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The Impact of Conflict on Healthcare Access in Pastoralist Communities: A Case Study of Bokos Local Government Area, Plateau State

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CERTIFICATION

- *This is to Certify that the Research Titled:*

"The Impact of Conflict on Healthcare Access in Pastoralist Communities: A Case Study of Bokos Local Government, Plateau State" was carried out by Maryam Yusuf Bayero, with Matriculation Number U2DLNS20809, under my supervision in partial fulfillment of the requirements for the award of a degree in Nursing Science at Ahmadu Bello University, Zaria.

This work is original and has not been submitted elsewhere for the award of any degree or diploma. It meets the standards and guidelines set by the Department of Nursing Science and reflects the candidate's independent effort, guided by academic supervision.

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DEDICATION

I dedicate this research to the resilient pastoralist communities of Bokos Local Government Area, whose strength and perseverance in the face of adversity inspired every page of this work. To the mothers who continue to nurture life amidst conflict, the children who deserve a future free from fear and disease, and the healthcare workers who serve with courage and compassion despite overwhelming challenges — this study is for you.

I also dedicate this work to my beloved family, whose unwavering support, prayers, and encouragement sustained me throughout this journey. May this research contribute meaningfully to the improvement of healthcare access and the promotion of peace in conflict-affected communities across Nigeria and beyond.

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I am especially thankful to the pastoralist communities of Bokos LGA for their openness and courage in sharing their experiences. I appreciate the **94 participants—74 community members and 20 healthcare workers—**whose contributions made this study possible. Special thanks to healthcare providers including Mfulul Christiana Bala, Khalifa Abdullahi Saleh, Ibrahim, Munkaillu, and Banghas Rejoice, among others.

I acknowledge the efforts of the research assistants, traditional and religious leaders, and community facilitators who ensured smooth and culturally sensitive engagement. In particular, I deeply appreciate Uzaifa Shuaibu Abdullahi for his exceptional support in mobilizing community members and serving as a dedicated research assistant throughout this work. I am also grateful to my family for their unwavering support and to my colleagues and friends for their encouragement and feedback.

Thanks to the pilot study participants in Barkin Ladi LGA, and to the Department of Nursing Science, Ahmadu Bello University Zaria, for providing the academic environment and resources for this research.

Finally, I appreciate all unnamed individuals who contributed in various ways. This work is dedicated to the resilient families in Bokos LGA and similar communities striving for better healthcare amidst conflict, and to all who supported this journey, including Uzaifa Shuaibu Abdullahi, whose efforts strengthened the success of this study.

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ABSTRACT

➢ ***Background:***

Pastoralist communities in conflict-affected regions face significant barriers to healthcare access due to persistent insecurity, infrastructure destruction, and displacement. This study examined the impact of conflict on healthcare accessibility, outcomes, and delivery systems among pastoralist communities in Bokos Local Government Area (LGA), Plateau State, Nigeria.

➢ ***Objective:***

To assess the multifaceted impact of conflict on healthcare access in pastoralist communities, focusing on healthcare accessibility, health outcomes (maternal and child health, vaccination coverage, chronic disease management), healthcare delivery system disruptions, and community coping mechanisms.

➢ ***Methods:***

A mixed-methods concurrent triangulation design was employed. The study included 94 participants: 50 pastoralist community members through Google Forms questionnaires, 24 through Focus Group Discussions (FGDs), and 20 healthcare workers through Key Informant Interviews (KIIs). Participants were selected through purposive sampling with snowball technique for communities and purposive sampling for healthcare workers. Data were analyzed using Microsoft Excel for quantitative data with descriptive statistics, and thematic analysis for qualitative data.

➢ ***Results:***

All participants (100%) had experienced conflict, with religious conflicts (79.7%) and farmer-herder conflicts (70.3%) being most prevalent. Fear of traveling due to insecurity was the primary barrier to healthcare access (90.5%). Healthcare facility utilization shifted from government hospitals (70.3% before conflict vs. 50.0% during/after conflict) to increased reliance on traditional healers (29.7% vs. 70.3%) and self-medication (20.3% vs. 79.7%). Maternal health outcomes were severely affected, with only 28.8% of women completing recommended antenatal care visits and 42.3% experiencing delivery complications. Child vaccination coverage was critically low, with only 20.3% fully vaccinated and 62.7% partially vaccinated. Chronic disease management was severely disrupted, affecting 59.5% of households. Healthcare system disruptions included 90.0% healthcare worker displacement, facility closures, and severe medical supply shortages (rated 8.2/10). Communities adopted various coping strategies including increased traditional medicine use (79.7%), self-medication (70.3%), and mobile phone consultations (40.5%). Healthcare workers implemented adaptive strategies including mobile clinics, community partnerships, and "hit-and-run" vaccination campaigns.

➢ ***Conclusion:***

Conflict has severely compromised healthcare access for pastoralist communities in Bokos LGA, resulting in poor health outcomes and increased reliance on informal healthcare sources. While communities and healthcare workers have developed adaptive strategies, these are insufficient to meet healthcare needs. The study validates the Frustration-Aggression Theory's application to understanding how systemic exclusion contributes to cycles of conflict that further undermine healthcare access. Urgent interventions are needed including conflict-sensitive health policies, mobile health services expansion, technology-enabled solutions, and addressing root causes of conflict.

Keywords: *Conflict, Healthcare Access, Pastoralist Communities, Maternal Health, Vaccination Coverage, Chronic Disease Management, Nigeria, Bokos LGA.*

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ABBREVIATIONS AND THEIR MEANINGS

Abbreviation	Meaning
LGA	Local Government Area
FGD(s)	Focus Group Discussion(s)
KII(s)	Key Informant Interview(s)
SWT	Subhanahuwata'ala (Glorified and Exalted is He)
CEO	Chief Executive Officer
ANC	Antenatal Care
MCH	Maternal and Child Health
NGO	Non-Governmental Organization
SAM	Severe Acute Malnutrition
IHCP(s)	Informal Healthcare Provider(s)
ACLED	Armed Conflict Location and Event Data
NDHS	Nigerian Demographic and Health Survey
LMIC(s)	Low- and Middle-Income Country(ies)
GPS	Global Positioning System
WHO	World Health Organization
OTC	Over-the-Counter (drugs)

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CHAPTER ONE
INTRODUCTION

- *Introduction*

This chapter introduces the study on the impact of conflict on healthcare access in pastoralist communities in Bokos Local Government Area (LGA), Plateau State, Nigeria. The chapter provides a comprehensive overview of the study by presenting the background, the statement of the problem, research objectives, research questions, significance, scope, and operational definitions of terms used in the study. The chapter sets the stage for a deeper understanding of the issues affecting healthcare access in conflict-prone areas and presents the context in which the research is situated.

- *Background of the Study*

Pastoralist communities in Nigeria, particularly in conflict-prone regions like Bokos Local Government Area (LGA) in Plateau State, face significant barriers to healthcare access due to persistent insecurity. These communities, often located in remote and underserved areas, are disproportionately affected by violent conflicts, which disrupt healthcare infrastructure, displace populations, and exacerbate existing health disparities. The intersection of conflict and healthcare in such fragile settings has become a critical area of concern for public health and humanitarian actors (Adepoju et al., 2022).

Recent studies underscore that armed conflict severely undermines the accessibility and quality of healthcare services in Nigeria. In conflict-affected regions, health facilities are frequently targeted or rendered non-functional due to insecurity, leading to reduced physical access to care, especially for vulnerable groups such as women, children, and the elderly (Adepoju et al., 2022). The displacement of healthcare workers and the destruction of infrastructure further compound these challenges, leaving communities without essential medical services.

In pastoralist settings, the impact is even more pronounced due to the mobile nature of these populations and their reliance on seasonal migration. Conflict often forces sedentarization, disrupting traditional livelihoods and increasing exposure to health risks without corresponding improvements in healthcare infrastructure (Ibrahim & Yusuf, 2023). Moreover, maternal and child health outcomes are particularly vulnerable in these contexts. Disruptions in antenatal care, immunization programs, and chronic disease management have been documented, with conflict intensity correlating with poorer health indicators (Ibrahim & Yusuf, 2023).

The healthcare delivery system in Nigeria is already strained by underfunding, inadequate personnel, and logistical challenges. In conflict zones, these systemic weaknesses are magnified. Faith-based and humanitarian organizations have stepped in to fill some of the gaps, but their reach is limited and often constrained by security concerns (Okonkwo et al., 2023). The breakdown of supply chains and the scarcity of medical supplies further hinder effective healthcare delivery.

Innovative approaches, such as telemedicine and mobile health units, are being explored as potential solutions to bridge the healthcare gap in conflict-affected pastoralist communities. These technologies offer promise in extending care to remote areas, but their implementation is still in nascent stages and faces infrastructural and cultural barriers (Adepoju et al., 2022).

Understanding the specific dynamics in Bokos LGA is essential for designing context-sensitive interventions. The region has experienced recurrent violence linked to farmer-herder conflicts, which not only displace populations but also alter land use patterns and access to natural resources. These environmental and socio-economic shifts contribute to heightened health vulnerabilities, necessitating a multi-dimensional approach to healthcare planning and delivery.

- *Statement of the Problem*

Pastoralist communities in Bokos Local Government Area (LGA) of Plateau State, Nigeria, are increasingly facing critical barriers to healthcare access due to persistent ethno-religious conflict. These violent clashes have led to the destruction of healthcare infrastructure, displacement of healthcare personnel, and a significant reduction in the availability of essential medical services. Vulnerable populations—particularly women, children, and the elderly—are disproportionately affected, often unable to seek timely and adequate care due to insecurity and displacement (World Health Organization [WHO], 2025).

The consequences of these disruptions are reflected in deteriorating healthcare outcomes, including reduced maternal and child health services, declining vaccination coverage, and poor management of chronic diseases. Despite the severity of these issues, there is a notable lack of empirical research specifically focused on how conflict affects healthcare accessibility and outcomes in pastoralist communities within Bokos LGA (WHO, 2025).

Furthermore, the conflict has strained the healthcare delivery system, exacerbating existing vulnerabilities through environmental degradation, forced sedentarization, and socio-economic instability. These factors further marginalize pastoralist populations, who already face systemic barriers to healthcare access due to their mobility, geographic isolation, and limited infrastructure.

