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Perceived Influence of Workload on Nurses' Job Performance and Patient Outcomes in KWASUTH

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Abstract **Original Research Article**

Background: Nurses' workload is a major organisational factor that can influence job performance and patient outcomes. In teaching hospitals, workload pressure may be intensified by high patient volume, inadequate staffing, rotating shifts, overtime, documentation demands, and patient acuity.

Aim: This study examined the perceived influence of workload on nurses' job performance and patient outcomes in Kwara State University Teaching Hospital, Ilorin, Nigeria.

Methods: A descriptive cross-sectional survey design was adopted. Data were analysed from 180 nurses using a structured questionnaire that assessed sociodemographic characteristics, perceived workload, job performance, workload impact, patient outcome risk, and workload management strategies. Descriptive statistics, chi-square test, Pearson correlation, and hierarchical multiple regression were used for data analysis. Statistical significance was set at $p < 0.05$.

Results: The mean perceived workload score was 3.37 ± 0.39, and 113 respondents (62.8%) had high workload. The mean job performance score was 2.73 ± 0.33, with most respondents, 130 (72.2%), reporting moderate job performance. The mean patient outcome risk score was 3.62 ± 0.27, and 161 respondents (89.4%) reported high perceived patient outcome risk. Perceived workload was negatively correlated with job performance ($r = -0.459$, $p < 0.001$) and positively correlated with patient outcome risk ($r = 0.596$, $p < 0.001$). Regression analysis showed that workload significantly predicted job performance ($B = -0.313$, $p < 0.001$) and patient outcome risk ($B = 0.364$, $p < 0.001$). Inadequate nurse-patient ratio also significantly predicted patient outcome risk ($B = 0.093$, $p = 0.013$).

Conclusion: Higher perceived workload was associated with reduced nurses' job performance and increased perceived risk of poor patient outcomes. Improving staffing levels, reviewing nurse-patient ratios, reducing non-nursing duties, strengthening managerial support, and providing adequate resources are recommended to enhance nurses' performance and patient care outcomes in KWASUTH.

Keywords: workload, nurses, job performance, patient outcomes, nurse-patient ratio, teaching hospital, KWASUTH, Nigeria.

1. Introduction

Nurses play a central role in the delivery of safe, effective, and patient-centred healthcare. In hospital settings, they provide continuous bedside care, monitor patients' clinical conditions, administer medications, document care, educate patients, prevent infections, communicate with relatives, and coordinate care with other health professionals. Because nurses spend substantial time with patients, the conditions under which they work can directly influence the quality of nursing care and the outcomes experienced by patients.

Nursing workload is a broad concept that reflects the physical, mental, emotional, and organisational demands placed on nurses during care delivery. It includes patient load, patient acuity, shift demands, documentation responsibilities, interruptions, non-nursing duties, overtime, and availability of equipment and supplies. Workload is therefore not determined by the number of patients alone, but also by the complexity of care, staffing adequacy, and the resources available for care delivery [3]. When workload becomes excessive, nurses may experience fatigue, stress, reduced concentration, emotional exhaustion, and difficulty completing essential nursing activities. The impact of workload on patient safety has been widely recognised. Heavy workload can reduce the time available for patient monitoring, documentation, communication, medication administration, health education, and emotional support. From a human factors perspective, workload can affect patient safety by increasing cognitive demand, interruptions, and the likelihood of errors during clinical tasks [1]. Workload may also contribute to missed or unfinished nursing care, especially when nurses lack sufficient time to complete necessary care activities [6]. Evidence shows that care left undone during nursing shifts is associated with workload and perceived quality of care [7]. Nurses' job performance is reflected in how effectively they carry out professional duties such as timely care provision, accurate documentation, medication safety, infection prevention, communication, teamwork, patient education, and patient monitoring. When workload is manageable, nurses are more likely to perform these duties effectively. However, excessive workload may reduce performance by causing tiredness, stress, poor concentration, delayed task completion, and reduced professional satisfaction. Burnout has also been identified as an important consequence of heavy nursing workload, and it may affect nurses' wellbeing, motivation, and ability to deliver quality care [8]. Patient outcomes are closely linked to nursing performance and the nursing work environment. Outcomes such as patient satisfaction, medication safety, prevention of falls, infection prevention, timely response to patient needs, and overall quality of care may be affected when nurses are overworked. Previous evidence shows that heavy perceived nurse workload has significant effects on both patient and nurse outcomes, including adverse patient events, emotional exhaustion, and job satisfaction [4]. Similarly, nurse burnout has been linked to patient and organisational outcomes, suggesting that workload-related strain has consequences beyond the individual nurse [9].

