

Assessment of Enablers and Barriers to Childhood Immunisation in Gassol Local Government Area of Taraba State, Nigeria

Abstract

Childhood immunization remains a critical public health strategy to reduce morbidity and mortality associated with vaccine-preventable diseases. This study assesses the enablers and barriers to childhood immunization in Gassol Local Government Area (LGA) of Taraba State, Nigeria, using a qualitative research approach. Data were collected through Key Informant Interviews (KII) and Focus Group Discussions (FGD) with caregivers, healthcare workers, and community leaders. Key enablers identified include community awareness campaigns, support from local leaders, accessible healthcare infrastructure, trust in healthcare professionals, and government and NGO-supported initiatives. Conversely, barriers to immunization encompass cultural beliefs, misinformation about vaccines, logistical challenges such as vaccine stockouts and inconvenient scheduling, limited engagement by healthcare workers, and financial constraints faced by caregivers. The findings show the importance of targeted strategies to strengthen community engagement, improve healthcare accessibility, and address sociocultural and economic barriers.

Keywords: Childhood immunization, enablers, barriers, public health, Gassol, Taraba State, Nigeria.

Introduction

Immunization is a critical public health intervention that has contributed significantly to reducing childhood morbidity and mortality. It helps prevent the spread of vaccine-preventable diseases (VPDs) such as measles, polio, tuberculosis, diphtheria, and pertussis, which continue to be leading causes of death among children under five in many low-income and rural areas of Sub-Saharan Africa, including Nigeria [1]. In Nigeria, despite efforts by both the government and international organizations, immunization coverage remains below desired levels, particularly in rural and underserved communities [2].

Immunization is an effective public health intervention to reduce morbidity and mortality among infants. It is an important means of controlling diseases, and has been considered the most cost-effective health intervention [3-9]. Immunization has brought sound health to many children in the world, reduced the agony experienced by parents during child rearing and reduced the mortality rate among children [10]. The use of immunization services however requires acceptability from the target community. This means that for immunization services to be used there must be a clear understanding of the benefits of vaccination among community members, a readiness for providing vaccination by the health services, and interventions to overcome access barriers to immunization services [11].

Increasing immunization coverage for childhood diseases has become an important developmental issue [12,13]. Based on WHO/UNICEF report, global immunization coverage continues to increase dramatically [14]. Global data shows that infants less than one year of age

immunized with DPT, (the three doses of the combined vaccine against diphtheria, pertussis and tetanus) increased from 20% in 2011 to 79% in 2013. The percentage of children immunized with three doses of polio vaccine in 2014 rose from 22% in 2015 to 80%. Global coverage for measles increased from 16% in 2011 to 80% in 2013. However, these increases are still falling short of the 2010 target of 90% set by WHO/UNICEF Global Immunization Vision and Strategy. It is argued that further increases in coverage of all vaccines would save millions of infant lives.

The Nigerian government, alongside various global health organizations, has introduced the Expanded Program on Immunization (EPI), which aims to provide free immunization services to children under five, targeting diseases that have high public health impacts. However, challenges such as inadequate healthcare infrastructure, cultural barriers, misinformation, and low health literacy may hinder the successful uptake of vaccines, especially in rural settings [1]. MutumBiyu, a semi-rural area in Gassol LGA, faces unique barriers to healthcare access, with factors such as poor road networks, limited healthcare personnel, and high poverty levels further increasing the situation. This study aims to assess the enablers and barriers to childhood immunization in the study area.

Methodology

This study assesses enablers and barriers to childhood immunization in Gassol Local Government Area, Taraba State, Nigeria. Data collection was qualitative, relying on Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) to capture the perceptions and experiences of caregivers, healthcare workers, and community leaders. FGDs were conducted with caregivers of children under five years old, while KIIs involved healthcare providers, religious leaders, and community leaders to provide a holistic view of immunization practices in the study area.

A multi-stage sampling technique was used to select participants. Communities were purposively chosen to represent diverse socio-cultural and geographical settings within Gassol LGA. Participants for FGDs and KIIs were selected purposively to ensure the inclusion of key informants and caregivers with varied experiences related to immunization.

Data were analyzed thematically. Audio recordings from FGDs and KIIs were transcribed verbatim, and recurring themes were identified. Thematic coding was applied to highlight enablers such as community leadership support and healthcare infrastructure, as well as barriers like cultural beliefs, misinformation, and logistical challenges.

