

Assessing the Influence of Occupational Stress on Mental Wellbeing of Nurses in Tertiary Hospitals in Abuja

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Research Article

Keywords: Occupational stress, Mental well-being, Nurses, Tertiary hospitals

Posted Date: May 15th, 2026

DOI: <https://doi.org/10.21203/rs.3.rs-9343164/v1>

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Additional Declarations: No competing interests reported.

Abstract

Background

Occupational stress is a major challenge in nursing practice and may adversely affect nurses' mental well-being, job performance, and quality of care. This study assessed the level of occupational stress among nurses in tertiary hospitals in Abuja and examined its influence on their mental well-being.

Methods

A descriptive cross-sectional design was adopted among nurses in the University of Abuja Teaching Hospital and the Federal Medical Centre, Jabi. From a population of 850 nurses, a sample size of 299 was determined using Taro Yamane's formula, with stratified random sampling and proportional allocation. Data were collected using a structured questionnaire adapted from the Brief Nurses' Stress Scale and the General Health Questionnaire-12. Of the 299 questionnaires administered, 280 were completed and analysed using descriptive and inferential statistics in SPSS version 25.

Results

Most respondents were female (69.3%), married (56.4%), and had 1–5 years of work experience (39.3%). The overall mean occupational stress score was 2.76 ± 0.87 , indicating that nurses often experienced stress. Workload and time constraints were the most reported stressors (mean = 3.27 ± 0.82). The overall mean mental well-being score was 1.21 ± 0.82 , suggesting moderate psychological distress. Occupational stress was significantly associated with age, rank, years of experience, and monthly income, but not with mental well-being ($\chi^2 = 4.987$, $p = 0.083$).

Conclusion

Occupational stress is common among nurses in tertiary hospitals in Abuja, with workload as the major source. Interventions targeting staffing, workplace support, and mental health promotion are needed.

Introduction

Workplace stress has become an increasingly normalised aspect of modern professional life, largely because of the fact that the workplace is where many adults spend a large proportion of their time and energy (Jessica et al., 2022). In health systems, this reality is increased by the constant need to provide safe, timely and compassionate services under conditions that are often unpredictable. Nursing, in particular, is at the heart of this pressure: nurses regularly work on the margins between clinical decision-making, patient advocacy, emotional labour, and organisational demands, making them particularly at risk of exposure to stress (Babapour, 2022).

Nurses are also positioned as skilled professionals whose practice requires competence, ethical judgement and consistent application of professional standards (American Nurses Association, 2021). Their responsibilities go beyond the provision of technical care to include health literacy promotion, wellness and disease prevention support, protection of patient safety, pain and distress reduction, recovery and adaptation support, and maintenance of human dignity throughout the life span, including end-of-life care (ANA, 2021). These expectations - while fundamental to quality care - also increase role complexity and amplify exposure to stressors, especially when working environments are not adequately staffed, resourced and institutionally supported.

The stress profile of nursing is not simply a function of individual resilience; it is strongly influenced by the organisational and system factors. Globally, lack of resources, inadequate support systems and nurse-to-patient ratios are continually cited as critical stressors that affect the physical and psychological functioning of nurses. In line with this, the stress patterns arising from competing job demands, excessive workload, staffing shortage, and lack of necessary equipment were highlighted by Ateniola et al. (2024). Such conditions can lead to a chronic imbalance between what is needed of nurses and what can be practically provided by them; an imbalance at the heart of occupational stress experiences in healthcare settings.

Across many of the contexts in Africa these pressures are exacerbated by structural constraints. Oloribe et al (2019) explained how undercapitalised health systems, inadequate staffing and poor working conditions can interact with wider economic pressures and migration dynamics to form a complex environment that puts pressure on healthcare workers. When these systemic stressors are prolonged, they can lead to outcomes such as emotional exhaustion, irritability, psychosomatic complaints, anxiety, depressive symptoms and physical illness, which are often linked with occupational stress in nursing populations (Oloribe et al., 2019).

In Nigeria, occupational stress of nurses is frequently associated with interlocking system inefficiencies that add up to daily strain. Stress-generating conditions may include: overcrowded health facilities, role conflict, poor remuneration, brain drain and unpredictable or inconsistently implemented health policies (Nwogbodo, 2023). In addition to this, chronic underfunding, poor infrastructure and weak operationalisation of policies increase workloads and lower perceived control over clinical outcomes, making people vulnerable to stress. Taken together, these realities make the need to examine occupational stress as a system-rather than individual-experience salient.

Occupational stress is often viewed as adverse physical and emotional reactions that arise when the demands of a job surpass or fail to match the capability, resource or expectation of the worker (Dartey, 2023). When such mismatch continues, nurses can experience strain reactions that go beyond the transient fatigue into more long-lasting psychological effects. Stress is also more likely when incompatible demands are accumulated and individuals perceive limited capacity to meet performance expectations, which can lead to absenteeism, decreased productivity, neglect of tasks, and thinking about resigning, which can result in impaired mental wellbeing and instability of the workforce. Grima et

al. (2022) Stress is also more likely to occur when incompatible demands are accumulated and individuals perceive limited capacity to meet performance expectations, which can lead to absenteeism, decreased productivity, neglect of tasks, and thinking of leaving the job, which can lead to impaired mental wellbeing and instability of the workforce.

Mental health as conceptualized by the World Health Organization is a positive state of mental well-being that can help individuals to deal with life stresses, reach their potential, learn and work productively, and contribute to society (WHO, 2022). This framing emphasises mental health not simply as the absence of disorder, but as a functional and psychosocial resource that facilitates judgement, relationships and productive engagement in daily life. In the context of nursing - where decision-making, vigilance, teamwork and compassionate communication are never-ending - mental wellbeing is directly relevant to the quality of care and patient outcomes.

