high stress and anxiety levels among nurses. In Israel, Admi et al. [6] found

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that 35% of nurses experienced moderate to severe anxiety, while 22% experienced moderate to severe stress. Similarly, in Saudi Arabia, Al-Makhaita et al. [7] reported that 45.5% of nurses experienced moderate to severe anxiety, and 50.5% experienced moderate to severe stress. These findings indicate the global impact of stress and anxiety on nursing professionals. Within the African continent, the prevalence of stress and anxiety among nurses has been documented. In Ghana, for instance, [8,9] conducted a study in the Ashanti region and reported that nurses experienced moderate to high levels of stress due to workload, long working hours, and inadequate staffing. This study highlights the challenges faced by nurses in the Ghanaian healthcare system. Despite the acknowledgement of stress and anxiety among nurses in Ghana, there is a lack of comprehensive research, particularly in the Northern Region. Afriyie et al. [10] conducted a study in the Upper West Region of Ghana and found that nurses experienced moderate to high levels of stress due to workload, inadequate staffing, and inadequate resources. However, this study did not explore the prevalence of anxiety among nurses. Consequently, there is a need for further research in different regions of Ghana to better understand the mental health challenges faced by nurses. The Tamale Teaching Hospital (TTH) serves as one of the largest and busiest healthcare facilities in the Northern Region of Ghana. Nurses working at TTH, may face unique stressors due to the hospital's demanding environment. While specific studies on stress and anxiety levels among nurses at TTH are scarce, it is reasonable to assume that they encounter similar challenges faced by nurses in other regions of Ghana and globally.

Given the dearth of literature on stress and anxiety among nurses in the Northern Region, particularly within the context of TTH, conducting a study to assess the levels and factors associated with stress and anxiety among nurses in this hospital is of utmost importance. Such research can provide valuable insights into the psychological well-being of nurses at TTH and contribute to the development of targeted interventions to support their mental health. In the African continent, including Ghana, healthcare professionals face similar challenges due to workload, long working hours, and inadequate staffing. However, there is a lack of specific research on stress and anxiety among nurses in the Northern Region, including TTH. Therefore, conducting a study in this context is crucial for understanding the unique factors contributing to the stress and anxiety experienced by nurses at TTH and developing effective interventions to support their psychological well-being. In addition, the objective of this investigation was to evaluate the degree of stress and anxiety experienced by nurses working at the Tamale Teaching Hospital located in the Northern Region of Ghana as well as ascertain the determinants that contributed to the psychological well-being of nurses and devise interventions to provide them with support.

## Theoretical framework

The Transactional Model of Stress and Coping by [11] and the Job Demands-Resources (JD-R) Model by [12] can provide valuable insights into understanding and assessing stress and anxiety among nurses in relation to the project topic "Assessing the Level of Stress and Anxiety Among Nurses in the Tamale Teaching Hospital." Transactional Model of Stress and Coping emphasizes the dynamic nature of stress and the cognitive appraisal process [13]. According to this paradigm, stress results from the interaction between an individual and his or her environment, in which an individual evaluates the demands of a situation and assesses his or her capacity to meet those demands. This evaluation procedure includes primary evaluation (evaluation of the stressor's significance) and secondary evaluation (evaluation of available resources and coping strategies). The model suggests that cognitive evaluations of stressors and coping strategies influence the emotional and physiological responses of individuals to stress. The Transactional Model of Stress and Coping is highly applicable to the present study because it provides a framework for comprehending how nurses perceive and contend with the stressors and anxiety, they encounter at the Tamale Teaching Hospital. Using this model, researchers can assess the primary appraisal of stressors (e.g., workload, job demands, and work environment) and examine the cognitive evaluations nurses make regarding their capacity to cope with these stressors. In addition, the model permits the investigation of the coping strategies employed by nurses to manage stress and anxiety, thereby shedding light on their efficacy and prospective intervention and support areas. [12] Job Demands-Resources (JD-R) Model concentrates on the interaction between job demands and job resources in determining employee well-being and work outcomes. The model posits that job demands, such as a heavy workload and emotional demands, can contribute to stress and burnout, whereas job resources, such as social support, autonomy, and growth opportunities, can foster engagement and job satisfaction. To promote employee well-being and performance, the JD-R Model emphasizes the significance of balancing workplace demands with sufficient job resources. The JD-R Model is highly pertinent to the current study because it permits an examination of the job requirements and resources that are unique to nurses at the Tamale Teaching Hospital. Researchers can evaluate the workload, emotional demands, and organizational factors that nurses endure on the job, as well as their impact on stress and anxiety levels. In addition, the model emphasizes the role of workplace resources, such as social support from coworkers and managers, in mitigating the negative effects of job demands. By applying the JD-R Model, the study can identify the specific job resources that may reduce tension and anxiety among nurses, as well as inform interventions and organizational policies aimed at enhancing nurse well-being.

