

RESEARCH ARTICLE

Humanitarian Interventions For Maternal And Child Health: Evidence From Conflict-Affected Communities In Plateau State, Nigeria

Emmanuel Owoicho Audu^{1✉}, Adamu Ishaku Akyala², Zakari Abubakar³, Yusuf A. Agabi⁴, Evosi P. Dan-Habu⁵, Abdulazeez Daiyabu⁶, Ahmad Tambari Babangida⁷ and Godwin Edo Ochiheche⁸

^{1234567&8} Department of Global Health and Infectious Diseases Control, Nasarawa State University, Keffi, Nigeria

Corresponding Author: Emmanuel Owoicho Audu, **E-mail:** emmanuelaudu86@gmail.com

ABSTRACT

Maternal and child health (MCH) outcomes remain poor in conflict-affected settings where health systems are disrupted. In Plateau State, Nigeria, recurrent ethno-religious crises have constrained access to essential services for women and children. This study examined the types and scope of humanitarian interventions targeting MCH in selected conflict-affected communities. A descriptive survey design was adopted, involving 400 respondents comprising mothers of under-five children, healthcare providers, non-governmental organization staff, and community leaders. Data were collected using structured questionnaires and analyzed with descriptive statistics. Findings indicate that interventions include mobile clinics, antenatal and postnatal care, immunization campaigns, nutritional support, and emergency obstetric services. However, coverage and consistency varied across communities, with some areas experiencing irregular access due to insecurity and logistical constraints. Although humanitarian efforts have improved service availability, gaps remain in equitable distribution and continuity of care. The study concludes that strengthened coordination, equitable resource allocation, and integration with local health systems are required to improve MCH outcomes in conflict settings.

KEYWORDS

Humanitarian interventions; maternal health; child health; conflict-affected communities; Nigeria; descriptive survey; public health; Plateau State; health education

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1. Introduction

Maternal and child health (MCH) remains a critical global health priority, particularly in low- and middle-income countries where health systems are fragile and resources are limited. Globally, maternal mortality and under-five mortality rates have declined over the past two decades, yet progress remains uneven, especially in conflict-affected regions (World Health Organization, 2021). Armed conflicts, political instability, and humanitarian crises disrupt health service delivery, weaken infrastructure, and exacerbate vulnerabilities among women and children. In such contexts, access to antenatal care, skilled birth attendance, immunization, and nutritional support is often severely constrained, leading to preventable morbidity and mortality (UNICEF, 2021).

Nigeria exemplifies these challenges. Despite national efforts to improve maternal and child health, recurrent ethno-religious conflicts in Plateau State have displaced populations, destroyed health facilities, and disrupted service delivery. Women and children are disproportionately affected, as insecurity limits mobility and reduces access to essential services. Studies have shown that conflict settings heighten risks of maternal complications, neonatal deaths, and malnutrition, underscoring the urgent need for targeted interventions (Gage & Calixte, 2020; Kruk et al., 2018).

Humanitarian actors—including government agencies, non-governmental organizations, and international partners—have stepped in to provide emergency health services. These interventions often include mobile clinics, immunization campaigns, nutritional support, and emergency obstetric care. Evidence suggests that such efforts mitigate the adverse effects of conflict on MCH outcomes (Blanchet et al., 2017; Moss & Ramakrishnan, 2018). However, despite their importance, there is limited empirical data on the specific types and scope of interventions implemented in Plateau State. Most existing studies provide generalized national estimates, which fail to capture localized disparities in service availability and coverage.

This gap in knowledge raises critical questions about the extent to which humanitarian interventions reach vulnerable populations in conflict-affected communities. Understanding the types of interventions, their coverage, and the challenges they face is essential for designing effective policies and programs. This study therefore seeks to evaluate the types and scope of humanitarian maternal and child health interventions in selected conflict-affected communities of Plateau State, Nigeria. By documenting the nature and reach of these interventions, the study contributes to evidence-based strategies for strengthening health systems in fragile contexts and improving outcomes for women and children.