Evidence from nursing and the wider health-worker literature for the association between stress exposures and reduced wellbeing. For example, Abd El-Hay et al. (2022) showed that role conflict may be linked positively to burnout and may indicate that organisational tensions and unclear or competing responsibilities may manifest in psychological strain. Similarly, Olabisi et al. (2024) have found patterns where occupational stress prevailed among clinical nurses and was linked to poorer quality of life outcomes, which further promotes the idea that workplace strain can lead to the erosion of overall wellbeing. At a wider level of workforce, the American Nurses Foundation (2021) also stated large proportions of nurses reporting poor mental health, indicating that mental wellbeing concerns are not isolated phenomena, but part of a wider professional risk exposure in nursing.

Tertiary hospitals are high-demand clinical environments by definition, they treat complex cases, provide specialised clinical services, and often act as referral centres. In Abuja, tertiary hospitals exist within the context of the Nigerian health system in general that is already characterised by workforce constraints and infrastructural pressures (Nwogbodo, 2023; Oloribe et al., 2019). These combined demands can increase nurses' vulnerability to stressors associated with workload, staffing deficits, resource limitations, emotional strain, and organisational complexity - stressors that have previously been reported in Nigerian hospital settings in general (Faremi et al., 2019).

Despite growing awareness that occupational stress has far-reaching implications on quality of care, organisational efficiency and workforce stability, Babapour, 2022, and there is still an important gap in evidence that is context-specific and focuses on stress and mental wellbeing among Nurses in tertiary hospitals in Abuja. This gap is significant because interventions that are not based on local stressor profiles and coping patterns may not address the actual causes of strain and preventable wellbeing harms may continue. In addition, some of the Nigerian studies and reports have documented the prevalence of stress or general wellbeing concerns but have been relatively silent in coping mechanisms and thus limit the ability of stakeholders to design targeted mental health promotion strategies (American Nurses Foundation, 2021).

Against this background, the present study, with its focus on nurses in tertiary hospitals in Abuja, examines the role of occupational stress in mental wellbeing and investigates the coping strategies nurses use in response to occupational stressors. Building on definitions which conceptualize occupational stress as a mismatch between job demands and available capacities/resources (Dartey, 2023) and mental health as a functional state that allows coping and productive engagement (WHO, 2022), in this study, the wellbeing of nurses as a workforce sustainability concern is also a patient care quality issue.

By combining exposure to stress with coping-related processes (Algorani, 2023) and building on evidence of relationships between organisational stressors and burnout and reduced wellbeing (Abd El-Hay et al., 2022; Faremi et al., 2019), the study is designed to produce context-relevant knowledge that can be used to inform policy and management response. Specifically, the contribution of its work is supporting the development of strategies to reduce preventable workplace stress, strengthen adaptive coping and minimise reliance on maladaptive responses such as denial and substance use (Babapour, 2022). Ultimately, the results of the study are expected to provide an evidence base for targeted interventions that will help protect the mental wellbeing of nurses, improve retention and provide support for consistent delivery of safe, dignified and compassionate care in Abuja's tertiary hospitals. The specific objectives are to assess the level of occupational stress among nurses in tertiary hospitals in Abuja; and determine the extent of occupational stress influence on mental well-being of nurses in tertiary hospitals in Abuja.

Methods

Research Design

The study adopted a descriptive cross-sectional design employed to obtain broad insights into the levels and effects of occupational stress on nurses' mental well-being.

Population

The University of Abuja Teaching Hospital (UATH) and the Federal Medical Centre (FMC), Jabi, are the settings for the study. The study population comprises Nurses from two tertiary hospitals in Abuja. The University of Abuja Teaching Hospital (UATH) has a total of 500 nurses, and the Federal Medical Centre (FMC) Jabi has a total of 350 nurses. The total population of nurses under study across the selected departments in both hospitals is 850. The Table 1 below presents the distribution of the nurses across the selected departments in the two hospitals.

Table 1
Population of nurses across selected tertiary hospitals in Abuja

Hospital	Number of Nurses
University of Abuja Teaching Hospital (UATH)	500
Federal Medical Centre, Abuja	350
Total	850

Source: Nursing Division Unit, UATH and FMCA. December, 2025.

Inclusion and Exclusion Criteria

Participants eligible for inclusion in this study were nurses who were willing to participate, currently working in either of the two selected settings, had at least one year of work experience in the setting, and were present in the ward at the time of questionnaire distribution. Conversely, nurses who were on annual leave, those who were sick, or those not on duty at the time of data collection were excluded from the study.

Sample Size and Sampling Technique

Taro Yamane's sampling formula was used to determine the sample size. This method provides a simplified method that enables calculation from a known population while using a specified margin of error (Yamane, 1967).

$$n = \frac{N}{1 + N (e)^2}$$

n= sample size, N= Total population size, e= Margin of error, n=?

N = 850

e = 0.05

$$n = \frac{850}{1 + 850 (0.05)^2} \quad n = 272$$

10% attrition rate of 27.2

Therefore, 272 + 27 = 299 is the sample size for the study which is presented in Table 2

Table 2
Sample size table

Hospital	Total Nurses	Percentage (%)	Sample Size
University of Abuja Teaching Hospital	500	58.8	176
Federal Medical Centre, Jabi	350	41.2	123
Total	850	100%	299
Souce: Field survey, December, 2025			

Table 3
Proportionate sample distribution table

Hospital	O&G	Pediatrics	Medicine	Surgery	Total
University of Abuja Teaching Hospital	47	44	43	42	176
Federal Medical Centre, Abuja	33	34	30	26	123
Total Sample	80	78	73	68	299
Source: Field survey, May, 2025					

To ensure proportional representation of each category of nurses from each department of the two tertiary hospitals as indicated in Table 3, a stratified random sampling technique with proportional allocation was used. The total sample size was 272, with a 10% attrition rate of 27, resulting in a total of 299 participants distributed based on the proportion of each category within the overall population of 850 nurses. The number of respondents drawn to make up the sample size from the total population of 850 nurses included 176 respondents from UATH, Gwagwalada and a total of 123 respondents from the total population of 350 nurses from FMC, Abuja.

