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KNOWLEDGE AND UTILIZATION OF PAIN ASSESSMENT TOOLS AMONG SURGICAL NURSES AT FEDERAL MEDICAL CENTRE GUSAU, ZAMFARA STATE

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ABSTRACT

Effective pain assessment is a cornerstone of quality patient care, especially in surgical settings where unmanaged pain can impede recovery and compromise outcomes. This study assessed the knowledge and utilization of pain assessment tools among surgical nurses at the Federal Medical Centre (FMC) Gusau, Zamfara State, Nigeria. Using a descriptive cross-sectional design and purposive sampling, 32 surgical nurses participated in a structured, self-administered questionnaire. Data were collected between October and November 2024, ensuring broad participation from nurses across all surgical units. Data analysis was conducted using Microsoft Excel, employing descriptive statistics such as frequencies, percentages, and charts to summarize key findings. Findings revealed that while 87.5% of nurses were aware of pain assessment tools, only a few were familiar with diverse tools beyond the Numeric Rating Scale (53.1%) and Visual Analogue Scale (31.3%). Approximately 62.5% had received formal training, and 56.3% reported using these tools every shift. However, significant barriers including difficulty interpreting results (81.3%), time constraints (75.0%), and inadequate training (62.5%) were identified. Respondents recommended increased training (87.5%) and enhanced institutional support as key interventions. The study concludes that, although awareness and self-reported confidence are relatively high, gaps in formal training, tool diversity, and institutional support hinder the effective assessment of pain. Strengthening nurse education and improving hospital policies are crucial to enhancing pain management outcomes in surgical care.

Keywords: Pain; Pain assessment tools; knowledge; Gusau; Zamfara

INTRODUCTION

Pain remains one of the most distressing and frequently reported symptoms among hospitalized patients, significantly impairing their physical, emotional, and psychological well-being (Shrestha et al., 2024). The International Association for the Study of Pain (IASP) defines pain as an unpleasant sensory and emotional experience associated with actual or potential tissue damage (International Association for the Study of Pain, 2020). When left unassessed and untreated, pain not only reduces the patient's quality of life but also contributes to prolonged recovery, increased healthcare costs, and emotional distress. Despite the availability of affordable, safe, and effective pain medications, millions of people globally especially in low-resource settings continue to suffer from unmanaged pain (Dueñas et al., 2016).

The World Health Organization estimates that millions of people worldwide, including those with cancer and HIV/AIDS, experience untreated pain, largely due to systemic inadequacies (Nkhoma et al., 2015). In developing countries, poor pain management is exacerbated by limited nurse-to-patient ratios, absence of formal pain assessment protocols, and underutilization of validated assessment tools such as the Verbal Rating Scale (VRS), Numeric Rating Scale (NRS), and Visual Analog Scale (VAS) (Rababa et al., 2021). Evidence from studies conducted in Nigeria and Uganda indicates that while nurses often ask about pain, very few use standardized tools consistently or document pain levels adequately. This leads to suboptimal pain management and increased patient suffering (Onianwa et al., 2017).

Furthermore, inadequate knowledge, lack of training, and institutional neglect have been identified as major barriers to effective pain assessment and treatment (Onianwa et al., 2017), (Bilawu & Rasheed, 2022). In Federal Medical Centre (FMC) Gusau, Zamfara State, preliminary observations suggest that nurses, particularly in surgical and theatre units, seldom use pain assessment tools in their routine practice, and there is a lack of documented research addressing this gap. It aims to answer critical questions regarding their awareness and practice and explore the potential impact of academic qualifications on tool utilization. The outcomes of this study will inform evidence-based interventions to improve nurses' capacity for pain assessment, promote consistent documentation, and ultimately enhance patient outcomes. This study therefore, seeks to assess Knowledge and utilization of Pain Assessment Tools among Surgical Nurses at Federal Medical Centre Gusau, Zamfara State.

