

KNOWLEDGE AND COPING STRATEGIES FOR OCCUPATIONAL STRESS AMONG HEALTHCARE WORKERS IN UMUAHIA, NIGERIA

Authors:

Okoro, C. A. ^{1*}, Agbapuonwu, N. E.

Author Affiliations:

¹Department of Nursing Science, Nnamdi Azikiwe University

***Corresponding Authors**

OKORO, Chinenye Aluma

Department of Nursing Science,

Nnamdi Azikiwe University

email: olejuru40@gmail.com

ORCID: <https://orcid.org/0009-0001-2837-9185>

XX

ABSTRACT

Background: Occupational stress and its coping strategies remain a significant challenge among healthcare workers globally, particularly in Nigeria, where healthcare professionals face increasing workload, poor staffing and managerial constraints that may predispose them to work-related stress.

Aim: To assess the knowledge and coping strategies for occupational stress among healthcare workers in Umuahia, Abia State, Nigeria.

Material and Methods: This descriptive cross-sectional design involved a stratified random sampling technique used to select 420 healthcare workers from selected hospitals who met the inclusion criteria. The data collected were summarized using descriptive and analysed using inferential statistics of Chi-square, one-way ANOVA and paired t-test at significance level of $p < 0.05$.

Results: Participants showed a high level of knowledge of occupational stress (3.03 ± 0.85). The major coping strategy employed by healthcare workers was positive attitude to work (3.12 ± 0.86) followed by time management and prioritizing tasks (3.09 ± 0.87) and identifying sources of stress in the workplace (3.06 ± 0.88). The Chi-square analysis revealed a statistically significant association between knowledge of occupational stress and coping strategies ($\chi^2 = 24.615$, $P = 0.001$), while t-test analysis showed a statistically significant association between occupational stress and demographic variables (gender: $t = 3.314$, $p = 0.001$ and marital status: $t = -2.641$, $p = 0.009$). The result of one-way ANOVA revealed a statistically significant difference in the use of coping strategies across the three hospitals ($F = 2, 417; = 12.98$, $P = 0.0001$).

Conclusions: Level of knowledge of occupational stress was high and significantly influenced the coping strategies adopted by healthcare workers in Umuahia. Occupational stress was also significantly influenced by gender and marital status.

Keywords: Occupational stress; Healthcare workers; Coping strategies; Umuahia; Nigeria.

INTRODUCTION

Occupational stress is defined as harmful physical and emotional responses that occur when job demands exceed available resources¹. According to the World Health Organization, occupational stress has become one of the leading occupational health risk globally, particularly, in high-demand sectors such as health care^{2,3}. The International Labour Organization (I.L.O) further reports that prolonged occupational stress contributes significantly to burnout, reduced productivity, absenteeism, and compromised service delivery^{4,5}. Healthcare workers are especially vulnerable to occupational stress due to emotionally demanding nature of their work, exposure to life-threatening conditions, shift duties, and high responsibility for patient outcomes⁶. Globally, studies^{7,8} conducted across Europe, Asia, and Africa have consistently shown high stress prevalence among healthcare workers, ranging from 45% to 75%. Burnout syndrome, characterized by emotional exhaustion and depersonalization, has been strongly linked to chronic occupational stress among healthcare professionals⁸. Occupational stress is a significant concern among healthcare workers globally, impacting on mental health, job performance, and patient care. In Nigeria, healthcare workers face unique challenges such as inadequate staffing, limited resources, heavy workloads, poor remuneration, poor working condition, and weak healthcare infrastructure⁹. Healthcare workers are frequently required to manage a high patient load with minimal support which significantly increases their psychological strain and vulnerability to work-related stress¹⁰. It is reported that over 60% of healthcare professionals experienced moderate to severe occupational stress due to heavy patient workload and poor

management support¹¹. Studies have shown that prolonged exposure to stress in healthcare settings can lead to burnout, anxiety, depression, and decreased quality of patient care.^{11,12} Similarly, role conflict, long working hours, and limited decision-making autonomy have been identified as major stress predictors¹².