Instrumentation

The data collection instrument used in this study was a questionnaire, structured into three sections. The data were collected through a standardised questionnaire adapted from validated measurement tools, capturing information on stress levels and the influence of stress on mental well-being. Section A comprised eight items designed to obtain socio-demographic information from the respondents. Section B measured the average level of occupational stress among nurses, using 14 items adapted from the Brief Nurses' Stress Scale (BNSS) developed by Sanso et al. (2021). This section employed a 4-point Likert scale ranging from 1 (Never) to 4 (Very frequently). Section C assessed how occupational stress influence mental well-being. It was based on the 12-item General Health Questionnaire (GHQ-12) developed by Goldberg (1998) and used a 4-point Likert scale with responses ranging from 1 (Not at all) to 4 (Nearly every day).

Validation of the Instrument

The validity of the instrument was ensured through face and content validity assessments conducted by subject-matter experts to confirm clarity and alignment with the study objectives, after which necessary revisions were made based on their feedback before data collection. The reliability of the instrument was established by adopting standardised instruments with proven internal consistency, ensuring that the data collected would produce consistent results under similar conditions.

Data Collection

Following the approval of ethical clearance from the two selected hospitals, the researcher presented both the clearance document and an introductory letter from the institution to the Head of Nursing to secure permission for conducting the study. A total of 299 participants were selected from the two tertiary hospitals and were provided with the survey during their break time, allowing 5–10 minutes for completion. To facilitate the process, research assistants were recruited from within the hospitals. These assistants were chosen based on their academic qualifications, received appropriate training, and were fairly compensated. Their responsibilities were clearly outlined to ensure they comprehended the importance of obtaining informed consent and maintaining participant confidentiality. Survey responses were reviewed for completeness and relevance.

Data Analysis

The data underwent cleaning, sorting, and coding to ensure precision before analysis. Descriptive and inferential statistics were employed using the Statistical Package for the Social Sciences (SPSS) version 25 to analyse the data.

Results

Descriptive and inferential statistics were applied to analyse the data. Of the 299 questionnaires administered, 280 were returned and deemed suitable for analysis.

In Table 4, a total of 280 nurses participated in the study, comprising 194 (69.3%) females and 86 (30.7%) males. The largest age group was 26–35 years (82, 29.3%), followed by 18–25 years (74, 26.4%), while those aged 46 years and above were the least represented (58, 20.7%). Most respondents were married (158, 56.4%), with singles accounting for 106 (37.9%). In terms of professional rank, Nursing Officer II (NOII) constituted the highest proportion (80, 28.6%), whereas Senior Nursing Officers (SNOs) were the least (6.4%). Christianity was the dominant religion (167, 59.6%), followed by Islam (108, 38.6%). Regarding work experience, the majority had 1–5 years of experience (110, 39.3%), while those with 6–10 years were the least represented (35, 12.5%). Over half of the respondents (145, 51.8%) earned above ₦200,000 monthly. In terms of education, most held diploma (132, 47.1%) or BSc degrees

(129, 46.1%), while only a few had postgraduate qualifications (MSc: 15, 5.4%; PhD: 3, 1.1%). Overall, the sample was predominantly female, early-career, and moderately experienced.

Table 4
Distribution of socio-demographic characteristics of respondents

Variable	UATH (%)	FMCA(%)	Total (%)
Gender			
Male	41 (47.7)	45 (37.1)	86 (30.7)
Female	122 (62.9)	72 (52.3)	194 (69.3)
Age			
18–25	40 (54.0)	34 (46.0)	74 (26.4)
26–35	50 (61.0)	32 (39.0)	82 (29.3)
36–45	41 (62.1)	25 (37.9)	66 (23.6)
46 and above	35 (60.3)	23 (39.7)	58 (20.7)
Marital Status			
Single	71 (67.0)	35 (33.0)	106 (37.9)
Married	82 (51.9)	76 (48.1)	158 (56.4)
Divorced	7 (70.0)	3 (30.0)	10 (3.6)
Widowed	2 (40.0)	3 (60.0)	5 (1.8)
Rank			
Director Cadre	22 (55.0)	18 (45.0)	40 (14.3)
CNO	20 (51.3)	19 (48.7)	39 (13.9)
ACNO	15 (57.7)	11 (42.3)	26 (9.3)
PNO	24 (49.0)	25 (51.0)	49 (3.2)
SNO	17 (94.4)	1 (5.6)	18 (6.4)
NO I	19 (67.9)	9 (32.1)	28 (10)
NO II	46 (57.5)	34 (42.5)	80 (28.6)
Religion			
Christianity	103 (61.7)	64 (38.3)	167 (59.6)
Islam	58 (53.7)	50 (46.3)	108 (38.6)
Traditional	2 (40.0)	3 (60.0)	5 (1.8)
Work Experience (Years)			
Field survey, (2025)			

Variable	UATH (%)	FMCA(%)	Total (%)
1–5	72 (65.5)	38 (34.5)	110 (39.3)
6–10	22 (62.9)	13 (37.1)	35 (12.5)
11–15	28 (52.8)	25 (47.2)	53 (18.9)
16 and above	41 (50.0)	41 (50.0)	82 (29.3)
Monthly Salary Income			
100k–150k	56 (58.9)	39 (41.1)	95 (33.9)
151k–200k	31 (77.5)	9 (22.5)	40 (14.3)
200k and above	76 (52.4)	69 (47.6)	145 (51.8)
Educational Level			
Diploma	79 (59.8)	53 (40.2)	132 (47.1)
BSc	79 (61.2)	50 (38.8)	129 (46.1)
MSc	4 (26.7)	11 (73.3)	15 (5.4)
PhD	1 (33.3)	2 (66.7)	3 (1.1)
Field survey, (2025)			

