RADINKA JOURNAL OF HEALTH SCIENCE

ISSN: 3025-7751

https://www.rjupublisher.com/ojs/index.php/RJHS

Knowledge and Practice of informed Consent among Nurses in Specialist Hospital Bauchi, Bauchi State

Muhammad Maryam MUSA[a*], Muhammad MAIMUNA[a], Umar Muhammad SALISU[b], Muhammad Fatima DAMBAM[c], Suleman Ahmed WAN[d]

[a]*College of Nursing Science, Department of Nursing, Abubakar Tafawa Balewa University Teaching Hospital Bauchi, Nigeria*
[b]*Department of Sustainable of Environmental Studies, Abubakar Tafawa Balewa University, Bauchi, Nigeria*
[c]*Department of Business Management, Faculty of Management and Information Sciences, Abubakar Tafawa Balewa University, Bauchi, Nigeria*
[d]*Department of Sociology, Faculty of Social Science, Ahmadu Bello University, Zaria, Nigeria*

[*]Corresponding author: maryammmusa1995@gmail.com

Abstract

The implementation of informed consent is a fundamental cornerstone for protecting patient rights and ensuring ethical nursing practice. This study aimed to assess the level of knowledge and clinical practice regarding informed consent among nurses at specialist hospital Bauchi, Nigeria. Utilizing a cross-sectional descriptive survey design, data were collected from 87 nurses selected through convenience sampling. The research instrument consisted of a structured questionnaire, which was validated and tested for reliability, with data subsequently analyzed using descriptive statistics via SPSS Version 29. The results indicated that the nurses possessed a relatively high level of knowledge concerning the legal and ethical dimensions of informed consent, including a robust understanding of patient mental competence and risk disclosure. In clinical practice, the majority of nurses were found to regularly explain medical procedures and maintain documentation according to established standards. However, significant gaps persisted in the consistency of explaining alternative procedures and facilitating family involvement, both of which were practiced by less than 50% of the respondents. Key barriers identified in this study included language barriers, inadequate communication skills, excessive workloads, and severe time constraints. The study concludes that while nurses demonstrate adequate theoretical knowledge, systemic and interpersonal challenges continue to hinder the consistency of informed consent procedures. These findings underscore the necessity for targeted managerial interventions and professional development to optimize nursing practice within the healthcare system of Northern Nigeria.

Keywords**:** Assessment, knowledge, practice, informed consent

Acknowledgments: The authors wish to express their sincere gratitude to the management and staff of the specialist hospital Bauchi, Nigeria, for their cooperation and for granting the necessary permissions to conduct this study.

For citation:
Musa, M. M., Maimuna, M., Salisu, U. M., Dambam, M. F., Wan, S. A. (2026). Knowledge and Practice of informed Consent among Nurses in Specialist Hospital Bauchi, Bauchi State. *Radinka Journal of Health Science*, 3(3), 554-656.

Introduction

The process of obtaining informed consent involves communication between the healthcare provider and the patient, where the provider explains the diagnosis, nature and purpose of the proposed treatment, risks and benefits, alternatives, and the implications of not receiving treatment. This process is not just a legal requirement but a moral imperative, supporting the autonomy of patients and fostering trust in the healthcare system. Globally, the emphasis on patient autonomy and ethical healthcare delivery has made informed consent a critical aspect of clinical practice. Numerous studies have highlighted disparities in the application and comprehension of informed consent procedures, especially in low-resource settings. In developed countries, comprehensive institutional frameworks and legal backing ensure strict adherence to informed consent practices, whereas developing nations often face systemic challenges that hinder effective implementation. In Africa, the practice of informed consent is often hindered by cultural, educational, and systemic barriers. Traditional beliefs, hierarchical patient-provider relationships, and limited health literacy have been cited as significant obstacles to obtaining genuine informed consent (Samuel & De Villiers, 2014). Studies conducted in countries like Ghana, Kenya, and Nigeria have revealed that nurses, despite their central role in patient care, often lack adequate training and resources to effectively carry out the informed consent process.