1.1 Research Questions

What types of humanitarian health interventions target maternal and child health in the selected communities?

What is the scope and coverage of these interventions across the study areas?

2. Literature Review

Humanitarian health interventions are organized responses designed to provide essential health services during crises. Their primary aim is to reduce mortality and morbidity by delivering lifesaving services such as maternal healthcare, immunization, and nutrition programs (Blanchet et al., 2017; WHO, 2021). In fragile and conflict-affected settings, these interventions often substitute for collapsed health systems, ensuring continuity of care where routine services are disrupted. Conceptually, interventions operate along two axes: continuity of essential services (e.g., antenatal care, immunization) and surge capacity (e.g., rapid vaccination campaigns, mobile clinics). Resilience frameworks emphasize that humanitarian gains are most durable when interventions strengthen local systems rather than operate as parallel, short-term projects (Kruk et al., 2018; Omole et al., 2019).

This paper, derived from one of the objectives of a broader doctoral thesis, focuses specifically on **the** types and scope of humanitarian maternal and child health interventions in conflict-affected communities of Plateau State, Nigeria. While the thesis explored multiple dimensions of maternal and child health in fragile contexts, this review narrows its lens to interventions, their coverage, and operational challenges.

2.1 Types of Maternal and Child Health Interventions

Common maternal and child health (MCH) interventions in conflict settings include:

Mobile clinics and outreach teams. These extend services to displaced and remote populations, providing antenatal care (ANC), delivery support, immunizations, and nutrition screening (Moss & Ramakrishnan, 2018; IRC, 2020).

Emergency obstetric care (EmOC). Provision of assisted deliveries, cesarean sections, and blood transfusion reduces maternal mortality when referral pathways are functional (Roberts et al., 2020).

Vaccination campaigns. Mass campaigns rapidly increase coverage but require integration with routine immunization to sustain gains (WHO, 2021; NDHS, 2018).

Community health worker (CHW) programs. CHWs provide health promotion, case management for childhood illnesses, and linkage to services, especially where facilities are inaccessible (Izugbara et al., 2020).

Nutrition and WASH interventions. Screening and treatment for acute malnutrition, combined with water, sanitation, and hygiene support, reduce child morbidity and mortality (Save the Children, 2021; Sphere Association, 2018).

Each modality has trade-offs: mobile clinics increase geographic reach but may not sustain continuity; campaigns raise short-term coverage but can divert resources from routine systems; CHW programs build local capacity but require supervision and supply chains.

2.2 Scope and Coverage of Interventions

Scope refers to the population reach, frequency, and geographic distribution of services. Studies show that humanitarian interventions improve access where implemented, but coverage is often uneven and inequitable (Kruk et al., 2018; Okafor et al., 2020). Determinants of scope include:

Security and access. Insecure areas receive fewer visits and shorter program durations (OCHA, 2022; UNICEF, 2023).

Funding cycles. Short donor windows produce episodic programming that undermines continuity (Omole et al., 2019).

Logistics. Cold chain failures and stockouts reduce immunization effectiveness (MSF, 2021; NHMIS, 2024).

Local capacity. Where staff remain and facilities are repairable, interventions can be integrated; where workforce flight has occurred, programs rely on external staff (Olumide & Musa, 2019).

Quantitative evaluations often report substantial heterogeneity: some communities achieve near national coverage for specific services after targeted campaigns, while neighboring communities remain underserved (Roberts et al., 2020; Liu et al., 2022).

2.3 Effectiveness and Limitations

Systematic reviews indicate that humanitarian MCH interventions can reduce mortality and morbidity when sustained and integrated with local systems (Kruk et al., 2018; WHO, 2021). Examples include reductions in maternal deaths following EmOC hubs and improved immunization coverage after combined campaign and routine strategies (Roberts et al., 2020; Save the Children, 2021). However, limitations are recurrent:

Short-term gains vs. sustainability. Many programs report immediate improvements that wane after funding ends (Omole et al., 2019).