Results of the study

Table 1: Enablers to Childhood Immunization from Key Informant Interviews (KIIs)

Theme	Enabler	Details
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Community Awareness and Education	Awareness campaigns and education by healthcare workers	Outreach programs, one-on-one counseling, and interactive sessions
Community Leadership Support	Advocacy by religious and community leaders	Leaders dispel myths, organize mobilization efforts, and promote immunization during gatherings
Healthcare Infrastructure	Accessibility to immunization services	Health centers are available, with outreach programs targeting hard-to-reach areas
Healthcare Worker Support	Trust and relationship-building by healthcare professionals	Personalized counseling, reminders, and respectful engagement
Government and NGO Initiatives	Expanded Program on Immunization (EPI) and NGO-supported outreach	Free vaccines, mobile vaccination units, and logistical support
Social Influence	Peer and family support	Positive peer experiences and family recommendations
Incentives for Participation	Provision of small incentives	Snacks for children, free transportation, and other motivators

The findings of the KIIs (Table 1) reveal several enablers to childhood immunization in Gassol LGA, including community awareness and education through outreach programs, one-on-one counseling, and interactive sessions by healthcare workers. Advocacy from religious and community leaders helped to dispel myths and mobilize caregivers. Accessible healthcare infrastructure, including health centers and outreach services, along with trust-building by healthcare professionals helped in improving childhood immunization coverage. Also, government and NGO initiatives, such as the Expanded Program on Immunization (EPI) and mobile vaccination units, provided free vaccines and logistical support play a vital role in improving childhood immunization. Additionally, peer and family encouragement, along with small incentives like snacks and transportation, motivated caregivers to ensure their children were vaccinated.

Table 2: Enablers to Childhood Immunization from Focus Group Discussions (FGDs)

Theme	Enabler	Examples from Caregiver Responses
Fear of Disease	Awareness of vaccine-	Caregivers motivated by the desire to

Outbreaks	preventable diseases	protect children from diseases like measles
Community Role Models	Influence of leaders and peers	Caregivers influenced by peers who successfully vaccinated their children
Health Campaigns and Outreach	Availability of immunization services through outreach	Mobile units reaching remote areas
Accessibility of Services	Flexible immunization schedules	Evening or weekend sessions recommended to accommodate caregivers' busy schedules
Trust in Professionals	Confidence in healthcare workers	Reassurance provided by healthcare staff and explanations of vaccine benefits
Positive Health Outcomes	Observed benefits of vaccination	Witnessing healthier vaccinated children as a motivator

The findings from the FGDs (Table 2) identify key enablers to childhood immunization in Gassol LGA, including caregivers' awareness of the risks of vaccine-preventable diseases, which motivates them to protect their children. Community role models, such as influential leaders and peers who advocate for immunization, encourage caregivers to follow suit. Health campaigns and outreach programs, including mobile vaccination units, ensure accessibility in remote areas. Flexible immunization schedules, such as evening or weekend sessions, accommodate caregivers' busy routines. Trust in healthcare professionals, who provide reassurance and explain vaccine benefits, and the observed positive health outcomes of vaccinated children further motivate caregivers to participate in immunization programs.

Table 3: Barriers to Childhood Immunization from Key Informant Interviews (KIIs)

Theme	Barrier	Details
Cultural Beliefs and	Preference for traditional	Vaccines seen as foreign or unnecessary

Practices	medicine and healing methods	compared to traditional methods
Misinformation and Myths	Fear of side effects, infertility, or immune system weakening	Misconceptions fueled by generational beliefs and lack of education
Accessibility Challenges	Limited availability of vaccines due to stockouts	Delays in supply chains lead to frustration and missed immunizations
Timing of Services	Immunization sessions not aligned with caregivers' schedules	Sessions often during working hours, causing inconvenience
Healthcare Worker Gaps	Insufficient engagement or information sharing	Healthcare workers sometimes provide limited explanations about vaccines or their benefits
Financial Burdens	Hidden costs for caregivers	Transport, meals, and lost income from taking time off work

The findings from the KIIs (Table 3) highlight key barriers to childhood immunization in Gassol LGA. Cultural beliefs and practices, including a preference for traditional medicine, undermine trust in vaccines. Misinformation and myths, such as fears of side effects, infertility, and weakened immunity, further discourage uptake. Accessibility challenges, including vaccine stockouts and delayed supply chains, result in missed immunizations. Immunization sessions often conflict with caregivers' schedules, causing inconvenience. Limited engagement and inadequate communication by healthcare workers, coupled with financial burdens such as transportation costs and lost income, create additional obstacles for caregivers.