MATERIALS AND METHODS

Ethical Considerations

Prior to data collection, ethical approval was obtained from the hospital's Ethics and Research Committee, and permission was granted by the unit head of the theatre complex. Participation was voluntary, and informed consent was obtained from all respondents. The study ensured the participants' privacy, anonymity, and confidentiality. No physical or psychological risks were posed to the participants during the course of the study.

Research Setting and Target Population

The study was conducted in Zamfara State, located in the northwestern region of Nigeria. The state comprises 14 Local Government Areas, 18 General Hospitals, over 600 Primary Healthcare Centers, and 47 Maternal and Child Health Clinics. As of the 2022 population estimate, Zamfara has approximately 5,833,500 residents, with Gusau serving as the state capital. The research was specifically carried out at the

Federal Medical Centre (FMC) Gusau, a tertiary healthcare facility established by the Federal Government in 1998 and operational since 1999. Located along Sokoto Bye-Pass Road in Gusau, the hospital provides specialized healthcare services to residents of Zamfara and neighboring states. It houses departments such as Obstetrics and Gynecology, Internal Medicine, Radiology, Dentistry, Pharmacy, Physiotherapy, Medical Laboratory Science, and Nursing Services.

Additional services include ambulance support, reliable consultant reports, and other essential healthcare provisions. The target population for this study consisted of all surgical nurses working within the theatre complex of FMC Gusau. These professionals were selected because they are directly involved in perioperative patient care where effective pain assessment and management are critical.

Research Design

This study employed a descriptive cross-sectional survey design. A quantitative research approach was adopted to enable the collection of numerical data and allow for statistical analysis. This design is appropriate for assessing the knowledge and utilization of pain assessment tools among surgical nurses at a specific point in time.

Sampling Procedure, Instrumentation, and Data Collection Method

A purposive sampling technique was employed to select participants for the study. The total population comprised 36 nurses working in the theatre complex of FMC Gusau during the data collection period, and all were considered eligible to participate. The researcher approached each nurse while on duty, clearly explaining the purpose and importance of the study and requesting their voluntary participation. Only those who were available and consented were included in the final sample. A total of 32 nurses completed and returned the questionnaires, giving an 88.9% response rate. Given the relatively small and accessible population, a census approach was initially intended; therefore, a separate sample size calculation was not required. The final sample represents the majority of the total population, thus supporting adequate representativeness.

Data were gathered through a structured, self-administered questionnaire adapted from previously validated instruments used in comparable studies. The questionnaire was designed to collect quantitative data relating to nurses' knowledge and utilization of pain assessment tools. To ensure reliability of the instrument, a pilot test was conducted among five nurses from a different department, and internal consistency was assessed using Cronbach's alpha, which yielded a coefficient of 0.78, indicating acceptable reliability.

The questionnaires were distributed directly to the surgical theatre nurses while they were on duty, and participants were allowed to complete them independently. The data collection process spanned one week to ensure adequate coverage of the entire target group and to accommodate varying work shifts.

Data Analyses

The data collected through the questionnaires were analyzed using Microsoft Excel. Descriptive statistical methods including frequencies, percentages, and means were used to summarize the data and present an overview of the key findings. Although the primary analysis was descriptive, the study acknowledges that future research could incorporate inferential statistics (such as chi-square tests or t-tests) to explore associations between variables, such as demographic characteristics and tool utilisation.

RESULTS AND DISCUSSION

Respondents' Personal Information

Table 1 presents the demographic characteristics of respondents. Most were aged 30–39 years (31.3%) and male (59.4%), indicating a relatively young and male-dominated workforce. The largest group had 1–5 years of work experience (34.4%), showing many were early-career nurses. In terms of rank, NO I was most common (37.5%), while PNO was least represented (6.2%), reflecting a workforce with fewer senior-level staff.

