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2. The LJN has the tripartite mission of:
 - (a) Promoting a culture of excellence in Nursing Research.
 - (b) Encouraging the exchange of profound and innovative ideas capable of generating creative practice in nursing research practise.
 - (c) Disseminating information on nursing related development that are not usually easily available to academics and practitioners.
3. The Journal will accordingly encourage the publication of the following categories of papers.
 - (a) Research papers that move away from orthodoxy and which really break new grounds in terms of methodology and findings.
 - (b) Essays and issues papers that contribute to reorienting received ideas, values and practices.
 - (c) Documents emanating from national and international conferences, as well as from largescale research work that emerging trends and thinking in nursing related development.
4. LJN is published biannually in any area of nursing interest or relevant to needs of academics and practitioners.

In this edition, nineteen (19) manuscripts scale through the eye of the needle of the Editor-in Chief. The title of the papers in this edition are: Assessment of client satisfaction with contraceptive services in public health care facilities in Zamfara State, Nigeria; Sociocultural and economic determinants of open defecation practices in Kano State, Nigeria; effect of simulation based training on midwives' skills in managing retained placenta with umbilical vein oxytocin injection in health facilities, Osun State, Nigeria; Nurses Level Of Preparedness In Management Of Patient With Viral Hemorrhagic Fever In Emergency Ward In University Of Ilorin Teaching Hospital, **Nigeria**; Nursing Education: A Sine Qua Non For Addressing The Healthcare Demands Of The 21st Century; Influence Of Nursing Training On Their Competency In Selecting Wound Dressing Materials At A Secondary Health Facility In Ilorin, Kwara State, Nigeria; Prevalence And Outcome Of Malaria Infection Among Children Below 11 Years In A Tertiary Healthcare Facility In Benin City From 2018-2020; Factors Influencing Prevalence Of Gender Based Violence Among Men And Women In Bagudo LGA Kebbi State, Nigeria; Knowledge Of Health Implications Of Rape And Associated Factors Among Male Undergraduates In Ahmadu Bello University Zaria, Nigeria; Quackery In Nursing, The Causes, Effects And Control Measures: The Nigeria Experience; Knowledge, attitude and practice of injection safety among nurses in Nigeria: a case study of University of Ilorin Teaching Hospital Ilorin, Kwara State, Nigeria; Awareness Of Computer Vision Syndrome Among Staff Of Information Communication And Technology Unit Of University Of Benin Teaching Hospital, Benin City, Edo State, Nigeria; Utilization Of Personal Protective Equipment Against Organic Dusts Among Poultry Farmers In Ona-Ara Local Government Area, Ibadan, Nigeria; Predictors Of Surgical Site Infection Amongst Post Operative Patients In Federal Medical Centre Lokoja, Nigeria; Evaluation Of The Involvement Of Nurses In Policies And Policy Formulation In Nigeria; Determinants of Stress and Coping Mechanisms among Nurses in Aminu Kano Teaching Hospital, Kano State, Nigeria; Influence Of Nursing Training On Their Competency In Selecting Wound Dressing Materials At A Secondary Health Facility In Ilorin, Kwara State, Nigeria; Adaptation To Stress And Academic Performance Of Students In Nursing Institutions In Oyo State, Nigeria; Medication Adherence And Quality Of Life Of Hypertensive Patients Attending Selected Hospitals In Port Harcourt, Rivers State, Nigeria; Perspectives Of Youth On The Legalization Of Abortion In North Central Nigeria.

EDITORIAL DESK

Welcome to LAUTECH Journal of Nursing!

LAUTECH Journal of Nursing focus on but not limited to research findings in the different areas of Nursing: Nursing Care, Nursing Education, Medical Surgical Nursing, Maternal and Child Health Nursing, Community Public Health Nursing, and Psychiatric/Mental Nursing. This journal is published to promote quality scholarly writing and hence instigating and generating vibrant discourse in the different areas of nursing. Apart from providing an outlet for publications of research findings, it offers opportunities for professionals and students to disseminate their views or position on topical issues and emerging theories within the scope of the journal. The Journal is peer reviewed by seasoned scholar. Eighty authors have contributed in one way or the other to the thirteenth edition of the journal.

In this regard, the journal welcomes articles from individuals and corporate organisations for the sixteenth edition. Interested contributors may forward copy of their manuscript; computer-typed in double line spacing, using Times New Roman 12 point font, with abstract not more than 300 words on a separate page. Manuscript should not be more than 15 pages and sent to doctoradeyemo@yahoo.com or lautechjournal@gmail.com.

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U.S. General Accounting Office. Feb., 1997, Telemedicine: federal strategy is needed to guide investments. Publication No. GAO/NSAID/HEHS-97-67. Retrieved Sept. 15,2000, from http://www.access.gpo.gov/su_docs/aces160.shtml?/gao/index.html.

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QUACKERY IN NURSING, THE CAUSES, EFFECTS AND CONTROL MEASURES: THE NIGERIA EXPERIENCE

OYEWUMI ZACCHEUS OPEYEMI; OYEWUMI LYDIA OMOWUMI & AKINBOWALE BUSAYO TEMILOLA

ABSTRACT

Quackery is a crime that is gradually becoming a norm in nursing practice in Nigeria; the population of quacks in nursing keeps growing daily despite all done to curb this criminal act leading to bastardization of nursing profession, creating a wrong image in the minds of people and also putting the life of many patients in the hospitals at risk in the country. The main objective of this paper is to explore the causes, effects, and control measures of quackery in nursing within Nigeria. The concept of quackery and its implications on the populace was reviewed. Also, the difference between a nurse and a quack practicing nursing was examined. Quackery practices in hospitals in Nigeria especially the private hospitals were noted to be the bane of nursing profession in Nigeria. Individuals involved in quackery have not only caused harm but have also led many citizens to untimely deaths due to their unprofessional conduct. The study recommends stringent enforcement of regulatory laws by the Nursing and Midwifery Council of Nigeria, as well as targeted government intervention in private hospitals to reduce the incidence of quackery. In conclusion, addressing quackery in nursing requires immediate and coordinated action from regulatory bodies and government agencies to preserve the integrity of the nursing profession in Nigeria.