Table 5 reveals that respondents perceived various degrees of stress across different work-related situations. Workload and time constraints were the highest reported source of stress, with a total mean score of 3.27 (± 0.82), indicating this stressors was experienced “very often” by most respondents. This was followed by stress from caring for debilitated and dying patients (overall mean = 2.82, ± 0.93), suggesting it occurred “often”. Other frequently reported stressors included lack of preparedness for a task (mean = 2.72, ± 0.86) and lack of support from colleagues and superiors (mean = 2.68, ± 0.90). Conflict with colleagues and team members had a mean of (2.54, ± 0.88), showing moderate stress levels. The least reported source of stress was uncertainty about treatment plans, with a mean of 2.51 (± 0.81), indicating that while still present, it was a relatively less frequent stressor. The overall mean occupational stress score was 2.76 (± 0.87), suggesting that, on average, nurses experienced occupational stress “often,” which highlights a moderately high stress level among respondents. These findings underscore the need to urgently develop and implement interventions to manage workload pressures and enhance workplace support systems in both hospitals.

Table 5
Level of occupational stress among nurses in tertiary hospitals in Abuja

Item	Never n (%)	Sometimes n (%)	Often n(%)	Very Often n (%)	Mean	Std. Dev.
I feel stressed when caring for a debilitated and dying patient	15 (5.4%)	104(37.1%)	77 (27.5%)	84 (30.0%)	2.82	0.926
I feel stressed when I have conflict with colleagues/team members	32(11.4%)	107(38.2%)	99 (35.4%)	42 (15.0%)	2.54	0.883
I feel stressed when I am not prepared for a given task	16 (5.7%)	105(37.5%)	99 (35.4%)	60 (21.4%)	2.72	0.863
I feel stressed due to lack of support from colleagues/superiors	25 (8.9%)	97(34.6%)	101(36.1%)	57 (20.4%)	2.68	0.898
I feel stressed due to workload and time constraint	4 (1.4%)	54 (19.3%)	84 (30.0%)	138(49.3%)	3.27	0.820
I feel stressed when uncertain about treatment plans	21 (7.5%)	129(46.1%)	95 (33.9%)	35 (12.5%)	2.51	0.808
Overall					2.76	0.87
Source: Field survey, 2025						

Table 6 illustrates the influence of work-related stress on various aspects of the respondents' emotional and psychological health. The highest mean scores were associated with positive mental functioning, including feeling capable of making decisions (overall mean = 1.80, $\pm$ 0.80), feeling useful (overall mean = 1.74, $\pm$ 0.80), and being able to face problems (overall mean = 1.68, $\pm$ 0.81). These scores suggest that although many nurses reported functional psychological states, these positive experiences were rated as occurring only rather more than usual. In contrast, several items indicated emotional strain, including feeling constantly under strain (mean = 1.50, $\pm$ 0.84), reduced enjoyment of daily activities (mean = 1.37, $\pm$ 0.82), and lower levels of general happiness (mean = 1.27, $\pm$ 0.87). Sleep disturbances, as indicated by the findings, are a notable concern, with a mean score of 1.21 ($\pm$ 0.92). Psychological impairments, although less frequently reported, are not negligible and include feeling unable to overcome difficulties (mean = 0.80, $\pm$ 0.93), feeling depressed or unhappy (mean = 0.79, $\pm$ 0.87), loss of confidence in oneself (mean = 0.41, $\pm$ 0.72), and feelings of worthlessness (mean = 0.27, $\pm$ 0.63). The overall mean score of mental wellness was 1.21 ($\pm$ 0.82), implying a moderate level of psychological distress among the respondents. These findings show that, although some nurses maintained good mental health and wellness, a proportion which cannot be neglected experience symptoms of psychological distress, especially emotional exhaustion, a decrease in life enjoyment and cognitive fatigue. The results indicate

the need for an effective mental health support system, such as training nurses in stress management, accessing professional counselling, and improving working conditions for nurses to foster emotional resilience.

Table 6
Influence of occupational stress on mental well-being among nurses in tertiary hospitals in Abuja

Item	Not at all n (%)	No more than usual n (%)	Rather more than usual n (%)	Much more than usual n (%)	Mean	Std. Dev.
I have been able to concentrate on my work	12 (4.3%)	133 (47.5%)	80 (28.6%)	55 (19.6%)	1.64	0.84
I have not been sleeping well due to worries	73(26.1%)	96 (34.3%)	90 (32.1%)	21 (7.5%)	1.21	0.92
I felt I can play a useful part in things	8 (2.9%)	111 (39.6%)	106 (37.9%)	55 (19.6%)	1.74	0.80
I felt capable of making decisions over things	7 (2.5%)	102 (36.4%)	110 (39.3%)	61 (21.8%)	1.80	0.80
I felt constantly under strain	34 (12.1%)	102 (36.4%)	115 (41.1%)	29 (10.4%)	1.50	0.84
I felt I could not overcome my difficulties	131(46.8%)	96 (34.3%)	30 (10.7%)	23 (8.2%)	0.80	0.93
I have been able to enjoy my daily activities	27 (9.6%)	157 (56.1%)	61 (21.8%)	35 (12.5%)	1.37	0.82
I have been able to face my problems	14 (5.0%)	110 (39.3%)	109 (38.9%)	47 (16.8%)	1.68	0.81
I feel so depressed/unhappy	133 (47.5%)	82 (29.3%)	56 (20.0%)	9 (3.2%)	0.79	0.87
I lost confidence in myself	200 (71.4%)	48 (17.1%)	27 (9.6%)	4 (1.4%)	0.41	0.72
I felt so worthless	230 (82.1%)	27 (9.6%)	21 (7.5%)	2 (0.7%)	0.27	0.63
I have been feeling reasonably happy	46 (16.4%)	146 (52.1%)	55 (19.6%)	33 (11.8%)	1.27	0.87
Overall					1.21	0.82
Source: Field survey, 2025						