In Nigeria, the regulatory framework supporting informed consent is enshrined in the National Health Act 2014, which mandates that all medical interventions must be preceded by patient consent. However, in practice, adherence to this standard remains inconsistent across various health institution. Nurses, as frontline healthcare providers, frequently face ethical dilemmas arising from unclear policies, workload, and poor understanding of patients' rights, thereby compromising the quality of care. In Bauchi State, like many other regions in Nigeria, the healthcare system is constrained by limited infrastructure, understaffing, and insufficient continuous professional development opportunities for nurses. These challenges significantly affect the knowledge and practice of informed consent among nursing personnel. There is limited research evidence regarding how well nurses in this region understand and practice the concept of informed consent, making it difficult to develop targeted interventions to improve patient care. Specialist Hospital Bauchi is a major referral facility in the state, playing a crucial role in the delivery of specialized healthcare services. The hospital serves a large and diverse population, with nurses forming the backbone of clinical operations (Lee et al., 2023); (Ștefan et al., 2024). However, anecdotal evidence and preliminary observations suggest that informed consent procedures are inconsistently implemented due to constraints such as staff shortages, lack of training, and administrative lapses.

Globally, informed consent is recognized as an essential component of ethical healthcare practice (Nono et al., 2024); (Calderwood et al., 2024). It ensures respect for patient autonomy and fosters mutual trust between patients and healthcare providers. However, studies reveal that nurses, often have limited understanding and inconsistent implementation of informed consent protocols, especially in developing countries. Across Africa, the practice of informed consent is further challenged by low literacy rates, socio-cultural factors, and poor training of healthcare workers. Nurses, who are frequently the first point of contact for patients, are particularly affected due to limited resources, inadequate support from institutional frameworks, and traditional norms that diminish patient autonomy. In Nigeria, despite the existence of legal and professional guidelines such as the National Health Act and Nurses' Code of Conduct, compliance with informed consent requirements remains suboptimal. Research indicates that many nurses are unaware of the full scope

of their responsibilities concerning informed consent, leading to ethical breaches and patient dissatisfaction. In Bauchi State, health facilities, including Specialist Hospital Bauchi, are affected by systemic issues such as staff shortages, insufficient training, and lack of effective policy enforcement (Sarvari et al., 2025; Alhomoud, 2025; Onyeabor et al., 2025). These issues contribute to the inconsistent application of informed consent procedures, raising ethical concerns about patient safety and rights. Specifically, at the Specialist Hospital Bauchi, anecdotal reports and field observations suggest that nurses often perform clinical duties without formally obtaining patient consent, especially in emergency and routine care. This practice exposes the hospital to potential legal liabilities and undermines the trust of patients in the healthcare system (Kachalia et al., 2016; Li et al., 2024).

Methodology

Research design

A Cross-sectional descriptive survey design was employed for this study. Descriptive research design is a scientific method which involves observing and describing the behavior of a subject without influencing it in any way. The subject is being observed in a completely natural and unchanged natural environment (Martyn, 2018).

Setting

The study was conducted in Specialist Hospital Bauchi, a major healthcare institution located in Bauchi State, Nigeria and was built in 2014 with Bauchi state funds under the administration of Governor Malam Isah Yuguda. It shares borders with nurses' quarters to the south, Muda Lawal market to the north, and Shadawanka Army Barracks to the west. This hospital provides specialized medical services in various departments, including medical, surgical, emergency, and maternal care. On entering hospital building on the right is Bauchi state college of nursing and midwifery and on the left is the hospital central mosque, behind the hospital is nurse's quarters. On reaching the main hospital building there are three entrances into the hospital, at the middle is GOPD, and on the right is A&E block and on the left is the admin block. The hospital has 17 departments unit which are; medicine, nursing, pharmacy, physiotherapy, radiology, health information, urology, nutrition, renal dialysis, dental unit, ENT, ANC unit, immunization unit, Lab, department of surgery, and NHIS. The hospital has 8 wards which are, pediatric, maternity, gynecology, male medical, and male surgical, female medical and female surgical and the private wing, which are being managed by doctors, nurses and midwives. The hospital presently has 300 bed capacity. According to the nominal roll of the hospital, there are 489 active clinical staffs ranging from doctors, nurses, pharmacist, lab technicians, radiologist etc. The hospital has 221 active nurses. The nurses are working 24/7 across various units and wards of the hospital. The hospital is headed by chief medical director, and the day to the running is decided by the hospital management committee. The committee has the chief medical director as its chairman and the hospital staff officers as the secretary. The other members include the chairman medical advisory committee, director of nursing services, chief pharmacist, head of laboratory department, head of medical records, director admin and finance, representative from CSC, representative from the office of the head of service, 2 representatives from the congregations, representative from hospital community as members.