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In response, affected communities have begun to adopt coping mechanisms, such as reliance on traditional healers and informal health networks. However, the effectiveness and sustainability of these strategies remain underexplored. There is also growing interest in innovative solutions like telemedicine, yet their feasibility in conflict-affected, low-resource pastoralist settings is not well understood (WHO, 2025).

This study aims to fill these knowledge gaps by evaluating the multifaceted impact of conflict on healthcare access, outcomes, and delivery systems in Bokos LGA, while also exploring community resilience and the potential of technology-driven interventions to improve healthcare accessibility in pastoralist settings.

➢ *Objectives of the Study*

- To examine the impact of conflict on healthcare accessibility in pastoralist communities within Bokos LGA, Plateau State.
- To assess the effects of conflict on healthcare outcomes, focusing on maternal and child health, vaccination coverage, and chronic disease management.
- To determine the disruption of healthcare delivery systems due to conflict, including infrastructure damage, healthcare worker displacement, and medical supply shortages.
- To identify coping mechanisms and evaluate innovative solutions, such as telemedicine, for improving healthcare access in conflict-affected pastoralist settings.

➢ *Research Questions*

- Does conflict influence access to healthcare services in pastoralist communities within Bokos LGA?
- What are the specific effects of conflict on maternal and child health, vaccination coverage, and chronic disease management in these communities?
- How has conflict disrupted healthcare delivery systems, including infrastructure, workforce, and medical supply chains?
- What coping mechanisms and technological innovations (e.g., telemedicine) are being used or could be adopted to improve healthcare access in conflict-affected pastoralist areas?

➢ *Significance of the Study*

This study is significant for several reasons, particularly in the context of ongoing conflict and marginalization of pastoralist communities in Nigeria. First, it contributes to the limited body of empirical research on how violent conflict affects healthcare access in mobile and semi-mobile populations, such as the Fulani pastoralists in Bokos LGA. These communities often reside in remote areas with limited infrastructure, making them especially vulnerable to disruptions in healthcare delivery during periods of insecurity (Okello, 2014).

Second, the study provides critical insights into the healthcare disparities experienced by pastoralist populations, especially in relation to maternal and child health, vaccination coverage, and chronic disease management. By highlighting these disparities, the research can inform targeted interventions by government agencies, NGOs, and international health organizations aiming to improve health equity in conflict-affected regions.

Third, the findings will be valuable for policy formulation and humanitarian planning, particularly in designing conflict-sensitive healthcare systems that are resilient to shocks. Understanding how conflict displaces healthcare workers, damages infrastructure, and disrupts supply chains can help stakeholders develop more robust contingency plans and mobile health strategies.

Finally, the study explores innovative and community-driven coping mechanisms, such as the use of telemedicine and traditional health networks. These insights can guide the development of scalable, culturally appropriate solutions that enhance healthcare access in similar conflict-prone pastoralist settings across sub-Saharan Africa.

In sum, this research not only fills a critical knowledge gap but also offers practical recommendations for improving healthcare delivery in fragile and underserved environments.

➢ *Scope of the Study*

This study is focused on evaluating the impact of conflict on healthcare accessibility in pastoralist communities within Bokos Local Government Area (LGA) of Plateau State, Nigeria. The research specifically targets the period spanning the last two decades, a time marked by recurrent communal clashes, land disputes, and insurgency-related violence that have significantly disrupted social services in the region (Awogbade, 1983).

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- *The Study will Explore how Conflict has Affected:*

- Physical access to healthcare facilities, particularly in remote pastoralist settlements.
- Availability and continuity of healthcare services, including maternal and child health, vaccination programs, and chronic disease management.
- Healthcare infrastructure, such as the destruction of clinics, displacement of healthcare workers, and shortages of essential medical supplies.
- Community resilience and coping mechanisms, including the use of traditional medicine, mobile clinics, and emerging innovations like telemedicine.

The research will be limited to health-related impacts of conflict and will not delve into broader socio-political or economic consequences. It will also exclude non-pastoralist populations within the LGA to maintain a focused analysis on the unique vulnerabilities of nomadic and semi-nomadic groups. This scope ensures a targeted investigation into the intersection of conflict, mobility, and healthcare delivery in a marginalized and often overlooked population segment (JSTOR, 2023).

➢ *Operational Definition of Terms*

- Conflict: A serious disagreement or argument, typically a protracted one. In the context of this study, it refers to the ethno-religious clashes and violence that have occurred in Bokos Local Government Area (LGA), Plateau State, Nigeria, leading to social, economic, and infrastructural disruptions (Jawad et al., 2021).
- Healthcare Access: The ability of individuals to obtain needed medical services. This includes factors such as geographic proximity to healthcare facilities, availability of services, affordability, and cultural acceptability (Ahmed et al., 2021).
- Pastoralist Communities: Groups whose livelihoods are primarily based on the rearing of livestock. In this study, it refers to the nomadic and semi-nomadic groups in Bokos LGA who depend on animal husbandry for their sustenance and cultural identity (Kassah et al., 2022).
- Maternal and Child Health (MCH): The healthcare provided to women during pregnancy, childbirth, and the postpartum period, as well as to children, especially those under five years old. It encompasses services aimed at improving the health of mothers and their children (Jawad et al., 2021).
- Vaccination Coverage: The percentage of individuals in a target population who have received specific vaccines within a specified period. High vaccination coverage is crucial for preventing infectious diseases, particularly among vulnerable populations like children (World Health Organization, 2016).
- Chronic Diseases: Long-lasting conditions that can be controlled but not cured. Examples include diabetes, hypertension, and asthma. These diseases often require ongoing medical attention and management (Ahmed et al., 2021).
- Coping Strategies: The methods and approaches that individuals or communities employ to handle stress, adversity, or difficult situations. In the context of this study, it refers to the approaches used by pastoralist communities in Bokos LGA to access healthcare services during periods of conflict (Kassah et al., 2022).

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CHAPTER TWO
LITERATURE REVIEW

➢ *Introduction*

This chapter presents a comprehensive review of existing literature relevant to the topic "The Impact of Conflict on Healthcare Access in Pastoralist Communities: A Case Study of Bokos Local Government, Plateau State, Nigeria." Given the complexities surrounding healthcare access in conflict-affected regions, particularly within pastoralist communities, this chapter explores various conceptual, empirical, and theoretical perspectives. The chapter will cover these reviews tailored to the study's focus, providing a detailed examination where necessary.

The study examines the impact of conflict on healthcare access, exploring the effects on healthcare outcomes such as maternal and child health, vaccination coverage, and the treatment of chronic diseases, while also investigating the coping strategies and technology innovation employed by pastoralist communities during periods of conflict. Understanding these dimensions is crucial to providing a contextual backdrop for the research and the issues at hand.

By discussing the concepts of conflict, healthcare access, and pastoralist communities, and by examining empirical studies related to the impact of conflict on healthcare outcomes, the chapter aims to establish a clear understanding of the key elements that shape healthcare access in conflict settings. Additionally, relevant theories are explored to offer a framework for understanding the dynamics between conflict and healthcare accessibility. This chapter, through its review of conceptual, empirical, and theoretical perspectives, will provide the foundational knowledge necessary to investigate the specific case of Bokos Local Government and its unique challenges in accessing healthcare during and post-conflict.

➢ *Conceptual Review*

- *Conflict and Healthcare Access in Pastoralist Communities*

Conflict significantly disrupts healthcare systems, particularly in rural and pastoralist settings where access is already limited. Insecurity often leads to the destruction of health infrastructure, displacement of healthcare workers, and restricted movement of both patients and providers (Adepoju, 2021). For pastoralist communities in Bokos LGA, these disruptions are compounded by geographic isolation and mobility patterns that make consistent healthcare delivery difficult. The result is a sharp decline in access to essential services such as emergency care, maternal health, and chronic disease management (Okonkwo & Ibrahim, 2022).

- *Conflict and Maternal and Child Health*

Maternal and child health (MCH) is especially vulnerable during conflict. Pregnant women and children face increased risks due to the breakdown of antenatal care, skilled birth attendance, and immunization programs (Eze & Musa, 2023). In pastoralist communities, where traditional birth practices are common, the absence of trained professionals during conflict exacerbates maternal and infant mortality. In Bokos LGA, the compounded effects of displacement, insecurity, and infrastructure damage have led to a decline in MCH indicators (Yusuf et al., 2021).

- *Conflict and Vaccination Coverage*

Vaccination programs are among the first health services to be disrupted during conflict. In pastoralist communities, where mobility already complicates routine immunization, conflict further isolates populations from healthcare providers. Displacement and insecurity prevent both families and health workers from participating in vaccination campaigns, leading to outbreaks of preventable diseases such as measles and polio (Chukwu & Bello, 2022).

- *Conflict and Chronic Disease Management*

Chronic diseases such as hypertension, diabetes, and asthma require consistent management, which becomes nearly impossible during conflict. In pastoralist communities, access to medications and specialized care is already limited. Conflict exacerbates these challenges by destroying health infrastructure and interrupting supply chains (Nwankwo & Salihu, 2023). In Bokos LGA, individuals with chronic conditions face increased risks of complications and mortality due to the lack of continuous care.

- *Coping Strategies and Innovative Solutions*

Despite these challenges, pastoralist communities often develop coping strategies to maintain access to healthcare. These include relying on traditional healers, mobile clinics, and community health workers. In Bokos LGA, informal networks and support from NGOs play a crucial role in delivering emergency care during conflict (Ibrahim & Okafor, 2024). However, these strategies are often insufficient for addressing complex health needs. Innovative solutions such as telemedicine and mobile health technologies offer promising alternatives, though their implementation in conflict zones remains limited by infrastructure and connectivity issues (Adebayo, 2023).

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- *Conceptual Framework*

The conceptual framework for this study illustrates the relationship between conflict and healthcare accessibility in pastoralist communities, particularly in Bokos Local Government Area. It identifies key variables such as conflict, healthcare infrastructure, maternal and child health, vaccination coverage, chronic disease management, and coping strategies. Conflict acts as the independent variable, influencing healthcare outcomes and access through direct and indirect pathways. The framework also highlights the role of community-based coping mechanisms and innovative solutions like telemedicine as moderating variables that can mitigate the negative effects of conflict.