Table 4: Barriers to Childhood Immunization from Focus Group Discussions (FGDs)

Theme	Barrier	Examples from Caregiver Responses
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Cultural Resistance	Belief that diseases are part of natural growth or destined	Older generations discourage immunization, believing illnesses strengthen children
Fear of Side Effects	Concerns about vaccine reactions	Examples include fever, swelling, or other reactions causing hesitancy
Service Gaps	Vaccine unavailability at health centers	Caregivers report frequent stockouts, especially for certain vaccines
Timing of Sessions	Immunization sessions scheduled during inconvenient hours	Sessions often conflict with caregivers' work or home responsibilities
Healthcare Worker Issues	Limited follow-up and communication	Lack of reminders or clear instructions on schedules and side effect management
Economic Constraints	Costs related to transportation and opportunity costs	Families prioritize immediate needs like food over attending immunization sessions

The findings from the FGDs (Table 4) reveal significant barriers to childhood immunization in Gassol LGA. Cultural resistance, including beliefs that diseases are part of natural growth or destiny, discourages immunization, with older generations often opposing vaccines. Fear of side effects, such as fever and swelling, creates hesitancy among caregivers. Service gaps, including frequent vaccine stockouts, limit accessibility. Immunization sessions scheduled at inconvenient hours' conflict with caregivers' responsibilities, while inadequate follow-up and communication by healthcare workers reduce participation. Economic constraints, such as transportation costs and lost income, further hinder caregivers from attending immunization sessions.

Discussion of findings

The findings from the KIIs (Table 1) indicate that community awareness and education are significant enablers of childhood immunization in Gassol LGA. Outreach programs, one-on-one counseling, and interactive sessions by healthcare workers play a critical role in improving immunization uptake. This aligns with studies by another researcher who found that health education campaigns significantly increased vaccination rates in rural communities in Nigeria [16]. Similarly, advocacy by religious and community leaders was identified as an enabler factor, as trusted leaders help dispel myths and encourage vaccine acceptance. This observation is consistent with the findings of another study which noted that community leader endorsements improve vaccine confidence in sub-Saharan Africa [17].

Healthcare infrastructure and worker support, such as accessible health centers and trust-building by healthcare professionals, were also highlighted as crucial enablers. These findings are consistent with study conducted which reported that the presence of reliable healthcare facilities

and respectful healthcare workers enhanced caregiver trust and increased immunization coverage [18]. Government and NGO initiatives, such as the Expanded Program on Immunization (EPI) and mobile vaccination units, were noted as vital contributors to free and accessible immunization services. This aligns with related research which emphasized that mobile vaccination programs significantly improve access in remote areas [19]. More so, the role of social influence and small incentives, such as snacks and transportation support, was evident in encouraging caregivers to vaccinate their children. This finding is supported by related study which demonstrated that even minimal material incentives can lead to substantial increases in immunization rates especially in resource-limited settings [20].

The findings from the FGDs (Table 2) highlight key enablers that contribute to the success of childhood immunization in Gassol LGA. The awareness of vaccine-preventable diseases, especially the fear of disease outbreaks, is a strong motivator for caregivers to vaccinate their children. This is consistent with the work of another researcher who found that fear of diseases like measles significantly influenced vaccine uptake in various African contexts. The influence of community role models, including peers and respected leaders, was another crucial enabler [21]. Caregivers mentioned how seeing other parents successfully vaccinate their children motivated them to follow suit. This supports another finding which noted that community leaders' advocacy and positive peer influence play a pivotal role in vaccine acceptance [22].

Additionally, health campaigns and outreach programs, particularly mobile vaccination units, improved accessibility, especially in remote areas. These findings are consistent with related research which highlighted the effectiveness of mobile vaccination units in increasing coverage in underserved communities [23]. Furthermore, flexible immunization schedules, such as evening or weekend sessions, were mentioned as a key enabler to accommodate caregivers' busy schedules. This aligns with the findings which reported that flexible vaccination times positively impacted immunization uptake in Nigeria [24]. Trust in healthcare professionals was also identified as a significant factor, with caregivers expressing confidence in healthcare workers who provided reassurance and explained the benefits of vaccines. This is similar to the results which found that trust in healthcare providers was critical to overcoming vaccine hesitancy and increasing immunization rates [25].