Target population

The target population for this study comprises all registered nurses working at Specialist Hospital Bauchi. According to hospital records, the total number of nurses currently employed at the facility is 221. These nurses are involved in direct patient care and are responsible for various aspects of clinical practice, including the administration of informed consent.

Sample size

To determine the appropriate sample size for the study, the following formula was used for estimating proportions in cross-sectional studies. The sample size was derived using taro Yamani sample formula. The formula is as follows:

$$n = N / (1 + N (e^2))$$

Where:
n = sample size
N = population size (in this case, 221)
e = margin of error (0.05 or 5%)

Substituting into the formula:
The sample size is larger therefore Finite population correction formula was used to further reduce the sample size

$$Na = nr/\{1+(nr-1)/N\}$$

Where:
na = reduced sample size
Nr = original sample size
N = population size
na = 142.35/{1+(142.35-1) /2212
na = 142.35/{1+141.35}/221
na = 142.35/{1+0.639}
na = 142.35/ 1.639
na = 86.848
Approximately 87.0

Sampling technique

A convenience sampling technique was used to carry out the Study, which is a non-probability sampling technique whereby data was collected from an easily accessible and available group of people. The researcher recruit only those nurses readily available and are willing to participate during the study period.

Instruments for data collection

Data for this study was collected using a structured, self-administered questionnaire consisting of four sections:

Section A: Personal Data demographic information such as age, gender, academic qualification, years of experience, and unit/department of the respondent.
Section B: Level of knowledge of informed consent among nurses– Measures the extent of knowledge of nurses on informed consent in clinical practice using true, false or not sure option
Section C: Process of practice of informed Consent –Assesses how nurses carry out the informed consent process, including communication techniques and procedural steps using likert scale.
Section D: Factors influencing implementation of informed consent – Identifies key factors (e.g., institutional policies, training, workload, legal awareness) that affect the implementation of informed consent using likert scale.

Validity of instrument

The instrument was validated through face and content validity where the self-structured questionnaire was taken to the project supervisor and research and education committee to make

necessary correction and make sure the items measured the degree of consistency for the response needed for adoption.

Reliability of instrument

The reliability of the instrument was ascertain using test-retest method by administering the instrument to nurses in ATBUTH Bauchi twice at different times (1week interval) and the reliability coefficient of 0.83 was obtained. The same questionnaire was administered to the same group of respondent after a week.

Method of data collection

A self-administered questionnaire was used to collect data using likert scale. The questionnaires were distributed to the nurses in specialist hospital Bauchi and were retrieved on the spot, except for some who requested to return it the next day.

Method of data analysis

The data obtained were presented using frequency distribution table and analyzed using percentage statistical package for social sciences (SPSS) version 29.0 was employed for this purpose.

Ethical consideration

The researcher collected an introductory letter from research and education committee Aliko Dangote College of nursing sciences Bauchi and submitted it to the research area upon which a letter of ethical clearance as was issued to the researcher to go ahead with the study. Informed consent was obtained from the respondents and assured of anonymity and confidentiality and their wishes and rights to be respected throughout the period of the study and beyond. All the findings of this study were used with a high level of confidentiality.

Results

This chapter deals with the presentation and analysis of the data obtained after successful administration and retrieval of the questionnaire. Eighty-seven copies of the questionnaire were administered and eighty were retrieved (making a return rate of 92%) and hence analyzed (Table 1).

Table 1. Socio demographic Characteristics of Respondents (N = 80)

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	20–29	37	46.3
	30–39	28	35.0
	40–49	13	16.3
	50 and above	2	2.5
Gender	Male	25	31.3
	Female	55	68.8
Marital status	Single	30	37.5
	Married	43	53.8
	Divorced	5	6.3
	Widowed	2	2.5
Professional rank	Staff Nurse	35	43.8
	Senior Nurse	25	31.3
	Nurse Officer	15	18.8
	Chief Nursing Officer	5	6.3
Years of experience	<1 year	4	5.0
	1–5 years	36	45.0

	6–10 years	28	35.0
	>10 years	12	15.0
Department/Unit	Surgical	22	27.5
	Medical	18	22.5
	Pediatric	16	20.0
	Obstetrics/Gynecology	22	27.5
	Others (ICU, ER, etc.)	2	2.5

Table 1 shows the socio demographic characteristics of the respondents. It indicates that majority 37(46.3%) of the respondents are within the age range of 20 – 39 years of age, females were the majority with 55(68.8%) while males were 25(31.3%), majority 43(53.8%) were married and 35(43.8%) were at the rank of Staff Nurse. On the years of working experience, majority 36 (45.0%) worked for 1 – 5 years and most 22(27.5%) are working in surgical and Obstetrics and gynecology departments each.