Keywords: Causes; Control Measures; Effects; Quackery in Nursing

INTRODUCTION

Quackery in nursing refers to the unlicensed and unauthorized practice of nursing by individuals without the requisite professional qualifications, leading to unsafe healthcare practices. This phenomenon is a significant issue in many developing countries, including Nigeria, where it compromises the quality of

healthcare and endangers the lives of patients. In Nigeria, quackery in nursing is influenced by various socio-economic and regulatory challenges, and its consequences are far-reaching, affecting both patients and the healthcare system at large.

Studies indicate that quackery is prevalent in various parts of Nigeria, particularly in rural and under-served areas where access to qualified healthcare professionals is limited (Okorie, 2019). Research by Akinyemi *et al.*, (2020) found that over 30% of rural healthcare providers in select Nigerian states were unqualified, with many masquerading as nurses or midwives. Similarly, Akpabio and Ojong (2018) noted a significant presence of quacks in private healthcare facilities, particularly in areas where regulatory oversight was weak. This review examines the causes, effects, and control measures of quackery in nursing within the Nigerian context, drawing on empirical evidence from relevant literature.

OBJECTIVES

The objectives of this review are to:

1. Examine the prevalence and nature of quackery in nursing practice in Nigeria
2. Establish clear distinctions between qualified nurses and unauthorized practitioners
3. Analyze the underlying causes of quackery in Nigeria's nursing sector
4. Evaluate the impact of quackery on the nursing profession in Nigeria
5. Assess current measures implemented to combat nursing quackery in Nigeria

6. Identify the implications of quackery for nursing practice in Nigeria
7. Propose evidence-based recommendations for addressing quackery in Nigerian nursing practice

credentials they do not possess. Over the years it has become difficult for the public to differentiate a Registered Nigeria Nurse from a quack and their population has grown tremendously. **This is evidence in our society today as their training continue to proliferate even in the face of all the State and Zonal regulatory body of nursing and Midwifery council in all the states of the federation.**

QUACKERY IN NURSING IN NIGERIA

A quack is a fraudulent or ignorant pretender to medical skill. A quack can also be described as a person who pretends, professionally or publicly, to have skill, knowledge, qualification, or

Differences between a nurse and a quack in Nigeria

A nurse	A quack
a. Goes to a school of nursing for a period of three years or a university for five years to study nursing science degree	Is trained by an individual without authorization from the government or nursing regulatory bodies
b. Bears a nursing license from the nursing regulatory body to practice after passing council examinations	Does not take nursing council examinations therefore he/she has no license to practice
c. Can demonstrate proper understanding of nursing practice, nursing theories, nursing laws, patients right, body anatomy physiology among others	Cannot demonstrate proper understanding of nursing practice, follows orders dogmatically make errors often and cannot apply nursing theories to practice.
d. Works mostly in a government hospital	Their work is limited to private hospitals.

CAUSES OF QUACKERY IN NURSING IN NIGERIA

Some of the major causes of quackery in nursing in Nigeria are mentioned below:

- 1) poverty and unemployment. Many individuals, desperate for employment, turn to quackery in nursing as a means of earning a livelihood. This problem is exacerbated by the high level of illiteracy and lack of awareness among the public, who may not be able to distinguish

between qualified and unqualified healthcare workers (Adamu *et al.*, 2020).

- 2) Greed: some owners of private health facilities see this as a means of making more profit. A lot of them train quacks and at the end of the training absorb them as nurses and pay them far less than what they would pay a registered nurse (cheap labour)
- 3) Illiteracy and ignorance: A large number of individuals cannot identify a quack.

They have little or no knowledge about nursing practice, its various licenses and the dangers of placing one's life in the hands of a quack nurse.

- 4) lack of adequate regulatory enforcement: Although regulatory bodies like the Nursing and Midwifery Council of Nigeria (NMCN) are tasked with ensuring that only qualified professionals practice, weak enforcement mechanisms allow unqualified individuals to operate freely (Adebayo *et al.*, 2017).
- 5) Shortage of healthcare professionals in rural areas creates a gap that is often filled by unqualified practitioners (Akpabio & Ojong, 2018). This shortage stems from both a lack of resources and the reluctance of qualified nurses to work in underserved areas due to poor working conditions.
- 6) Poverty and unemployment. Many individuals, desperate for employment, turn to quackery in nursing as a means of earning a livelihood. This problem is exacerbated by the high level of illiteracy and lack of awareness among the public, who may not be able to distinguish between qualified and unqualified healthcare workers (Adamu *et al.*, 2020).
- 7) Corruption within the system—including bribery and the manipulation of regulatory processes—enables quacks to obtain fake licenses or evade scrutiny, further entrenching the problem (Onyejekwe & Olatoye, 2019).

Effects of Quackery on Nursing Profession

The effects of quackery in nursing are profound and multifaceted. First and foremost, it leads to increased morbidity and mortality due to the administration of incorrect treatments or the mishandling of patient's conditions (Okorie, 2019). Patients nursed by quacks often receive inappropriate care, resulting in the exacerbation of their illnesses, complications, and even death. In a study by Ojo and Esan (2021), it was found that a significant number

of maternal and infant deaths in Nigeria could be traced back to unqualified healthcare providers.

Quackery also has broader implications for the nursing profession. The presence of quacks undermines public trust in the healthcare profession especially nursing, reducing patient confidence in both qualified and unqualified nurses (Akinyemi *et al.*, 2020). This, in turn, can lead to a decline in healthcare-seeking behavior, as patients may choose to avoid hospitals altogether. The financial cost is also significant, as patients often spend more money treating complications arising from poor-quality nursing care, increasing the overall burden on families and the healthcare system.

Moreover, quackery in nursing contributes to professional degradation. Qualified nurses often find themselves competing with quacks, which can lead to a decline in morale and professional standards (Eze *et al.*, 2020). This degradation of professional ethics has long-term consequences for the integrity of the healthcare system in Nigeria.

Measures Taken to Combat Quackery in Nursing in Nigeria

In response to persistent challenges of increased quackery in nursing in Nigeria, several measures have been implemented over the years to curb the practice of unqualified individuals posing as nurses. These measures encompass regulatory, legal, educational, and public health initiatives.