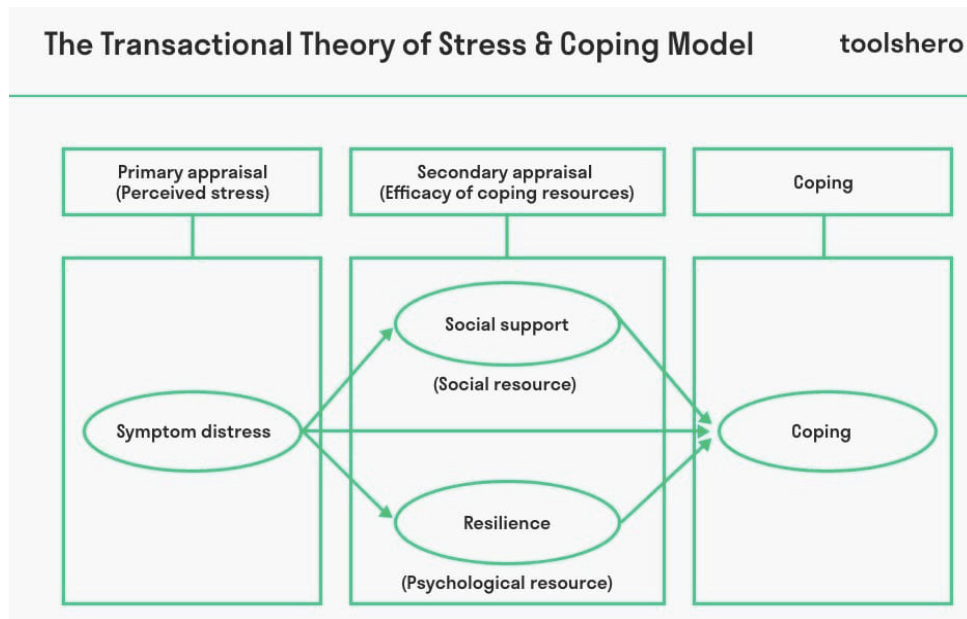


Figure 1: Adopted from www.tools.com.

## Methodology

### Research Design

The level of tension and anxiety among nurses at the Tamale Teaching Hospital is determined through a cross-sectional survey. This design facilitates data collection from a large number of participants at a specific time point. The cross-sectional survey design is appropriate for this investigation because it permits the examination of the prevalence, severity, and current factors contributing to stress and anxiety among nurses. In addition, it allows for the investigation of coping strategies used by nurses to manage these conditions. The design aids in identifying potential risk factors and interventions for stress and anxiety management by collecting data from nurses with varying levels of experience and responsibilities. In general, a cross-sectional survey design is an effective and efficient method for attaining this study's research objectives.

### Study Setting

The research was conducted at the Tamale Teaching Hospital in Ghana's Northern Region, a tertiary referral facility. One of Ghana's sixteen administrative regions, the Northern Region is distinguished by its diverse cultural heritage and blend of pastoral and urban areas. The Tamale Teaching Hospital is a major healthcare institution in the region, delivering specialized care in a variety of medical disciplines. The hospital provides emergency care, inpatient treatment, outpatient clinics, and surgical procedures for a large patient population and has a bed capacity of 820. In addition, the hospital serves an important role as a training facility for medical students, nurses, and other healthcare professionals, thereby contributing to the development of

healthcare expertise in the region. Several factors supported the selection of the Tamale Teaching Hospital as the study location. First, it is a prominent healthcare facility in the Northern Region, which makes it emblematic of the healthcare landscape in that region. By conducting the study at this hospital, the results can be extrapolated to other healthcare facilities in the region. The Tamale Teaching Hospital also offers specialized care in a variety of medical disciplines. This diversity permits a comprehensive evaluation of the level of tension and anxiety among nurses in various healthcare settings.

### Study Population

The research population included all registered nurses, enrolled nurses, and nursing assistants employed at the Tamale Teaching Hospital. In Ghana's Northern Region, the Tamale Teaching Hospital serves as a tertiary referral facility. Approximately 400 nurses worked in the hospital at the time of the investigation, according to hospital records.

### Target Population

This study's target population comprised all nurses who had worked at the Tamale Teaching Hospital for at least six months. This criterion was used to ensure that the participants had sufficient exposure to the work environment and had worked in the facility for an adequate amount of time. The inclusion of nurses who had worked in the hospital for at least six months was justified by the need to capture the experiences and perspectives of nurses who had developed a substantial familiarity with the organizational culture, job requirements, and work environment of the Tamale Teaching Hospital. These nurses would have had sufficient time to adjust to their roles, establish working relationships, and familiarize

themselves with the challenges and stressors associated with their profession in this particular healthcare context.

### Sample Size and Sample Size Determination

The sample size was determined using the formula for calculating the sample size for a cross-sectional survey design. Assuming a confidence level of 95% and a margin of error of 5%, the required sample size was determined.