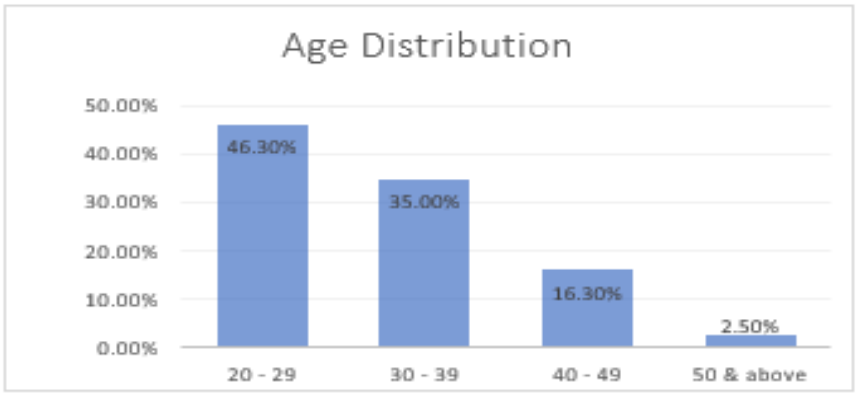

Figure 1. Age distribution of the respondents

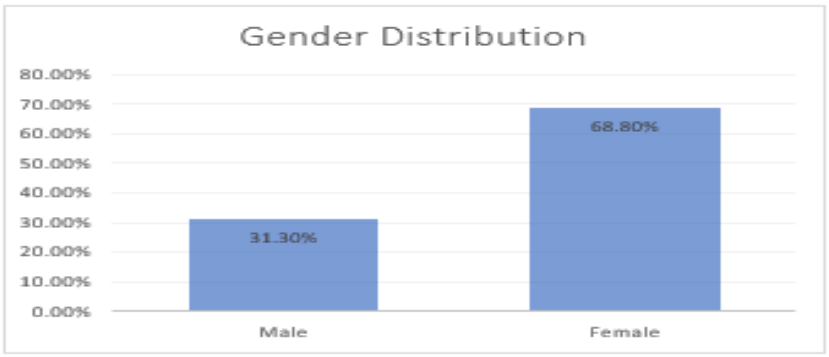

Figure 2. Gender distribution of the respondents

Table 2 shows the knowledge of informed consent among the study participants where it revealed that majority 45(56.3%) denied the statement that informed consent is only required for surgical procedures, majority 70(87.5%) agreed that nurses have a legal obligation to ensure informed consent is obtained and 68(85.0%) also agreed that informed consent include disclosure of risks, benefits and alternatives. Similarly, majority 48(60.0%) of the respondents agreed that written consent is always mandatory in every procedure, 67(83.8%) agreed that patients must be mentally competent to give valid consent and 55(68.8%) also agreed that emergency situations may allow for treatment without consent.

Table 2**.** Knowledge of informed consent among nurses in specialist hospital Bauchi

S/N	Statement	T	F	NS
		n (%)	n (%)	n (%)
1	Informed consent is only required for surgical procedures.	31(38.8)	45(56.3)	4(5.0)
2	Nurses have a legal obligation to ensure informed consent is obtained.	70(87.5)	5(6.3)	5(6.3)
3	Informed consent includes disclosure of risks, benefits, and alternatives.	68(85.0)	10(12.5)	2(2.5)
4	Written consent is always mandatory in every procedure.	48(60.0)	26(32.5)	6(7.5)
5	Patients must be mentally competent to give valid consent.	67(83.8)	11(13.8)	2(2.5)
6	Emergency situations may allow for treatment without consent.	55(68.8)	19(23.8)	6(7.5)