To establish the association between occupational stress and mental well-being in Table 7, composite scores were made for each construct. The score was calculated by averaging the responses to all six stress-related items on a 4-point scale. Findings based on the calculated mean, occupational stress source levels were grouped as low (1.00-1.99), moderate (2.00-2.99), and high (3.00–4.00). Likewise,

mental well-being was determined using 12 items from the GHQ-12, and a mean mental well-being score was also computed. Scores were grouped as good mental health (0.00-1.49), moderate (1.50–2.49), and poor mental health (2.50-3.00). There was a statistically significant relationship between occupational stress and the following socio-demographic variables: age ($\chi^2 = 31.905$, $p < 0.001$), rank ($\chi^2 = 24.945$, $p = 0.015$), years of working experience ($\chi^2 = 17.530$, $p = 0.008$), and monthly salary income ($\chi^2 = 12.123$, $p = 0.016$). These results indicate that nurses' levels of work-related stress vary depending on their age, job title, years of work experience, and monthly salary income. However, there was no significant association between occupational stress and gender ($p = 0.726$), marital status ($p = 0.381$), religion ($p = 0.583$), or educational qualification ($p = 0.064$).

Table 7
Association between socio-demographic and occupational stress

Variable	Low Stress n(%)	Moderate Stress n(%)	High Stress n(%)	Chi-square	P-value
Gender					
Male	9 (10.5%)	41 (47.7%)	36 (41.9%)	0.641	0.726
Female	15 (7.7%)	92 (47.4%)	87 (44.8%)		
Age					
18–25	4 (5.4%)	31 (41.9%)	39 (52.7%)	31.905	0.001
26–35	4 (4.9%)	31 (37.8%)	47 (57.3%)		
36–45	4 (6.1%)	35 (53.0%)	27 (40.9%)		
46+	12 (20.7%)	36 (62.1%)	10 (17.2%)		
Marital Status					
Single	8 (7.5%)	44 (41.5%)	54 (50.9%)	6.392	0.381
Married	14 (8.9%)	82 (51.9%)	62 (39.2%)		
Divorced	1 (10.0%)	3 (30.0%)	6 (60.0%)		
Widowed	1 (20.0%)	3 (60.0%)	1 (20.0%)		
Rank					
Director Cadre	9 (22.5%)	22 (55.0%)	9 (22.5%)	24.945	0.015
CNO	2 (5.1%)	22 (56.4%)	15 (38.5%)		
ACNO	4 (15.4%)	13 (50.0%)	9 (34.6%)		
PNO	4 (8.2%)	23 (46.9%)	22 (44.9%)		
SNO	1 (5.6%)	7 (38.9%)	10 (55.6%)		
NO1	1 (3.6%)	14 (50.0%)	13 (46.4%)		
NO11	3 (3.8%)	32 (40.0%)	45 (56.3%)		
Religion					
Christianity	14 (8.4%)	85 (50.9%)	68 (40.7%)	2.849	0.583
Islam	9 (8.3%)	46 (42.6%)	53 (49.1%)		
Traditional	1 (20.0%)	2 (40.0%)	2 (40.0%)		
Source: Field survey, 2025					

Variable	Low Stress n(%)	Moderate Stress n(%)	High Stress n(%)	Chi-square	P-value
Years of Experience					
1–5	8 (7.3%)	44 (40.0%)	58 (52.7%)	17.53	0.008
6–10	0 (0.0%)	16 (45.7%)	19 (54.3%)		
11–15	3 (5.7%)	30 (56.6%)	20 (37.7%)		
16 and above	13 (15.9%)	43 (52.4%)	26 (31.7%)		
Monthly Salary					
100k–150k	4 (4.2%)	38 (40.0%)	53 (55.8%)	12.123	0.016
151k–200k	2 (5.0%)	20 (50.0%)	18 (45.0%)		
200k and above	18 (12.4%)	75 (51.7%)	52 (35.9%)		
Educational Level					
Diploma	9 (6.8%)	56 (42.4%)	67 (50.8%)	11.921	0.064
BSc	11 (8.5%)	69 (53.5%)	49 (38.0%)		
MSc	3 (20.0%)	8 (53.3%)	4 (26.7%)		
PhD	1 (33.3%)	0 (0.0%)	2 (66.7%)		
Source: Field survey, 2025					

In Table 8, there was no statistically significant relationship between occupational stress and mental well-being among nurses in tertiary hospitals in Abuja, as indicated by the Chi-square test result ($\chi^2 = 4.987$, $p = 0.083$). While a slightly higher proportion of nurses with moderate mental health reported moderate stress (60.0%) compared to those with good mental health (44.3%).

Table 8
Association between occupational stress and mental well-being

Mental Wellbeing	Occupational stress			Chi-square	P-value
	Low	moderate	High		
Moderate mental wellbeing	5(8.3%)	36(60%)	20(31.7%)	4.98	0.083
Good mental wellbeing	19(8.7)	97(44.3%)	103(47.0)		
Total	24(8.6)	133	123		
Source: Field survey, 2025					

In Table 9, the analysis examined the relationship between mental health status and demographic variables. Gender differences showed that 23.3% of females and 17.4% of males reported moderate mental health, with no significant association ($\chi^2 = 1.216$, $p = 0.270$). Across age groups, moderate mental health increased with age, ranging from 16.2% in the 18–25 age group to 29.3% among those 46 and above; however, the relationship was not statistically significant ($\chi^2 = 4.040$, $p = 0.257$). Marital status did not significantly influence mental health, though widowed respondents (40.0%) had the highest proportion of moderate mental health ($\chi^2 = 1.491$, $p = 0.684$). In terms of rank, moderate mental health ranged from 12.2% among PNOs to 39.3% among NOI, but this variation was not significant ($\chi^2 = 9.168$, $p = 0.164$). Religious affiliation showed some variation, with 40.0% of traditionalists, 25.1% of Christians, and 15.0% of Muslims reporting moderate mental health, approaching but not reaching significance ($\chi^2 = 5.048$, $p = 0.080$). Work experience also showed no significant relationship, with moderate mental health ranging from 17.0% to 26.5% across different experience levels ($\chi^2 = 1.155$, $p = 0.764$).