Globally, nursing workload has become an important health workforce concern because of nurse shortages, increasing patient demand, and growing complexity of care. The World Health Organization emphasised the need for investment in nursing education, jobs, and leadership to strengthen health systems and improve healthcare delivery [16]. In low- and middle-income countries, including Nigeria, workload challenges may be intensified by limited staffing, inadequate resources, high patient volume, and increasing pressure on public hospitals. These conditions may affect nurses' wellbeing, job performance, and patient safety.

Kwara State University Teaching Hospital (KWASUTH), Ilorin, Nigeria, is a public teaching hospital that provides healthcare services and supports professional training. As a teaching hospital, KWASUTH is expected to provide clinical care, respond to emergencies, support specialist services, and contribute to

health workforce development. These responsibilities may increase patient volume and service demands, thereby placing workload pressure on nurses in units such as emergency, medical, surgical, maternity, paediatric, outpatient, intensive care, and theatre departments. Although nursing workload has been widely examined in previous studies, there remains a need for institution-specific evidence from Nigerian teaching hospitals. Workload experiences may vary across hospitals depending on staffing patterns, patient load, unit type, shift arrangement, resource availability, and management support. Therefore, understanding how nurses in KWASUTH perceive workload and how such workload influences their job performance and patient outcomes is important for nursing administration, staffing decisions, workload management, and patient safety improvement.

This study therefore examined the perceived influence of workload on nurses' job performance and patient outcomes in Kwara State University Teaching Hospital, Ilorin, Nigeria. The findings are expected to provide evidence that can guide nurse managers, hospital administrators, policymakers, and other stakeholders in developing strategies to improve staffing, reduce excessive workload, enhance nurses' performance, and strengthen patient care outcomes.

2. Literature Review

2.1 Concept of Nursing Workload

Nursing workload is a multidimensional concept that includes the physical, psychological, emotional, cognitive, and organisational demands placed on nurses during care delivery. It is commonly reflected in patient load, nurse-patient ratio, patient acuity, number of tasks, documentation requirements, interruptions, shift length, overtime, and non-nursing duties [1–3]. Unlike simple patient counts, workload involves both the quantity and complexity of nursing care. Two nurses may care for the same number of patients but experience different levels of workload depending on patients' dependency, severity of illness, availability of equipment, and support from other health workers [4,5]. Nursing workload may be direct or indirect. Direct workload includes activities performed in contact with patients, such as assessment, medication administration, wound care, monitoring, counselling, and health education. Indirect workload includes documentation, communication, coordination of care, referral processes, stock management, and administrative duties [2,6]. Excessive indirect workload may reduce the time available for bedside care and increase the likelihood of delayed or missed nursing care [7,8]. Globally, nursing workload has become an important health workforce issue because of nurse shortages, increasing patient demand, population ageing, and the growing complexity of healthcare services. The World Health Organization emphasised that nurses constitute the largest occupational group in the health sector and that investment in nursing education, employment, and leadership is necessary for stronger health systems and universal health coverage [9]. In low- and middle-income countries, workload challenges are often worsened by inadequate staffing, poor infrastructure, limited equipment, weak health financing, and increasing demand for care [9,10]. In Nigeria, public hospitals frequently experience heavy patient attendance, shortage of skilled health workers, limited supplies, and resource constraints. These conditions may increase pressure on nurses and affect their ability to provide safe, timely, and complete care [11,12]. Teaching hospitals may experience even greater workload because they combine routine service delivery with emergency care, specialist services, training, supervision, and referral responsibilities. Therefore, understanding nursing workload in Kwara State University Teaching Hospital, Ilorin, is important for workforce planning, quality improvement, and patient safety.

2.2 Nursing Workload, Stress, Burnout, and Job Performance

High workload is one of the most frequently reported causes of occupational stress and burnout among nurses. Burnout is commonly

described in terms of emotional exhaustion, depersonalisation, and reduced personal accomplishment [13,14]. Nurses exposed to prolonged heavy workload may become physically tired, emotionally drained, less motivated, and dissatisfied with their work [15,16]. Workload-related stress can affect concentration, decision-making, communication, emotional control, and clinical judgement. This is important in nursing because nurses must monitor patients, detect changes in condition, administer medications correctly, communicate with other professionals, and respond promptly to emergencies [1,17]. When workload is excessive, cognitive overload may increase the risk of errors, delayed care, poor documentation, and reduced attention to patients' emotional needs. Job performance refers to how effectively employees carry out their assigned duties and contribute to organisational goals. In nursing, job performance includes timely care delivery, accurate documentation, medication safety, infection prevention, health education, patient monitoring, teamwork, communication, ethical practice, and adherence to professional standards [18,19]. Nurses' job performance is therefore central to hospital efficiency, patient safety, and quality of care. Nurses' performance is shaped by both individual and organisational factors. Individual factors include competence, experience, motivation, health status, emotional stability, and professional commitment. Organisational factors include staffing level, workload, supervision, leadership, availability of equipment, remuneration, institutional policy, and work environment [20–22]. Although individual competence is important, even skilled nurses may perform below their potential when workload is excessive or the work environment is poorly resourced. Several studies have shown that excessive workload can reduce nurses' performance by increasing fatigue, delaying task completion, weakening communication, and limiting time for patient education and emotional support [1,4,23]. In workload-heavy environments, nurses may prioritise urgent clinical procedures while omitting less visible but important aspects of care such as counselling, comfort care, discharge education, and complete documentation [7,8]. In Nigeria and other African settings, workload-related stress has also been associated with job dissatisfaction, absenteeism, turnover intention, reduced morale, and poor staff retention [11,12,16].