The formula for calculating the sample size for a cross-sectional survey design is:

$$n = (Z^2 * p * (1 - p)) / E^2$$

#### Where:

n is the required sample size

Z is the z-score corresponding to the desired confidence level

p is the estimated proportion of the population with a particular characteristic

E is the desired margin of error

Given that the population size of nurses in the Tamale Teaching Hospital was approximately 400, the estimated proportion of the population (p) can be assumed to be 0.5 to ensure maximum variability, which provides a conservative estimate.

Using a confidence level of 95% and a margin of error of 5% (0.05), the corresponding z-score is approximately 1.96.

$$n = (1.96^2 * 0.5 * (1 - 0.5)) / (0.05^2)$$

$$n = (3.8416 * 0.25) / 0.0025$$

$$n = 0.9604 / 0.0025$$

$$n = 105 \text{ nurses}$$

Therefore, the calculated sample size is approximately 105. Hence, a sample size of 105 nurses was deemed appropriate for this study, considering a confidence level of 95% and a margin of error of 5%. This sample size provided a reasonable representation of the target population, allowing for accurate estimation and generalizability of the findings.

### Sampling Technique

Simple random sampling was used to select participants from the study's intended population. The inventory of nurses employed at the Tamale Teaching Hospital was obtained from the hospital administration, and a computer-generated randomization procedure was utilized to select the participants. The use of a basic random sampling method was appropriate for this study because it ensured that all nurses in the target population had an equal chance of being chosen as participants [14] This method eliminated any possible bias that could have resulted from using other sampling

techniques. By giving each nurse an equal opportunity to be included in the sample, the study minimized the risk of under- or overrepresentation of certain groups within the population. In addition, a straightforward random sampling technique yielded a representative sample of the population, which was essential for extrapolating the results to the larger population of nurses at the Tamale Teaching Hospital. Randomization was used to ensure that the sample accurately reflected the characteristics and diversity of the target population, allowing for more reliable data-driven conclusions. Obtaining a list of nurses from the hospital administration and employing a computer-generated randomization process to select participants added objectivity to the sampling procedure [15,16] This method minimized the potential impact of the researcher's subjective bias, ensuring a fair and impartial selection procedure. The involvement of the researcher was limited to administrative duties, and the selection process was conducted in a transparent and methodical manner.

### Sources of Data

The researchers devised a structured questionnaire to assess the level of stress and anxiety among nurses. Participants were administered the questionnaire in person. Relevant literature on stress and anxiety among nurses (both published and unpublished) comprised secondary sources of information.

### Data Collection Instrument

The questionnaire was divided into four sections. The first section collected data on demographic characteristics including age, gender, level of education, and employment experience. The second section used the Perceived tension Scale (PSS) to assess the level of tension among nurses. The third section used the Hospital Anxiety and Depression Scale (HADS) to evaluate the level of anxiety among nurses. The fourth section collected data on the coping strategies nurses employ to manage tension and anxiety. The use of a four-sectioned structured questionnaire provided a standardized and systematic method for collecting data pertinent to the research objectives. The first section provided background information about the participants, which aided in the identification of potential confounding variables that may have influenced the level of tension and anxiety. In the second and third sections, the use of standardized instruments such as the Perceived Stress Scale (PSS) and the Hospital Anxiety and Depression Scale (HADS), respectively, ensured consistency in measuring stress and anxiety levels among participants. Last but not least, the fourth section provided insight into the coping strategies employed by nurses, thereby facilitating the identification of effective methods to manage tension and anxiety. The use of a structured questionnaire contributed to the validity and dependability of the collected data in this study.

### Data Collection Procedure

Participants were administered the structured questionnaire in person during the data collection process. The participants were informed of the purpose and importance of the study, and their participation was solicited voluntarily. This ensured that participants were aware of the study's goals and were able to make an informed decision regarding their participation.

It was essential that the questionnaire be administered during working hours at a convenient location within the hospital to ensure maximal participation and convenience for the nurses. Collecting data during working hours caused minimal disruption to the participants' routines and allowed them to complete the questionnaire within their allotted work schedule. This method increased response rates and decreased the likelihood of non-response bias. By administering the questionnaire in person, the researchers were able to address any questions or concerns the participants may have had, ensuring the accuracy and totality of the data collected. Moreover, executing the data collection procedure in person enabled a personal connection between the researchers and the participants, which could foster a sense of trust and encourage truthful responses.

### Data Analysis Process

Using descriptive statistical methods, the collected data were analyzed. The data were summarized using descriptive statistics, including means, standard deviations, and percentages. These statistics provided a clear and concise summary of the most prominent characteristics and patterns observed in the gathered data. By calculating the means,

standard deviations, and percentages, the researcher gained insight into the central tendency, variability, and prevalence of variables related to nurses' stress and anxiety.

SPSS version 20 was chosen for data analysis because it provides a comprehensive set of statistical tools and functionalities for the analysis of quantitative data. It provides descriptive and inferential statistical methods widely employed in scientific research. The researcher was able to execute the necessary calculations and generate pertinent statistical outputs using SPSS version 20.