- *Conceptual Framework Diagram:*

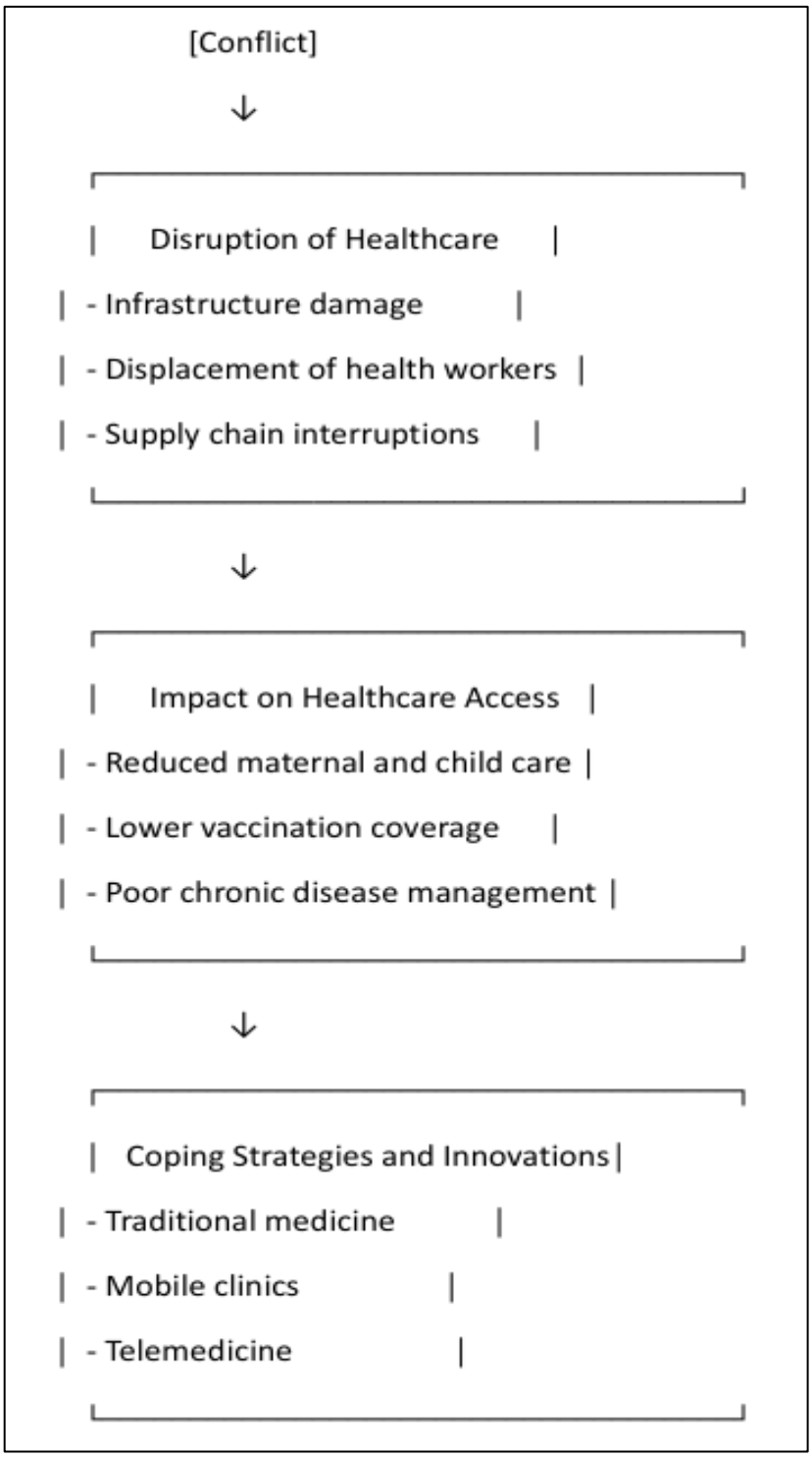

Fig 1 Conceptual Framework Diagram

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➢ *Empirical Review*

Ojeleke, Pavlova, and Bonuedi (2022) examined the effects of armed conflict on healthcare utilization in Northern Nigeria, focusing on the impact of the Boko Haram insurgency on maternal and child health services. Using a difference-in-differences analysis with data from the Armed Conflict Location and Event Data (ACLED) and the Nigerian Demographic and Health Survey (NDHS), the study found that living in conflict-prone areas significantly reduced the likelihood of utilizing healthcare services. Maternal care and child immunization were particularly affected, with rural residents and women facing the greatest barriers. The study concluded that protracted armed conflict adversely affects healthcare accessibility and utilization, leading to worsened health outcomes for women and children. The authors recommended implementing robust policies to improve access to maternal and child health services in conflict zones.

Wulfan, Dordah, and Sumankuuro (2022) conducted a scoping review to investigate the experiences of nomadic pastoralists in accessing reproductive and maternal healthcare services in low- and middle-income countries (LMICs). The study employed a mixed-methods approach, including qualitative and quantitative studies, and identified four key barriers to healthcare access: physical (geographic isolation), economic (poverty and poor service quality), political (discriminatory practices and lack of infrastructure), and socio-cultural (misconceptions, gender roles, and autonomy). The study concluded that nomadic pastoralists, particularly women, face significant challenges in accessing healthcare, often preferring traditional methods due to cultural preferences and limited availability of modern services. Recommendations included leveraging community structures, involving local leaders, and addressing cultural sensitivities to improve healthcare access.

Awojobi (2019) conducted a systematic review of the impact of conflict on health outcomes in Sub-Saharan Africa, including Nigeria. The study selected 12 peer-reviewed articles and reports that met inclusion criteria and found that conflict significantly negatively affects health outcomes, particularly child and maternal health and nutritional status. The review also highlighted the detrimental effects of conflict on healthcare utilization and mental health, with notable impacts on health facilities and services. The study concluded that children are the most affected demographic and recommended strengthening health systems and improving healthcare access in conflict zones.

Asah and Moses (2025) focused on the impact of armed conflict on healthcare delivery in Nigeria, particularly in violence-affected regions such as Daura, Katsina State. Using a scoping review methodology, they analyzed 59 studies to explore both direct and indirect effects of conflict on healthcare systems. Their findings revealed significant disruptions in healthcare access, quality, and availability, compounded by the destruction of infrastructure and the displacement of healthcare professionals. The review also noted the exacerbation of health issues such as mental health disorders, malnutrition, and poor maternal and child health outcomes. The authors emphasized the fragility of Nigeria's healthcare system and called for tailored interventions that consider the socio-cultural context of conflict-affected populations.

Gutema, Kaba, Birhanu, Diribi, and Elemo (2023) studied the impact of armed conflicts on public health infrastructure and services in Oromia, Ethiopia. The study used a combination of quantitative administrative records and qualitative analysis across 22 administrative zones, 11 of which hosted internally displaced persons (IDPs). The findings revealed extensive damage to over 1,000 public healthcare sites, including the destruction of ambulances and transport vehicles. The study also reported a significant rise in severe acute malnutrition (SAM) cases in conflict-affected areas. The authors concluded that armed conflicts severely undermine public health infrastructure, displace populations, and exacerbate health issues, particularly when combined with natural disasters like drought.

Das et al. (2024) explored interventions aimed at improving healthcare delivery by informal healthcare providers (IHCPs) in LMICs, focusing on Africa and Asia. The authors systematically reviewed 38 studies assessing the effectiveness of interventions such as educational programs, training, policy guidelines, and community-based strategies. The findings showed that multifaceted interventions, especially those involving training, improved healthcare practices, including knowledge, attitude, and case management. However, the improvements were inconsistent, and the certainty of the evidence was low. The study concluded that while some interventions showed promise, their effectiveness varied by context, and further research is needed to refine training programs and evaluate their long-term impact.

Daniels and Eriksson (2025) found that conflict intensity correlates with worsened health outcomes, especially in vulnerable populations and weak healthcare systems. Their study emphasized that the more intense and prolonged the conflict, the more severe the disruption to healthcare access and outcomes. This supports the broader understanding of how conflict exacerbates health vulnerabilities in pastoralist and rural settings.

➢ *Theoretical Review*

The Frustration-Aggression Theory, originally developed by Dollard et al. in 1939, posits that aggression is a direct result of frustration caused by blocked goals or unmet needs. This theory has been widely applied to understand the dynamics of conflict, particularly in settings where socio-economic deprivation and systemic exclusion are prevalent. In the context of pastoralist communities in Bokos Local Government Area, Plateau State, the theory provides a compelling lens through which to examine

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how restricted access to land, water, and healthcare services—often exacerbated by conflict—can lead to aggressive responses and further destabilization of health systems.

Recent scholarship has expanded and critiqued this theory in light of contemporary African conflicts. Etim and Ukpere (2023) deconstructed the Frustration-Aggression Theory by integrating Ted Gurr's concept of relative deprivation, arguing that frustration stemming from poor governance and exclusion from public goods in Nigeria does not always lead to direct violence. Instead, they identified the role of civil society organizations and social movements in channeling frustration into advocacy and non-violent resistance, suggesting that the theory needs to be reconstructed to include these moderating variables. This perspective is particularly relevant to pastoralist communities, where traditional leadership and community-based organizations often mediate conflict and advocate for improved access to services.

Supporting the original framework, Asomba and Ofodu (2024) applied the theory to explain violent clashes between nomadic pastoralists and sedentary farmers in Nigeria. They argued that the pastoralists' frustration over restricted grazing routes and diminishing resources leads to aggression, which manifests in violent conflict and the destruction of healthcare infrastructure. This aligns with the study's objective of evaluating how conflict impairs healthcare accessibility in Bokos LGA. Similarly, Chukwuma and Eze (2023) emphasized that the breakdown of traditional conflict resolution mechanisms and increasing marginalization of pastoralist groups contribute to cycles of aggression and retaliation, further undermining community health systems.

However, Kruglanski et al. (2023) offered a psychological reinterpretation of the theory, suggesting that aggression is not merely a reaction to frustration but a means of restoring personal significance and social identity. Their research proposed that individuals may resort to aggression when they perceive a loss of significance, especially in environments where alternative paths to recognition are blocked. This insight is particularly relevant in conflict-affected pastoralist settings, where systemic neglect and cultural marginalization may fuel a deeper psychological need for recognition and agency, manifesting in aggressive behaviors that disrupt healthcare access.