1. Regulatory Measures

The **Nursing and Midwifery Council of Nigeria (NMCN)**, have introduced several regulatory frameworks aimed at reducing quackery in nursing. One of the key measures is the **enforcement of licensure and accreditation systems**. NMCN has developed stringent requirements for licensure, ensuring that only individuals who have met the necessary educational and professional

standards can practice as nurses (Adebayo *et al.*, 2017). The Council also conducts **periodic inspections of healthcare facilities** to verify the credentials of practicing nurses. However, despite these efforts, the effectiveness of regulatory enforcement has been limited by logistical and resource constraints (Onyejekwe & Olatoye, 2019).

In recent years, there has been a push for the implementation of **digital platforms** to combat quackery. For instance, the NMCN launched a database that allows patients and employers to verify the licensure status of nurses online. This initiative has been crucial in curbing quackery by promoting transparency and accountability (Akinyemi *et al.*, 2020). However, the system has yet to be widely adopted across the country due to limited internet access in rural areas and low levels of digital literacy.

2. *Legal Actions*

Legal action has also been a cornerstone in combating quackery. The **Nigerian National Assembly** has passed various laws aimed at deterring unqualified individuals from practicing nursing. For example, the **Nursing and Midwifery Act**, revised in 2004, provides a legal framework for prosecuting quacks. Under this law, individuals practicing without a license face fines or imprisonment even though this punitive measures has not been effective because of the amount of fine placed on the offender caught practicing without licenses (Eze *et al.*, 2020).

Despite the existence of these laws, their enforcement remains a challenge. Corruption within law enforcement agencies and the judicial system often undermines the effectiveness of these legal frameworks. In many cases, quacks are able to bribe their way out of prosecution, and even when cases do go to court, they may be delayed indefinitely (Adamu *et al.*, 2020).

Moreover, Members of the council go out at designated times to fish out medical facilities harboring these quacks; this has led to the closure of so many private hospitals. The

council representatives at the state level lead by the Director of Nursing Services of each state also go round their states to find the quack training centers and shut them down, a good example is the *closure and arrest of the owners of a hospital called "Capricon Medical Center" in Ogun State which specialised in training of quack nurses On the 31st of January 2017. Also, anyone caught training quacks in Nigeria are made to pay a fine of one thousand naira.(Even though this amount is still ridiculous and need urgent review by the legislature), more needed to be done to legislate stiffer penalty for the trainers of quacks and their trainees.*

3. *Educational Campaigns*

Educational initiatives have been implemented as a proactive approach to combating quackery in nursing. These campaigns are geared toward both healthcare professionals and the general public. For instance, the **NMCN and various non-governmental organizations (NGOs)** have organized workshops and seminars aimed at educating healthcare workers about the dangers of quackery and the importance of maintaining ethical standards (Adebayo *et al.*, 2017). Such initiatives also emphasize the need for continuous professional development and adherence to best practices in nursing.

Public awareness campaigns have also been integral in fighting quackery. Through mass media—television, radio, and social media—the public is being educated on how to identify legitimate professional nurses and the dangers of receiving care from quacks. These campaigns have had some success, particularly in urban areas where media access is higher. However, in rural areas, where quackery is most prevalent, these campaigns have had limited reach (Akpabio & Ojong, 2018).

4. *Collaborative Efforts with International Bodies*

The Nigerian government and professional associations have collaborated with international organizations such as the World Health Organization (WHO) and International Council of Nurses (ICN) to strengthen the fight

against quackery. These collaborations have led to the adoption of international best practices in nursing regulation and professional development (Okorie, 2019). For example, Nigeria has participated in WHO-led initiatives aimed at improving nursing education and regulation in Africa, which include programs for the accreditation of nursing schools and continuous professional education for nurses.

These international collaborations have provided technical assistance, training, and resources to help Nigeria combat quackery more effectively. However, the implementation of these measures has faced challenges, particularly in terms of funding and the political will to sustain long-term reform efforts (Eze et al., 2020).

Implications of quackery on nursing practice in Nigeria

The implications of quackery for nursing practice are profound, affecting the quality of care, professional ethics, and the overall healthcare system. This review draws from empirical studies to explore the impact of quackery on nursing practice in Nigeria, with a focus on professional reputation, patient outcomes, and the healthcare system's functionality.

1. Implications for Professional Reputation

One of the primary implications of quackery in nursing in Nigeria is the degradation of the **professional reputation of nurses**. Quackery creates confusion between trained nurses and unlicensed individuals, eroding public trust in the nursing profession (Okorie, 2019). According to a study by Eze *et al.*, (2020), many patients in Nigeria find it difficult to distinguish between quacks and legitimate nurses, which leads to a generalized mistrust of healthcare providers. The study found that 67% of respondents were skeptical of the competence of nurses, fearing they might be attended to by quacks. This lack of trust in professional nurses undermines the status and

recognition of qualified practitioners, further harming the nursing profession.

Furthermore, the presence of quacks dilutes the **standards of nursing practice**, as quacks often lack the knowledge, skills, and ethical commitment required of professional nurses (Adebayo *et al.*, 2017). This dilutes the value and impact of professional nursing care, as patients who have experienced poor care from quacks may develop negative perceptions about the entire profession.

2. Implications for Patient Outcomes

Quackery in nursing has direct implications for **patient outcomes**, contributing to higher rates of medical errors, complications, and even death. Studies show that patients treated by quack nurses are more likely to experience complications due to misdiagnosis, improper medication administration, and substandard procedures (Akpabio & Ojong, 2018). For example, a study by Ojo and Esan (2021) found that 40% of maternal deaths in rural Nigeria were linked to care provided by unqualified individuals posing as nurses. The study highlights how quacks often fail to identify critical health issues, leading to avoidable fatalities.

Moreover, the **long-term health outcomes** of patients treated by quacks are often compromised. Quacks typically do not follow evidence-based practices, which can result in the exacerbation of illnesses and chronic conditions (Okorie, 2019). For example, patients may receive inadequate or harmful treatments, resulting in the need for further medical interventions, prolonged recovery times, and increased healthcare costs. This puts an additional burden on families and the healthcare system.