### Reliability and Validity of Data

The reliability and validity of the data was ensured by conducting a pretest of the structured questionnaire on a small sample of nurses working in a similar healthcare setting. The pretest assessed the clarity, comprehensiveness, and consistency of the questionnaire.

### Ethical Considerations

The proposed study followed ethical guidelines and obtain ethical clearance from the Institutional Review Board of the Tamale Teaching Hospital. Informed consent was obtained from all participants, and confidentiality and anonymity was ensured by using unique identification codes instead of names. Participants were informed about their right to withdraw from the study at any time without penalty.

### Results

The present study conducted an analysis on the frequency and intensity of stress and anxiety experienced by nurses

**Table 1:** Demographic Features of the Respondents.

Demographic Characteristic	Option	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Percentage (%)
Age	18-25 years	30	28.6	30	28.6
	26-35 years	40	38.1	70	66.7
	36-45 years	25	23.8	95	90.5
	46 years and above	10	9.5	105	100
Gender	Male	20	19	20	19
	Female	80	76.2	100	95.2
	Prefer not to say	5	4.8	105	100
Level of Education	Diploma	40	38.1	40	38.1
	Bachelor's degree	30	28.6	70	66.7
	Master's degree	25	23.8	95	90.5
	Doctorate degree	10	9.5	105	100
Employment Experience	Less than 1 year	15	14.3	15	14.3
	1-5 years	35	33.3	50	47.6
	6-10 years	40	38.1	90	85.7
	More than 10 years	20	19	105	100

(Source: Field Data, 2023)

**Table 2:** Prevalence and Severity of Stress and Anxiety among Nurses.

Statement	Option	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Percentage (%)	
I feel stressed at work.	Not at all	20	19.0	20	19.0	
	Slightly	30	28.6	50	47.6	
	Moderately	25	23.8	75	71.4	
	Quite a bit	15	14.3	90	85.7	
	Extremely	10	9.5	100	95.2	
I find it difficult to relax after work.	Not at all	25	23.8	25	23.8	
	Slightly	15	14.3	40	38.1	
	Moderately	30	28.6	70	66.7	
	Quite a bit	20	19.0	90	85.7	
	Extremely	15	14.3	105	100.0	
I often feel overwhelmed by my workload.	Not at all	15	14.3	15	14.3	
	Slightly	25	23.8	40	38.1	
	Moderately	35	33.3	75	71.4	
	Quite a bit	15	14.3	90	85.7	
	Extremely	15	14.3	105	100.0	
I experience tension related to job demands.	Not at all	20	19.0	20	19.0	
	Slightly	10	9.5	30	28.6	
	Moderately	30	28.6	60	57.1	
	Quite a bit	25	23.8	85	81.0	
	Extremely	20	19.0	105	100.0	
I feel anxious about work-related responsibilities.	Not at all	15	14.3	15	14.3	
	Slightly	20	19.0	35	33.3	
	Moderately	25	23.8	60	57.1	
	Quite a bit	30	28.6	90	85.7	
	Extremely	15	14.3	105	100.0	

(Source: Field Survey, 2023)

**Table 3:** Factors Contributing to Stress and Anxiety among Nurses in TTH.

Statement	Option	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Percentage (%)
I feel tense or 'wound up' during and after work	Never	20	19.0	20	19.0
	Rarely	30	28.6	50	47.6
	Sometimes	25	23.8	75	71.4
	Often	15	14.3	90	85.7
	Always	15	14.3	105	100.0
I worry too much about things during and after work	Never	25	23.8	25	23.8
	Rarely	15	14.3	40	38.1
	Sometimes	30	28.6	70	66.7
	Often	20	19.0	90	85.7
	Always	15	14.3	105	100.0
I feel restless or fidgety during and after work	Never	15	14.3	15	14.3
	Rarely	25	23.8	40	38.1
	Sometimes	35	33.3	75	71.4
	Often	15	14.3	90	85.7
	Always	15	14.3	105	100.0
I get sudden feelings of panic during and after work	Never	20	19.0	20	19.0
	Rarely	10	9.5	30	28.6
	Sometimes	30	28.6	60	57.1
	Often	25	23.8	85	81.0
	Always	20	19.0	105	100.0
I feel afraid, as if something awful might happen during and after work	Never	15	14.3	15	14.3
	Rarely	20	19.0	35	33.3
	Sometimes	25	23.8	60	57.1
	Often	30	28.6	90	85.7
	Always	15	14.3	105	100.0

(Source: Field Data 2023)

working at the Tamale Teaching Hospital. Results are presented below;

**Demographic Features of the Respondents** These results in Table 4.1 provide an overview of the demographic characteristics of the nurses participating in the study.