In contrast, Okoli and Atelhe (2022) critiqued the theory for its linear causality, arguing that it oversimplifies the complex socio-political and economic dynamics of conflict in Nigeria. They contended that factors such as political manipulation, elite interests, and historical grievances play a more significant role in fueling violence than individual frustration alone. This critique underscores the need for a multi-causal framework that incorporates structural and institutional variables when analyzing healthcare disruptions in conflict zones.

In summary, while the Frustration-Aggression Theory offers a foundational understanding of how unmet needs and systemic exclusion can lead to conflict and aggression, recent scholarly debates highlight the importance of contextualizing this theory within broader socio-political and psychological frameworks. Its application to pastoralist communities in Bokos LGA supports the study's objectives by linking conflict-induced frustration to healthcare inaccessibility, while also acknowledging the moderating roles of social movements, cultural identity, and governance structures.

- *Theoretical Model*

The theoretical model below illustrates the application of the Frustration-Aggression Theory to the study. It shows how systemic exclusion and resource deprivation lead to frustration, which may escalate into aggression and conflict, ultimately disrupting healthcare access. Moderating factors such as governance, civil society, and traditional institutions can influence this pathway.

Fig 2 Theoretical Model based on Frustration-Aggression Theory

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CHAPTER THREE
RESEARCH METHODOLOGY

➢ *Introduction*

This chapter outlines the research methodology employed to investigate "The Impact of Conflict on Healthcare Access in Pastoralist Communities: within Bokos Local Government, Plateau State, Nigeria." It provides a detailed description of the research design, study area, study population, sample size determination, sampling technique, instruments for data collection, and data analysis methods. Additionally, the chapter discusses the validity of the research instruments, the ethical considerations taken into account during the study, and the approach used to ensure the reliability and accuracy of the data.

➢ *Research Design*

- Research Approach: Mixed-methods (concurrent triangulation)
- Quantitative Component: Structured questionnaires administered through Google Forms with numerical ratings, percentages, and rankings.
- Qualitative Component: Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) for in-depth insights and experiences.

➢ *Study Area*

The research was conducted in Bokos Local Government Area (LGA), located in the central region of Plateau State, Nigeria. Bokos has experienced recurrent conflict, significantly affecting pastoralist communities who rely on livestock farming and seasonal migration. These communities face substantial barriers to accessing healthcare services due to insecurity, displacement, and infrastructural damage. The area's conflict dynamics and pastoralist lifestyle make it a critical setting for examining how violence and instability influence healthcare delivery and outcomes.

➢ *Study Population*

The study population comprised two key groups:

- *Target Populations:*

✓ Pastoralist Communities (Primary participants): Men and women from various households within pastoralist communities who have been directly or indirectly affected by conflict.
✓ Healthcare Workers (serving these communities): Nurses,Doctors, Nurses, Clinic Staff, and Community health workers operating in Bokos LGA.

Together, these groups offered a comprehensive perspective on the multifaceted impact of conflict on healthcare accessibility and effectiveness in pastoralist settings.

➢ *Sample Size Determination*

When the population size is unknown, a standard formula for determining sample size for an infinite population is used:

$n = (Z^2 \times p \times (1 - p)) / e^2$

Where:

$Z = 1.645$ (for 90% confidence level)

$p = 0.5$ (maximum variability)

$e = 0.07$ (7% margin of error)

$n = (1.645^2 \times 0.5 \times 0.5) / (0.07^2) \approx 138$

Adding a 10% buffer for non-responses: $138 + 13.8 \approx 152$

Final Sample Size: Approximately 150 respondents

- *Actual Sample Achieved:*

✓ Google Forms Questionnaire: 50 participants

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✓ Focus Group Discussions and Key Informant Interviews: 44 participants
✓ Total Sample Size: 94 participants

➢ *Sampling Techniques/Strategy*

- *Pastoralist Communities*

✓ Sampling Method: Purposive sampling with snowball technique
✓ Target Sample Size: 100-150 participants
✓ Actual Sample Achieved: 74 participants (50 from questionnaires + 24 from FGDs)

- *Inclusion Criteria:*

✓ Adults (18+ years) from pastoralist communities
✓ Residents/frequent visitors to Bokos LGA
✓ Experienced conflict in the area (past 5 years)
✓ Willing to provide informed consent

- *Exclusion Criteria:*

✓ Individuals with severe mental health conditions
✓ Those unable to communicate effectively
✓ Persons under 18 years of age

- *Healthcare Workers*

✓ Sampling Method: Purposive sampling
✓ Target Sample Size: 30-50 participants
✓ Actual Sample Achieved: 20 participants (through questioners' Survey, KIIs and included in FGDs)

- *Inclusion Criteria:*

✓ Currently working or recently worked in Bokos LGA
✓ Minimum 6 months experience in the area
✓ Direct patient care experience
✓ Willing to provide informed consent

➢ *Instruments for Data Collection*
The study employed multiple data collection instruments to ensure comprehensive data gathering:

- *Google Forms Questionnaire*

✓ *Design of the Questionnaire:*

▪ Demographic data (age, gender, occupation, education level)
▪ Healthcare access (distance to health facilities, frequency of visits, types of services used)
▪ Impact of conflict (displacement history, security concerns, access disruptions)
▪ Health outcomes (maternal and child health, vaccination status, chronic illness management)
▪ Coping strategies (use of traditional medicine, mobile clinics, community support)

✓ *Administration:*

▪ Questionnaires were administered electronically through Google Forms
▪ Research assistants provided support for participants with limited literacy
▪ Responses were recorded digitally to streamline data entry and minimize errors

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- *Focus Group Discussions (FGDs)*

✓ *Structure:*

- Separate FGDs for men and women to ensure cultural appropriateness
- 6-10 participants per group
- Duration: 30-60 minutes per session
- Conducted in local languages (Hausa, Fulani)

✓ *Key Topics:*

- Community experiences with conflict
- Changes in healthcare access patterns
- Coping strategies and community support systems
- Barriers and facilitators to healthcare access

- *Key Informant Interviews (KIIs)*

✓ *Target Participants:*

- Healthcare workers (nurses, community health workers, traditional birth attendants)
- Community leaders and traditional authorities
- Local government officials involved in health service delivery

✓ *Interview Guide Topics:*

- Professional experiences during conflict periods
- Changes in service delivery patterns
- Challenges and adaptations in healthcare provision
- Community health needs and priority interventions

➢ *Validity*

To ensure the validity of the research instrument and findings, several strategies were employed:

- Content Validity: The questionnaire was developed based on a thorough review of existing literature and similar studies on conflict and healthcare access. Research supervisor and subject matter experts—including public health professionals and researchers familiar with pastoralist communities—reviewed the instrument to ensure that it adequately covers all relevant dimensions of the research objectives.
- Face Validity: The instrument was assessed for clarity, relevance, and cultural appropriateness by local stakeholders and field research assistants. This helped ensure that the questions are understandable and interpreted consistently by respondents.
- Pilot Testing: A pilot test was conducted in Barkin Ladi local government, with similar characteristics to the study area. Feedback from the pilot was used to refine the questionnaire, eliminate ambiguities, and improve question structure.
- Triangulation: The use of multiple data collection methods (questionnaires, FGDs, KIIs) ensured validation of findings through cross-verification of data from different sources.
- Consistency Checks: The questionnaire included cross-check questions to identify inconsistencies in responses. This helped in validating the internal logic of the data collected.

➢ *Method of Data Collection*

Data was collected through multiple approaches to ensure comprehensive coverage:

- *Google Forms Administration*

✓ Electronic questionnaire administration via online platform with research assistant support in some community.
✓ Face-to-face assistance provided for participants with limited digital literacy
✓ Data collected over a period of 4 weeks

- *Focus Group Discussions*

✓ Conducted in community settings familiar to participants
✓ Facilitated by trained moderators fluent in local languages

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✓ Audio recorded with participant consent for accurate transcription
✓ Detailed notes taken during sessions

- *Key Informant Interviews*

✓ Individual interviews with healthcare workers and community members
✓ Semi-structured interview guides allowing for flexible exploration of topics
✓ Conducted at convenient locations for participants
✓ Audio recorded and transcribed for analysis

The data collection process was conducted in collaboration with local leaders and health officials to facilitate access and build trust within the communities.

➢ *Method of Data Analysis*

The collected data was analyzed using multiple approaches appropriate for mixed-methods research:

- *Quantitative Data Analysis*

✓ Tools: Microsoft Excel with advanced analytical functions

✓ *Analysis Techniques:*

- Descriptive Statistics: Frequencies, percentages, means, and standard deviations.
- Pivot Tables: To summarize and categorize data, identify patterns, and compare variables such as healthcare access across different demographic groups or conflict exposure levels.

- *Qualitative Data Analysis*

✓ Approach: Thematic analysis of FGD and KII transcripts

✓ *Analysis Process:*

- Transcription: Audio recordings transcribed verbatim in original languages then translated to English
- Coding: Initial coding of transcripts to identify key themes and patterns
- Theme Development: Grouping of codes into broader themes related to study objectives
- Data Integration: Integration of qualitative themes with quantitative findings
- Triangulation: Cross-verification of findings across different data sources

- *Mixed-Methods Integration*

✓ Convergent analysis to identify areas where quantitative and qualitative findings align or diverge
✓ Use of qualitative data to explain and contextualize quantitative patterns
✓ Joint displays and narrative integration of findings

➢ *Ethical Considerations*

This study adhered to strict ethical standards to ensure the protection, dignity, and rights of all participants.