3. Implications for Healthcare System Functionality

Quackery in nursing has significant implications for the **functionality of the healthcare system in Nigeria**. It contributes to the overcrowding of healthcare facilities, as patients who receive inadequate care from quacks often need to seek corrective treatment

at hospitals (Onyejekwe & Olatoye, 2019). This additional patient load strains already overstretched healthcare services and diverts resources from other critical areas of need.

Furthermore, quackery in nursing undermines **public health efforts**. The lack of standard infection control measures practiced by quacks increases the risk of communicable diseases spreading in communities (Adamu *et al.*, 2020). For instance, quack nurses who perform invasive procedures without proper hygiene protocols contribute to the spread of infections like hepatitis and HIV. In the long term, this undermines public health campaigns aimed at reducing the spread of these diseases.

The **economic cost** to the healthcare system is also considerable. The need to address the consequences of quackery in nursing requires additional healthcare resources, including medications, surgical procedures, and hospitalizations (Adebayo *et al.*, 2017). In a study conducted by Akinyemi *et al.*, (2020), it was estimated that 25% of hospital resources in certain regions of Nigeria were consumed by treating complications caused by unqualified healthcare providers especially nurses. This diverts resources from preventive care and other essential services, reducing the overall efficiency of the healthcare system.

4. Implications for Professional Ethics and Standards

Quackery poses a threat to the **ethical foundations of nursing practice** in Nigeria. The presence of quacks blurs the lines of accountability, as it becomes difficult for regulatory bodies to maintain strict oversight over the profession (Eze *et al.*, 2020). This compromises professional integrity, as licensed nurses may find themselves working in environments where quacks operate, creating ethical dilemmas and lowering professional morale.

Additionally, the **influx of unqualified individuals** into the healthcare sector can influence the behavior of licensed nurses, leading to a deterioration of professional standards. According to Adebayo *et al.*, (2017),

working alongside quacks who are not held to the same ethical and educational standards can weaken the commitment of licensed professionals to uphold high standards of care. Over time, this erodes the ethical fabric of the nursing profession, making it more difficult to enforce accountability and professional discipline.

Recommendations for Addressing Quackery in Nursing Practice in Nigeria

The issue of quackery in nursing continues to threaten healthcare delivery in Nigeria. Tackling this problem requires a combination of regulatory reform, public education, and structural changes in the healthcare system. Several studies have focused on proposing recommendations to curb quackery and strengthen nursing practice in the country. This review synthesizes empirical findings from various studies, offering actionable recommendations for policymakers and stakeholders in the Nigerian healthcare system.

1. Strengthening Regulatory Enforcement

One of the most critical recommendations is the need to **strengthen regulatory enforcement** by healthcare authorities. The Nursing and Midwifery Council of Nigeria (NMCN) plays a key role in regulating the profession, yet enforcement mechanisms are often weak or inconsistent. According to a study by Eze *et al.*, (2020), the lack of consistent monitoring and prosecution of offenders allows quackery to thrive in the healthcare system. It is recommended that the NMCN both at the federal and zonal level and various professional associations increase their surveillance efforts by conducting **regular inspections of healthcare facilities** and implementing **stricter penalties** for those caught practicing without proper credentials (Olatoye & Adekunle, 2021). The use of technology, such as a **centralized digital registry** of licensed professional nurses such as a tool for improving transparency and accountability in the sector in such a way that at a click licensed nurses can be identified should be embraced (Okorie, 2019).

2. *Improving Training and Education for Nurses*

Enhancing the **training and education** of nurses is another recommended measure. A study by Adamu *et al.*, (2020) emphasized that under-trained nurses often contribute to the blurring of lines between quackery and legitimate practice. Therefore, continuous professional development programs and various hospital based continuous education updates are crucial for ensuring that nurses remain updated on best practices and ethical standards in healthcare delivery. Furthermore, **expanding nursing education** programs to reach under-served areas can help alleviate the shortage of qualified nurses, particularly in rural regions, which are often hotspots for quack activity (Adebayo *et al.*, 2017). These programs should also include modules on identifying and reporting quackery, empowering nurses to be proactive in maintaining professional integrity.

3. *Public Awareness Campaigns*

Public ignorance about the qualifications of nurses has been identified as a significant driver of quackery in Nigeria (Akpabio & Ojong, 2018). As such, **public awareness campaigns** aimed at educating citizens about the dangers of receiving care from unqualified nurses are essential. Several studies, including that by Akinyemi *et al.*, (2020), have suggested the use of mass media, community outreach programs, and partnerships with local organizations to disseminate information on how to identify qualified healthcare providers. These campaigns should emphasize the potential risks associated with quackery, such as increased morbidity and mortality, to dissuade the public from seeking care from unlicensed practitioners (Okorie, 2019).

4. *Addressing Socioeconomic Drivers of Quackery in nursing*

The **socioeconomic factors** driving quackery in nursing, such as unemployment and poverty, must also be addressed. Many individuals engage in quackery in nursing as a means of livelihood due to the lack of formal

employment opportunities (Olatoye & Adekunle, 2021). Studies have recommended that the Nigerian government should invest in creating more jobs, particularly in the healthcare sector, and provide better incentives for qualified nurses to work in under-served areas (Adamu *et al.*, 2020). Additionally, improving the working conditions and remuneration of healthcare workers can help reduce the temptation for unqualified individuals to impersonate nurses for financial gain (Adebayo *et al.*, 2017).

5. *Collaboration with Law Enforcement*

Collaboration between **nursing regulators and law enforcement agencies** is vital for tackling quackery in nursing. According to Onyejekwe and Olatoye (2019), many quacks evade justice due to corruption and the lack of coordination between nursing authorities and the police. It is recommended that a task force be established to specifically address nursing-related crimes, including quackery. This task force should operate at the local, state, and national levels, with the mandate to investigate and prosecute quacks in the profession (Eze *et al.*, 2020). Furthermore, engaging community leaders and traditional authorities can enhance the reach of law enforcement efforts, particularly in rural areas where formal regulatory mechanisms may be weak (Akpabio & Ojong, 2018).

6. *Incentives for Whistle blowers*

Encouraging healthcare workers especially nurses and members of the public to report instances of quackery in nursing can be an effective control measure. Studies by Okorie (2019) and Akinyemi *et al.*, (2020) have recommended the introduction of **whistle blower protection laws** that provide anonymity and protection for individuals who report quack activities. Additionally, offering **financial incentives** for whistle blowers can motivate individuals to come forward, especially in communities where fear of reprisal may prevent the reporting of quacks.