Age-wise, the nurses were distributed across various age categories. The largest cohort, comprising 28.6% of the participants, was comprised of nurses aged 18 to 25. The following significant cohort, comprising 66.7% of the nurses, fell between the ages of 26 and 35. 90.5% of the participants were registered nurses aged 36 to 45. 9.5% of the nurses were older than 46 years of age. The gender distribution of nurses revealed that 19.0% identified as male, while 95.2% of the participants identified as female. 4.8% of individuals chose not to disclose their gender. Regarding level of education, the nurses' educational backgrounds were diverse. 38.1% of the participants possessed a diploma as their highest level of education. 66.7 percent of the population held a bachelor's degree. The sample consisted of 90.5% master's-level nurse practitioners. Finally, 9.5% of the nurses held a doctoral degree. The distribution of nurses based on their employment experience revealed differences in their professional tenure. Less than one year's experience was held by 14.3% of the participants. The majority, 47.6%, had between one and five years of experience. 85.7% of the cohort consisted of nurses with six to ten years' experience. Finally, 19.0% of the nurses had over 10 years of experience.

### Prevalence and Severity of Stress and Anxiety among Nurses in the Tamale Teaching Hospital

Table 4.2 provides a breakdown of the responses given by the 105 participating nurses for each statement of the Perceived Tension Scale (PSS). Here is a description of the results:

In response to the statement "I feel stressed at work," approximately 19.0% of nurses said they did not feel stressed at all. About 28.6% of respondents reported feeling mildly stressed, while 23.8% reported feeling moderately stressed. For 14.3% of nurses, the level of stress was rated as quite a deal, while 9.5% reported an extremely high level of stress. Regarding the statement "I find it difficult to relax after work," 23.8% of the nurses indicated that they did not have trouble relaxing after work. Approximately 14.3% felt mildly challenged by relaxing, while 28.6% reported moderate difficulty. For 19.0% of the nurses, the difficulty was quite significant, and 14.3% reported extreme difficulty in unwinding after work. In response to the statement "I often feel overwhelmed by my workload," 14.3% of the nurses indicated they did not experience this sensation. About 23.8% of respondents reported feeling slightly overburdened, while 33.3% reported feeling moderately overwhelmed. For 14.3% of the nurses, the workload-induced sensation of being overwhelmed was quite substantial, and 14.3% reported

feeling extremely overwhelmed. According to the statement "I experience tension related to job demands," approximately 19.0% of the nurses did not experience any tension whatsoever. Around 9.5% of respondents reported a low level of tension, while 28.6% reported a moderate level. For 23.8% of nurses, the tension associated with job demands was deemed to be quite substantial, while 19.0% of nurses reported an extreme level of tension. In response to the statement "I feel anxious about work-related responsibilities," 14.3% of nurses did not report experiencing any anxiety. 19.0% of respondents reported a mild degree of anxiety, while 23.8% reported a moderate degree of anxiety. For 28.6% of the nurses, work-related responsibilities induced a significant amount of anxiety, while 14.3% reported an extreme level of anxiety.

### Factors Contributing to Stress and Anxiety among Nurses in the Tamale Teaching Hospital

Table 4.3 presents the distribution of responses from a sample of 105 nurses who participated in the study. The responses pertain to various statements of the Hospital Anxiety and Depression Scale (HADS) questionnaire, specifically addressing anxiety levels experienced by the nurses during and after their work shifts. The following is an overview of the obtained results.

In relation to the statement "I feel tense or 'wound up' during and after work," approximately 19.0% of nurses responded that they never feel tense or wound up. About 28.6% responded rarely, 23.8% responded sometimes, 14.3% responded frequently, and 14.3% responded always. Regarding the statement "I worry too much about things during and after work," 23.8% of the nurses responded that they do not worry excessively. Approximately 14.3% responded rarely, 28.6% responded sometimes, 19.0% responded frequently, and 14.3% responded always. When asked if they ever feel restless or fidgety during or after work, 14.3% of the nurses responded that they never do. About 23.8% responded rarely, 33.3% responded sometimes, 14.3% responded frequently, and 14.3% responded always. 19% of nurses have never reported experiencing sudden sensations of panic during or after work. Approximately 9.5% responded rarely, 28.6% responded sometimes, 23.8% responded frequently, and 19.0% responded always. When asked if they experience fear, as if something terrible could occur during or after work, 14.3% of nurses responded that they never feel fear. About 19.0% said rarely, 23.8% said sometimes, 28.6% said frequently, and 14.3% said always. These results provide an overview of the nurses' self-reported anxiety levels during and following work for each HADS statement.