When individuals are stressed, they develop certain mechanisms to help them manage the stress and its effects as it is difficult to remain in a state of constant tension. These mechanisms known as coping strategies, is the application of psychological and physical resources to reduce the negative effects of stress, which is very crucial in the study of occupational stress. A critical determinant of coping mechanisms that has been identified sparsely in research, is the knowledge of occupational stress¹³. In the context of occupational health, the relationship between stress knowledge and coping behavior has gained increasing scholarly attention. Knowledge of occupational stress encompasses an individual's understanding of workplace stressors, early warning signs, and potential health implications¹⁴. Although coping mechanism may contribute to experiential understanding of stress over time, current evidence suggests that knowledge of occupational stress plays a more foundational role in shaping coping behaviors, making it a critical determinant of how individuals cope with workplace stress¹⁵.

Gender differences in occupational stress have also been widely documented as significantly influenced by knowledge of occupational stress and coping strategies. Female healthcare workers often report higher stress levels due to dual work-family responsibilities and workplace discrimination¹⁶. In addition, marital status

has been found to influence stress perception, with married healthcare workers sometimes experiencing additional family-role pressures that interact with occupational demands¹⁷.

Recent global workforce report according to Razai¹⁸ highlighted the urgent need for health organization at all levels to aim at protecting healthcare workers' mental health and other impacts of occupational stress. Evidence suggests that institutional coping strategies, improved staffing ratios, and participatory leadership demand approaches that significantly reduce occupational stress levels^{19,20}. The healthcare facilities in this region experience increasing patient loads without proportional expansion of workforce capacity, potentially predisposing staff to elevated stress levels²¹. Despite these challenges, there is limited data on healthcare workers' knowledge of occupational stress and coping strategies in Umuahia.

This study is anchored on the Transactional Model of stress and coping²³ which explains stress as a dynamic process arising from the interaction between individuals and their work environment. According to this model, stress is not merely the presence of demanding conditions, but rather the individual's cognitive appraisal of those conditions and their perceived ability to cope with them. Within this framework, occupational stressors such as workload, role conflict, time pressure, and organizational environment represent external demands placed on workers. These stressors trigger a process of cognitive appraisal, where individuals evaluate the significance of the stressor (primary appraisal) and their available resources to manage it (secondary appraisal).

Knowledge of occupational stress is conceptualized in this study as a critical cognitive resource that influences this appraisal process. Individuals with adequate

knowledge are more likely to correctly identify sources and symptoms of stress, understand its potential consequences, and be aware of appropriate coping mechanisms. This knowledge enhances their ability to evaluate stress situations accurately and select effective responses. The framework assumes that knowledge of occupational stress plays a mediating role between exposure to stressors and the coping strategies adopted. Workers with higher level of knowledge are more likely to engage in adaptive coping strategies, such as problem-solving, time management, seeking social support, and relaxation techniques. In contrast, those with limited knowledge may rely on maladaptive coping strategies, including avoidance, denial, or withdrawal, which may exacerbate stress and negatively affect well-being and job performance. Thus, the relationship between occupational stress and coping strategies is not direct but is significantly influenced by the individual's level of knowledge. Understanding occupational stress and coping strategies can inform interventions to improve healthcare worker's well-being, job satisfaction, performance and patient outcomes. Identifying gaps in knowledge and effective coping strategies can also guide policy development, training programs, and support services, ultimately enhancing healthcare delivery in Umuahia and similar settings. Additionally, the study's findings can contribute to the broader understanding of occupational stress in low-resource healthcare environments, informing strategies to mitigate its impact. This study therefore examines how knowledge of occupational stress shaped the selection and effectiveness of coping strategies among workers

MATERIALS AND METHODS

Study Design

The study employed a descriptive cross-sectional research design to assess knowledge and coping strategies among healthcare workers. The design was appropriate because it allowed for the collection of data at a single point in time and enabled the determination of relationships between variables using inferential statistics.

Study Area

The study was conducted in selected healthcare facilities in Umuahia, the capital city of Abia State, Nigeria. Umuahia serves as a major administrative and healthcare hub in the state, with both public and private health institutions providing primary, secondary and tertiary healthcare services.

Study Population

The study population comprised healthcare workers including doctors, nurses, pharmacists, laboratory scientists, and physiotherapists working in the selected healthcare facilities in Umuahia.

Inclusion Criteria

Registered and licensed healthcare workers, those who had worked for at least one year in the facility and those who consented to participate while non-registered and licensed healthcare workers, non-consenting healthcare workers and those who had not worked up to one year were excluded.

