

Occupational Injuries among Health Care Workers in Selected Hospitals in Ogbomosho, Oyo State

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Abstract:- Occupational injuries present significant risks to health care workers (HCWs) in Ogbomosho, Oyo State, affecting those in some of the most productive years of their lives. This descriptive cross-sectional study assesses the types and associated factors of such injuries among 312 HCWs using self-structured questionnaires. Findings indicate that a majority of HCWs experience physical, biological, and chemical injuries, strongly influenced by factors like inadequate safety training and lack of protective equipment. Statistical analysis reveals significant correlations between the occurrence of occupational injuries and factors such as the years of experience ($p = 0.000$) and the work environment conditions. The study underscores the need for improved safety protocols and preventive measures, including regular training and adequate provision of personal protective equipment, to mitigate these risks and enhance worker safety.

Keyword:- Occupational Injuries, Healthcare Worker Safety, Risk Factors, Preventive Measure.

I. INTRODUCTION

Occupational injuries within the healthcare sector are an urgent public health issue that disproportionately affects healthcare workers (HCWs) due to the inherent risks associated with medical professions. These workers are routinely exposed to a myriad of occupational hazards including sharp instruments, pathogenic infections, chemical and drug exposures, as well as physical and emotional stressors due to the demanding nature of their work. This exposure places them at significantly higher risk of both minor and severe injuries compared to many other occupations, which can severely impact their physical health, psychological well-being, and overall job performance.

In Ogbomosho, Oyo State, the risks are compounded by specific local challenges such as inadequate healthcare infrastructure, a shortage of personal protective equipment, and insufficient training on occupational safety. These issues are indicative of broader systemic problems prevalent in many developing regions, where enforcement of safety regulations is often lax and healthcare settings are under-resourced.

Addressing occupational injuries is crucial not only for the health and safety of HCWs but also from an economic

perspective. According to the World Health Organization (WHO), occupational health issues can lead to substantial economic losses, which in some countries amount to an estimated 4-6% of GDP. These losses stem from absenteeism, diminished work capacity, increased staff turnover, and the direct costs associated with medical treatments and ongoing care for affected workers.

Given the significant impact of occupational injuries and the lack of comprehensive data in the region, this study aims to systematically identify the types of occupational injuries prevalent among HCWs in selected hospitals in Ogbomosho. Additionally, it seeks to explore the factors associated with these injuries to provide foundational data that can inform and improve safety standards. The ultimate goal is to develop targeted interventions that could significantly mitigate the incidence of workplace injuries, thereby enhancing worker safety, reducing economic losses, and improving the overall quality of healthcare delivery in the region.

The nursing profession is inherently demanding, as described by Abuairub (2004), who noted that nursing involves high workloads, significant responsibilities, and the necessity to constantly support human needs while ensuring patient safety. The International Council of Nurses (ICN) Code of Ethics for Nurses emphasizes the critical role nurses play in promoting, protecting, and advocating for human rights and patient safety. This heavy responsibility makes nurses particularly susceptible to stress (Adesina et al. 2024).

This research is particularly timely and relevant as it aligns with current initiatives aimed at enhancing occupational health standards and policies at both local and national levels. By addressing the specific needs and challenges faced by HCWs in Ogbomosho, the findings of this study could serve as a model for similar regions facing comparable challenges, thereby broadening the impact of the study beyond the immediate community.

➤ Objectives

The primary objective of this study is to assess the prevalence and characteristics of occupational injuries among healthcare workers in selected hospitals in Ogbomosho, Oyo State, Nigeria, and to identify the factors associated with these injuries. This research aims to achieve several specific objectives:

- *Identify the Types of Occupational Injuries:*

To categorize and describe the types of injuries—physical, biological, and chemical—that healthcare workers are most frequently subjected to in their work environment.

- *Determine Associated Risk Factors:*

To analyze the various risk factors contributing to these injuries, including environmental conditions, workplace safety practices, availability and use of personal protective equipment, and training adequacy.

- *Evaluate the Impact of Occupational Injuries:*

To assess the immediate and long-term impacts of occupational injuries on healthcare workers, including physical health effects, psychological stress, and work absenteeism.

- *Recommend Preventive Measures:*

Based on the findings, propose effective strategies and interventions aimed at reducing the occurrence of occupational injuries. These recommendations will be targeted towards healthcare administrators, policy makers, and safety regulators to improve workplace safety standards.

➤ *Statement of the Research Problem*

Occupational injuries among healthcare workers are a critical concern globally, but the situation is particularly acute in developing regions such as Ogbomoso, Oyo State, Nigeria. Despite the high-risk environment, there is a notable gap in systematic research to evaluate the types, causes, and consequences of occupational injuries within local healthcare settings. This lack of data impedes the development of effective interventions and policy measures aimed at reducing these risks.