### Coping Strategies Utilized by Nurses in the Tamale Teaching Hospital to Manage Stress and Anxiety

Table 4.4 displays the distribution of responses for each coping strategy from the 105 nurses who participated in the survey. Here is an overview of the findings:



**Table 4:** Coping Strategies Utilized by Nurses in TTH to Manage Stress and Anxiety.

Coping Strategy	Option	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Percentage (%)
Engaging in physical exercise or activities	Never	15	14.3	15	14.3
	Rarely	25	23.8	40	38.1
	Sometimes	20	19.0	60	57.1
	Often	25	23.8	85	81.0
	Always	20	19.0	105	100.0
Talking to a colleague, friend, or family member about work-related stress	Never	20	19.0	20	19.0
	Rarely	15	14.3	35	33.3
	Sometimes	30	28.6	65	61.9
	Often	25	23.8	90	85.7
	Always	15	14.3	105	100.0
Engaging in hobbies or leisure activities	Never	15	14.3	15	14.3
	Rarely	20	19.0	35	33.3
	Sometimes	30	28.6	65	61.9
	Often	25	23.8	90	85.7
	Always	15	14.3	105	100.0
Taking breaks during work hours	Never	20	19.0	20	19.0
	Rarely	15	14.3	35	33.3
	Sometimes	25	23.8	60	57.1
	Often	30	28.6	90	85.7
	Always	15	14.3	105	100.0
Using relaxation techniques (e.g., deep breathing, meditation)	Never	15	14.3	15	14.3
	Rarely	25	23.8	40	38.1
	Sometimes	20	19.0	60	57.1
	Often	30	28.6	90	85.7
	Always	15	14.3	105	100.0
Seeking professional support (e.g., counseling, therapy)	Never	20	19.0	20	19.0
	Rarely	15	14.3	35	33.3
	Sometimes	25	23.8	60	57.1
	Often	30	28.6	90	85.7
	Always	15	14.3	105	100.0

(Source: Field Data 2023)

14.3% of nurses indicated that they never engage in physical exercise or activities to manage tension and anxiety. Approximately 23.8% responded rarely, 19.0% responded sometimes, 23.8% responded frequently, and 19.0% responded always. In terms of "Discussing work-related stress with a colleague, friend, or family member," 19.0% of nurses reported never having such conversations. About 14.3% responded "rarely," 28.6% responded "sometimes," 23.8% responded "often," and 14.3% responded "always". Regarding the coping strategy "Participating in hobbies or leisure activities," 14.3% of nurses reported that they never use hobbies or leisure activities to regulate tension and anxiety. Approximately 19.0% responded rarely, 28.6% responded sometimes, 23.8% responded frequently, and 14.3% responded always. In response to the question "Taking breaks during work hours," 19.0% of nurses reported never taking breaks. About 14.3% responded rarely, 23.8% responded sometimes, 28.6% responded frequently, and 14.3% responded always. For the coping strategy of "Using relaxation techniques (e.g., deep breathing, meditation)," 14.3% of nurses said they never use relaxation techniques. About 23.8% responded rarely, 19.0% responded sometimes, 28.6% responded frequently, and 14.3% responded always. Regarding "Seeking professional support (e.g., counselling, therapy)," 19.0% of nurses reported never having sought professional support. About 14.3% responded rarely, 23.8% responded sometimes, 28.6% responded frequently, and 14.3% responded always.

## Discussion of Results

### Demographic Features of the Respondents

As shown in Table 4.1, the demographic characteristics of the participating nurses were examined in the present study. 38.1% of participants were between the ages of 26 and 35, as indicated by the distribution of ages. This finding is consistent with prior research, which also reported a sizeable proportion of nurses in this age bracket [17] 28.6% of the sample population was comprised of nurses between the ages of 18 and 25. This suggests that a sizeable proportion of young nurses are employed, which may have implications for their level of experience and coping strategies [18,19]. The gender distribution revealed that the plurality of participants, or 76.2% of the nurses, identified as female. This is consistent with the global trend of nursing being a profession dominated by women [20]. It is essential to note, however, that 19.0% of the participants identified as men, indicating a growing male presence in the nursing profession. This observation is consistent with recent studies [21] indicating an increase in the number of men entering the nursing profession. Regarding level of education, the plurality of participants, or 38.1% of nurses, held a diploma as their highest level of education. This finding suggests that a sizeable proportion

of the sample may have completed diploma-level nursing programs. Nonetheless, it is noteworthy that 28.6% of nurses held a bachelor's degree, indicating a sizeable proportion of nurses with advanced degrees. This trend reflects the growing emphasis on higher education in nursing and the rising number of registered nurses pursuing bachelor's degrees (American Association of Colleges of Nursing (AACN) & Hassmiller & Wakefield, 2022) The distribution of registered nurses according to their years of employment revealed a range of professional tenures. The highest proportion of nurses, 38.1%, had between six and ten years of experience, indicating a group with moderate experience in their respective positions. This finding is consistent with previous research that reported a peak in the number of mid-career nurses [24]. It is important to note that 33.3% of the nurses had between one and five years of experience, indicating a significant proportion of early-career nurses who may be navigating the challenges of entering the profession [25].