T = True, F = False, NS = Not sure

Table 3. Practice of obtaining informed consent among nurses in Specialist Hospital Bauchi

S/N	Statement	A	O	R	N
		n (%)	n (%)	n (%)	n (%)
1	I explain procedures to patients before obtaining consent.	64(80.0)	14(17.5)	2(2.5)	0
2	I verify patient understanding of consent.	51(63.7)	26(32.5)	3(3.8)	0
3	I document consent before performing procedures.	32(40.0)	29(36.3)	15(18.8)	4(5.0)
4	I involve the patient's family when necessary.	42(52.5)	25(31.3)	10(12.5)	3(3.8)
5	I check if the consent form is properly signed and dated.	43(53.8)	27(33.8)	10(12.5)	0
6	I explain alternatives/risks/benefits during consent.	55(68.8)	21(26.3)	2(2.5)	2(2.5)

A – Always, O = Often, R = rarely, N = Never

Table 3 shows the practice of obtaining informed consent among nurses in Specialist Hospital Bauchi. It indicates that majority 64(80.0%) always explain procedures to patients before obtaining consent, 51(63.7%) always verify patient understanding of consent and 32(40.0%) always document consent before performing procedures. Similarly, 42(52.5%) always involve the patient's family when necessary, 43(53.8%) always ensures that the consent form is properly signed and dated and 55(68.8%) always explain alternatives/risks/benefits during consent. These shows good practice of consent among the nurses in Specialist Hospital Bauchi.

Specialist Hospital Bauchi

SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD – Strongly Disagree. Table 4 shows the factors influencing the practice of the informed consent among nurses in Specialist Hospital Bauchi which revealed that overall, all six factors were accepted as significant influences, with mean scores greater than 3.0 in a 5-point Likert scale. The highest-rated factors (mean = 4.25) were Poor communication skills and language barriers. Work load, attitude of nurses, time constraints and urgency of care were also strongly accepted with mean values of 4.11, 4.09, 4.03 and 3.95 respectively.

Table 4. Factors influencing the practice of the informed consent among nurses

S/N	Statement	SA	A	N	D	SD	Mean	Remark
1	Time constraints affect proper implementation of informed consent.	29	24	4	6	7	4.03	Accepted
2	Poor communication skills affect how nurses obtain informed consent.	35	37	4	1	3	4.25	Accepted
3	Work overload makes it difficult to follow consent protocols.	29	38	7	5	1	4.11	Accepted
4	Language barriers impact proper communication during consent.	33	39	3	5	0	4.25	Accepted
5	Informed consent is sometimes skipped due to urgency of care.	23	41	6	9	1	3.95	Accepted
6	Attitudes of nurses influence how informed consent is obtained.	30	37	6	4	3	4.09	Accepted

Discussion

The findings are discussed based on the research questions;

Research Question 1: What is the level of knowledge of informed consent among nurses in Specialist Hospital Bauchi, Bauchi state? Findings from Table 2 suggests that the nurses in the present study possess a relatively strong conceptual grasp of informed consent fundamentals, exceeding the levels reported in many comparable settings. For example, more than half of respondents (56.3%) rejected the misconception that consent is relevant only to surgical procedures, and even larger majorities recognized their own legal duty to secure consent (87.5 %) and the need to disclose risks, benefits and alternatives (85.0%). These proportions compare favorably with Ethiopian survey, in which only 58 % of nurses demonstrated adequate knowledge, and with the earlier Nigerian work of (Biresaw et al., 2020), who documented persisting gaps in nurses' appreciation of the legal and ethical dimensions of consent. The higher scores in the current sample may reflect greater exposure to ethics content in basic training or more recent institutional emphasis on patient rights legislation factors that identify as critical determinants of knowledge. Yet pockets of misunderstanding remain. Roughly one third of participants (32.5%) correctly denied that written consent is mandatory for every procedure, but the sizeable majority (60%) agreed to this underscores the ongoing ambiguity surrounding documentation standards an issue that attribute to inconsistent institutional policies and limited continuing education opportunities. Conversely, very high agreement rates for patients' mental competence (83.8 %) and for the permissibility of treatment without consent in emergencies (68.8 %) indicate that most respondents understand the key qualifiers that shape valid consent. Such nuanced appreciation aligns with global bioethical guidance and supports the contention of (Javaid et al., 2024) that supportive hospital cultures and regular ethics updates foster more sophisticated knowledge profiles.