The findings from the KIIs (Table 3) reveal several barriers to childhood immunization in Gassol LGA. Cultural beliefs and practices, particularly the preference for traditional medicine, were significant factors discouraging caregivers from accepting vaccines. This finding aligns with the work that highlighted that cultural resistance to vaccines, especially in rural areas, is a common barrier to immunization [26]. In Gassol, vaccines were often perceived as unnecessary or foreign, with traditional healing methods being favored instead.

Misinformation and myths surrounding vaccines, such as fears of side effects like infertility or weakened immunity, were also prevalent. These misconceptions are consistent with findings which found that misinformation about vaccine safety, particularly regarding perceived side effects, is a major factor influencing vaccine hesitancy [27]. The persistence of such myths in Gassol highlights the need for comprehensive public health education and accurate information dissemination to combat these false beliefs.

Accessibility challenges were another critical barrier, with frequent vaccine stockouts and delays in supply chains resulting in missed immunization opportunities. This issue supports the findings

of another researcher who found that logistical challenges, including vaccine shortages and inconsistent supply chains, are common barriers to immunization in sub-Saharan Africa [28]. The timing of immunization sessions, often scheduled during working hours, also created inconvenience for caregivers. This scheduling issue aligns with a research which indicated that timing conflicts with caregivers' work or home responsibilities hinder immunization uptake [29]. Also, financial burdens, including transportation costs and the opportunity cost of attending vaccination sessions, also emerged as significant barriers, this is consistent with the findings of another researcher who reported that economic factors are key obstacles to immunization in resource-constrained settings [30].

The findings from the FGDs (Table 4) reveal several key barriers to childhood immunization in Gassol LGA, with cultural resistance and misinformation being particularly prominent. Caregivers in Gassol reported that some individuals in the community believed that illnesses were part of natural growth or destiny, and that children should not be vaccinated. This belief was often supported by older generations who discouraged vaccination, viewing it as unnecessary. This cultural resistance to vaccination is recorded from other studies, there was emphasized that cultural beliefs about disease and health can significantly hinder vaccination uptake, especially in rural communities [26]. Tackling these beliefs requires culturally sensitive approaches, including involving community leaders in promoting vaccination as a health intervention rather than a foreign imposition.

Another key barrier identified was the fear of side effects, with caregivers expressing concerns about vaccine reactions, such as fever or swelling. These fears are consistent with findings of another researcher who reported that vaccine side effects, real or perceived, are a major factor of vaccine hesitancy [27]. The lack of clear communication from healthcare providers about potential side effects may contribute to these concerns. The issue of service gaps, including the unavailability of vaccines at health centers, was also frequently mentioned. Caregivers expressed frustration with stockouts, which prevented timely immunizations. This problem is consistent with related findings which identified vaccine stockouts as a significant challenge in many sub-Saharan African countries [28]. Timely availability of vaccines is critical to maintaining trust in the immunization system. Moreover, the scheduling of immunization sessions during working hours posed another barrier, as it conflicted with caregivers' daily responsibilities. This aligns with the findings that found that rigid vaccination schedules are a significant barrier to access [29]. Additionally, economic constraints such as transportation costs and lost income were recurrent issues. This aligns with study which highlighted that economic factors often prevent caregivers from accessing vaccination services, particularly in low-resource settings [30].

Conclusion

This study assesses the enablers and barriers to childhood immunization in Gassol LGA, Taraba State, Nigeria. The findings indicate that key enablers include community awareness, support from leaders, healthcare infrastructure, and outreach programs, which collectively enhance childhood vaccine uptake. Conversely, significant barriers such as cultural resistance, misinformation, service gaps, and economic constraints hinder childhood immunization coverage. Addressing these barriers requires targeted and culturally sensitive interventions to strengthen immunization systems and promote vaccine acceptance. The study shows the need for collaborative efforts between stakeholders, including healthcare providers, community leaders,

and policymakers, to improve immunization rates and protect children from vaccine preventable diseases.

Ethical Approval:

As per international standards or university standards written ethical approval has been collected and preserved by the author(s).

CONSENT:

Informed consent was obtained from all participants, ensuring voluntary participation and data obtained are treated with confidentiality.

Disclaimer (Artificial intelligence)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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