2.3 Nursing Workload, Missed Care, Patient Safety, and Quality of Care

Missed nursing care refers to required nursing care that is delayed, partially completed, or omitted. It is increasingly recognised as an indicator of care quality and a pathway through which staffing and workload affect patient outcomes [7,8,24]. Commonly missed care activities include patient education, comfort care, care planning, documentation, emotional support, turning and repositioning, ambulation, and timely response to call bells [8,25]. High workload contributes to missed nursing care because nurses may be forced to ration care when patient volume is high, staffing is inadequate, or competing clinical demands occur. Ball et al. found that missed care was associated with staffing levels and nurses' perceptions of quality and safety [7]. Griffiths et al. also suggested that missed nursing care may mediate the relationship between nurse staffing and patient mortality [24]. This implies that inadequate staffing and heavy workload may increase the likelihood of unfinished nursing tasks, which can place patients at risk.

Nurse staffing and nurse-patient ratio are important determinants of workload and patient outcomes. Evidence suggests that inadequate registered nurse staffing is associated with adverse outcomes such as mortality, complications, infections, falls, pressure injuries, medication errors, longer hospital stay, and reduced patient satisfaction [26–29]. High nurse-patient ratios may reduce time per patient, delay medication administration, limit patient monitoring, and weaken communication with patients and relatives [10, 26, 30]. Patient safety is closely linked to nursing workload because nurses are involved in medication administration, infection prevention, patient monitoring, fall prevention, pressure injury prevention, documentation, handover, and early

recognition of deterioration. When nurses are overworked, they may have insufficient time to monitor patients, check medications, complete records, or communicate effectively with other members of the healthcare team [1, 17, 27]. Medication safety is particularly workload-sensitive because fatigue, interruptions, time pressure, and cognitive overload may increase the risk of medication errors [31, 32]. Workload also affects quality of care and patient satisfaction. Patients often judge care quality through responsiveness, communication, empathy, waiting time, emotional support, and perceived attention from nurses. Heavy workload may reduce the time nurses spend with patients, delay responses to patient needs, reduce explanations about care, and weaken emotional support [7,33]. Therefore, workload affects both the technical and interpersonal dimensions of nursing care.

2.4 Work Environment, Theoretical Framework, and Empirical Gap

Nursing workload does not operate in isolation; it is influenced by the wider work environment. A favourable work environment includes adequate staffing, supportive management, effective communication, professional autonomy, teamwork, access to equipment, and opportunities for professional development [20,22,34]. These factors can reduce the negative effects of workload and improve nurse and patient outcomes. Supportive leadership is particularly important in workload management. Nurse managers influence workload distribution, shift scheduling, staff motivation, conflict resolution, supervision, and resource allocation. When managers regularly assess workload and respond to staffing needs, nurses may feel supported and better able to provide safe and quality care [20,35]. Workload management strategies include employing more nurses, improving nurse-patient ratios, ensuring availability of equipment and supplies, reducing unnecessary non-nursing duties, improving documentation systems, providing rest breaks, using acuity-based staffing, and offering stress management programmes [9,10,36]. The Job Demand-Resources Model provides a useful theoretical basis for this study. The model proposes that every occupation has job demands and job resources. Job demands are aspects of work that require sustained physical, emotional, or cognitive effort, while job resources are aspects that help employees achieve work goals, reduce demands, and support growth [37,38]. In nursing, workload, patient acuity, long shifts, emotional labour, emergencies, and documentation burden represent job demands. Staffing adequacy, equipment, supportive leadership, teamwork, professional autonomy, training, and rest breaks represent job resources.