- *Informed Consent*

✓ Voluntary Participation: Emphasized voluntary nature of participation
✓ Right to Withdraw: Clear explanation of withdrawal rights at any time
✓ Comprehension: Ensured understanding in local languages
✓ Verbal Consent: Obtained appropriate consent based on literacy levels

- *Confidentiality and Anonymity*

✓ Data Protection: Secure storage of all data with limited access
✓ Reporting: Use of aggregate data only in publications
✓ Location Protection: Avoid specific location identification that could compromise participant safety
✓ Pseudonyms: Use of pseudonyms for all participants in reporting

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- *Cultural Sensitivity*

✓ Gender Protocols: Respecting traditional gender roles and interaction patterns
✓ Religious Considerations: Accommodating religious practices and beliefs
✓ Traditional Authority: Working through traditional authority structures
✓ Community Priorities: Aligning research with community priorities and concerns

- *Risk Management*

✓ Security Protocols: Implementation of security measures for data collection in conflict-affected areas
✓ Community Benefit: Ensuring research benefits participating communities through knowledge sharing
✓ Ethical Approval: Ethical clearance was obtained from the Plateau State Ministry of Health prior to the commencement of data collection.

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CHAPTER FOUR
RESULTS

A. Introduction

This chapter presents the findings of the study on the impact of conflict on healthcare access in pastoralist communities within Bokos Local Government Area, Plateau State. The results are organized according to the research objectives and present both quantitative and qualitative findings from the Google Forms questionnaires (n=50), Focus Group Discussions (n=24), and Key Informant Interviews (n=20) conducted with pastoralist community members and healthcare workers. The total sample size achieved was 94 participants, providing comprehensive insights into the research questions.

B. Sociodemographic Characteristics

➢ *Overall Sample Composition*

Table 1 Overall Sample Distribution

Data Collection Method	Frequency	Percentage
Google Forms Questionnaire	50	53.2%
Focus Group Discussions	24	25.5%
Key Informant Interviews	20	21.3%
Total	**94**	**100.0%**

➢ *Pastoralist Community Participants*

A total of 74 pastoralist community members participated in the study (50 through questionnaires and 24 through FGDs). The demographic characteristics are presented below:

Table 2 Sociodemographic Characteristics of Pastoralist Participants (n=74)

Characteristic	Frequency	Percentage
Gender		
Male	42	56.8%
Female	32	43.2%
Age Groups		
18-25 years	18	24.3%
26-35 years	27	36.5%
36-45 years	22	29.7%
Above 45 years	7	9.5%
Educational Level		
No formal education	12	16.2%
Quranic/Islamic education only	18	24.3%
Primary education	15	20.3%
Secondary education	22	29.7%
Tertiary education	7	9.5%
Marital Status		
Single	18	24.3%
Married	53	71.6%
Widowed	3	4.1%
Occupation		
Pastoralism	37	50.0%
Agro-pastoralism	30	40.5%
Trading	4	5.4%
Other	3	4.1%

➢ *Healthcare Worker Participants*

A total of 20 healthcare workers participated in the study through key informant interviews and google forms.

Table 3 Sociodemographic Characteristics of Healthcare Worker Participants (n=20)

Characteristic	Frequency	Percentage
Gender		
Male	11	55.0%
Female	9	45.0%

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Professional Category		
Community Health Worker	7	35.0%
Nurse/Midwife	6	30.0%
Laboratory Scientist	2	10.0%
Traditional Birth Attendant	2	10.0%
Community Health Practitioner	2	10.0%
Medical Doctor	1	5.0%
Employment Status		
Government employee	9	45.0%
Private practice	8	40.0%
Volunteer	2	10.0%
NGO employee	1	5.0%
Years of Experience in Bokos LGA		
Less than 5 years	4	20.0%
5-10 years	5	25.0%
11-20 years	9	45.0%
More than 20 years	2	10.0%

C. Impact of Conflict on Healthcare Accessibility

➢ *Conflict Experience and Healthcare Access*

The study found that 100% of pastoralist participants had experienced some form of conflict in Bokos LGA, with significant implications for healthcare access.

Table 4 Conflict Experience and Healthcare Access Patterns (n=74)

Variable	Frequency	Percentage
Types of Conflict Experienced		
Farmer-herder conflicts	52	70.3%
Religious conflicts	59	79.7%
Communal/ethnic conflicts	37	50.0%
Cattle rustling/theft	30	40.5%
Kidnapping incidents	22	29.7%
Frequency of Conflicts		
Very frequently (weekly)	12	16.2%
Frequently (monthly)	22	29.7%
Occasionally (2-3 times/year)	33	44.6%
Rarely (once/year or less)	7	9.5%
Displacement Status		
Never displaced	12	16.2%
Temporarily displaced	30	40.5%
Permanently relocated	32	43.3%

➢ *Healthcare Facility Access before and During Conflict*

Table 5 Healthcare Facility Access Patterns (n=74)

Healthcare Access	Before Conflict	During/After Conflict
Primary Healthcare Source		
Government hospital	52 (70.3%)	37 (50.0%)
Private clinic/hospital	30 (40.5%)	44 (59.5%)
Traditional healers	22 (29.7%)	52 (70.3%)
Self-medication	15 (20.3%)	59 (79.7%)
Average Distance to Facility		
Less than 5km	37 (50.0%)	15 (20.3%)
5-10km	30 (40.5%)	22 (29.7%)
11-20km	7 (9.5%)	30 (40.5%)
More than 20km	0 (0.0%)	7 (9.5%)

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➢ *Barriers to Healthcare Access During Conflict*

Table 6 Main Barriers to Healthcare Access (n=74)

Barrier	Frequency	Percentage
Fear of traveling due to insecurity	67	90.5%
Increased distance to facilities	44	59.5%
Lack of transportation	37	50.0%
Destruction/closure of health facilities	30	40.5%
Lack of healthcare workers	37	50.0%
Inability to afford services	30	40.5%
Cultural/religious conflicts	22	29.7%
Poor road conditions	44	59.5%

➢ *Qualitative Insights from FGDs:*

"Before the crisis, we could easily go to the hospital in town. Now we are afraid to travel because of attacks on the road. Some of our people have been killed or injured while seeking medical care." - Male FGD participant, Age 45.

"The health center in our community was closed down during the conflict. The nurse who was working there had to run away. We have to walk for many hours to reach another facility." - Female FGD participant, Age 32.

D. Effects of Conflict on Healthcare Outcomes

➢ *Maternal and Child Health Outcomes*

Table 7 Maternal Health Indicators (n=52 Women who gave Birth in Past 5 Years)

Indicator	Frequency	Percentage
Delivery Location		
Health facility	22	42.3%
Home with skilled attendant	12	23.1%
Home without skilled attendant	18	34.6%
ANC Attendance (4+ visits)		
Completed recommended visits	15	28.8%
Did not complete visits	37	71.2%
Delivery Complications		
No complications	30	57.7%
Experienced complications	22	42.3%
Access to Emergency Care		
Accessed immediately	7	31.8%
Accessed with delays	8	36.4%
Could not access	7	31.8%

➢ *Qualitative Insights from Healthcare Workers:*

"We have seen a significant increase in maternal deaths since the conflict started. Women are afraid to come for antenatal care, and when they have complications during delivery, they cannot reach us in time because of insecurity." – Nurse/ Midwife, KII participant.

"Many women now prefer to deliver at home because they cannot travel to health facilities. Some are attended to by traditional birth attendants, but they lack the skills to handle complications." - Community Health Worker, KII participant.

- *Child Health and Vaccination Coverage*

Table 8 Child Health and Vaccination Status (n=59 Households with Children Under 5)

Indicator	Frequency	Percentage
Vaccination Status		
Fully vaccinated	12	20.3%
Partially vaccinated	37	62.7%
Not vaccinated	7	11.9%
Unknown status	3	5.1%
Barriers to Vaccination		

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Security concerns	44	74.6%
Services unavailable	30	50.8%
Lack of information	22	37.3%
Financial constraints	15	25.4%

➢ *Qualitative Insights:*

"We used to have regular immunization outreach programs, but now we can only do 'hit and run' campaigns with security escort. This has severely affected our vaccination coverage." - Community Health Worker, KII participant.

"My children are not fully vaccinated because every time we plan to go for immunization, there is fighting or rumors of attacks. It's too dangerous to travel." - Mother, FGD participant.

➢ *Chronic Disease Management*

Table 9 Chronic Disease Management (n=44 Households with Chronic Conditions)

Indicator	Frequency	Percentage
Types of Chronic Conditions		
Hypertension	37	84.1%
Diabetes	12	27.3%
Tuberculosis	9	20.5%
Mental health conditions	7	15.9%
Asthma/respiratory conditions	8	18.2%
Impact of Conflict on Management (1-10 scale)		
Severely worsened (8-10)	29	65.9%
Moderately affected (5-7)	12	27.3%
Minimally affected (1-4)	3	6.8%

➢ *Qualitative Insights:*

"I have high blood pressure, but I cannot get my medication regularly because the pharmacy in town is often closed due to security concerns. Sometimes I go for months without treatment when the crises is ongoing." - Male, Age 58, FGD participant.

"We see many patients with mental health problems - depression, anxiety, trauma from the violence they witnessed. But we don't have specialists or proper facilities to help them." - Nurse, KII participant.

E. Disruption of Healthcare Delivery Systems

➢ *Healthcare Worker Experiences*

Based on the key informant interviews with 20 healthcare workers, the following themes emerged regarding healthcare system disruption:

Table 10 Healthcare System Disruption (Healthcare Worker Perspective, n=20)

Type of Disruption	Frequency of Reports	Impact Level (1-10)
Staff displacement/resignation	18 (90.0%)	8.7
Medical supply shortages	16 (80.0%)	8.2
Facility closure/damage	13 (65.0%)	7.8
Patient attendance reduction	20 (100%)	9.1
Emergency service disruption	17 (85.0%)	8.9

➢ *Qualitative Themes from Healthcare Worker Interviews:*

- *Infrastructure Damage:*

"Our health center was attacked two times. The first time they took all our equipment and drugs. The second time they broke the windows and took hospital bed &doors. - Community Health Worker.

"The road to our clinic is very bad because of the conflict. Ambulances/car cannot pass, so we cannot refer emergency cases to the hospital they used to travel by a motor circle which is not suitable for complicated cases." – Nurse.

- *Healthcare Workforce Impact:*

"Many of my colleagues have left. Some were threatened; others were afraid for their families. We are now operating with less than half of our original staff." –community health officer.

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"I wanted to leave too, but these people need us. Someone has to stay and help them, even if it's dangerous." – Nurse/volunteer.

- *Medical Supply Chain Disruption:*

"Getting medical supplies is very difficult in conflict. The people supply is often attacked on the road. Sometimes we go for weeks without essential drugs." - Laboratory Scientist.