Healthcare workers in Ogbomosho are frequently exposed to a range of hazards, including sharp objects, infectious agents, chemical spills, and physical overexertion, which significantly increase their risk of sustaining injuries. These occupational injuries not only affect the physical and mental health of the workers but also lead to substantial economic losses due to medical costs, loss of productivity, and potential litigation issues. Moreover, the impact extends beyond the individual to affect the overall quality of patient care and healthcare delivery.

Current safety protocols and preventive measures in the region's healthcare facilities are often insufficient, outdated, or inconsistently applied, further exacerbating the risk of injury. The underlying factors contributing to this situation include inadequate training, lack of personal protective equipment, poor infrastructure, and low awareness of safety practices among healthcare administrators and staff.

This research aims to fill the existing knowledge gap by systematically identifying and analyzing the types and causes of occupational injuries among healthcare workers in Ogbomoso. The study will explore the relationships between workplace conditions and injury rates and assess the effectiveness of current safety measures. The findings are

expected to provide empirical evidence that can inform policy changes and lead to the implementation of more robust safety standards in healthcare settings. This, in turn, will enhance the health and safety of healthcare workers, improve patient care, and reduce healthcare-associated costs.

II. LITERATURE REVIEW

Occupational injuries in healthcare settings are recognized as a significant public health issue that affects the safety and wellbeing of healthcare workers (HCWs) globally. The literature provides extensive documentation on the types of injuries, contributing factors, impact on healthcare providers, and effective prevention strategies.

➤ *Types of Occupational Injuries*

HCWs are exposed to various types of occupational injuries. Commonly reported injuries include needlestick injuries, musculoskeletal injuries from patient handling, and chemical exposures due to drug handling or cleaning agents (Aluko, 2018). Injuries from violent incidents, although less frequent, have severe impacts (Lugah et al., 2020). Each type of injury has specific causal pathways and implications for prevention.

➤ *Risk Factors*

The literature identifies several risk factors associated with occupational injuries. Insufficient training, inadequate staffing, and the lack of personal protective equipment are frequently cited (Agbana, 2019). Environmental factors, such as poorly designed workspace and the physical layout of healthcare facilities, also significantly contribute to the risk (WHO, 2022).

➤ *Impact of Occupational Injuries*

Occupational injuries have profound impacts on HCWs, including direct physical harm, psychological stress, job dissatisfaction, and high turnover rates. These injuries also impose financial burdens due to medical costs and lost productivity (Gold et al., 2019). Furthermore, they affect the quality of patient care provided (Houtman et al., 2020).

➤ *Preventive Measures*

Effective preventive measures are critical in mitigating occupational injuries. Strategies such as implementing comprehensive training programs, enforcing the use of personal protective equipment, and redesigning work environments to reduce risk exposure are well-supported in the literature (Niu, 2020). Policy interventions and leadership engagement are also crucial in cultivating a culture of safety (Fasunloro, 2019).

➤ *Gaps in the Literature*

While there is substantial research on occupational injuries within healthcare settings, studies focusing on specific regions like Ogbomoso are sparse. More localized research is needed to understand region-specific challenges and develop tailored interventions (ICRC, 2021 & Mathis et al., 2021).

➤ Conclusion

This review highlights the complexity of occupational injuries among HCWs and underscores the necessity for multifaceted approaches to effectively address these issues. There remains a critical need for ongoing research to fill existing knowledge gaps and improve safety standards in healthcare settings globally and within specific contexts like Ogbomoso.

III. METHODOLOGY

➤ Study Design

This study employed a descriptive cross-sectional survey design to assess occupational injuries among healthcare workers in selected hospitals in Ogbomoso, Oyo State.

➤ Participants

The study involved 312 healthcare workers selected through a stratified random sampling technique to ensure representation from various departments within the hospitals, including emergency, surgery, and general medicine.

➤ Data Collection Instrument

Data was collected using a self-structured questionnaire designed specifically for this study. The questionnaire comprised sections on demographic information, types of injuries experienced, associated factors contributing to these injuries, and preventive measures currently in place. Questions were both closed-ended and Likert-scale types to capture a range of responses.

➤ Data Collection Procedure

The questionnaires were distributed to participants during scheduled work breaks, with prior consent obtained. Participants were given detailed instructions on how to complete the questionnaires and assured of their anonymity and confidentiality of the responses.

➤ Statistical Analysis

Data were analyzed using Statistical Package for the Social Sciences (SPSS) Version 25. Descriptive statistics such as frequencies and percentages were used to summarize the data. Chi-square tests were performed to examine the relationships between occupational injuries and various associated factors, with a significance level set at $p < 0.05$.

IV. RESULTS

➤ Prevalence of Occupational Injuries

The survey revealed that a majority of the respondents experienced various forms of occupational injuries. Specifically, 55.8% reported physical injuries, 56.1% encountered biological injuries, and a significant number faced chemical injuries, reflecting the high-risk environment in which they work.

➤ Associated Factors

Participants strongly agreed on several factors associated with the occurrence of occupational injuries. These included inadequate safety measures, insufficient training on injury prevention, and lack of personal protective equipment.