The Job Demand-Resources Model is relevant because perceived workload can be understood as a job demand that may influence nurses' job performance and patient outcomes. When job demands are high and resources are inadequate, nurses may experience stress, burnout, reduced motivation, missed care, and lower performance. However, adequate resources such as staffing, effective scheduling, managerial support, and equipment availability may reduce the negative effects of workload. Although several studies have examined nurse staffing, burnout, missed care, and patient outcomes, there remains a need for institution-specific evidence from Nigerian teaching hospitals. Workload experiences vary across settings because of differences in staffing, patient volume, unit structure, resource availability, documentation systems, and organisational policies. Evidence from Europe, America, or Asia may not fully reflect the workload realities of nurses in Nigerian public teaching hospitals. Furthermore, many studies focus separately on burnout, job satisfaction, staffing, or patient safety, while fewer studies examine perceived workload, nurses' job performance, and patient outcomes together within a single institutional context. This study addresses that gap by examining the perceived influence of workload on nurses' job performance and patient outcomes in Kwara State University Teaching Hospital, Ilorin. The findings are expected to support evidence-based nursing administration, workload-sensitive staffing, improved nurse-patient ratios, and patient safety interventions.

Based on the reviewed literature, the study conceptualised workload as a major factor that may influence nurses' job performance and patient outcomes. The proposed relationship among workload factors, perceived nursing workload, job performance, and patient outcomes is shown in Figure 1

Figure 1. Conceptual framework showing the perceived influence of workload on nurses' job performance and patient outcomes.

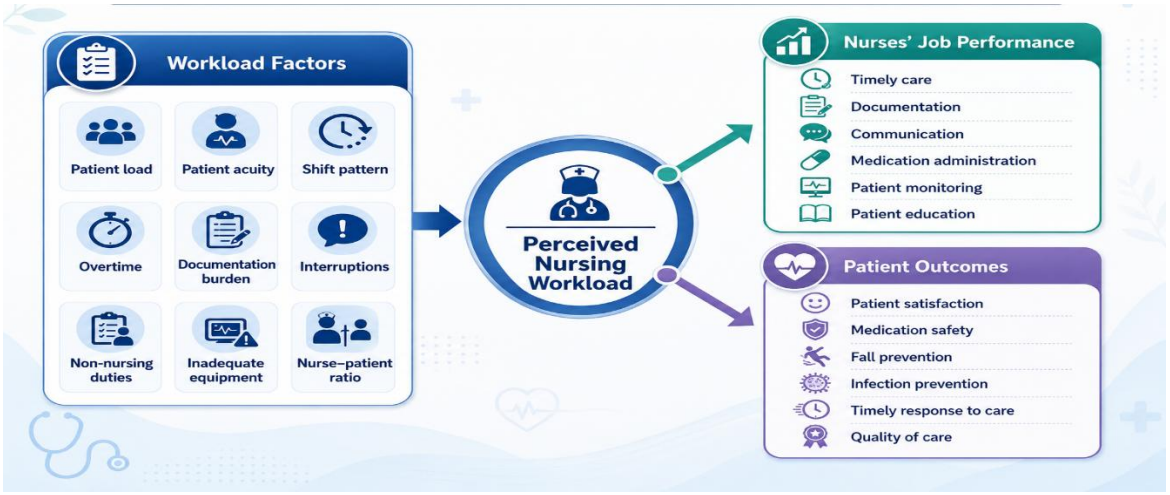

Figure 1 shows that workload factors such as patient load, patient acuity, shift pattern, overtime, documentation burden, interruptions, non-nursing duties, inadequate equipment, and nurse-patient ratio contribute to perceived nursing workload. This perceived workload may influence nurses' job performance through timely care, documentation, communication, medication administration, patient monitoring, and patient education. It may also affect patient outcomes, including patient satisfaction, medication safety, fall prevention, infection prevention, timely response to care, and overall quality of care.

3. Materials and Methods

3.1 Study Design

This study adopted a descriptive cross-sectional survey design. The design was appropriate because the study examined nurses' perceptions of workload, job performance, and patient outcomes at a single point in time. It also enabled the assessment of relationships between perceived workload, nurses' job performance, and perceived patient outcome risks among nurses working in Kwara State University Teaching Hospital, Ilorin, Nigeria.

3.2 Study Setting

The study was conducted at Kwara State University Teaching Hospital (KWASUTH), Ilorin, Kwara State, Nigeria. KWASUTH is a public teaching hospital that provides healthcare services to patients within Kwara State and neighbouring communities. The hospital also supports clinical training and professional development for healthcare workers. Nurses in the hospital work across different clinical units, including medical ward, surgical ward, maternity/obstetrics unit, paediatric ward, emergency unit, intensive care unit, outpatient department, and theatre.

3.3 Study Population

The study population comprised registered nurses working in clinical units of KWASUTH. These included nurses involved in direct patient care, patient monitoring, medication administration, documentation, patient education, and other nursing responsibilities across different shifts and departments.