Sample Size Determination

The sample size for the study was determined from the target population of 1,333 using Taro Yamene's ²² formula shown as $n = N / (1 + N(e)^2)$. The minimum sample size was calculated as 400 and with 10% for attrition/non-response, the sample size became 440. This was distributed

proportionately among the healthcare workers in the selected hospitals.

Sampling Technique

A multistage sampling technique was adopted. Healthcare facilities were first stratified by level of care and hospital type (Federal, State and Private). A stratified random sampling technique was used to select participants. Within each facility, healthcare workers were randomly selected proportionally from each professional category to ensure representativeness. In the three hospitals, the proportion of healthcare workers recruited in each of the hospital was made to be proportional to the number they contribute to the total population of healthcare workers in each hospital.

Instrument for Data Collection

The instrument for data collection was a questionnaire organized in accordance with the research objectives and hypothesis. The questionnaire was divided into three sections: A, B, and C. Section A was structured to obtain information on socio-demographic characteristics (Age, gender, professional category, and years of experience. Section B also structured to obtain information on Knowledge of occupational stress by the respondents. Section C was used to obtain information on respondents' coping strategies for occupational stress. Questions were rated on a four-point rating scale of 4 - Strongly Agree, 3 - Agree, 2 - Disagree and 1 - Strongly Disagree.

Validity of the Instrument

Face and content validity was ensured by giving the instrument to supervisor and two senior lecturers in the Department of Nursing Science. In line with the objectives of the study, the Validators' criticism, advice and suggestion guided structuring of the instrument.

Reliability of the Instrument

Reliability of the instrument was ensured by pilot study of the instrument using forty-two healthcare workers in Abia State Teaching Hospital Aba which is a tertiary hospital. Data collected were subjected to split-half reliability coefficient statistics. The reliability of the instrument was established using Cronbach's Alpha. The reliability index arising from this method achieved a high degree of internal consistency of the instrument. Section A and B yielded reliability coefficient of 0.87 and 0.84 respectively, signifying a considerable reliability.

Ethical Consideration

Ethical approval was obtained from the health Research Ethics Committee of the selected hospitals (FMC/QEH/G.596/VOL.10/674, ABHDC/ADM/177/26). A written informed consent was obtained from the respondents before administering the questionnaire, ensuring the principle of confidentiality.

Data Collection Procedure

Research assistants distributed questionnaires to participants during working hours. Participants were briefed on the purpose of the study and written informed consent obtained as a confirmation of their participation. Completed questionnaires were collected on the same day or within 48 hours. The response rate was 95%.

Data Analysis

The data collected were summarized using frequency counts, percentages, mean score and standard deviation; and analyzed using Chi-square test, paired t-test, one-way ANOVA and Tukey HSD post-hoc test. The mean of the options of the four-point Likert scale $(1+2+3+4)/4 = 2.5$, was used as an

index to determine the cut-off point between low level and high-level perception of respondents to the question items. The interpretation of Likert scale means: the following benchmark was adopted: 1.00 - 1.49 = very low, 1.50 - 2.49 = low, 2.50 - 3.49 = moderate, 3.50 - 4.00 = high. In this study. All statistical analysis were performed at $p < 0.05$ level of significance

RESULTS

The socio-demographic characteristics of the respondents showed that nearly half of the participants (47.62%) were within the age bracket of 26-35 and the majority were females (57.1%) and about three quarters were married (61.9%). Nurses constituted the largest professional group (61.2%), while majority of them (40.95%) were still within 10 years of working experience. The result of healthcare workers' knowledge of occupational stress revealed, a grand mean of 3.03 ± 0.91 . Majority of the respondents agreed they understood the importance of self-care (3.09 ± 0.84) while others were more aware of prioritizing tasks to manage stress (3.06 ± 0.79) and aware of the signs and symptoms of stress (3.05 ± 0.88).

The result of coping strategy used by healthcare workers showed a grand mean score of 3.03 ± 0.89 . The major coping strategy employed by healthcare workers was Positive attitude 3.12 ± 0.85 followed by time management and prioritizing tasks (3.09 ± 0.86) and identification of sources of stress (3.06 ± 0.87), while use of relaxation technique scored lowest (3.00 ± 0.90).

A Chi-square was used to determine if there were significant relationship between knowledge of occupational stress and coping

strategies. As shown in table 4, the result revealed a statistically significant association between knowledge of occupational stress and coping strategies ($\chi^2 = 24.615, P = 0.001$).