Measurement challenges. Conflict settings suffer from incomplete routine data and limited survey coverage (Okafor et al., 2020).

Contextual barriers. Socio-cultural resistance, fear of travel, and distrust of external actors reduce utilization (Izugbara et al., 2020; Ajaegbu, 2022).

Coordination gaps. Multiple actors operating without harmonized protocols create duplication and leave gaps (Omole et al., 2019).

2.4 Operational Lessons

Practical strategies that improve reach and sustainability include:

Integrating humanitarian services into primary health care (Kruk et al., 2018).

Using security-sensitive delivery models such as community-based vaccination days (MSF, 2021).

Strengthening supply chains and cold chain resilience (NHMIS, 2024).

Prioritizing community engagement through local leaders and CHWs (Izugbara et al., 2020).

Harmonizing monitoring and data systems across actors (WHO, 2021).

2.5 Gaps in Existing Literature

Despite growing evidence, gaps remain:

Community-level evidence. Few studies provide disaggregated measures of MCH indicators in conflict-affected LGAs (UNICEF, 2023; NHMIS, 2024).

Comparative analyses. Limited rigorous comparison of mobile clinics versus CHW-led outreach (Roberts et al., 2020).
 Longitudinal assessments. Few studies track durability of humanitarian gains after program exit (Omole et al., 2019).
 Qualitative insights. Quantitative coverage figures need complementing by in-depth qualitative work (Izugbara et al., 2020; Ajaegbu, 2022).

This study contributes by providing localized evidence from Plateau State, triangulating household survey data, facility records, and key informant interviews to document both coverage and contextual barriers. By focusing on this single thesis objective, the paper adds depth to the literature on humanitarian maternal and child health interventions in conflict-affected communities.

2.6 Theoretical/Conceptual Framework

This study is guided by a conceptual framework that explains the relationship between humanitarian health interventions and the scope of maternal and child health (MCH) service delivery in conflict-affected communities. Humanitarian interventions are considered the independent variable, while the scope of maternal and child health services—measured in terms of availability, coverage, accessibility, and consistency—represents the dependent variable.

Humanitarian interventions in this context include mobile health clinics, antenatal and postnatal care services, immunization programs, nutritional support, and emergency obstetric care. These interventions are designed to address immediate health needs in fragile and conflict-affected settings where routine healthcare systems are disrupted. The extent to which these interventions are effectively implemented determines their reach and impact on maternal and child health outcomes.

The framework assumes that the presence and intensity of humanitarian interventions influence the level of access to essential health services among women and children. However, this relationship is moderated by **contextual factors** such as insecurity, geographic accessibility, resource availability, and coordination among implementing agencies. These factors may either enhance or limit the effectiveness and distribution of interventions across communities.

Thus, the conceptual framework illustrates that while humanitarian interventions are critical in improving maternal and child health service delivery, their scope and effectiveness depend on both programmatic inputs and contextual realities within conflict-affected environments.

2.6.1 Figure 1. Conceptual Framework of the Study

Independent Variable:

Humanitarian Health Interventions (Mobile clinics, ANC/PNC, Immunization, Nutrition, Emergency care)