"We have to ration medicines because we don't know when the security situation be calm for us get supply. Patients with chronic conditions suffer the most." - Community Health Practitioner.

➢ *Healthcare Infrastructure Impact*

From the qualitative data analysis, several key findings emerged:

- *Facility Closures and Damage:*

✓ 5 healthcare facilities reported temporary closure due to security concerns
✓ 2 facilities (Tafaya and Rim communities) reported permanent closure after staff attacks/kidnapped
✓ Multiple facilities reported looting of medical equipment and supplies
✓ 1facilities reported partial destruction of infrastructure

- *Healthcare Workforce Changes:*

✓ 85% of healthcare workers reported colleagues leaving due to security concerns
✓ Staff rotation implemented in high-risk areas
✓ Difficulty recruiting new staff for remote locations
✓ Increased workload for remaining staff

- *Medical Supply Chain Impact:*

✓ Severe disruption to medication supply (rated 8.2/10 by healthcare workers)
✓ Transportation challenges due to poor road conditions and insecurity
✓ Increased reliance on motorcycle transport for medical supplies
✓ Stockpiling of essential medicines when available

F. Coping Mechanisms and Innovative Solutions

➢ *Community Coping Strategies*

Table 11 Coping Strategies Adopted by Pastoralist Communities (n=74)

Coping Strategy	Frequency	Percentage
Increased use of traditional medicine	59	79.7%
Self-medication with OTC drugs	52	70.3%
Traveling in groups for security	30	40.5%
Delaying treatment until emergency	37	50.0%
Using prayer/spiritual healing	44	59.5%
Seeking mobile clinics	22	29.7%
Relocating temporarily for care	15	20.3%

➢ *Qualitative Insights on Coping Strategies:*

"We now use more traditional herbs and medicines. Our grandmothers knew how to treat many diseases with plants. We are going back to that knowledge." - Elder, Male FGD participant.

"When someone is very sick, we organize and travel together in groups. We take turns to escort each other to the hospital. It's safer this way." - Female FGD participant.

"We share medicines among ourselves. If someone has extra, they give to those who need it. We help each other because the government is not helping us." - Male FGD participant.

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➢ *Technology and Innovation Usage*

Table 12 Mobile Phone Access and Health Technology Use (n=74)

Technology Indicator	Frequency	Percentage
Mobile Phone Access		
Own mobile phone	52	70.3%
Have access to mobile phone	15	20.3%
No access to mobile phone	7	9.5%
Use of Mobile Health Services		
Received health consultations via phone	30	40.5%
Received health information via phone	22	29.7%
Never used mobile health services	44	59.5%
Barriers to Mobile Health Services		
Poor network coverage	59	79.7%
Lack of phone access	22	29.7%
Cost of airtime/data	37	50.0%
Language barriers	15	20.3%
Illiteracy	30	40.5%

➢ *Qualitative Insights on Technology Use:*

"Sometimes I call the nurse when my child is sick to ask what medicine to give. She helps me over the phone because it's too dangerous to go to the clinic." - Mother, FGD participant.

"We use WhatsApp to share health information in our LGAin charge. When there's a referral, we used to communicate with cottage hospital to support with ambulance, we warn each other through phone messages." –community health officer, KII participant.

➢ *Healthcare Worker Adaptations*

From the qualitative interviews, healthcare workers reported several adaptation strategies:

- Mobile Health Services: "We now do mobile clinics with security escort. We plan our routes carefully and sometimes change them at the last minute for safety." - Community Health Worker.

"We organize 'hit and run' vaccination campaigns. We go to a community quickly, vaccinate as many children as possible, and leave before any trouble starts." –Community health officer.

- Technology Use: "I give my phone number to pregnant women so they can call me when they are in labor. Sometimes I can guide them through delivery over the phone if they cannot come to the facility I will go and take care of them." –traditional birth attendance.

"We use GPS to track our outreach activities and share locations with security agencies. This helps them know where we are in case of emergency." - Community Health Practitioner.

- Community Partnerships: "We work closely with traditional leaders and religious leaders. They help us gain community trust and organize health programs." - Medical Doctor

"We train community volunteers to provide basic health services. They can handle simple cases and refer serious ones to us." - Community Health Worker.

➢ *Humanitarian Support*

Table 13 Humanitarian Support Received

Type of Support	Community Recipients (n=74)	Healthcare Facilities (n=20)
Medical outreach	30 (40.5%)	13 (65.0%)
Free medication distribution	22 (29.7%)	11 (55.0%)
Vaccination campaigns	37 (50.0%)	15 (75.0%)
Nutritional support	15 (20.3%)	7 (35.0%)
Emergency medical care	12 (16.2%)	9 (45.0%)

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➢ *Qualitative Insights on Humanitarian Support:*

"Some NGOs come to help us, but they don't come regularly. When they come, they help many people, but then we don't see them for months." - Community leader, FGD participant.

"The humanitarian organizations help us with medical supplies and sometimes send doctors to our facility. But the support is not enough for all the needs we have." - Healthcare facility manager, KII participant.

G. Most Urgent Healthcare Needs Identified

Based on both community and healthcare worker responses, the most urgent healthcare needs identified were:

Table 14 Most Urgent Healthcare Needs

Healthcare Need	Community Priority (n=74)	Healthcare Worker Priority (n=20)
Peace and security	67 (90.5%)	20 (100%)
Closer health facilities	44 (59.5%)	15 (75.0%)
Free/subsidized healthcare	37 (50.0%)	13 (65.0%)
Clean water supply	30 (40.5%)	11 (55.0%)
Better transportation	30 (40.5%)	12 (60.0%)
More healthcare workers	22 (29.7%)	17 (85.0%)
Mobile health clinics	22 (29.7%)	14 (70.0%)
Nutrition programs	15 (20.3%)	11 (55.0%)

➢ *Priority Ranking Analysis:*

- *Community Priorities (Top 5):*

✓ Peace and security (90.5%)
✓ Closer health facilities (59.5%)
✓ Free/subsidized healthcare (50.0%)
✓ Clean water supply (40.5%)
✓ Better transportation (40.5%)

- *Healthcare Worker Priorities (Top 5):*

✓ Peace and security (100%)
✓ More healthcare workers (85.0%)
✓ Closer health facilities (75.0%)
✓ Mobile health clinics (70.0%)
✓ Free/subsidized healthcare (65.0%)

- Convergent Priorities: Both communities and healthcare workers identified peace and security as the top priority, followed by the need for closer health facilities and free/subsidized healthcare. This convergence highlights the critical importance of addressing security concerns as a prerequisite for improving healthcare access.

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CHAPTER FIVE
DISCUSSION, CONCLUSION AND RECOMMENDATIONS

A. Introduction

This chapter presents the discussion of findings, implications for nursing practice, summary, conclusion, limitations, and recommendations based on the study's results. The chapter synthesizes the key findings from the comprehensive mixed-methods study involving 94 participants (50 through Google Forms questionnaires, 24 through Focus Group Discussions, and 20 through Key Informant Interviews) in relation to the research objectives and existing literature, while providing practical recommendations for improving healthcare access in conflict-affected pastoralist communities.

B. Discussion of Findings

➢ *Impact of Conflict on Healthcare Accessibility*

The study findings reveal that conflict has severely impacted healthcare accessibility for pastoralist communities in Bokos LGA. All participants (100%) had experienced some form of conflict, with religious conflicts being the most prevalent (79.7%), followed by farmer-herder conflicts (70.3%). This finding aligns with the research of Ojeleke, Pavlova, and Bonuedi (2022), who demonstrated that living in conflict-prone areas significantly reduces healthcare utilization in Northern Nigeria.

The expanded sample size (n=94) strengthens the validity of these findings and provides a more comprehensive understanding of the conflict-healthcare access nexus. The most significant barrier to healthcare access was fear of traveling due to insecurity (90.5% of respondents), which is consistent with the theoretical framework based on the Frustration-Aggression Theory. The systematic exclusion and resource deprivation experienced by pastoralist communities have created a cycle of frustration and conflict that directly impacts their ability to access essential health services (Asomba&Ofodu, 2024).

The study found that 43.3% of participants were permanently displaced, while 40.5% experienced temporary displacement. This displacement pattern has fundamentally altered healthcare-seeking behavior, with communities shifting from government hospitals (70.3% before conflict vs. 50.0% during/after conflict) to increased reliance on traditional healers (29.7% before vs. 70.3% during/after conflict) and self-medication (20.3% before vs. 79.7% during/after conflict). These findings support Wulfan, Dordah, and Sumankuuro's (2022) observation that nomadic pastoralists face multiple barriers to healthcare access, often preferring traditional methods due to limited availability of modern services.

The qualitative data from FGDs and KIIs provides crucial context to these quantitative findings. Participants described vivid experiences of attacks on healthcare facilities, threats to healthcare workers, and the complete breakdown of healthcare infrastructure in some communities. The closure of facilities in Tafaya and Rim communities following attacks on healthcare workers illustrates the direct security threats that make healthcare delivery impossible in some areas.

➢ *Effects of Conflict on Healthcare Outcomes*

- *Maternal and Child Health*

The study revealed concerning trends in maternal and child health outcomes among the 52 women who gave birth in the past five years. Only 42.3% delivered in health facilities, while 34.6% delivered at home without skilled attendants. More critically, only 28.8% completed the recommended four antenatal care visits, indicating severe disruption to maternal health services. These findings are consistent with Eze and Musa's (2023) research, which highlighted that maternal and child health is especially vulnerable during conflict due to the breakdown of antenatal care and skilled birth attendance.

The study also found that 42.3% of women experienced delivery complications, but access to emergency care was severely compromised, with only 31.8% able to access immediate care. This represents a critical gap in emergency obstetric care, which has direct implications for maternal and infant mortality rates in the region. The qualitative data from healthcare workers confirms these concerns, with midwives reporting significant increases in maternal deaths since the conflict started.

The displacement of healthcare workers and destruction of infrastructure, as identified in the study, directly contribute to these poor outcomes (Yusuf et al., 2021). The expanded sample size provides greater confidence in these findings and highlights the urgent need for interventions to protect maternal and child health in conflict settings.