Independent t-test analysis conducted to determine if there were significant difference between occupational stress and demographic variables (gender and marital status) was shown in Table 5. The result revealed a statistically significant association between gender and occupational stress ($t = 3.314, p = 0.001$)

and between marital status and occupational stress ($t = -2.641, p = 0.009$).

As shown is Table 6a, Hospital A recorded the highest mean of total coping score of 112.28 ± 17.36 followed by Hospital B with 106.96 ± 19.4 , while Hospital C recorded the lowest mean of 96.60 ± 19.88

The result of one-way ANOVA presented in Table 6b revealed a statistically significant difference in the total use of coping strategies across the three hospitals ($F = 12.98, P < 0.0001$).

Table 1: Demographic characteristics of respondents

Variable	Options	Frequency	Percentage
Age (years)	18 - 25	136	32.38
	26 – 35	200	47.62
	36 – 45	62	14.76
	46 and above	22	5.24
Gender	Male	180	42.8
	Female	240	57.1
Marital Status	Single	160	38.1
	Married	260	61.9
Professional Category	Doctors	84	20.0
	Nurses	257	61.19
	Pharmacists	34	8.10
	Laboratory Scientists	25	5.95
Years of Experience	Physiotherapist	20	4.76
	1 – 10	172	40.95
	11 – 20	84	20.00
	21 – 30	84	20.00
	31 and above	80	19.05

Table 2: Mean Score and Standard Deviation of respondents on the Knowledge of Occupational Stress (n = 420)

Item	Mean± SD	Decision
I understand the importance of self-care	3.09 ±0.84	High
I Prioritize tasks to manage workload	3.06 ±0.79	High
I am aware of signs and symptoms of stress	3.05± 0.88	High
I understand what occupational stress is.	3.04± 0.92	High
I know the common sources of stress	3.04± 0.93	High
I am aware of the resources available to support healthcare professionals	3.04± 0.91	High
Grand mean	3.03±0.91	High

Decision rule: Mean > 2.50 = High knowledge and Mean < 2.49 =low knowledge

Table 3: Mean score and standard deviation on coping strategies for occupational stress

Item	Mean+ SD	Decision
Positive attitude to work	3.12±0.85	High
Time management and prioritization of tasks	3.09±0.86	High
Identification of source of stress	3.06 ±0.87	High
Delegation of duty where possible	3.03±0.88	High
Adequate sleep and rest	3.02±0.90	High
Use of relaxation techniques	3.00±0.90	High
Grand mean	3.03±0.89	High

Decision Rule: Mean > 2.50 = High use and Mean < 2.49 low use

Table 4: Relationship between knowledge of occupational stress and coping strategies

Variable	χ^2	Df	p-value	Decision
Occupational stress and coping strategies	24.615	4	0.001	Sig

Significance level: $p < 0.05$

Table 5: Association between occupational stress and demographic variable (gender and marital status)

Variable	t-value	Df	p-value
Gender and occupational stress	3.314	418	0.001
Marital status and occupational stress	-2.641	418	0.009

Significance level: $p < 0.05$

Table 6a: Descriptive statistics of Brief COPE score across hospitals

Hospital	N	Mean	Std. Deviation	Std. Error	95% CI for Mean	Min	Max
FMC	268	112.28	17.36	1.06	110.19-114.37	65	112
GHA	126	106.96	19.04	1.70	103.60-110.32	59	112
MCH	26	96.60	19.88	3.00	88.58-104.62	58	112
Total	420	109.20	18.48	0.90	107.43-110.97	58	112

Higher scores indicate greater overall frequency of coping strategy use

Table 6b: One-Way ANOVA Summary for Coping Strategy Use Across Hospitals

Source Variation	Sum of Square (SS)	df	Mean Square (MS)	F	p-value	η^2
Between groups	8487.512	2	4243.756	12.98	.000*	.059
Within Groups	136314.888	417	326.895			
Total	144802.400	419				

$p < .05$, significant at 5% level of significance

The Tukey HSD post-hoc test in Table 6c further showed that all pairwise mean differences were statistically significant. Healthcare workers in FMC reported significantly higher coping use than healthcare workers in GHA, mean difference = 5.32, $p = 0.018$ and MCH mean difference = 15.68, $p = 0.000$. Similarly, GHA healthcare workers scored significantly high than MCH healthcare workers, mean difference = 10.36, $p = 0.021$. The calculated effect size $\eta^2 = 0.059$ indicated a medium effect according to Cohen's guidelines. This implied that 5.9% of the variability in coping strategy use among healthcare workers is attributable to hospital type.