Monthly income levels were not significantly related to mental health status; the proportion with moderate mental health was highest among those earning between ₦151,000 and ₦200,000 (28.2%) and lowest among those earning ₦200,000 and above (19.3%) ($\chi^2 = 1.471$, $p = 0.479$). Educational level showed no association, although moderate mental health was more prevalent among PhD holders (33.3%) and diploma holders (24.2%) compared to MSc holders (13.3%) and BSc holders (19.5%) ($\chi^2 = 1.718$, $p = 0.633$). Overall, none of the demographic variables showed a statistically significant association with mental health status.

Table 9
Association between socio-demographic and mental health

Demographic Variable	Mental Health			
	Moderate	Good	Chi-square	p-value
Gender				
Male	15 (17.4%)	71 (82.6%)	1.216	0.27
Female	45 (23.3%)	148 (76.7%)		
Age				
18–25	12 (16.2%)	62 (83.8%)	4.04	0.257
26–35	15 (18.5%)	66 (81.5%)		
36–45	16 (24.2%)	50 (75.8%)		
46 and above	17 (29.3%)	41 (70.7%)		
Marital Status				
Single	22 (21.0%)	83 (79.0%)	1.491	0.684
Married	33 (20.9%)	125 (79.1%)		
Divorced	3 (30.0%)	7 (70.0%)		
Widowed	2 (40.0%)	3 (60.0%)		
Rank				
Director Cadre	10 (25.0%)	30 (75.0%)	9.168	0.164
CNO	7 (17.9%)	32 (82.1%)		
ACNO	7 (26.9%)	19 (73.1%)		
PNO	6 (12.2%)	43 (87.8%)		
SNO	4 (23.5%)	13 (76.5%)		
NO I	11 (39.3%)	17 (60.7%)		
NO II	15 (18.8%)	65 (81.3%)		
Religion				
Christianity	42 (25.1%)	125 (74.9%)	5.048	0.08
Islam	16 (15.0%)	91 (85.0%)		
Traditional	2 (40.0%)	3 (60.0%)		

Demographic Variable	Mental Health			
	Moderate	Good	Chi-square	p-value
Work Experience				
1–5 Years	24 (21.8%)	86 (78.2%)	1.155	0.764
6–10 Years	9 (26.5%)	25 (73.5%)		
11–15 Years	9 (17.0%)	44 (83.0%)		
16 and above	18 (22.0%)	64 (78.0%)		
Monthly Income				
₦100,000–150,000	21 (22.1%)	74 (77.9%)	1.471	0.479
₦151,000–200,000	11 (28.2%)	28 (71.8%)		
₦200,000 and above	28 (19.3%)	117 (80.7%)		
Educational Level				
Diploma	32 (24.2%)	100 (75.8%)	1.718	0.633
BSc	25 (19.5%)	103 (80.5%)		
MSc	2 (13.3%)	13 (86.7%)		
PhD	1 (33.3%)	2 (66.7%)		

Source: Field survey, 2025.

Discussions of Findings

The study participants were 280 nurses from two tertiary hospitals; most of the participants were from the University of Abuja Teaching Hospital, 163 and the Federal Medical Centre, Jabi, 117. Socio-demographic results indicate a predominance of females (69.3%) and married (57%) consistent with the gender distribution in nursing and possible added stress due to family responsibilities. However, this is contrary to ehuda et al. (2024) who claim that marital status improves coping in terms of satisfaction and social support. Most of the respondents were Christians (around 70%), a significant proportion were relatively young, with 39.2% having 1–5 years of work experience, and so are most of the workforce is early career.

The results indicate the origins of stress in the respondents. Workload and time constraints showed the highest mean value of 3.27 (+0.82), showing that stress was experienced "very often" by the majority of the respondents, which is in line with the qualitative components of the study, which was attributed to excessive workload, inadequate staffing, and lack of appreciation or support from the supervisors. These responses indicate the burden of work overload and long working hours on nurses, and this finding is

consistent with the study conducted by Zhao et al. (2024), that reported work overload, unrealistic deadlines and prolonged working hours put continuous pressure on employees, eventually causing chronic stress to the employees. The feeling of having too much to do and too little time to do it may trigger feelings of helplessness, anxiety and burnout. This constant overload does not allow recovery and restoration, and thus intensifies the levels of occupational stress. The study is also consistent with a study conducted by Onasoga et al. (2022), who noted that excessive workload, lack of incentives, and job instability were the primary factors contributing to the work-related stress among nurses. Yehuda et al. (2024) also supports this finding consistent with the study of Onasoga et al. (2022) opined that workload, poor staffing and lack of material resources heighten daily pressures on front-line caregivers which are nurses.

The next source of occupational stress identified in this study is caring for debilitated and dying patients, which is consistent with the study conducted by Faremi et al. (2019) in southwest Nigeria, which regarded dealing with death and dying patients as the second-most stressful component of nursing stressors. The results of the sources of stress for nurses are consistent with the results of other studies in different settings, revealing that occupational stress is related both to the workplace and institutional environments (Dall'Ora et al., 2015). This would suggest an urgent need to focus on interventions to manage the pressures of workload and to strengthen workplace support systems.