7. *Policy Recommendations*

Finally, there is a need for comprehensive policy reforms to address the systemic issues

fueling quackery in nursing. According to Olatoye and Adekunle (2021), the Nigerian government should develop a national strategy for combating quackery, which would include measures for improving healthcare infrastructure, strengthening regulations, and fostering inter-agency collaboration. This strategy should be guided by empirical research and involve stakeholders from across the healthcare sector, including nursing associations, regulatory bodies, and civil society organizations (Onyejekwe & Olatoye, 2019).

CONCLUSION

Quackery in nursing remains a pervasive problem in Nigeria, driven by a combination of weak regulatory frameworks, socio-economic factors, and public ignorance. The effects are severe, ranging from increased mortality rates to the erosion of trust in the healthcare system. However, by adopting a comprehensive approach that includes stronger regulation, public education, and socio-economic reforms, Nigeria can reduce the prevalence of quackery and improve the overall quality of its healthcare services.

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KNOWLEDGE, ATTITUDE AND PRACTICE OF INJECTION SAFETY AMONG NURSES IN NIGERIA: A CASE STUDY OF UNIVERSITY ILORIN TEACHING HOSPITAL, ILORIN, KWARA STATE NIGERIA

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ABSTRACT

In developing countries, including Nigeria, injections represent a common treatment modality. However, unsafe injection practices can lead to significant health risks, including the transmission of infectious diseases such as HIV and hepatitis. This study assessed the knowledge, attitudes and practices of injection safety among nurses at the University of Ilorin Teaching Hospital (UITH), Ilorin, Kwara State, Nigeria. A descriptive cross-sectional study design was employed. The sample size determined was 150 nurses, stratified random sampling was used to select 150 nurses in various departments from the total population. Data collection utilized a structured, self-administered questionnaire based on WHO guidelines for safe injection practices. The instrument's reliability was confirmed with a Cronbach's Alpha of 0.82, indicating acceptable internal consistency. Data analysis was conducted using SPSS version 25, with descriptive statistics summarizing the data and chi-square tests exploring associations between demographic variables and injection safety practices. The demographic characteristics revealed that the majority of respondents were aged 31-40 years (40%), female (66.7%), held BNSc degrees (53.3%), and had 1-5 years of experience (33%). The largest proportion of respondents worked in the maternity department (33.3%). The study findings indicated high levels of knowledge regarding injection safety (74.7%), positive attitudes (80.7%), and high practice levels (76.4%). These findings suggest the need for continued support through enhanced resources and comprehensive training programs.

Keywords: Knowledge; Attitude; Practice; Injection Safety; Nurses

INTRODUCTION

Injection safety is a pressing issue in healthcare systems, particularly in developing countries like Nigeria, where unsafe practices remain common and contribute to the spread of infectious diseases. At the University of Ilorin Teaching Hospital (UITH) in Kwara State, Nigeria, unsafe injection practices are a notable concern, as they pose significant health risks to both patients and healthcare providers. Despite the crucial role of injections in medical treatments, improper handling, needle reuse, and unsafe disposal methods are frequently observed. These practices contribute to the transmission of blood-borne diseases such as HIV, Hepatitis B, and hepatitis C, with severe socio-economic and public health consequences (World Health Organization [WHO], 2022). The WHO (2022) defines a safe injection as one that is administered with sterile equipment, does not cause harm to the recipient or provider, and is disposed of in a manner that does not pose risks to others. However, globally, approximately 16 billion injections are administered annually, with a significant proportion in developing countries being unsafe. The reuse of syringes and needles without adequate sterilization, improper disposal of sharps, and failure to adhere to safety guidelines remain pervasive issues, particularly in resource-limited settings like UITH. According to the WHO (2022), unsafe injections result in 33,800 new HIV infections, 1.7 million hepatitis B infections, and 315,000 hepatitis C infections annually, largely due to improper injection practices.

In Nigerian hospitals, including UITH, the over-reliance on injections as a preferred method of treatment is driven by both patient expectations and healthcare providers' practices. Patients often perceive injections as more effective than oral medications, and this misconception leads to a high demand for injectable treatments. Studies suggest that patients, particularly in rural areas, associate injections with faster recovery and more competent healthcare (Bolarinwa, Ayodele, & Omotosho, 2020). As a result, healthcare workers may feel pressured to administer injections, even when oral medications would suffice. This cultural and systemic overuse of injections exacerbates the risks associated with unsafe injection practices. The situation at UITH is reflective of broader challenges within Nigeria's healthcare system. Studies in similar tertiary health institutions have highlighted inadequate knowledge of injection safety among nurses and other healthcare workers. For instance, a study conducted by Adeoye et al. (2021) in southern Nigeria found that 45.3% of healthcare providers lacked adequate training on safe injection practices. These gaps in knowledge, combined with resource shortages such as the lack of auto-disable syringes and proper waste management systems, contribute to the continuation of unsafe practices (Adeoye et al., 2021; WHO, 2022). The lack of training and infrastructural support at UITH similarly raises concerns about the ability of nurses to adhere to international safety standards.

Efforts to improve injection safety at UITH and other hospitals in Nigeria must address both the technical and educational barriers to safe practices. According to recent guidelines from WHO (2022) and the Centers for Disease Control and Prevention (CDC, 2021), improving injection safety requires a multi-faceted approach, which includes:

Education and Training: Providing healthcare workers with regular, updated training on safe injection practices, including the proper use of sterile equipment and the safe disposal of sharps (CDC, 2021).

Resource Provision: Ensuring that healthcare facilities have consistent access to sterile, single-use syringes, puncture-proof disposal containers, and other necessary safety equipment (WHO, 2022).

Behavioural Change: Shifting the attitudes of both healthcare workers and patients towards the overuse of injections by promoting oral medications as equally effective in many cases (Bolarinwa et al., 2020).