Table 6c: Tukey HSD Post-Hoc Test for Total Brief COPE Score

(I) Hospital	(J) Hospital	Mean Difference (I-J)	Std. Error	Sig.	95% CI
FMC	GHA	5.32*	1.934	.018	0.76 – 9.88
FMC	MCH	15.68*	3.696	.000	6.99 – 24.37
GHA	MCH	10.36*	3.836	.021	1.33 – 19.39

• The mean difference is significant at 0.05 level

DISCUSSION

The study conducted among healthcare workers in Umuahia revealed high knowledge of occupational stress, this could largely be attributed to substantial awareness of its importance of self-care, sources, and symptoms. This finding is consistent with the finding of Okwuosa and Okonkwo who reported that healthcare workers in southeast Nigeria were knowledgeable about both physical and psychological symptoms of occupational stress, reinforcing the importance of such awareness in promoting timely intervention²³. Similarly, this finding aligned with report from the World Health Organization, which identified healthcare professionals as one of the occupational groups most vulnerable to work-related stress due to high job demands and emotional strain³, and the contemporary Nigerian and global research indicating that health system constraints significantly contribute to workplace stress⁴.

The findings of this study showed that healthcare workers utilized several strategies to cope with occupational stress. The grand mean score revealed a moderate to high level of adoption of coping strategies under high level of stress. Among the strategies adopted, suggested that healthcare workers are aware of the importance of adopting coping mechanisms to maintain their psychological well-being and job effectiveness despite the demanding nature

of healthcare services. This finding is in agreement with the result obtained by Dall’Ora, Ball, Reinius and Griffiths¹² who observed resource availability and institutional culture to have strongly influenced the adoption of coping strategies among healthcare workers⁷.

The Chi-square revealed a statistically significant association between healthcare workers’ level of knowledge of occupational stress and coping strategies. This suggests that knowledge of occupational stress plays a role in shaping coping behaviors, making it a critical determinant of how individuals cope with workplace stress¹⁵. The finding further suggested that the type of coping strategy adopted by healthcare workers varies significantly with their level of knowledge of occupational stress. Healthcare workers with higher knowledge of occupational stress are more likely to adopt effective coping strategies. This is in line with the finding of Adeolu et al.² who found a strong relationship between occupational stress awareness and consistent use of preventive coping strategies among nurses in Enugu State. Similarly, Nwankwo et al.⁸ observed that knowledge-based interventions enhanced the adoption of healthy coping behavior among healthcare providers in Nigeria.

The present study found a statistically significant association between occupational

stress and demographic variable (gender). This gender-based vulnerability of occupational stress as documented in healthcare settings suggests that women often experience greater emotional exhaustion compared to their male counterparts²⁰. This finding supports the finding by Abiodun¹⁶ who reported higher levels of knowledge of stress among female healthcare workers due to dual role responsibilities and workplace pressure. Marital status showed a significant association with occupational stress. This implied that marital status has been found to influence stress perception, with married healthcare workers sometimes experiencing additional family-role pressures that interact with occupational demands¹⁷. This finding is consistent with Olatunji et al.¹⁷ who observed that married healthcare workers reported higher stress levels due to competing family and professional responsibilities. Psychosocial role theory suggests that additional domestic obligation may amplify perceived job strain, especially in demanding healthcare environment⁴. The result of one-way ANOVA revealed a statistically significant difference in the use of coping strategies across the three hospitals. The null hypothesis was rejected. Possible reasons could be that Federal Medical Centre faces higher patient influx, and more complex medical cases, which may compel healthcare workers to adopt structured or individual coping strategies. This suggests that the variability in coping strategy use among healthcare workers is attributable to hospital type and administrative demands. This result is consistent with the finding of Abiodun et al.¹⁶ who posited that healthcare workers in Federal, State and Private hospitals hardly face similar stressors with fewer coping resources than tertiary hospitals.

CONCLUSION

The study has shown that healthcare workers possessed a high level of knowledge of occupational stress in Umuahia, Abia State. The knowledge of occupational stress significantly predicted the coping behaviors adopted by healthcare workers. Furthermore, occupational stress was significantly influenced by demographic factors and coping strategies employed.

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