Table 1: Demographic Characteristics of Respondents

Variable	Category	Frequency (n)	Percentage (%)
Age Group	20–29 years	8	25.0
	30–39 years	10	31.3
	40–49 years	8	25.0
	50 years and above	6	18.7
Gender	Male	19	59.4
	Female	13	40.6
Years of Experience	1–5	11	34.4
	6–10	8	25.0
	11–15	7	21.9
	16 and above	6	18.7
Rank	NO I	12	37.5
	NO II	8	25.0
	SNO	10	31.3
	PNO	2	6.2

Knowledge of Pain Assessment Tools

The findings in table 2, reveal that a majority of respondents (87.5%) are aware of pain assessment tools, with the Numeric Rating Scale (53.1%) and Visual Analog Scale (31.3%) being the most familiar. Only a few recognized the Faces Pain Scale (15.6%), and none were familiar with the face, legs, activity, cry, consolability (FLACC) Scale. About 62.5% had received formal training in pain management, suggesting room for improvement in training coverage. Facial expression (87.5%) was the most commonly used method for observing pain, while pain grading was mostly done using the acute/chronic classification (62.5%), followed by mild/moderate/severe (25%). Most respondents (75%) regarded pain assessment as very important, and 81.3% believed they had adequate knowledge.

Table 2: Knowledge and Awareness of Pain Assessment Tools among Surgical Nurses

Variable	Response/Option	Frequency (n = 32)	Percentage (%)
Awareness of Pain Assessment Tools	Yes	28	87.5
	No	4	12.5
Familiarity with Specific Tools	Visual Analog Scale	10	31.3
	Numeric Rating Scale	17	53.1
	Faces Pain Scale	5	15.6
	FLACC Scale	0	0.0
Pain Management Training	Yes	20	62.5
	No	12	37.5
Methods for Observing Pain	Facial Expression	26	87.5
	Skin Turgor	6	12.5
	Hair Color	0	0.0
	All of the Above	0	0.0
Methods for Grading Pain	Acute and Chronic	20	62.5
	Mild, Moderate, Severe	8	25.0
	All of the Above	4	12.5
	Bad, Worse, Worst	0	0.0
Importance of Pain Assessment	Very Important	24	75.0
	Important	6	18.7
	Neutral	2	6.3
	Not Important	0	0.0
Adequacy of Knowledge	Yes	26	81.3
	No	6	18.7

Utilization of Pain Assessment Tools

The findings reveal that the majority of surgical nurses (56.3%) reported using pain assessment tools every shift, with the Numeric Rating Scale (43.7%) being the most commonly utilized method, followed closely by the Visual Analog Scale (37.5%). In terms of confidence, most respondents indicated a positive self-assessment, with 31.3% feeling very confident and 43.7% confident in their ability to use these tools effectively. These results suggest a generally high level of engagement and competence in the use of pain assessment tools among surgical nurses at FMC Gusau.

Table 3: Utilization of Pain Assessment Tools by Surgical Nurses

Category	Sub-category	Frequency	Percentage (%)
Frequency of Use	Every shift	18	56.3
	Once a day	12	37.5
	As needed (PRN)	2	6.2
	Rarely	0	0.0
Most Commonly Used Tool	Numeric Rating Scale	14	43.7
	Visual Analog Scale	12	37.5
	Faces Pain Scale	4	12.5
	FLACC Scale	2	6.3
Confidence in Tool Usage	Very Confident	10	31.3
	Confident	14	43.7
	Somewhat Confident	6	18.7
	Not Confident	2	6.3

Barriers and Suggestions for Improvement

The most commonly reported barriers to the effective use of pain assessment tools among surgical nurses were difficulty interpreting results (81.3%), lack of time (75.0%), and inadequate training (62.5%). Additional challenges included patient communication issues (68.8%), limited tool availability (56.3%), and lack of institutional support (56.3%). To address these barriers, respondents suggested increased training and education (87.5%) as the most critical intervention, followed by allocating more time for patient assessment (81.3%) and employing advanced practice nurses (81.3%). Other recommendations included improving management support (68.8%) and introducing more user-friendly tools (62.5%) (Table 4).