The consequences of unsafe injections are far-reaching. Besides the immediate health risks, such as the transmission of infections, there are significant economic burdens due to increased healthcare costs for treating injection-related infections and the social stigma attached to healthcare workers who may contract occupational diseases (Adeoye et al., 2021). For nurses, who are often the primary administrators of injections, these risks highlight the need for improved adherence to safety protocols. This research is timely, given the growing concerns about healthcare-associated infections and the need for more robust infection control measures in Nigeria's healthcare institutions. By focusing on the specific case of UITH, this study will provide insights into how healthcare workers' attitudes and practices can be improved, ultimately enhancing patient safety and reducing the burden of preventable diseases in Kwara State and beyond. This study aims to assess the attitudes and practices of injection safety among nurses at UITH, focusing on identifying gaps in knowledge, attitude and practice of safety protocols.

Objectives of the Study

The study aims to:

1. Assess nurses' knowledge levels regarding injection safety practices at the University of Ilorin Teaching Hospital (UITH)
2. Evaluate nurses' attitudes toward injection safety protocols at UITH
3. Examine the implementation of injection safety practices among nurses at UITH

METHOD AND MATERIALS

Design: This study employed a descriptive cross-sectional design to assess the attitudes and practices of injection safety among nurses at University Ilorin Teaching Hospital (UITH), Ilorin Kwara State, Nigeria.

Setting: The study was carried out at University of Ilorin Teaching Hospital which is located at Oke-Ose in Ilorin East Local Government Area of Kwara State, Nigeria. The Hospital was established as Teaching Hospital on 2nd May 1980 by the Honourable Minister of Health Mr. Daniel Ugwu. The hospital is designed to focus on providing high quality healthcare services. at the tertiary level.

It is about 30 Acres of Land with about 30 different Buildings within the premises. The Hospital has Male medical ward, Medical ward, Paediatrics wards, Accidents, Eye Ward and Clinic, ENT Unit and Emergency unit, Gynaecology unit. Main theatre, Trauma centre, Indeed, each hospital Ward contained 30 Beds.

Population: The study population consisted of all registered nurses working in the various departments of UITH. The inclusion criteria were nurses who were willing to participate in the study and had at least one year of working experience in the hospital. The total number of nursing staffs of the hospital is 244 altogether, and their mission is to provide personalized care to client/patient irrespective of gender, status, education, cultural and religious background

Sample Size Determination: Sample size was determined using Yamane (1967) simplified formula for calculating the number of nurses that was used in the research.

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

where:

N = sample population (244), and

e = error margin (0.06)

$$n = 244 / (1 + 244(0.06^2))$$

$$n = 244 / 1 + 244(0.0036)$$

$$n = 244 / 1 + 0.8784$$

$$n = 244 / 1.8784$$

$$n = 129.9 (\approx 130)$$

Thus, a sample size of 130 was calculated. However, 150 questionnaires were administered to account for possible non-responses or incomplete data, ensuring sufficient responses for valid analysis.

Sampling Technique: A stratified random sampling technique was employed to ensure proportional representation from various departments at the University of Ilorin Teaching Hospital (UITH). The hospital departments were considered strata, and nurses were randomly selected from each department to reflect the composition of the entire population of nurses. The sample size comprises 130 respondents (registered nurses), selected from the total number (244) of nurses in the hospital.

Research Instrument: A well-structured, self-administered questionnaire was the principal research instrument used in this study. The questionnaire consisted of three main sections:

- 1. Demographic Information:** This section collected data on participants' age, gender, education level, years of experience, and department.
- 2. Knowledge and Attitudes Towards Injection Safety:** This section assessed nurses' understanding of injection safety guidelines and their attitudes towards safe injection practices.
- 3. Practices Related to Injection Safety:** This section focused on how nurses applied their knowledge in daily practice, particularly in the management of sharps and needle-stick injuries.

The instrument was developed based on the World Health Organization (WHO) guidelines for safe injection practices and adapted to fit the context of UITH. Questions were designed to cover areas critical to injection safety, including knowledge, attitudes, practices, and waste management with respect to used sharps.

Validation of Research Instrument: The questionnaire was validated through both

content validity and **expert review**. Initially, the questionnaire was reviewed by colleagues and experts in the field, who provided feedback on its clarity, relevance, and comprehensiveness. Revisions were made based on their suggestions to ensure the instrument accurately measured the intended variables. However, further validation steps, such as a pilot study, were not detailed but would strengthen the reliability and validity of the findings.

Additionally, the **reliability** of the questionnaire was tested using **Cronbach's Alpha**, and the reliability index of the instrument was found to be **0.82**, indicating a high level of internal consistency.

Data Collection: Data were collected using the finalized questionnaire, which was distributed to **150 nurses** in various departments of UIITH. Although the calculated sample size was 130, but 150 questionnaires were administered to allow for non-response and incomplete data, a common practice in surveys. This strategy ensured a higher response rate and improved the validity of the data. The questionnaires were self-administered, ensuring the respondents' anonymity and confidentiality. Participants were given sufficient time to complete the questionnaire, and all responses were collected promptly to minimize delays in data analysis.

Data Analysis: The collected data were analyzed using the Statistical Package for Social Sciences (SPSS) version 25. The following statistical tools were employed: Descriptive statistics: Frequencies, percentages, means, and standard deviations were used to summarize the demographic information, knowledge, attitudes, and practices of the respondents. Chi-square tests: These were used to test the association between demographic variables (e.g., age, years of experience, education level) and the respondents' knowledge, attitudes, and practices regarding injection safety.

Validation of Instrument: The instrument was validated and correction was made. **Reliability:** a pilot test was conducted. Test-retest was used and data was analysed using Chronbach Alpha. The reliability score is 0.89.

RESULTS

Demographic Characteristics of Respondents

The demographic analysis of study participants revealed a predominance of nurses aged 31-40 years (40.0%), followed by those aged 21-30 years (30.0%), 41-50 years (20.0%), and 51 years and above (10.0%). Female nurses constituted the majority (66.7%) of respondents, while male nurses represented 33.3%. Educational qualifications analysis showed that bachelor's degree holders formed the largest group (53.3%), followed by Diploma holders (26.7%) and Postgraduate Degree holders (20.0%). Regarding professional experience, the highest proportion of participants (33.3%) had 1-5 years of experience, followed by those with 6-10 years (26.7%), while equal proportions (20.0%) had either 11-15 years or 16 years and above experience. In terms of departmental distribution, the Maternity department had the highest representation (33.3%), followed by Emergency (26.7%), with Surgery and Paediatrics departments each accounting for 20.0% of the respondents. In summary, the typical respondent profile was characterized by nurses aged 31-40 years, predominantly female, holding BNSc degrees, with 1-5 years of experience, and working primarily in the maternity department. The demographic characteristics of this study showed that majority of the respondents within 31-40 years (40%), female (66.7%) and their educational level is bachelor's degree (53.3%). Further findings revealed that the respondents years of experience is within 1-5 years (33.3%) and their department is Maternity (33.3%).