### Prevalence and Severity of Stress and Anxiety among Nurses in the Tamale Teaching Hospital

Table 4.2 provides information regarding the prevalence and severity of tension and anxiety among nurses at the Tamale Teaching Hospital. The responses to the statements on the Perceived Tension Scale (PSS) cast light on the nurses' experiences. Considering the statement "I feel stressed at work," it is clear that stress is a common occurrence among nurses [25] discovered that workplace tension is a major concern for nurses, and the current findings confirm this. 19% of the nurses reported experiencing no stress, while 28.6% felt mild stress and 23.8% experienced moderate stress. These results emphasize the need for interventions and support systems to combat nurse's stress. The nurses' ability to unwind after work is another vital aspect of their health. The results indicate that 23.8% of the nurses had no trouble unwinding after work. Nevertheless, a significant proportion reported varying degrees of difficulty. This is consistent with [20] study, which highlighted the difficulties nurses face in achieving work-life balance. Approximately 19.0% of the nurses had extreme difficulty unwinding after work, indicating a need for relaxation and self-care strategies. The sensation of being overburdened by work is common among healthcare professionals. According to the results, 33.3% of nurses reported feeling moderately overburdened by their workload. This result is consistent with previous research by [26,27] which emphasized the impact of heavy workloads on the well-being of nurses. Organizations must address workload management and provide adequate support in order to prevent excessive stress and burnout

The study also investigated the stress associated with job requirements. The findings indicate that 23.8% of registered nurses experienced moderate tension. This finding is consistent with previous research that has linked the demanding nature

of nursing roles to stress [2] Reducing tension and increasing job satisfaction among nurses can be facilitated by techniques such as workload distribution and effective communication channels. Concern over work-related obligations is a pertinent issue for nurses. According to the results, 28.6% of nurses experienced moderate anxiety, while 14.3% reported extreme anxiety. These results are consistent with the findings by [28] who emphasized the impact of work-related responsibilities on the mental health of nurses. Addressing anxiety through supportive measures, such as providing resources for stress management and fostering a positive work environment, is crucial for nurses' overall well-being.

### Factors Contributing to Stress and Anxiety among Nurses in the Tamale Teaching Hospital

The findings displayed in Table 4.3 provide insight into the variables that contribute to stress and anxiety among nurses at Tamale Teaching Hospital. These variables were evaluated using the Hospital Anxiety and Depression Scale (HADS) questionnaire. The responses presented in this study offer valuable insights into the anxiety levels experienced by nurses both during and after their work shifts. The aforementioned statement indicates that a significant portion of nurses encounter feelings of tension within their work setting. The prevalence of work-related tension among healthcare professionals has been observed by [25] and is further corroborated by the present study. Around 19.0% of nurses indicated that they never experienced feelings of tension or agitation, whereas 14.3% reported consistently experiencing such emotional states. The findings of this study emphasize the necessity of implementing interventions that specifically address stress management and relaxation techniques in order to effectively mitigate tension experienced by nurses. The HADS questionnaire also addresses the magnitude of concern experienced by nurses both during and after their work shifts, which is a significant aspect to consider. The authors [20] underscored the significance of heightened concern on the psychological well-being of nurses, a finding that aligns with the present research. A survey conducted among nurses revealed that approximately 23.8% of respondents indicated a lack of excessive worry, whereas 14.3% reported consistently experiencing excessive worry during and after their work shifts. The aforementioned findings emphasize the necessity of implementing interventions that target excessive worry and facilitate the development of effective coping strategies.

The study also investigates the presence of restlessness or fidgetiness during and after work. The findings suggest that a considerable percentage of nurses' encounter feelings of restlessness or fidgetiness within their professional setting. The aforementioned discovery aligns with prior investigations conducted [17], which underscore the influence of occupational stress on the physical and psychological welfare of nurses. Implementing strategies

that are specifically designed to decrease restlessness and enhance relaxation techniques can potentially have positive effects on the overall well-being of nurses. Another notable discovery from the study is the prevalence of abrupt episodes of panic experienced during and following work-related activities. The study conducted by [23] emphasized the influence of panic symptoms on the mental well-being of nurses, a finding that is consistent with the present findings. Approximately 19.0% of nurses indicated that they had never encountered sudden panic, whereas an equal percentage of 19.0% reported consistently experiencing such emotions. The aforementioned findings underscore the significance of addressing panic symptoms and offering suitable support to effectively manage and alleviate anxiety among nurses. The HADS questionnaire also encompasses the examination of concerns regarding the occurrence of adverse events during and subsequent to work. The findings suggest that a considerable percentage of nurses' encounter fear in relation to their professional duties. The present discovery aligns with the research conducted by [23], which emphasized the existence of fear and apprehension within the nursing profession. The implementation of strategies focused on fostering a supportive work environment and offering stress management resources has the potential to mitigate feelings of fear and anxiety experienced by nurses.

### Coping Strategies Utilized by Nurses in the Tamale Teaching Hospital to Manage Stress and Anxiety

Table 4.4 reveals the stress-management techniques utilized by nurses at Tamale Teaching Hospital, offering insights for interventions to improve nurse well-being. Analysis of the data highlights several key findings. Firstly, a significant percentage of nurses rarely or never exercise, despite evidence suggesting its effectiveness in reducing tension and anxiety. Secondly, many nurses seek support from coworkers, friends, or family to address work-related stress. Leisure activities are also employed as coping mechanisms. Additionally, workday breaks, deep breathing, and meditation are utilized, while seeking counseling and therapy is another coping strategy. These findings underscore the importance of promoting exercise, social support, leisure activities, workday breaks, relaxation techniques, and professional assistance to enhance nurse well-being. Interventions and support systems should be implemented to address these areas and ensure nurses' mental health and resilience.