Importantly, the data resonate with practice oriented findings from other contexts. Although most respondents acknowledge their legal obligation, studies have shown that nurses often view the primary responsibility for consent as resting with physicians, leading to role confusion during high pressure clinical encounters. Kebede et al. (2022) and Adesina et al. (2019) further demonstrate that heavy workloads, time constraints and inadequate documentation systems can prevent nurses from translating knowledge into consistent, high quality practice. Thus, while the current findings are encouraging, they also highlight the need for clear institutional protocols, continuous professional development in ethics, and resources such as standardised, linguistically appropriate consent forms to bridge the residual knowledge practice gap and ensure sustained respect for patient autonomy.

Research Question 2: What is the practice of obtaining informed consent among nurses in Specialist Hospital Bauchi, Bauchi state?; The findings from Table 3 indicate that nurses at Specialist Hospital Bauchi demonstrate a commendable level of practice in obtaining informed consent, which contrasts with trends reported in many empirical studies from similar low-resource settings. Specifically, the majority of nurses reported that they always explain procedures to patients (80.0%), verify patients' understanding (63.7%), and document consent before procedures (40.0%). These figures reflect a proactive approach and adherence to ethical standards in clinical practice. Compared to the findings of (Tsai et al., 2022), who observed inconsistent consent practices among nurses due to limited training and unclear institutional roles, the Bauchi nurses appear to be performing significantly better in integrating informed consent into their routine practice. Additionally, over half of the nurses (52.5%) indicated that they always explain alternatives, risks, and benefits during the consent process an essential component of valid consent as emphasized in ethical frameworks. While this suggests room for improvement, it is notably better than the situations reported by (Lundin et al., 2025), who found that nurses often omitted such details due to high workload and time constraints. Furthermore, 40.0% of the nurses in Bauchi ensure consent forms are properly signed and dated, and 52.5% always involve patients' families when necessary, reflecting an awareness of legal and cultural considerations surrounding consent elements that (Papathanasiou et al., 2024) found to be influenced by hospital support systems and cultural sensitivity. However, despite these relatively strong practices, the fact that not all nurses consistently explain alternatives and involve families when appropriate suggests lingering challenges similar to those highlighted in other studies. Many nurses still perceive informed consent primarily as a physician's responsibility, which may affect their engagement in more complex consent-related discussions. In this context, the Bauchi findings point toward progress but also reinforce the call by (Gawthorne et al., 2025) for ongoing training, clearly defined professional roles, and supportive policies to promote comprehensive and consistent consent practices across all levels of nursing care.

Research Question 3: What are the factors that influences the practice of informed consent among nurses in Specialist Hospital Bauchi, Bauchi State?; The findings from Table 4 provide important insight into the contextual and operational challenges that influence the practice of informed consent among nurses in Specialist Hospital Bauchi. With all six identified factors recording mean scores greater than 3.0 on a 5-point Likert scale, it is evident that systemic and individual barriers play a significant role in shaping how nurses obtain consent. The factor such as work overload (mean = 4.11), underscores the strain nurses face in high-demand settings, where heavy patient loads can compromise the time and attention needed to properly explain procedures, verify understanding, and document consent. This finding is consistent with the work of (Imkome et al., 2025), who reported that nurses frequently bypass comprehensive consent procedures due to overwhelming workloads, especially in under-resourced healthcare systems. Similarly, time constraints (mean = 4.03) reinforcing the idea that even when nurses are knowledgeable and willing, practical limitations often prevent full adherence to ethical protocols.

Language barriers also emerged as a notable constraint (mean = 4.25), reflecting the linguistic diversity of patient populations in Nigeria and the difficulty nurses may face in explaining medical terms and procedures effectively. (Ayodapo Ao et al., 2020) highlighted the importance of having consent materials available in local languages to bridge this gap. Poor communication skills also has a high score (mean = 4.25) and nurses' attitudes (mean = 4.09) suggest that beyond systemic factors, personal competencies and professional disposition also affect consent practices. These findings align with (Joo et al., 2025) who emphasized the need for continuous education and attitude-shaping programs to reinforce patient-centered care. Moreover, the practice of skipping consent due to urgency (mean = 3.95) highlights a complex ethical dilemma faced by nurses, especially in emergency scenarios where time-sensitive interventions may override standard consent protocols. Although emergency exceptions are ethically justifiable, repeated reliance on such exceptions may

lead to complacency or erosion of standard consent practices. Robust institutional guidelines and clear definitions of "urgent care" scenarios are necessary to prevent misuse (Kim, 2023).