3.4 Sample Size and Sampling Technique

A total of 180 nurses were included in the study. Respondents were drawn from different clinical units of the hospital to ensure representation across key areas of nursing practice. A stratified sampling approach was considered appropriate because nurses worked in different departments with varying workload demands. The clinical units served as strata, while eligible nurses were selected from units such as medical ward, surgical ward, maternity/obstetrics unit, paediatric ward, emergency unit, intensive care unit, outpatient department, and theatre.

Where a complete sampling frame was not available, eligible and available nurses who met the inclusion criteria were approached for participation. This ensured that nurses with relevant clinical experience and exposure to workload conditions in the hospital were included in the study.

3.5 Measurement of Variables

The independent variable was perceived workload. It was measured using items relating to patient load, fatigue, mental exhaustion, documentation burden, interruptions, overtime, patient acuity, non-nursing duties, staffing adequacy, and availability of equipment. The dependent variables were nurses' job performance and perceived patient outcome risk. Job performance was measured using items on timely care, documentation, medication administration, communication, infection prevention, patient education, monitoring, teamwork, and completion of assigned duties. Perceived patient outcome risk was measured using items on delayed care, patient dissatisfaction, increased waiting time, medication error risk, fall risk, infection risk, reduced monitoring, poor emotional support, affected recovery experience, and reduced quality of care. Background variables included age, sex, marital status, educational qualification, professional rank, years of experience, clinical unit, shift pattern, overtime status, average number of patients cared for per shift, and perceived nurse-patient ratio.

3.6 Ethical Considerations

Ethical principles guiding research involving human participants were observed. Approval was obtained from the relevant health research ethics committee before data collection. Permission was also obtained from KWASUTH management and nursing administration. Respondents were informed about the purpose of the study, and participation was voluntary. Confidentiality and anonymity were maintained throughout the study. No personal identifiers were used in the questionnaire or analysis. Respondents were informed that they had the right to withdraw from the study at any point without penalty. Data were used strictly for academic and research purposes.

4. Results

4.1 Descriptive Statistics of Respondents

A total of 180 nurses were included in the analysis. The largest proportion of respondents were aged 30–39 years, 73 (40.6%), followed by those aged 20–29 years, 51 (28.3%). Most respondents were female, 126 (70.0%), while 54 (30.0%) were male. More than half of the respondents were married, 114 (63.3%). Regarding educational qualification, 80 respondents (44.4%) had a B.NSc degree, while 43 (23.9%) had RN/RM qualification. Nursing Officers constituted the largest professional group, 69 (38.3%), followed by Senior Nursing Officers, 52 (28.9%). With respect to years of experience, 52 respondents (28.9%) had less than five years of experience, while 48 (26.7%) had 5–10 years of experience. The highest proportion of respondents worked in the emergency unit, 34 (18.9%), followed by the

maternity/obstetrics unit, 29 (16.1%), surgical ward, 27 (15.0%), and medical ward, 26 (14.4%). More than one-third of respondents, 55 (30.6%), cared for 11–15 patients per shift, while 31 (17.2%) cared for more than 20 patients per shift. Most respondents worked rotating shifts, 89 (49.4%), and 121 (67.2%) reported that they frequently worked overtime. In addition, 67 respondents (37.2%) rated the nurse-patient ratio as inadequate, while 49 (27.2%) rated it as very inadequate.

4.2 Descriptive Statistics for Key Study Variables

Figure 1 presents descriptive statistics for the major study variables. The mean perceived workload score was 3.37 ± 0.39, indicating a high level of perceived workload. Most respondents, 113 (62.8%), were classified as having high workload, while 63 (35.0%) had moderate workload and 4 (2.2%) had low workload. The mean job performance score was 2.73 ± 0.33. Most respondents, 130 (72.2%), reported moderate job performance, while 37 (20.6%) reported low job performance and 13 (7.2%) reported high job performance. The mean perceived workload impact score was 3.52 ± 0.37, indicating that respondents strongly perceived workload as negatively affecting job performance. Most respondents, 133 (73.9%), were classified as having high perceived workload impact. The mean patient outcome risk score was 3.62 ± 0.27, indicating a high perceived risk of negative patient outcomes associated with workload. A total of 161 respondents (89.4%) reported high patient outcome risk, while 19 (10.6%) reported moderate patient outcome risk. The mean workload management strategy score was 3.63 ± 0.28, showing strong agreement with strategies for reducing workload. A total of 153 respondents (85.0%) had high agreement with workload management strategies.

Figure 2. Distribution of workload, job performance, and patient outcome risk levels among nurses.