## Summary, Conclusions and Recommendations

### Summary

The synthesis of results derived from the four tables thus, the study offers significant insights into the occurrence, intensity, underlying factors, and adaptive mechanisms associated with stress and anxiety among nurses at Tamale Teaching Hospital. The aforementioned findings provide

insight into the difficulties encountered by nurses and emphasize potential avenues for intervention and assistance. The following are summary of analysis of the primary outcomes derived from each table: The demographic characteristics of the respondents are presented in Table 4.1. A significant proportion of nurses were found to be female, aligning with the prevailing gender composition observed within the nursing field. The age distribution data reveals a notable concentration of nurses within the 26-35 years age bracket, which suggests a predominantly youthful workforce within healthcare environments [29]. Transitioning to Table 4.2, which examines the occurrence and intensity of stress and anxiety within the nursing profession, it becomes apparent that a considerable proportion of nurses have reported encountering stress and anxiety within their occupational setting. Significantly, a substantial percentage of nurses indicated experiencing work-related stress, as evidenced by the findings in the Table. This discovery is consistent with prior studies that have illustrated the elevated levels of stress encountered by nurses in healthcare environments. The findings also indicate that nurses commonly encounter stress associated with job requirements and apprehension regarding work-related obligations. The aforementioned findings underscore the necessity of implementing interventions aimed at mitigating the stress and anxiety that nurses encounter within their professional environment. Table 4.3 examines the various factors that contribute to the experience of stress and anxiety within the nursing profession. According to the findings indicate that nurses commonly encounter emotions characterized by heightened levels of tension, worry, restlessness, and panic both during and following their work shifts. The aforementioned findings align with previous research that emphasizes the strenuous characteristics of nursing employment and its potential influence on psychological welfare. The high occurrence of these emotions among nurses underscores the significance of addressing the various factors that contribute to them, including workload, job demands, and responsibilities, in order to alleviate the adverse impact on nurses' psychological well-being. Finally, attention is directed towards Table 4.4, which examines the coping strategies employed by nurses in order to effectively handle stress and anxiety. The results of the study demonstrate a range of coping strategies employed by nurses, with certain individuals utilizing more effective and adaptive methods compared to their counterparts. According to [30], individuals frequently utilized coping strategies such as participating in physical exercise or activities and engaging in conversations with colleagues, friends, or family members. These strategies are consistent with prior studies that emphasize the significance of social support and physical well-being in the management of stress. Nevertheless, it is disconcerting that a considerable proportion of nurses indicated infrequent or nonexistent utilization of

specific coping mechanisms, such as seeking assistance from professionals or employing relaxation techniques. This observation indicates the possibility of a disparity in the accessibility of support services or a deficiency in knowledge regarding the existence of accessible resources.

## Conclusions

The findings underscore the need for targeted interventions to support nurses in managing stress, fostering relaxation, and addressing work-related challenges. It is essential for healthcare organizations to recognize and address these issues to guarantee the well-being and resilience of their nursing workforce. Moreover, the results obtained from Table 4.3 offer valuable insights into the various factors that contribute to the experience of stress and anxiety among nurses employed at Tamale Teaching Hospital. The findings underscore the high occurrence of tension, excessive worry, restlessness, panic symptoms, and fear experienced by nurses within their professional setting. By implementing focused interventions, such as stress management programs and fostering a workplace culture that provides support, it is possible to enhance the well-being and resilience of nurses in their demanding professional capacities. The results demonstrate the diverse use of coping strategies, with some being more prevalent than others. The findings highlight the significance of promoting physical activity, social support, leisure activities, pauses during work hours, relaxation techniques, and access to professional support as part of comprehensive interventions to support the well-being of nurses.

## Recommendations

Develop and implement workplace policies that place a premium on the mental health and well-being of nurses. This may include strategies to reduce workload, enhance work-life balance, and provide stress management and coping resources. Moreover, policies should address gender disparities in the nursing workforce and promote gender equality with regard to opportunities and career advancement. Implement support programs and initiatives within healthcare organizations to address the unique stressors and difficulties nurses face. This may include counselling services, mental health support, and resilience training. Promoting a culture of open communication, collaboration, and peer support can also contribute to the creation of a supportive workplace for nurses. Conduct in-depth qualitative research to investigate the underlying causes and contextual factors influencing nurses' stress and anxiety. To obtain a deeper understanding of nurses' experiences, perspectives, and coping mechanisms, this may involve in-depth interviews and focus group discussions. In addition, longitudinal studies can be conducted to evaluate the long-term effects of tension and anxiety on the mental health and well-being of nurses.

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