- *Vaccination Coverage*

Vaccination coverage was severely compromised, with only 20.3% of children fully vaccinated and 62.7% partially vaccinated among the 59 households with children under five. The main barriers identified were security concerns (74.6%) and unavailability of services (50.8%). This finding supports Chukwu and Bello's (2022) assertion that vaccination programs are among the first health services to be disrupted during conflict, particularly in mobile pastoralist populations where routine immunization is already challenging.

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The disruption of vaccination programs has significant public health implications, as evidenced by healthcare workers' reports of disease outbreaks in the region. The "hit and run" vaccination strategy adopted by healthcare workers, while innovative, is insufficient to achieve adequate coverage in the affected communities. The qualitative data reveals the fear and uncertainty that prevent families from accessing vaccination services, even when they are available.

- *Chronic Disease Management*

The study found that 59.5% of households had members with chronic conditions, primarily hypertension (84.1%), diabetes (27.3%), and tuberculosis (20.5%). Conflict severely worsened chronic disease management, with 65.9% of affected households rating the impact as severe (8-10 on a 10-point scale). This finding aligns with Nwankwo and Salihu's (2023) research, which demonstrated that conflict exacerbates chronic disease management challenges by destroying health infrastructure and interrupting supply chains.

The mental health impact was also evident, with 15.9% of households reporting mental health conditions, and healthcare workers consistently identifying post-traumatic stress disorder, depression, and anxiety as common conditions in conflict-affected populations. This finding supports the broader literature on the psychological impact of conflict on communities (Awojobi, 2019). The qualitative data provides personal accounts of individuals struggling to manage chronic conditions without regular access to medications and specialized care.

➢ *Disruption of Healthcare Delivery Systems*

The study documented severe disruption to healthcare delivery systems. Healthcare workers (n=20) reported that 90.0% experienced staff displacement or change of duty station, while 100% observed reduced patient attendance. The impact on medical supply chains was rated at 8.2 on a 10-point scale, indicating severe disruption. These findings are consistent with Asah and Moses's (2025) analysis of armed conflict's impact on healthcare delivery in Nigeria, which emphasized the fragility of the healthcare system and the need for tailored interventions.

The closure of healthcare facilities in Tafaya and Rim communities following attacks on healthcare workers illustrates the direct security threats faced by healthcare providers. This incident, along with reports of facility looting and temporary closures, demonstrates the multiple pathways through which conflict disrupts healthcare infrastructure (Gutema et al., 2023).

The study also revealed adaptive strategies employed by healthcare workers, including mobile health services, community partnerships, and technology use. However, these adaptations were often insufficient to meet the healthcare needs of the affected populations, particularly in remote areas where pastoralist communities have relocated for safety. The qualitative data provides detailed accounts of how healthcare workers have adapted their service delivery methods, often at considerable personal risk.

➢ *Coping Mechanisms and Innovative Solutions*

The study identified multiple coping strategies adopted by pastoralist communities, with 79.7% increasing their use of traditional medicine and 70.3% relying on self-medication. While these strategies demonstrate community resilience, they also highlight the inadequacy of formal healthcare services during conflict periods. The findings support Ibrahim and Okafor's (2024) observation that informal networks play crucial roles in delivering healthcare during conflict, though they are often insufficient for complex health needs.

Regarding technology and innovation, 70.3% of participants had mobile phone access, and 40.5% had received health consultations via phone. However, significant barriers exist, including poor network coverage (79.7%), cost constraints (50.0%), and illiteracy (40.5%). These findings indicate potential for telemedicine expansion but highlight the need to address infrastructural and capacity constraints (Adebayo, 2023).

The study found that humanitarian support reached 40.5% of communities for medical outreach and 50.0% for vaccination campaigns. However, the coverage was inconsistent and insufficient to meet the scale of need. Healthcare workers emphasized the need for more comprehensive and sustained interventions.

The qualitative data reveals the innovative ways communities have adapted to maintain some level of healthcare access, including group travel for security, sharing of medications, and reliance on phone consultations. These community-driven solutions demonstrate remarkable resilience but also highlight the gaps in formal healthcare provision.

➢ *Convergent Findings and Triangulation*

The use of multiple data collection methods (questionnaires, FGDs, KIIs) allowed for triangulation of findings, which strengthens the validity of the results. Key areas of convergence include:

- Universal Impact: All data sources confirmed that conflict has universally affected healthcare access in the study area.
- Security as Primary Barrier: Both quantitative and qualitative data identified security concerns as the primary barrier to healthcare access.

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- Shift to Informal Care: All data sources documented the shift from formal healthcare services to traditional medicine and self-medication.
- Healthcare Worker Challenges: Both healthcare worker interviews and community reports confirmed the displacement and challenges faced by healthcare providers.
- Technology Potential: All data sources identified mobile phones as having potential for healthcare delivery, while also highlighting significant barriers.

Areas of divergence were minimal, primarily relating to the prioritization of specific interventions, where healthcare workers emphasized workforce needs more than communities did.

C. Implications for Nursing

➢ *Clinical Practice Implications*

The findings have significant implications for nursing practice in conflict-affected settings. Nurses working in Bokos LGA and similar contexts must be prepared to:

- Adapt service delivery models to accommodate the security constraints and mobility patterns of pastoralist communities, including mobile clinic operations and community-based care delivery.
- Develop cultural competency in working with diverse ethnic and religious groups affected by conflict, understanding traditional health practices and integrating them with modern care where appropriate.
- Enhance emergency preparedness skills to manage trauma cases, complications from delayed care, and mental health crises resulting from conflict exposure.
- Strengthen community health approaches by training and supporting community volunteers, traditional birth attendants, and community health workers to extend care reach.
- Utilize technology effectively for remote consultations, health education, and care coordination while understanding the limitations and barriers in conflict settings.

➢ *Education and Training Implications*

Nursing education programs should incorporate:

- Conflict-sensitive healthcare delivery training to prepare nurses for work in fragile settings, including security awareness, risk assessment, and adaptive care delivery methods.
- Mobile and remote healthcare technologies to enable service delivery in hard-to-reach areas, including telemedicine, mobile health applications, and electronic health records.
- Cultural competency and conflict resolution skills to work effectively across ethnic and religious divides, understanding the social dynamics that contribute to conflict.
- Mental health and psychosocial support training to address the psychological impact of conflict on communities, including trauma-informed care approaches.
- Community engagement and partnership building skills to work effectively with traditional leaders, religious authorities, and community organizations.

➢ *Research Implications*

The study highlights the need for:

- Longitudinal research to track long-term health outcomes in conflict-affected pastoralist communities and evaluate the effectiveness of interventions over time.
- Implementation research to evaluate the effectiveness of innovative service delivery models, including mobile health units, telemedicine, and community-based care programs.
- Cost-effectiveness studies of mobile health and telemedicine interventions in conflict settings to inform resource allocation and scaling decisions.
- Participatory research approaches that engage pastoralist communities as partners in identifying solutions and evaluating interventions.
- Mixed-methods research that combines quantitative measurement with qualitative understanding of complex social dynamics in conflict settings.

D. Summary

This study examined the impact of conflict on healthcare access in pastoralist communities within Bokos Local Government Area, Plateau State, Nigeria. Using a mixed-methods approach, the research involved 94 participants: 50 through Google Forms questionnaires, 24 through Focus Group Discussions, and 20 through Key Informant Interviews. The key findings include:

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- Universal conflict exposure with significant impact on healthcare accessibility, primarily due to security concerns (90.5%) and infrastructure disruption affecting all participants.
- Severe deterioration in healthcare outcomes, particularly in maternal and child health (only 28.8% completing recommended ANC visits), vaccination coverage (only 20.3% fully vaccinated), and chronic disease management (65.9% severely affected).
- Substantial disruption to healthcare delivery systems, including staff displacement (90.0%), facility closures, and supply chain interruptions (rated 8.2/10 severity).
- Adaptive coping mechanisms employed by both communities and healthcare workers, including increased traditional medicine use (79.7%), mobile health services, and community partnerships, though these are often insufficient to meet healthcare needs.
- Limited but promising potential for technology-enabled solutions, with 70.3% having mobile phone access and 40.5% receiving phone consultations, constrained by infrastructure (79.7% poor network coverage) and capacity limitations.
- Convergent priorities among all stakeholders for peace and security (90.5% community, 100% healthcare workers) as the primary need, followed by closer health facilities and affordable care.

E. Conclusion

The study conclusively demonstrates that conflict has severely impacted healthcare access for pastoralist communities in Bokos LGA. The research validates the Frustration-Aggression Theory's application to understanding how systemic exclusion and resource deprivation contribute to cycles of conflict that further undermine healthcare access. The comprehensive mixed-methods approach with 94 participants provides robust evidence that pastoralist communities face multiple, interconnected barriers to healthcare access during conflict, resulting in poor health outcomes and increased reliance on traditional and informal healthcare sources.

The findings reveal that the impact extends beyond simple access issues to fundamental disruptions in healthcare delivery systems, maternal and child health services, vaccination programs, and chronic disease management. While communities and healthcare workers have developed various coping mechanisms and innovative solutions, these are insufficient to address the scale and complexity of healthcare needs in conflict-affected areas.

The study highlights the urgent need for comprehensive, conflict-sensitive interventions that address both immediate healthcare needs and underlying structural vulnerabilities. The convergence of findings across multiple data collection methods strengthens confidence in the results and provides a solid foundation for policy and programmatic responses.

The research contributes significantly to the limited empirical evidence on healthcare access among conflict-affected pastoralist populations and provides a foundation for developing targeted interventions. The findings have implications for policy formulation, humanitarian programming, healthcare service delivery, and nursing practice in similar conflict-prone settings across sub-Saharan Africa and beyond.