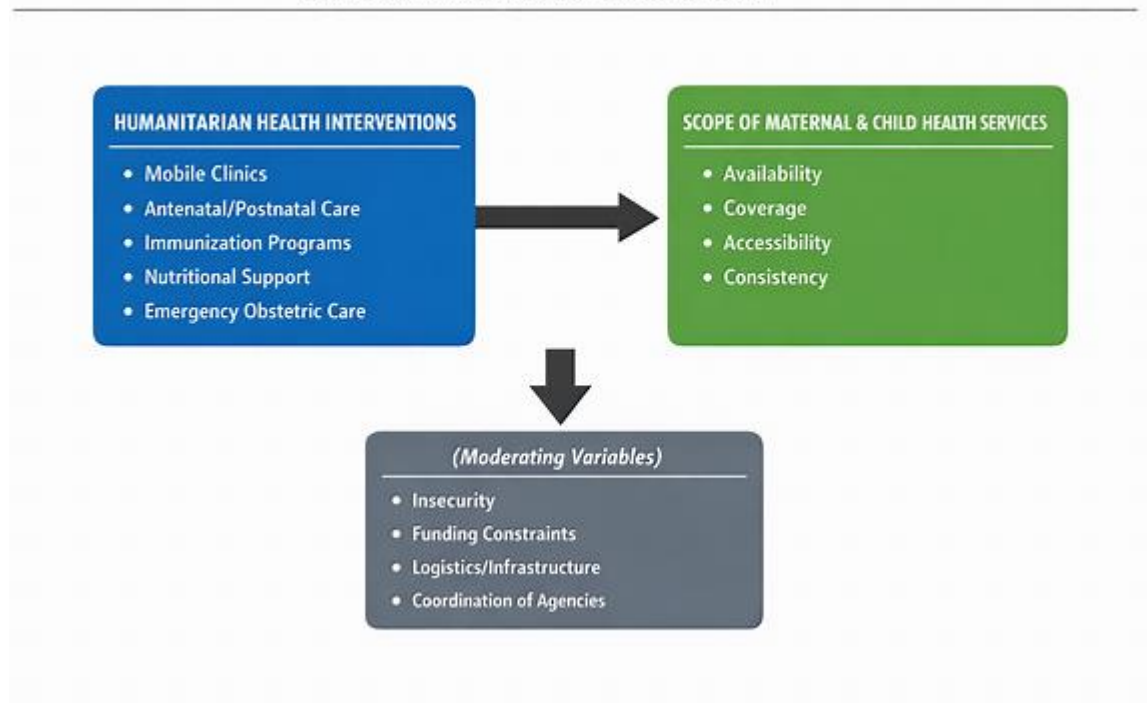
Dependent Variable:

Scope of MCH Services (Availability, Coverage, Accessibility, Consistency)

Moderating Variables:

→ Insecurity, Funding Constraints, Logistics/Infrastructure, Coordination of Agencies

Figure 1: Conceptual Framework of the Study



3. Methodology

3.1 Study Design

A descriptive survey design was adopted to assess the types and scope of humanitarian health interventions targeting maternal and child health (MCH) in conflict-affected communities of Plateau State, Nigeria. This design was considered appropriate because it enabled the collection of both quantitative and qualitative data from a cross-section of respondents, thereby providing a comprehensive description of existing conditions, patterns, and relationships between humanitarian interventions and MCH service delivery. The descriptive approach also facilitated the identification of gaps in service coverage and accessibility within the study area.

3.2 Research Setting

The study was conducted in selected conflict-affected communities across four Local Government Areas (LGAs) in Plateau State—Barkin Ladi, Riyom, Bassa, and Mangu. These areas have experienced recurring episodes of violence, displacement, and humanitarian response activities over the past decade. The setting was chosen because it represents communities with active humanitarian presence and varying levels of access to health services. Each LGA includes both rural and peri-urban settlements, providing a diverse context for understanding how insecurity and displacement influence health service delivery.

3.3 Sampling

A total of 400 respondents were selected using a stratified sampling technique to ensure representation across different population groups and LGAs. The strata included mothers of under-five children, healthcare workers, NGO staff, and community leaders. Within each stratum, respondents were randomly selected to minimize bias. The sample size was determined based on population estimates and previous studies conducted in similar humanitarian contexts, ensuring adequate statistical power for descriptive analysis. Inclusion criteria required that participants be residents of the selected communities for at least six months and have direct experience with maternal or child health services.