Table 1: Demographic Information of Respondents (N = 150)

Demographic Variables	Frequency (n)	Percentage (%)
Age		
21-30 years	45	30.0
31-40 years	60	40.0
41-50 years	30	20.0
51 years and above	15	10.0
Gender		
Male	50	33.3
Female	100	66.7
Education Level		
Diploma	40	26.7
Bachelor's Degree	80	53.3
Postgraduate Degree	30	20.0
Years of Experience		
1-5 years	50	33.3
6-10 years	40	26.7
11-15 years	30	20.0
16 years and above	30	20.0
Department		
Emergency	40	26.7
Surgery	30	20.0
Paediatrics	30	20.0
Maternity	50	33.3

Knowledge towards Injection Safety

The data indicates that the majority of nurses had a solid understanding of key injection safety practices. Most notably, 86.7% demonstrated good knowledge of the importance of using sterile needles, and 80% were aware of the need for hand hygiene, both critical elements in preventing infection. However, there is a gap in knowledge regarding the use of auto-disable

syringes, with only 60% being aware of their importance. This lower awareness could suggest the need for additional training or emphasis on this aspect of injection safety. The relatively high awareness (70%) of WHO guidelines is encouraging but suggests room for improvement in ensuring comprehensive adherence to these standards across the board. This study reveals that the respondents' level of knowledge about injection safety is high (74.7%).

Table 2: Knowledge towards Injection Safety

	Knowledge Areas	Percentage of Respondents Good Knowledge
1.	Use of sterile needles	86.7
2	Hand hygiene	80
3	Proper disposal of needles	76.6
4	use of auto-disable syringes	60
5	Knowledge of WHO injection guidelines	70
	Total	74.7%

Attitudes towards Injection Safety

The attitudes toward injection safety practices among the nurses are generally positive. A high percentage (90%) of nurses recognized the critical importance of using sterile needles, showing a strong commitment to one of the most vital aspects of injection safety. Similarly, 83.3% of the nurses believed in proper needle disposal, aligning with safe injection practices.

However, the support for auto-disable syringes (73.3%) is somewhat lower, indicating a potential area for attitude enhancement through training or advocacy. The 76.7% agreement on the significance of WHO guidelines shows a good level of adherence, but there is still room to improve attitude alignment with best practices. This study shows that the attitude of respondents towards injection safety is positive (80.7%)

Table 3: Attitudes towards Injection Safety

Attitude Areas	Percentage of Respondents with Positive Attitude (%)
Importance of Using Sterile Needles	90%
Commitment to Hand Hygiene	80%
Belief in Proper Needle Disposal	83.3%
Support for Auto-Disable Syringes	73.3%
Importance of WHO Guidelines	76.7%
Total	80.7%

Practice of Injection Safety

The practice of injection safety among nurses shows a commendable adherence to key protocols. The highest compliance is observed in the use of new sterile needles, with 90% of nurses consistently practicing this important safety measure. Proper disposal of needles in sharps containers also shows high compliance at 85%, which is critical for preventing needlestick injuries. However, consistent hand hygiene, although practiced by 70%, suggests a

need for improvement in this fundamental infection prevention practice. The use of auto-disable syringes is notably lower at 60%, indicating a potential gap in resources or training. Lastly, the use of personal protective equipment (PPE) during injections is moderately strong at 76.7%, but there is still room for improvement to ensure maximum safety for both nurses and. Level of practice of injection safety by respondents is high (76.4%).

Table 4: Practice of Injection Safety

Practice Areas	Percentage of Respondents Practicing Consistently (%)
Use of New Sterile Needles	90%
Proper Disposal of Needles	85%
Consistent Hand Hygiene	70%
Use of Auto-Disable Syringes	60%
Use of Personal Protective Equipment (PPE)	76.7%
Total	76.4%