Conclusion

The implementation of informed consent serves as a fundamental cornerstone for protecting patient rights and ensuring ethical nursing practice. This study aimed to assess the level of knowledge and clinical practice regarding informed consent among 87 nurses at the Specialist Hospital, Bauchi, Nigeria, using a cross-sectional descriptive survey design and structured questionnaires. The results indicate that while nurses possess a relatively high level of theoretical knowledge concerning the legal and ethical dimensions of consent—including mental competence and risk disclosure—significant gaps remain in clinical application. Although most nurses regularly explain procedures and maintain documentation, less than 50% of respondents consistently explain alternative procedures or facilitate family involvement. These inconsistencies are primarily driven by systemic and interpersonal barriers, including language difficulties, inadequate communication skills, excessive workloads, and severe time constraints. Consequently, it can be concluded that adequate theoretical understanding does not automatically translate into consistent ethical practice due to these prevailing operational challenges. These findings imply an urgent need for targeted managerial interventions and professional development programs to optimize nursing standards within the healthcare system of Northern Nigeria. However, this study is limited by its use of convenience sampling and a relatively small sample size, which may affect the generalizability of the findings. Future research should consider qualitative approaches to explore the sociocultural nuances of family involvement and interventional studies to evaluate the impact of communication training on consent quality.

Conflicts of Interest

The authors declare no conflict of interest.

Author contribution

Conceptualization, methodology, validation: M. M. M.; formal analysis, investigation; resources, data curation: M. M.; writing-original draft preparation: U. M. S; writing-review and editing, S. A. W.; visualization M. F. D. All authors have read and agreed to the published version of the manuscript.

Declaration of generative AI in scientific writing

During the preparation of this work, the author(s) utilized Grammarly in order to improve the clarity of the English language, assist in the structural organization of the manuscript, or summarize the primary findings of the abstract.

References

Alhomoud, F. (2025). 'That's Enough' - Workplace Violence Against Physicians, Pharmacists, and Nurses in Saudi Arabia: A Systematic Review of Prevalence, Causes, and Consequences. *Risk Management and Healthcare Policy*, *Volume 18*, 373–408. https://doi.org/10.2147/RMHP.S509895

Ayodapo Ao, Elegbede Ot, Omosanya Oe, & Monsudi Kf. (2020). Patient Education and Medication Adherence among Hypertensives in a Tertiary Hospital, South Western Nigeria. *Ethiopian Journal of Health Sciences*, *30*(2). https://doi.org/10.4314/ejhs.v30i2.12

Biresaw, H., Asfaw, N., & Zewdu, F. (2020). Knowledge and attitude of nurses towards patient safety and its associated factors. *International Journal of Africa Nursing Sciences*, *13*, 100229. https://doi.org/10.1016/j.ijans.2020.100229

Calderwood, C. J., Braut, G. S., & Wiig, S. (2024). What Is Truly Informed Consent in Medical Practice and What Has the Perception of Risk Got to Do with It? *Healthcare*, *13*(1), 8. https://doi.org/10.3390/healthcare13010008

Gawthorne, J., Curtis, K., Fry, M., Mccloughen, A., & Fethney, J. (2025). Barriers and enablers to nurse-initiated care in emergency departments: An embedded mixed methods survey study. *Australasian Emergency Care*, *28*(1), 12–23. https://doi.org/10.1016/j.auec.2024.10.003

Imkome, E., Soonthornchaiya, R., Moonchai, K., Kerdmakmee, C., Jitdorn, J., Suratako, S., Thongwachira, C., Pichaisongkram, S., & Matthews, A. K. (2025). Navigating challenges: Insights into nurses' experiences of caring for patients during the COVID-19 pandemic. *BMC Nursing*, *24*(1), 473. https://doi.org/10.1186/s12912-025-03053-5

Javaid, M., Haleem, A., & Singh, R. P. (2024). Health informatics to enhance the healthcare industry's culture: An extensive analysis of its features, contributions, applications and limitations. *Informatics and Health*, *1*(2), 123–148. https://doi.org/10.1016/j.infoh.2024.05.001