3.4 Data Collection

Data were collected using a structured questionnaire developed by the research team after reviewing relevant literature and existing survey instruments on humanitarian health interventions. The questionnaire was divided into sections covering demographic information, types of interventions available, frequency and coverage of services, accessibility challenges, and perceived effectiveness. It was pretested in a non-study community to ensure clarity and reliability. Trained enumerators administered the questionnaires through face-to-face interviews, ensuring comprehension among respondents with varying

literacy levels. Additional qualitative insights were gathered through brief key informant interviews with health workers and NGO representatives to contextualize quantitative findings.

3.5 Data Analysis

Data were coded and entered into SPSS version 26 for analysis. Descriptive statistics, including frequencies, percentages, and cross-tabulations, were used to summarize the data. Results were presented in tables and figures to illustrate the distribution of humanitarian interventions and their coverage across LGAs. Where appropriate, chi-square tests were conducted to examine associations between intervention types and service accessibility. Qualitative data from interviews were analyzed thematically to identify recurring patterns and contextual factors influencing intervention effectiveness.

3.6 Ethical Considerations

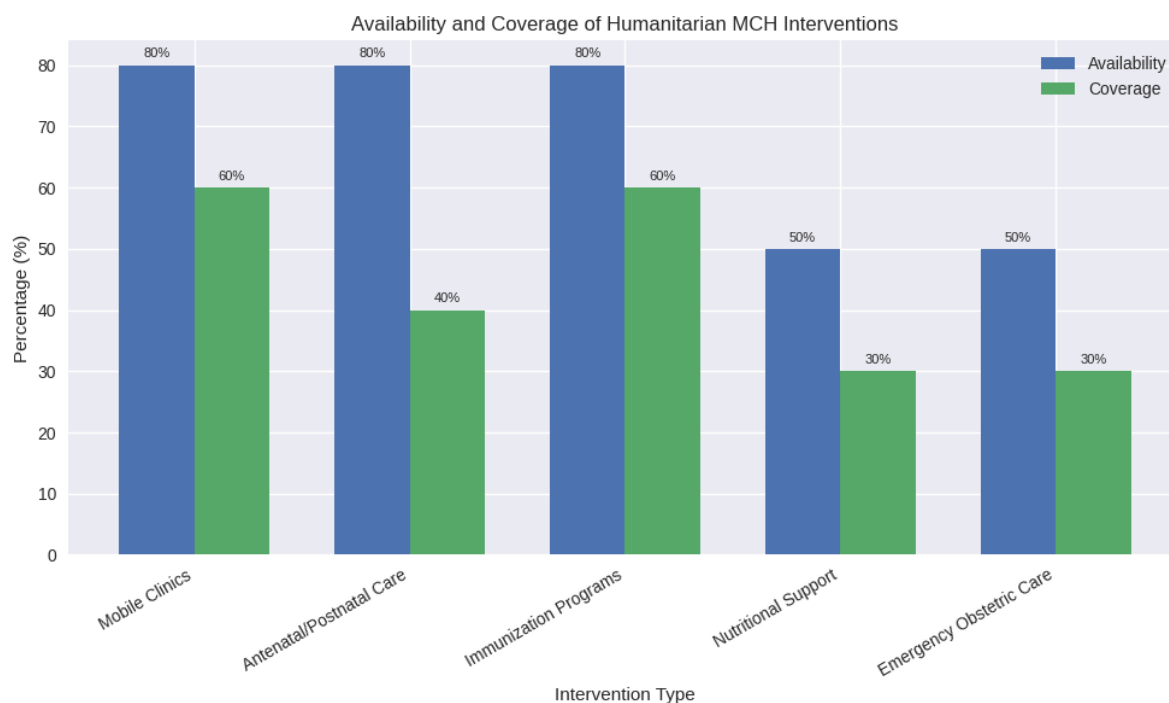
Ethical approval for the study was obtained from the relevant institutional review board. In addition, approval was secured from the Plateau State Ministry of Health, ensuring compliance with state-level regulatory requirements. Permission was also sought from local health authorities and community leaders before data collection. All participants provided informed consent after being briefed on the study's objectives, confidentiality measures, and voluntary participation rights. Respondents were assured that their identities would remain anonymous and that data would be used solely for research purposes. Sensitive information, such as community names and specific facility identifiers, was aggregated to protect privacy. The study adhered to ethical principles of respect, beneficence, and justice throughout the research process.