Table 4: Reported Barriers and Suggestions for Improvement

Barrier / Suggestion	Yes (%)	No (%)
Lack of Time	75.0	25.0
Lack of Training	62.5	37.5
Limited Tool Availability	56.3	43.7
Difficulty Interpreting Results	81.3	18.7
Patient Communication Challenges	68.8	31.2

Barrier / Suggestion	Yes (%)	No (%)
Lack of Institutional Support	56.3	43.7
Increased Training & Education	87.5	12.5
More Time for Patient Assessment	81.3	18.7
User-Friendly Tools	62.5	37.5
Improved Management Support	68.8	31.2
Employment of Advanced Practice Nurses	81.3	18.7

Discussion

The findings of this study provide important insights into the knowledge and utilization of pain assessment tools among surgical nurses at the Federal Medical Centre, Gusau. The demographic profile indicates a relatively young workforce, predominantly male and early in their careers. This may influence both knowledge acquisition and clinical application of pain assessment practices. Younger nurses may be more adaptable to new approaches but may also require structured mentorship and continuous professional development to strengthen confidence and competence (Alanizi et al., 2025).

Awareness of pain assessment tools was high, with most nurses familiar with at least one standardized method, especially the Numeric Rating Scale and Visual Analog Scale. This indicates a foundational level of knowledge sufficient for basic pain evaluation (Chin et al., 2021). However, limited awareness of tools such as the FLACC Scale and Faces Pain Scale is noteworthy. These tools are essential for assessing pain in non-verbal or communication-impaired patients, including pediatric and critically ill groups (Afenigus, 2024). The fact that over one-third of respondents had not received formal training highlights the need for systematic educational programs to expand knowledge across diverse pain assessment tools (Matthews & Malcolm, 2007).

Utilization levels were generally positive, with more than half of respondents using pain assessment tools during every shift. This suggests that pain assessment is integrated into routine surgical nursing practice. As expected, the tools most frequently used were those most familiar to the nurses, reflecting a strong link between knowledge and practice (Saleh, 2023). Although confidence levels were high, limited use of alternative tools such as the Faces Pain Scale and FLACC Scale indicates missed opportunities to address pain comprehensively across different patient populations (Gregory & Richardson, 2014).

Despite encouraging levels of awareness and utilization, several barriers hinder effective pain assessment. Difficulty interpreting tool results emerged as a major challenge, indicating that knowledge of tool availability does not always translate into accurate clinical interpretation (El-Tallawy et al., 2023). Time constraints were another major issue, reflecting broader workload pressures common in many healthcare settings (Tata et al., 2024). The absence of formal training further compounds these challenges, potentially leading to inconsistent or suboptimal assessments (Bozorgi et al., 2024).

Institutional factors also contributed to limited tool use. Inadequate tool availability, weak managerial support, and communication difficulties especially with sedated, distressed, or cognitively impaired surgical patients were identified as additional barriers (Atefeh, 2025). These constraints limit nurses' ability to perform thorough and consistent pain assessments.

Respondents provided practical recommendations that could strengthen pain assessment practices. The need for structured training programs was emphasized as a key strategy for improving knowledge, interpretation, and clinical application of pain assessment tools (Siddiqui et al., 2025). Calls for improved staffing patterns and better time allocation indicate the importance of addressing workload issues. Suggestions such as employing advanced practice nurses, enhancing management support, and adopting more user-friendly assessment tools highlight broader systemic reforms needed to empower nurses and improve pain management outcomes (Kwame & Petrucka, 2021), (Weatherly et al., 2024).

In summary, while surgical nurses at FMC Gusau demonstrate good awareness and generally positive attitudes toward pain assessment, important gaps remain in training, tool diversity, and institutional support. Addressing these challenges through targeted education, stronger managerial backing, and improved clinical resources will be vital to strengthening pain assessment practices and enhancing patient outcomes.

CONCLUSION

In conclusion, this study highlights that while surgical nurses at Federal Medical Centre Gusau have a good level of awareness and a positive attitude toward the use of pain assessment tools, there are still significant gaps in training, tool diversity, and institutional support. Improving education, providing user-friendly tools, and ensuring better support from management are essential steps to enhance the effective assessment and management of pain in surgical patients. Future research should explore the impact of targeted training programs and institutional policies on nurses' long-term competency, while policymakers should prioritize integrating standardized pain assessment protocols into routine surgical care.

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