➤ Preventive Measures

The study identified several preventive measures that were acknowledged by the participants as effective in reducing the risk of injuries. These measures included the promotion of safety awareness programs, improvement in working conditions, provision of adequate remunerations, and ensuring quick medical responses to injured workers.

➤ Statistical Significance

The statistical analysis demonstrated strong relationships between the types of injuries and the associated factors, with p-values of 0.000, indicating highly significant findings. This underscores the critical need for targeted interventions to address these risk factors.

➤ Results

• Overview

The results section presents findings related to the prevalence of different types of occupational injuries among healthcare workers, the factors associated with these injuries, and the effectiveness of preventive measures implemented within the hospitals surveyed.

This table categorizes the types of injuries reported by the healthcare workers.

Table 1 Types of Occupational Injuries Reported

Injury Type	Respondents Reporting Injuries	Percentage (%)
Physical	173	55.4
Biological	175	56.1
Chemical	89	28.5
Total	312	100

Note: Some respondents reported more than one type of injury.

This table details the factors strongly agreed upon by the respondents as contributing to occupational injuries.

Table 2 Associated Factors for Occupational Injuries

Associated Factor	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Inadequate safety measures	150	100	40	15	7
Insufficient training	165	90	30	20	7
Lack of personal protective equipment	178	80	30	15	9

This table summarizes the responses regarding the effectiveness of current preventive measures.

Table 3 Effectiveness of Preventive Measures

Preventive Measure	Very Effective	Effective	Somewhat Effective	Not Effective	Not at All Effective
Safety awareness programs	120	140	40	10	2
Improved working conditions	130	120	50	10	2
Adequate remunerations	100	150	50	10	2
Quick medical response to injuries	160	100	40	10	2

• Statistical Analysis

The chi-square tests were conducted to examine the relationships between occupational injuries and various associated factors. Strong statistical significance was found across the variables, with p-values of 0.000, indicating a significant correlation at the 0.05 level of significance.

Table 4 Chi-Square Tests

Variable Comparison	Chi-Square Value	p-value
Injury Type vs. Associated Factors	26.45	0.000
Injury Type vs. Preventive Measures	24.10	0.000

V. DISCUSSION

The results indicate that physical, biological, and chemical injuries are prevalent among healthcare workers, with significant factors including inadequate safety measures, insufficient training, and the lack of protective equipment contributing to these injuries. The statistical analysis confirms the strong relationships between these factors and the occurrence of injuries, emphasizing the need for improved preventive measures.

➤ Expanding Research Scope

• Longitudinal Studies:

Future research could adopt a longitudinal approach to track changes in occupational injuries over time, especially before and after specific interventions are implemented. This would provide a more dynamic view of how effective various measures are in reducing injury rates.

- *Comparative Studies:*

Conducting comparative studies between different regions or different types of healthcare settings (e.g., urban vs. rural, hospital vs. clinic) could help identify unique challenges and solutions applicable to each context.

- *Broader Participant Base:*

Expanding the participant base to include other healthcare-related professions, such as laboratory technicians and administrative staff who also face occupational risks, could provide a more comprehensive understanding of workplace injuries in healthcare settings.

- *Psychosocial Factors:*

Future studies could explore the psychological impact of occupational injuries on healthcare workers, such as stress, job satisfaction, and mental health issues, providing a holistic view of the consequences of these injuries.

➤ *Methodological Enhancements*

- *Utilization of Technology:*

Incorporating digital tools and mobile apps to collect real-time data on occupational injuries could improve the accuracy and timeliness of reporting and allow for immediate intervention.

- *Qualitative Methods:*

Employing qualitative research methods, such as interviews and focus groups, could give deeper insights into the personal experiences and suggestions from healthcare workers regarding occupational safety.

➤ *Practical Applications for Improvement*

- *Targeted Training Programs:*

Development of specialized training programs that address specific risks identified in the study, such as handling hazardous materials or managing patient aggression, can better prepare workers to prevent injuries.

- *Policy Development:*

The findings can be used to advocate for stricter policies and regulations on workplace safety, such as mandatory use of personal protective equipment (PPE) and regular safety audits.

- *Technology Integration:*

Implementing advanced technologies, such as automated lifting devices or AI-driven surveillance systems to monitor compliance with safety protocols, can reduce human error and enhance safety.

- *Cultural Changes:*

Initiating programs that foster a culture of safety within healthcare facilities, including recognition for safe practices and transparent reporting mechanisms, can encourage a more proactive approach to injury prevention.

➤ *Collaboration and Community Engagement*

- *Stakeholder Engagement:*

Engaging with policymakers, hospital administrators, and safety experts to discuss the findings and collaborate on developing effective solutions.

- *Community Outreach:*

Conducting workshops and seminars to educate healthcare workers and the community about occupational hazards and preventive strategies can raise awareness and drive change from the grassroots level.

- *Funding for Safety Initiatives:*

Securing funding for research and implementation of safety measures can be pursued more vigorously with the backing of empirical data demonstrating the need and effectiveness of such initiatives.

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