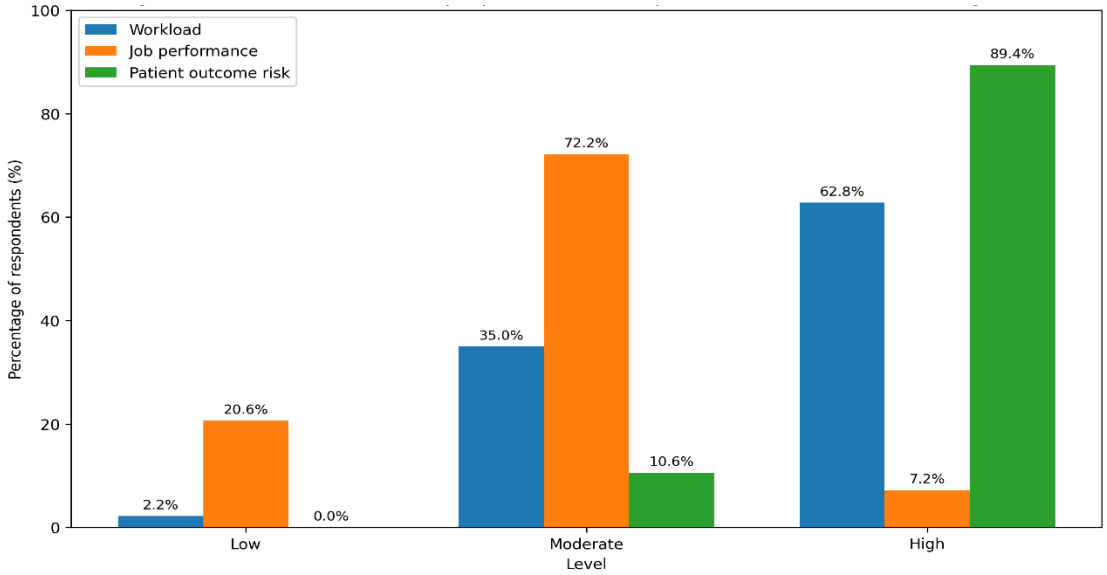

Figure 2 shows that most nurses reported high workload, while job performance was mostly moderate. It also shows that perceived patient outcome risk was predominantly high, suggesting that increased workload may be associated with concerns about patient care quality and safety

4.3 Inter-Correlations Among Key Study Variables

Table 2 presents the correlation matrix for the key study variables. Perceived workload had a statistically significant negative relationship with nurses' job performance, $r = -0.459$, $p < 0.001$. This indicates that higher perceived workload was associated with lower job performance. Perceived workload also had a statistically significant positive relationship with patient outcome risk, $r = 0.596$, $p < 0.001$, meaning that higher workload was associated with greater perceived risk of poor patient outcomes. Perceived workload was also positively correlated with workload impact on performance, $r = 0.522$, $p < 0.001$, and workload management strategies, $r = 0.439$, $p < 0.001$. Job performance was negatively correlated with workload impact on performance, $r = -0.386$, $p < 0.001$, patient outcome risk, $r = -0.397$, $p < 0.001$, and workload management strategies, $r = -0.234$, $p < 0.01$. Patient outcome risk was positively correlated with workload impact on performance, $r = 0.420$, $p < 0.001$, and workload management strategies, $r = 0.249$, $p < 0.01$.

Table 2. Correlations between key study variables

Study variables	1	2	3	4	5
1. Perceived workload	—				
2. Job performance	-0.459***	—			
3. Workload impact on performance	0.522***	-0.386***	—		
4. Patient outcome risk	0.596***	-0.397***	0.420***	—	
5. Workload management strategies	0.439***	-0.234**	0.200**	0.249**	—

*Note: **p < 0.01; ***p < 0.001.*

4.4 Association Between Workload Level and Job Performance

Table 3 shows the association between perceived workload level and job performance level. Chi-square analysis showed a statistically significant association between workload level and job performance level, $\chi^2 = 16.745$, $p = 0.002$. Among nurses with high workload, 31 reported low job performance, 79 reported moderate job performance, and only 3 reported high job performance. This suggests that higher workload was associated with poorer job performance.

Table 3. Association between workload level and job performance level

Workload level	Low performance	Moderate performance	High performance	Total
Low	0	3	1	4
Moderate	6	48	9	63
High	31	79	3	113

Total	**37**	**130**	**13**	**180**
χ^2				**16.745**
df				**4**
p-value				**0.002**

4.5 Association Between Workload Level and Patient Outcome Risk

Table 4 shows the association between workload level and perceived patient outcome risk. Chi-square analysis showed a statistically significant association between workload level and patient outcome risk, $\chi^2 = 15.857$, $p < 0.001$. Among respondents with high workload, 109 reported high patient outcome risk, while only 4 reported moderate patient outcome risk. This indicates that perceived patient outcome risk increased as workload level increased.