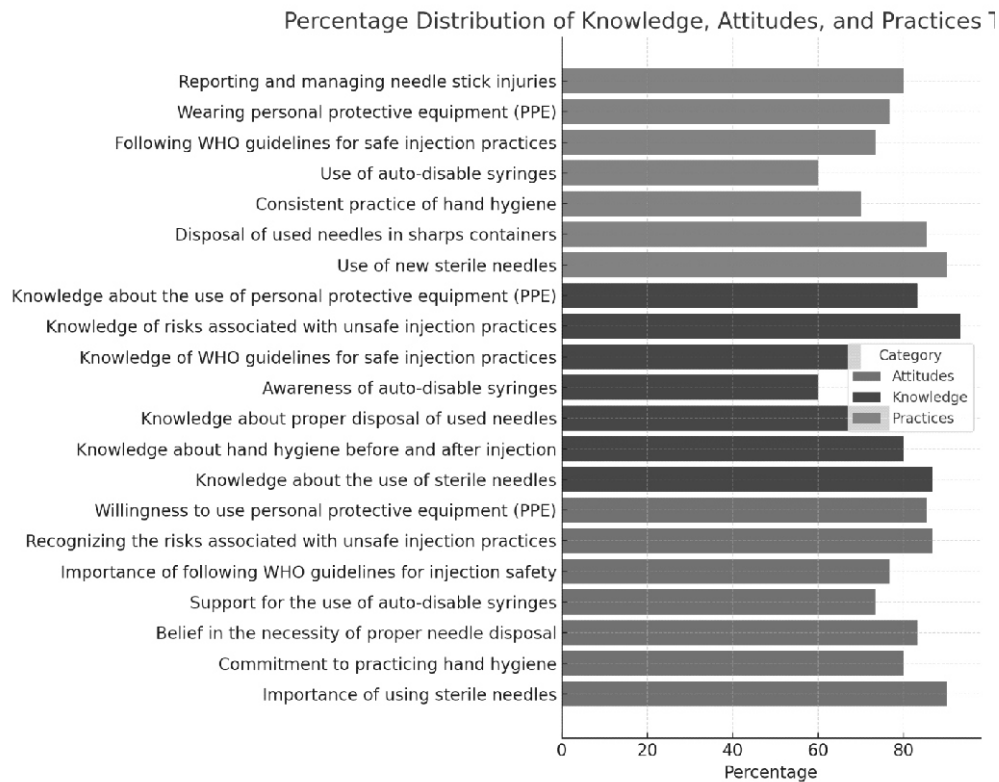


Fig 1: Percentages of knowledge, attitude and practice

DISCUSSION

This study aims to assess the attitudes and practices of injection safety among nurses at the University of Ilorin Teaching Hospital (UIITH), focusing on identifying gaps in knowledge, attitude, and practice of safety protocols. The demographic profile indicates that the majority of respondents were aged 31-40 years, female, held Bachelor of Nursing Science degrees, had 1-5 years of experience, and worked in the maternity department.

The findings highlight a strong knowledge base among UIITH nurses, aligning with Gyawali et al. (2013), who found that healthcare workers in Nepal demonstrated good theoretical knowledge of injection safety, though practical implementation was hindered by resource and training limitations. Similarly, Kermode et al. (2012) reported that while healthcare workers in India were aware of unsafe injection risks, compliance was often compromised by inadequate access to supplies, including personal protective equipment (PPE) and auto-disable syringes.

The study reveals positive attitudes toward injection safety among respondents, echoing findings by Pathak et al. (2012), whose research demonstrated similar positive healthcare worker attitudes.

Additionally, respondents demonstrated high levels of injection safety practice. This finding aligns with Dasgupta et al. (2010), who found that healthcare workers in rural Indian health centers maintained high practice levels despite challenges with inconsistent supplies and irregular training updates. However, these findings contrast with Hutin et al. (2003), who reported widespread unsafe injection practices in developing countries, despite healthcare workers' good knowledge of safety protocols. Hutin's study emphasized that limited access to resources, including sterilized equipment and adequate training in safe disposal methods, significantly contributed to practice lapses. Similarly, the findings diverge from Simonsen et al. (2010), who observed unsafe injection practices in developing countries, despite

healthcare providers' understanding of sterile equipment importance and WHO guidelines.

CONCLUSION

In conclusion, this study reinforces that knowledge and positive attitudes alone do not guarantee consistent safe injection practices. The findings reveal that while nurses at the University of Ilorin Teaching Hospital (UIITH) demonstrate strong knowledge base and positive attitudes toward injection safety, practice gaps persist, particularly in hand hygiene and auto-disable syringe usage. Specifically, while 90% of nurses consistently used sterile needles and 85% properly disposed of needles in sharps containers, only 70% practiced regular hand hygiene, and 60% utilized auto-disable syringes. These findings align with Talaat et al. (2006), who emphasized that institutional support, regular training, and adequate resources are crucial for ensuring compliance with WHO guidelines and enhancing patient safety. Similarly, Reeler (2000) identified a significant disconnect between knowledge and practice in healthcare facilities across sub-Saharan Africa, where structural challenges such as irregular supply chains and limited training access often undermined injection safety standards. The current study reflects these challenges, suggesting that while UIITH nurses are knowledgeable and motivated, full compliance requires sustained efforts to address practical barriers.

NURSING IMPLICATIONS

Continuous Education and Training: Ongoing education and training are crucial for ensuring nurses remain knowledgeable about current injection safety practices. Regular workshops, seminars, and training sessions should be implemented to update nurses on the latest guidelines and practices.

Resource Allocation: Hospitals must ensure adequate resources are available to support safe injection practices. This includes sufficient supplies of sterile needles, auto-

disable syringes, and proper disposal containers. Addressing resource limitations can help minimize lapses in safety practices.

Monitoring and Evaluation: Regular monitoring and evaluation of injection practices should be conducted to maintain high safety standards. This can include routine audits, feedback mechanisms, and corrective actions to address identified issues.

Culture of Safety: Promoting a culture of safety within healthcare settings is vital. This involves fostering an environment where safety is prioritized, and all staff members are encouraged to adhere to safety protocols consistently.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are encourage to improve injection safety practices among nurses at UITH:

Continuous Education and Training: Hospitals should implement regular training sessions and workshops for nurses on injection safety protocols, with an emphasis on hand hygiene, the use of auto-disable syringes, and other WHO-recommended practices. Refresher courses should be provided periodically to ensure that nurses remain up-to-date with the latest safety standards.

Provision of Adequate Resources: Ensuring that healthcare facilities are consistently stocked with essential resources, including auto-disable syringes, sharps disposal containers, and personal protective equipment (PPE), is critical. Government and hospital administrators should prioritize budget allocations for these materials to prevent shortages that can lead to unsafe practices.

Regular Monitoring and Supervision: Healthcare institutions should establish a robust system of monitoring and evaluation to ensure adherence to injection safety protocols. Routine audits of injection practices, alongside feedback mechanisms, would help identify areas for improvement and reinforce compliance.

Addressing Workload Issues: Workload pressures were cited as a major cause of lapses in safety practices. To mitigate this, hospitals should consider adjusting nurse-to-patient ratios and ensuring that nursing staff are not overburdened. Hiring more nurses or redistributing workload can help reduce the risk of unsafe practices due to fatigue or time constraints.

Promoting Behavioural Change: In addition to addressing systemic issues, behavioral change strategies should be employed to encourage nurses to prioritize safety over convenience. Campaigns and initiatives aimed at fostering a culture of safety, where adherence to protocols is consistently reinforced, can help shift attitudes and practices towards more sustainable compliance with safety guidelines.

Increased Use of Auto-Disable Syringes: Given the lower rates of auto-disable syringe use identified in the study, the hospital should prioritize increasing access to these safer alternatives. Nurses should receive specific training on the benefits of auto-disable syringes in preventing cross-contamination and the spread of blood borne pathogens.

By implementing these recommendations, UITH and other healthcare facilities in similar Settings can significantly improve their injection safety practices, thereby reducing the incidence of healthcare-associated infections and protecting both healthcare workers and patients from the risks of unsafe injections.

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