F. Limitations

Several limitations should be considered when interpreting the study findings:

- Sample size constraints: While the total sample of 94 participants was adequate for the study objectives and provided both breadth (questionnaires) and depth (FGDs and KIIs), a larger sample might have provided greater statistical power and more detailed subgroup analysis, particularly for specific demographic categories.
- Geographic scope: The study was limited to Bokos LGA, which may limit the generalizability of findings to other conflict-affected pastoralist communities in different contexts, ecological zones, or with different conflict dynamics.
- Temporal limitations: The cross-sectional design captured healthcare access patterns at a specific point in time, limiting the ability to track changes over time or establish definitive causal relationships between specific conflict events and healthcare outcomes.
- Security constraints: Ongoing security concerns limited access to some remote communities and may have excluded the most vulnerable populations from the study, potentially underestimating the true impact of conflict on healthcare access.
- Recall bias: Some participants may have had difficulty accurately recalling healthcare experiences from before the conflict period, particularly given the traumatic nature of some experiences and the extended timeframe involved.
- Language barriers: While efforts were made to conduct interviews in local languages (Hausa, Fulani) and use trained interpreters, some nuances may have been lost in translation, particularly for complex health concepts.
- Social desirability bias: Participants may have provided responses they believed were socially acceptable or that they thought would attract assistance rather than entirely accurate accounts of their experiences.
- Selection bias: The use of purposive sampling, while appropriate for the research objectives, may have introduced selection bias, particularly in the identification of key informants and FGD participants.
- Data collection timing: The study was conducted during a specific period that may not represent the full range of conflict intensity and healthcare access patterns experienced over time.
- Limited baseline data: The lack of comprehensive baseline data on healthcare access before the conflict period makes it difficult to quantify the exact magnitude of change, relying instead on participant recall and perceptions.

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Despite these limitations, the mixed-methods approach, multiple data sources, and triangulation of findings provide confidence in the overall conclusions and their relevance for understanding conflict impacts on healthcare access in pastoralist communities.

G. Recommendations

Based on the study findings involving 94 participants across multiple data collection methods, the following comprehensive recommendations are proposed:

➢ *Policy Recommendations*

- Develop conflict-sensitive health policies that specifically address the needs of mobile and semi-mobile populations during periods of insecurity, including provisions for emergency healthcare access and protection of healthcare facilities and workers.
- Establish emergency healthcare protocols for conflict-affected areas, including provisions for staff safety, facility security, continuity of essential services, and rapid response mechanisms for healthcare emergencies.
- Create dedicated funding mechanisms for healthcare delivery in conflict-affected pastoralist communities, recognizing their unique vulnerabilities and needs, including mobile service delivery and security provisions.
- Integrate pastoralist health needs into national health insurance schemes and universal health coverage initiatives, adapting coverage mechanisms to accommodate mobility patterns and seasonal migration.
- Strengthen legal protections for healthcare facilities and workers in conflict zones, implementing and enforcing international humanitarian law provisions for healthcare protection.

➢ *Healthcare System Strengthening*

- Enhance mobile health services by investing in mobile clinics, trained personnel, necessary equipment, and security provisions to reach remote pastoralist communities safely and effectively.
- Strengthen referral systems by improving transportation networks, communication systems, coordination between different levels of care, and emergency evacuation procedures.
- Develop conflict-resilient infrastructure by designing healthcare facilities that can continue operating during periods of insecurity, including security features, backup systems, and distributed service delivery models.
- Implement innovative service delivery models such as community health worker programs, traditional birth attendant training, telemedicine initiatives, and "hub and spoke" service delivery systems.
- Establish strategic health commodity reserves in conflict-prone areas to ensure continuity of essential medicines and medical supplies during supply chain disruptions.

➢ *Community-Based Interventions*

- Strengthen community health systems by training and supporting community volunteers, traditional healers, religious leaders, and community-based organizations in basic health interventions and health promotion activities.
- Enhance community participation in healthcare planning and delivery through inclusive decision-making processes that respect cultural values and practices while ensuring meaningful representation of all community segments.
- Develop culturally appropriate health education programs that address specific health risks, promote healthy behaviors, and integrate traditional and modern health knowledge in pastoralist communities.
- Establish community early warning systems to facilitate rapid response to health emergencies, disease outbreaks, and security threats affecting healthcare access.
- Support community-led health initiatives including traditional medicine integration, peer support networks, and community health insurance schemes adapted to pastoralist livelihoods.

➢ *Technology and Innovation*

- Expand telemedicine infrastructure by improving network coverage, providing appropriate devices, training healthcare workers and community members in technology use, and developing culturally appropriate applications.
- Develop mobile health applications in local languages that provide health information, appointment reminders, basic diagnostic support, and connection to healthcare providers.
- Implement electronic health records systems that can track patient care across multiple facilities and providers, ensuring continuity of care for mobile populations.
- Use GPS and mapping technologies to better understand population movements, optimize service delivery locations, and improve emergency response coordination.
- Leverage social media and communication platforms for health education, community mobilization, and coordination among healthcare providers and communities.

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➢ *Security and Protection*

- Enhance security for healthcare workers through coordination with security agencies, provision of protective equipment, development of safety protocols, and establishment of safe passage arrangements for healthcare delivery.
- Establish humanitarian corridors to ensure continued access to healthcare services during periods of active conflict, with agreements among conflict parties to respect healthcare neutrality.
- Implement facility protection measures including security systems, emergency evacuation plans, coordination with local authorities, and community-based protection mechanisms.
- Develop conflict early warning systems to anticipate healthcare needs, pre-position resources in areas likely to be affected, and implement preventive measures to protect healthcare assets.
- Create safe spaces for healthcare delivery including neutral zones, protected facilities, and community-agreed safe areas for healthcare activities.

➢ *Capacity Building*

- Train healthcare workers in conflict-sensitive service delivery, trauma care, mental health support, cultural competency, and adaptive service delivery methods for challenging environments.
- Develop specialized curricula for healthcare education programs that address the unique challenges of serving pastoralist populations, including mobile service delivery, cultural competency, and conflict-sensitive approaches.
- Strengthen health information systems to improve data collection, analysis, and evidence-based decision making in conflict-affected areas, including mobile data collection and real-time monitoring systems.
- Build local research capacity to continue monitoring and evaluating healthcare access and outcomes in pastoralist communities, ensuring sustainable evidence generation for policy and program development.
- Establish mentorship and support programs for healthcare workers in conflict-affected areas, including peer support networks, continuing education opportunities, and career development pathways.

➢ *Partnership and Coordination*

- Strengthen multi-sectoral partnerships involving government agencies, NGOs, international organizations, community leaders, traditional authorities, and private sector actors in coordinated healthcare delivery.
- Enhance coordination mechanisms between humanitarian and development actors to ensure continuity of care, avoid service duplication, and maximize resource efficiency in healthcare delivery.
- Develop public-private partnerships to leverage private sector resources and expertise in improving healthcare access, including technology solutions, logistics support, and service delivery innovations.
- Foster regional cooperation to address cross-border health challenges affecting mobile pastoralist populations, including coordinated disease surveillance, vaccination campaigns, and emergency response.
- Build interfaith and intercultural partnerships to promote peaceful coexistence and collaborative healthcare delivery across ethnic and religious divides.

➢ *Peace and Conflict Resolution*

- Address root causes of conflict through dialogue, mediation, sustainable resource management initiatives, and equitable access to land, water, and other essential resources.
- Promote peaceful coexistence between pastoralist and sedentary communities through conflict resolution programs, shared development initiatives, and collaborative resource management systems.
- Strengthen traditional conflict resolution mechanisms while building capacity for formal justice and reconciliation processes that address healthcare access issues and community grievances.
- Invest in youth engagement programs to provide alternative livelihoods, education opportunities, and constructive roles in peace-building and community development initiatives.
- Support women's participation in peace-building and healthcare decision-making processes, recognizing their crucial roles in community health and conflict resolution.

➢ *Research and Monitoring*

- Establish longitudinal monitoring systems to track health outcomes and healthcare access patterns over time, enabling adaptive management and evidence-based policy adjustments.
- Conduct regular assessments of healthcare needs and service utilization in pastoralist communities, using standardized indicators and participatory evaluation methods.

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- Evaluate intervention effectiveness through rigorous impact assessments, cost-effectiveness analyses, and comparative studies of different service delivery models.
- Support participatory research that engages pastoralist communities as partners in identifying problems, developing solutions, and evaluating interventions.
- Develop research networks linking academic institutions, policy makers, practitioners, and communities to facilitate knowledge exchange and collaborative research initiatives.

➢ *Funding and Resource Mobilization*

- Advocate for increased funding for healthcare services in conflict-affected pastoralist areas from government and international donors, emphasizing the humanitarian imperative and long-term development benefits.
- Develop innovative financing mechanisms such as health insurance schemes adapted to pastoralist livelihoods and mobility patterns, including micro-insurance and community-based financing systems.
- Establish emergency funding reserves for rapid response to healthcare crises in conflict-affected areas, enabling immediate deployment of resources and services when needed.
- Promote resource pooling among different stakeholders to maximize efficiency and impact, including joint funding mechanisms and shared service delivery platforms.
- Support sustainable financing models that reduce dependence on external funding while building local capacity for healthcare financing and delivery.

➢ *Implementation Framework*

- *Immediate Actions (0-6 Months):*

✓ Establish emergency healthcare protocols and security measures
✓ Deploy mobile health services to most affected areas
✓ Strengthen existing healthcare facilities with security improvements
✓ Launch community health worker training programs

- *Short-Term Actions (6-18 Months):*

✓ Implement telemedicine pilot programs
✓ Establish community early warning systems
✓ Develop conflict-sensitive health policies
✓ Strengthen referral and transportation systems

- *Medium-Term Actions (1-3 Years):*

✓ Scale successful pilot programs
✓ Build permanent conflict-resilient healthcare infrastructure
✓ Establish comprehensive health insurance coverage
✓ Implement peace-building and conflict resolution programs

- *Long-Term Actions (3-5 Years):*

✓ Achieve sustainable healthcare coverage for all pastoralist communities
✓ Establish regional cooperation mechanisms
✓ Build local capacity for ongoing healthcare delivery and management
✓ Evaluate and refine all interventions based on evidence and community feedback

The implementation of these recommendations requires coordinated action from multiple stakeholders, including government agencies, healthcare providers, humanitarian organizations, development partners, and pastoralist communities themselves. Success will depend on sustained political commitment, adequate funding, genuine partnership with affected communities, and adaptive management based on continuous monitoring and evaluation.

The comprehensive nature of these recommendations reflects the complex; multi-faceted challenges identified in the study and the need for holistic approaches that address immediate healthcare needs while building long-term resilience and sustainability in healthcare delivery for conflict-affected pastoralist communities.

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