Table 4. Association between workload level and patient outcome risk

Workload level	Low risk	Moderate risk	High risk	Total
Low	0	1	3	4
Moderate	0	14	49	63
High	0	4	109	113
Total	**0**	**19**	**161**	**180**
χ^2				**15.857**
df				**2**
p-value				**<0.001**

4.6 Hierarchical Multiple Regression Predicting Nurses' Job Performance

A hierarchical multiple regression analysis was conducted to determine whether perceived workload predicted nurses' job performance after accounting for work-related factors. In Model 1, high patient load, long shift, overtime, inadequate nurse-patient ratio, and high-acuity unit were entered. The model was statistically significant, $F = 6.742$, $p < 0.001$, and explained 16.2% of the variance in job performance. In Model 1, high patient load, long shift, inadequate nurse-patient ratio, and high-acuity unit were significant negative predictors of job performance. In Model 2, perceived workload

score was added. The final model was statistically significant, $F = 8.873$, $p < 0.001$, and explained 23.5% of the variance in job performance. Perceived workload was a significant negative predictor of job performance, $B = -0.313$, $SE = 0.077$, $t = -4.065$, $p < 0.001$. This indicates that a one-unit increase in workload score was associated with a 0.313-unit decrease in job performance score, controlling for other work-related variables. After workload was added, the other work-related factors were no longer statistically significant predictors.

Table 5. Hierarchical multiple regression predicting nurses' job performance

Predictor variables	Model 1 B	Model 2 B	SE	t	p-value
Constant	3.003	3.876	0.222	17.459	<0.001
High patient load	-0.111	-0.029	0.050	-0.581	0.562
Long shift	-0.138	-0.081	0.047	-1.735	0.085
Overtime	-0.019	0.035	0.050	0.707	0.481
Inadequate nurse-patient ratio	-0.134	-0.061	0.050	-1.211	0.227
High-acuity unit	-0.148	-0.056	0.050	-1.125	0.262
Perceived workload score	—	-0.313	0.077	-4.065	<0.001
R^2	**0.162**	**0.235**			
Adjusted R^2	**0.138**	**0.209**			
F-statistic	**6.742**	**8.873**			
Model p-value	**<0.001**	**<0.001**			

Note: Dependent variable = nurses' job performance. High patient load = 16 or more patients per shift; long shift = 9 hours or more; inadequate nurse-patient ratio = inadequate or very inadequate; high-acuity unit = emergency, intensive care, or maternity/obstetrics unit.

4.7 Hierarchical Multiple Regression Predicting Patient Outcome Risk

A second hierarchical multiple regression analysis was conducted to determine predictors of patient outcome risk. In Model 1, high patient load, long shifts, overtime, an inadequate nurse-to-patient ratio, and a high-acuity unit were entered. The model was statistically significant, $F = 10.668$, $p < 0.001$, and explained 23.5% of the variance in patient outcome risk. In Model 1, all five work-related predictors were statistically significant predictors of patient outcome risk. In

Model 2, the perceived workload score was added. The final model was statistically significant, $F = 17.856$, $p < 0.001$, and explained 38.2% of the variance in patient outcome risk. Perceived workload was a statistically significant predictor of patient outcome risk, $B = 0.364$, $SE = 0.057$, $t = 6.435$, $p < 0.001$. This means that a higher workload was associated with increased perceived risk of poor patient outcomes. Inadequate nurse-patient ratio was also a statistically significant predictor, $B = 0.093$, $SE = 0.037$, $t = 2.521$, $p = 0.013$. This suggests that respondents who perceived the nurse-to-patient ratio as inadequate were more likely to report a higher risk of patient outcomes.

Table 6. Hierarchical multiple regression predicting patient outcome risk

Predictor variables	Model 1 B	Model 2 B	SE	t	p-value
Constant	3.324	2.308	0.163	14.140	<0.001
High patient load	0.126	0.031	0.037	0.839	0.402
Long shift	0.073	0.007	0.034	0.192	0.848
Overtime	0.082	0.019	0.037	0.518	0.605
Inadequate nurse-patient ratio	0.178	0.093	0.037	2.521	0.013
High-acuity unit	0.094	-0.012	0.037	-0.324	0.747
Perceived workload score	—	0.364	0.057	6.435	<0.001
R^2	**0.235**	**0.382**			
Adjusted R^2	**0.213**	**0.361**			
F-statistic	**10.668**	**17.856**			
Model p-value	**<0.001**	**<0.001**			

Note: Dependent variable = patient outcome risk. High patient load = 16 or more patients per shift; long shift = 9 hours or more; inadequate nurse-patient ratio = inadequate or very inadequate; high-acuity unit = emergency, intensive care, or maternity/obstetrics unit.