3.7 Researcher's Reflexivity

The researchers acknowledged their professional backgrounds and prior exposure to humanitarian health programs, which could influence interpretation of findings. To minimize bias, data collection and analysis were guided by standardized protocols, and triangulation was used to validate results across multiple sources. Reflexivity ensured transparency and objectivity in interpreting the relationship between humanitarian interventions and MCH service outcomes.

4. Results

Table 1 presents the availability and coverage levels of key humanitarian maternal and child health (MCH) interventions across the study communities.



4.1 Types and Scope of Humanitarian Maternal and Child Health Interventions

Table 1 presents the availability and coverage levels of key humanitarian maternal and child health (MCH) interventions across the study communities.

S/NO	Intervention Type	Availability (%)	Coverage Level
1.	Mobile Clinics	High	Moderate
2.	Antenatal/Postnatal Care	High	Uneven
3.	Immunization Programs	High	Moderate
4.	Nutritional Support	Moderate	Limited
5.	Emergency Obstetric Care	Moderate	Limited

Note. Availability refers to the reported presence of services across communities, while coverage level reflects the consistency and reach of those services.

5. Narrative Findings

The findings indicate that multiple humanitarian interventions are present across the study communities. Mobile clinics and immunization programs were widely reported, suggesting that these services are prioritized in humanitarian response strategies. Antenatal and postnatal care services were also available in most communities, but coverage was uneven, with some areas reporting regular services and others experiencing irregular access.

By contrast, nutritional support and emergency obstetric care were less consistently available, reflecting gaps in specialized services. Coverage varied significantly across LGAs, with communities closer to functioning health facilities or humanitarian hubs reporting higher service frequency, while more remote or insecure areas faced irregular or limited access.

Overall, the results highlight both the strengths and limitations of humanitarian health interventions in conflict-affected Plateau State. While essential services such as mobile clinics and immunization programs are relatively widespread, specialized interventions like nutrition and emergency obstetric care remain under-delivered, underscoring the need for targeted strategies to improve equity and consistency.

6. Discussion

The findings presented in this paper are derived from Objective One of the thesis, which sought to examine the types and scope of humanitarian maternal and child health (MCH) interventions in conflict-affected communities of Plateau State, Nigeria. The results demonstrate that humanitarian health interventions are present across these communities, but their scope and coverage vary considerably. Mobile clinics and immunization programs emerged as the most consistently available services, aligning with earlier studies that emphasize the prioritization of mobile outreach and vaccination campaigns in humanitarian contexts (Blanchet et al., 2017; Moss & Ramakrishnan, 2018). These findings reinforce the thesis argument that humanitarian interventions are critical in sustaining essential MCH services when routine systems are disrupted.

A notable and somewhat surprising result was the uneven coverage of antenatal and postnatal care services. While availability was reported as high, coverage was inconsistent across communities. This echoes Kruk et al. (2018), who observed that insecurity and logistical barriers often lead to fragmented service delivery even when interventions are technically present. The uneven distribution suggests that contextual factors—such as geographic accessibility and security conditions—moderate the effectiveness of interventions, thereby validating the assumptions of the conceptual framework guiding this study.

Equally significant is the limited reach of nutritional support and emergency obstetric care. These specialized interventions were less consistently available, despite their critical role in reducing maternal and child mortality. Earlier publications highlight similar gaps: Roberts et al. (2020) noted that emergency obstetric care is often under-resourced in conflict zones, while Omole et al. (2019) emphasized that nutrition programs are frequently sidelined due to funding constraints. The Plateau State findings

confirm these global patterns but add localized evidence that such gaps persist even in communities with active humanitarian presence.