Findings reveal the magnitude of the impact of work-related stress on different aspects of psychological and emotional health of nurses in tertiary hospitals in Abuja. The analysis reflects little differences in perceived mental health outcomes. The variables that have the highest mean scores are being able to make decisions, being useful, and being able to face problems which are associated with positive mental functioning; therefore, despite the exposure to stressors, many of the respondents were able to maintain an average level of resilience. In contrast, the qualitative findings showed that the mental well-being of nurses was negatively affected by occupational stress as it was a recurring theme to the responses provided by the respondents. The findings of the study is not in consistence with the study by Mudalla et al. (2017) opining that occupational stress is a factor that affects the performance of nurses and clinical decision making and that stress can impair cognitive functions such as memory, attention and critical thinking resulting in increased errors in medication administration, documentation and patient assessments. Kinman (2020) is in support of the findings from the study, which suggest that perceived autonomy and the feeling of being able to make decisions are positive mental health attributes, which lead to higher psychological resilience and job satisfaction. In addition, sleep disturbance from worry was a significant concern from the findings.

More severe psychological effects although less commonly reported were not negligible. These included being unable to overcome difficulties, being depressed or unhappy, loss of confidence, and feeling worthless. Stress comes with a host of emotions, such as worry, annoyance, rage, irritation, and feelings of inadequacy, helplessness, or powerlessness, as supported by the study of Onasoga et al. (2022). The findings highlight the importance of having in place effective mental health support systems, including

stress management training, access to professional counselling, and better working conditions to promote emotional resiliency in nurses in both institutions.

Findings also show that there was no link between mental well-being and occupational stress. There was no statistically significant relationship between occupational stress and mental health status among nurses of tertiary hospitals in Abuja, which was indicated by the Chi-square test result ($\chi^2 = 4.987$, $p = 0.083$). While a slightly higher proportion of nurses with moderate mental health reported moderate stress (60.0%) compared to the proportion with good mental health (44.3%), the difference was not statistically significant. This finding is inconsistent with the qualitative component of this study where most of the participants expressed a negative impact of occupational stress on their mental well-being.

Recommendations

The following recommendations are made on the basis of the results of this study and the reflexivity of the researcher:

1. Healthcare institutions should establish workload management strategies, such as having adequate staff and distributing duties fairly in order to lessen excessive job demands.
2. Regular stress management and resilience training programmes should be organised for nurses, especially those who are at early career stages.
3. Hospitals should have accessible mental health support systems such as counselling and psychological support units.
4. Leadership and management should create conducive work environments through effective supervision, recognition and teamwork.
5. Policies that focus on improving working conditions such as flexible scheduling and adequate provision of resources should be prioritised to improve the overall well-being of nurses.

Conclusion

The study concludes that occupational stress is a common and important issue to nurses in tertiary hospitals in Abuja, which is mainly the result of workload pressures, time constraints, emotional demands of patient care and lack of adequate support in their workplace. The preponderance of early career nurses also increases the vulnerability to stress because of their limited experience capacity in demanding clinical environments. Despite the fact that nurses showed signs of resilience, especially in their decision-making and problem-solving skills, the constant exposure to stressors is a sign of systemic challenges in the healthcare setting that needs urgent attention.

Furthermore, although many nurses had moderate mental well-being, there were significant indicators of emotional stress such as decreased enjoyment of daily activities, sleeping problems, and psychological exhaustion. The lack of a significant relationship between occupational stress and mental well-being indicates a complex interaction of influences on psychological results. Overall, the findings indicate the

importance of structured interventions targeting organisational and individual factors in order to enhance nurses working conditions and sustainable mental well-being.

Declarations

Ethics approval and consent to participate

Ethical approval was obtained from the Ethics and Research Committees of University of Abuja Teaching Hospital (UATH/HREC/PR/2025/07/400) and the Federal Medical Centre, Jabi (NHREC/FMC-JABI-HREC/03/03/2023B). The study followed the Helsinki Declaration, which ensures beneficence, non-maleficence, autonomy and the general safety and dignity of participants.. A written informed consent was obtained from the respondents before administering the questionnaires, ensuring adherence to the principles of anonymity and confidentiality.

Informed Consent: Participants were provided with comprehensive information about the study purpose, procedures, potential risks, benefits and their voluntary participation sought.

Confidentiality and Anonymity: Participant's identities and personal information were treated with utmost confidentiality throughout the study. Any identifying information was replaced with numerical codes to ensure anonymity. Data collected were securely stored and accessible only to the research team, and also restricted from unauthorized access, use, and disclosure.

Data security: Access to research data was restricted to authorized personnel, ensuring that sensitive information remained protected from unauthorized access, use or disclosure.

Voluntary Participation: Participation was entirely voluntary

Clinical Trial Number

Not Applicable

Consent for publication

The authors hereby give consent for the publication of our work

Availability of data and materials

All data used for this study are available upon request through the correspondence author

Competing Interests

The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article. Authors declare no competing interest. The authors have no competing interests as defined by BMC, or other interests that might be perceived to influence the results and/or discussion reported in this paper.

Funding

No external fund was received for the research by the authors.