5. Discussion

This study examined the perceived influence of workload on nurses' job performance and patient outcomes in Kwara State University Teaching Hospital, Ilorin. The findings showed that 62.8% of respondents had high perceived workload, job performance was mostly moderate, and perceived patient outcome risk was high. Workload had a significant negative relationship with job performance and a significant positive relationship with patient outcome risk. This suggests that as nurses' workload increases, their ability to perform effectively may decline, while perceived risks to patient care may increase. The high workload reported in this study may be linked to heavy patient load, rotating shifts, overtime, inadequate nurse-patient ratio, patient acuity, documentation burden, interruptions, and non-nursing duties. This supports previous evidence that nursing workload is not determined by patient numbers alone but also by the complexity of care, staffing adequacy, and availability of resources [1–3]. In a teaching hospital, workload may be more demanding because nurses combine routine care with emergency response, specialist services, teaching, supervision, and referral activities. The moderate level of job performance suggests that

nurses continued to perform essential duties but may have been constrained by workload pressure. Under heavy workload, nurses may prioritise urgent clinical tasks while delaying or omitting less visible aspects of care such as patient education, emotional support, complete documentation, and comfort care. This agrees with studies on missed nursing care, which show that required care may be delayed or omitted when time, staffing, or resources are inadequate [6,7].

The negative association between workload and job performance indicates that excessive workload can reduce concentration, increase fatigue, delay task completion, weaken communication, and limit time for accurate documentation, medication administration, patient monitoring, and patient education. This finding supports previous studies linking workload pressure with burnout, reduced quality of care, unfinished nursing tasks, and lower job satisfaction [8,9]. Perceived workload was also a significant positive predictor of patient outcome risk. Nurses who reported high workload were more likely to perceive increased risks of delayed care, long waiting time, medication errors, missed nursing care, poor monitoring, reduced infection prevention, and lower patient satisfaction. This shows that workload is not only a staff welfare issue but also a patient safety concern. Previous studies have linked inadequate staffing and high patient-to-nurse ratios with mortality, infections, medication errors, falls, pressure injuries, longer hospital stay, and poor patient satisfaction [10–13]. Inadequate nurse-patient ratio also remained a significant predictor of patient outcome risk. This implies that staffing adequacy is central to patient safety. When fewer nurses are available to care for many patients, monitoring may be reduced, response to patient needs may be delayed, and preventive care may be missed. This supports evidence that staffing and missed nursing care are important pathways through which workload affects patient outcomes [6,11].

The findings are supported by the Job Demands-Resources Model, which explains that high job demands such as workload, time pressure, long shifts, documentation burden, and emotional labour may lead to strain when resources are inadequate [14,15]. In this study, staffing, equipment, supportive supervision, documentation systems, and scheduling were important resources. When these resources are insufficient, nurses may experience fatigue, reduced performance, and increased patient safety risks. The findings have practical implications for nursing administration. Hospital management should regularly assess workload across units, especially in emergency, maternity, intensive care, medical, surgical, paediatric, and outpatient departments. Staffing should be based not only on patient numbers but also on patient acuity, dependency, turnover, shift pattern, and complexity of care. Workload management should include employment of more nurses, improved nurse-patient ratios, better scheduling, reduced non-nursing duties, adequate supplies, stress management support, and improved documentation systems.

This study also highlights the need to include workload indicators in hospital quality monitoring. Nurse-patient ratio, overtime frequency, missed care, medication error reports, fall reports, infection prevention indicators, and patient satisfaction data should be reviewed together to identify units at risk and guide timely interventions. The study has some limitations. The cross-sectional design does not allow causal conclusions. Data were based on self-reported perceptions and may be affected by recall or response bias. Patient outcomes were measured as perceived risks rather than objective clinical outcomes such as actual medication errors, falls, infection rates, or mortality. In addition, the dataset was labelled as synthetic/example data; therefore, the findings should be treated as illustrative unless confirmed as actual field data.

6. Conclusion

This study found that nurses in KWASUTH perceived their workload as high, while their job performance was mostly moderate and perceived patient outcome risk was high. Perceived workload was significantly associated with lower job performance and higher patient outcome risk. The findings suggest that

excessive workload may reduce nurses' effectiveness and compromise the quality and safety of patient care. Therefore, improving staffing levels, reviewing nurse-patient ratios, reducing non-nursing duties, providing adequate resources, and strengthening managerial support are necessary to enhance nurses' performance and patient outcomes in KWASUTH.

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