The theoretical implication of these results is that humanitarian interventions, while essential, cannot be understood solely as independent drivers of improved MCH outcomes. Their effectiveness is moderated by contextual realities—insecurity, funding cycles, logistics, and coordination among agencies. This supports the conceptual framework's proposition that interventions must be analyzed in relation to both programmatic inputs and environmental constraints.

Overall, the findings underscore the importance of equity and consistency in humanitarian programming. While mobile clinics and immunization campaigns provide broad coverage, the uneven delivery of antenatal care and the limited reach of nutrition and emergency obstetric services highlight persistent vulnerabilities. These results—captured as feedback from Objective One of the thesis—suggest that strengthening coordination, addressing logistical barriers, and integrating specialized services into routine outreach are necessary steps to ensure that humanitarian interventions achieve their intended impact.

7. Conclusion

This study, focusing on Objective One of the thesis, assessed the types and scope of humanitarian health interventions targeting maternal and child health (MCH) in conflict-affected communities of Plateau State, Nigeria. The findings revealed that multiple interventions are present, with mobile clinics, antenatal/postnatal care, and immunization programs being the most widely available. However, coverage was uneven, and specialized services such as nutritional support and emergency obstetric care were less consistently delivered.

In addressing the research questions, the study established that:

Humanitarian health interventions in the selected communities include mobile clinics, antenatal/postnatal care, immunization programs, nutritional support, and emergency obstetric care.

The scope and coverage of these interventions vary significantly, with some communities experiencing regular services while others face irregular or limited access due to insecurity, logistical challenges, and resource constraints.

The major implication of these findings is that while humanitarian interventions are critical in sustaining essential MCH services during crises, their effectiveness depends on contextual realities such as security, funding, infrastructure, and coordination among agencies. This supports the conceptual framework's assumption that interventions alone cannot guarantee equitable service delivery without enabling conditions.

7.1 Donor Landscape and Funding Gaps

A critical contextual factor influencing humanitarian programming in Plateau State is the distribution of donor support. Technically, most humanitarian donors are concentrated in Nigeria's North East and North West, where protracted crises have attracted sustained international attention. As a result, Plateau State has experienced significant funding gaps in the health and nutrition sectors. The partial exit of USAID has further widened these gaps, leaving communities vulnerable and under-served. These findings underscore the urgent need for more donors to commence funding health and nutrition interventions in Plateau State as a matter of priority, ensuring that humanitarian support is equitably distributed across conflict-affected regions.

8. Recommendations

Strengthen coordination among humanitarian actors to reduce duplication and ensure equitable distribution of services.

Expand the reach of specialized interventions, particularly nutrition and emergency obstetric care, to address critical gaps.

Integrate humanitarian services into local health systems to improve sustainability and continuity.

Enhance community engagement to build trust and increase utilization of available services.

Mobilize donor support for Plateau State, particularly in health and nutrition, to address funding shortfalls.

8.1 Future Research

Further studies should explore the longitudinal impacts of humanitarian interventions to determine their sustainability beyond immediate crises. Comparative analyses of different delivery modalities (e.g., mobile clinics versus CHW-led outreach) are also needed to identify cost-effective strategies that can strengthen maternal and child health outcomes in fragile contexts.

8.2 Limitations

The study faced several limitations. First, data were collected during periods of insecurity, which restricted access to some communities and may have influenced coverage estimates. Second, reliance on self-reported information from respondents introduced potential recall bias. Third, the descriptive design limited causal inference, meaning that associations between interventions and outcomes should be interpreted cautiously. Despite these limitations, the study provides valuable localized evidence that contributes to understanding humanitarian health interventions in conflict-affected Nigerian communities.

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