Authors' contributions

Ibukun Blessing BELLO, Joel Adeleke AFOLAYAN, Mary Ayodeji OLOFIN-SAMUEL, Odunayo Olufunmilayo OLAOLUWA, Joyce Omobola ATENIOLA, Oluwatosin Comfort OLARINDE designed the study, literature review and manuscript writing. All authors also participated in data collection. Ibukun Blessing BELLO and Mary Ayodeji OLOFIN-SAMUEL reviewed the draft while the final draft was also approved by all the authors

Acknowledgements

The authors acknowledge the participants for their support and understanding during this research

References

1. Abd El-Hay, R. G., Hassan, R. M., & Badran, F. M. (2022). Role conflict and its effect on burnout among staff nurses. *Egyptian Journal of Health Care*, 13(4), 373.
2. Algorani, E. B., & Gupta, V. (2023). Coping mechanisms. In *StatPearls*. StatPearls Publishing.
3. American Nurses Foundation. (2021). New survey data. *Nursing World*.
<https://nursingworld.org/news>
4. Ateniola, J. O., Afolayan, J. A., & Anyebe, E. E. (2024). The effectiveness of a nurse-led education on coping strategies of occupational stress among nurses in tertiary hospitals, Ekiti State, Nigeria. *Nigerian Journal of Nursing Research*, 5(2), 45–52. <https://doi.org/10.52589/AJHNM-K5E5STNS>
5. Babapour, A. R., Gahassab-Mozaffari, N., & Fathnezhad-Kazemi, A. (2022). Nurses' job stress and its impact on quality of life and caring behaviors: A cross-sectional study. *BMC Nursing*, 21(1), 75. <https://doi.org/10.1186/s12912-022-00852-y>
6. Dall'Ora, P., Griffiths, P., Ball, J., & Simon, M. (2015). Association of 12 h shifts and nurses' job satisfaction, burnout, and intention to leave: Findings from a cross-sectional study of 12 European countries. *BMJ Open*, e008331.
7. Dartey, A. F., Tackie, V., Worna Lotse, C., Dziwornu, E., Affrim, D., & Delanyo Akosua. (2023). Occupational stress and its effects on nurses at a health facility in Ho Municipality, Ghana. *SAGE Open Nursing*, 9, 23779608231186044. <https://doi.org/10.1177/23779608231186044>
8. Faremi, F. A., Olatubi, M. I., Adeniyi, K. G., & Salau, O. R. (2019). Assessment of occupational-related stress among nurses in two selected hospitals in a city in southwestern Nigeria. *International Journal of Africa Nursing Sciences*.
9. Feliciano, A. Z., Feliciano, E. E., Al-Asiry, S., Magtubo, D. J. D., Reyes, W. S., Bautista, E. C., Santiago, B. M. T., & Gumabon, R. G. (2022). Nurses' stress, anxiety, depression, and burnout in the workplace: A correlational study. *International Journal of Advanced and Applied Sciences*, 9(9), 96–104. <https://doi.org/10.21833/ijaas.2022.09.12>
10. Girma, B., Nigussie, J., Molla, A., & Mareg, M. (2021). Occupational stress and associated factors among health care professionals in Ethiopia: A systematic review and meta-analysis. *BMC Public*

Health, 21(1), 539. <https://doi.org/10.1186/s12889-021-10579-1>

11. Jafar, M., & Mirza, S. (2021). Strategies for coping with work-related stress among healthcare professionals. *Journal of Healthcare Management*, 66(2), 109–117. <https://doi.org/10.1097/JHM-D-19-00375>
12. Jessica, N., Afifah, N., Daud, I., & Pebrianti, W. (2022). The effect of work environment and work-life balance on job satisfaction: Work stress as a mediator. *Journal of Economics Management and Trade*, 29(1), 54–65. <https://doi.org/10.9734/JEMT/2023/v29i11074>
13. Molebatsi, K., Musindo, O., Bojosi, K., Wambua, N., & Olashore, A. A. (2024). Burnout and associated factors among nurses in psychiatric and general tertiary hospitals in Botswana: A cross-sectional study. *SAGE Open Medicine*, 12.
14. Mudallal, R. H., Othman, W. M., & Al Hassan, N. F. (2017). Nurses' burnout: The influence of leader empowering behaviors, work conditions, and demographic traits. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, 54, 46958017724944.
15. Nwobodo, E. P., Strukcinskiene, B., Razbadauskas, A., Grigoliene, R., & Agostinis-Sobrinho, C. (2023). Stress management in healthcare organizations: The Nigerian context. *Healthcare*, 11(21), 2815. <https://doi.org/10.3390/healthcare11212815>
16. Olabisi, D., Muritala, A. T., Wetsi, S. Y., & Gambo, N. (2024). Workplace stress and nurses' performance of public hospitals in Federal Capital Territory, Nigeria. *European Journal of Business and Innovation Research*, 12(4), 7–33. <https://doi.org/10.37745/ejbir.2013/vol12n4733>
17. Oloribe, O. O., Momoh, J. A., Sunday, B., & Uzochukwu, C. (2019). Identifying key challenges facing healthcare systems in Africa and potential solutions. *International Journal of General Medicine*, 12, 395–403. <https://doi.org/10.2147/IJGM.S223882>
18. Onasoga, O. A., Ogbebor, S. O., & Ojo, A. A. (2013). Occupational stress management among nurses in selected hospital in Benin City, Edo State, Nigeria. *European Journal of Experimental Biology*, 3(1), 473–481.
19. World Health Organization. (2022). *World mental health report: Transforming mental health for all*. <https://www.who.int/publications/i/item/9789240049338>
20. Yao, Z., Zhang, X., Luo, J., & Huang, H. (2020). Offense is the best defense: The impact of workplace bullying on knowledge hiding. *Journal of Knowledge Management*, 24(3), 675–695. <https://doi.org/10.1108/JKM-12-2019-0755>
21. Yehuda, M., Manuel, A., & Imanu, F. (2024). The effect of job pressure and task complexity on performance with resilience ability as moderator. *Primanomics: Jurnal Ekonomi & Bisnis*, 22(3), 37–51. <https://doi.org/10.31253/pe.v22i3.2778>
22. Zhao, J., Gayman, M. D., Simon, J., & Arrington, K. (2024). Discrimination and the proliferation of stressors: A social network analysis. *Society and Mental Health*. <https://doi.org/10.1177/21568693241271289>