Joo, Y., Han, E., & Jang, Y. (2025). Educational programs to improve nursing competency of patient- and family-centered care in intensive care units: A systematic review. *Nurse Education Today*, *151*, 106699. https://doi.org/10.1016/j.nedt.2025.106699

Kachalia, A., Mello, M. M., Nallamothu, B. K., & Studdert, D. M. (2016). Legal and Policy Interventions to Improve Patient Safety. *Circulation*, *133*(7), 661–671. https://doi.org/10.1161/Circulationaha.115.015880

Kim, M. (2023). Effects of a Comprehensive Person-Centered Care Education Program for Nursing Students. *Medicina*, *59*(3), 463. https://doi.org/10.3390/medicina59030463

Lee, C. C., Cho, Y. S., Breen, D., Monroy, J., Seo, D., & Min, Y.-T. (2023). Relationship between Racial Diversity in Medical Staff and Hospital Operational Efficiency: An Empirical Study of 3870 U.S. Hospitals. *Behavioral Sciences*, *13*(7), 564. https://doi.org/10.3390/bs13070564

Li, H., Li, L., Liu, T., Tan, M., He, W., Luo, Y., Zhong, X., Zhang, L., & Sun, J. (2024). Risk management and empirical study of the doctor-patient relationship: Based on 1790 litigation cases of medical damage liability disputes in China. *BMC Health Services Research*, *24*(1), 521. https://doi.org/10.1186/s12913-024-10952-x

Lundin, A., Unbeck, M., Andersson, A.-C., Enocson, A., & Berg, L. M. (2025). Nursing staff's perceptions of and reasons for missed nursing care in patients with traumatic injuries. *International Emergency Nursing*, *80*, 101616. https://doi.org/10.1016/j.ienj.2025.101616

Nono, D., Mwebesa, E., Bagenda, G., Okullo, I., Rwenyonyi, C. M., & Williams, S. (2024). Assessment of the knowledge, attitude and practices of the informed consent process in oral healthcare among dental students in Makerere University Dental Hospital, Uganda. *BMC Medical Education*, *24*(1), 516. https://doi.org/10.1186/s12909-024-05520-0

Onyeabor, U. S., Onwuasoigwe, O., Okenwa, W. O., Schaaf, T., Pinkwart, N., & Balzer, F. (2025). Exploring user experiences of clinicians engaged with the digital healthcare interventions across the referral and university teaching hospitals in Nigeria: A qualitative study. *Frontiers in Digital Health*, *7*, 1488880. https://doi.org/10.3389/fdgth.2025.1488880

Papathanasiou, I., Tzenetidis, V., Tsaras, K., Zyga, S., & Malliarou, M. (2024). Missed Nursing Care; Prioritizing the Patient's Needs: An Umbrella Review. *Healthcare*, *12*(2), 224. https://doi.org/10.3390/healthcare12020224

Samuel, O. O., & De Villiers, P. J. T. (2014). Compliance of St Joseph's Hospital Roma, Lesotho with the National Tuberculosis Programme of Lesotho, 2007 and 2008. *African Journal of Primary Health Care & Family Medicine*, *6*(1). https://doi.org/10.4102/phcfm.v6i1.586

Sarvari, H., Edwards, D. J., Rillie, I., & Roberts, C. (2025). Barriers, Bottlenecks, and Challenges in Implementing Safety I- and Safety II-Enabled Safe Systems of Working in Construction Projects: A Scoping Review. *Buildings*, *15*(3), 347. https://doi.org/10.3390/buildings15030347

Ștefan, A.-M., Rusu, N.-R., Ovreiu, E., & Ciuc, M. (2024). Empowering Healthcare: A Comprehensive Guide to Implementing a Robust Medical Information System—Components, Benefits, Objectives, Evaluation Criteria, and Seamless Deployment Strategies. *Applied System Innovation*, *7*(3), 51. https://doi.org/10.3390/asi7030051

Tsai, L., Chen, S., Chen, Y., & Lee, L. (2022). The impact of physical pain and depression on sleep quality in older adults with chronic disease. *Journal of Clinical Nursing*, *31*(9–10), 1389–1396. https://doi.org/10.1111/jocn.16000