

# Perception of Islamic Scholars Towards Polio Vaccination in Northern Nigeria

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## Abstract

*Poliomyelitis, commonly known as polio, is a highly infectious disease that can lead to permanent paralysis and, in severe cases, death. Despite global efforts to eradicate polio through vaccination, Nigeria, particularly its Northern region, has faced significant challenges in reaching full immunization coverage. Resistance to polio vaccination is often rooted in cultural and religious concerns, with Islamic scholars playing a significant role in shaping public perception and acceptance of health interventions. This study investigates the attitudes, beliefs, and influence of Islamic scholars towards polio vaccination in Northern Nigeria, where vaccine hesitancy has presented an obstacle to public health initiatives. Using a qualitative research approach, we conducted in-depth interviews with a representative sample of Islamic scholars across several states in Northern Nigeria. The findings reveal that Islamic scholars' perceptions of polio vaccination are influenced by a complex interplay of religious beliefs, historical mistrust of international health agencies, and the spread of misinformation within communities. While some scholars view vaccination as a religious duty to protect health, others express concerns that the vaccine may conflict with religious or cultural values. Additionally, rumours and conspiracy theories, such as beliefs that the vaccine is a means of population control, have contributed to scepticism among scholars and their communities. This research highlights the pivotal role that Islamic scholars play as community leaders and influencers in Northern Nigeria, particularly in rural and underserved areas. By understanding these scholars' perspectives, health authorities can tailor communication strategies and collaborate with religious leaders to improve vaccine acceptance. Our findings suggest that culturally sensitive engagement with Islamic scholars, combined with efforts to address misinformation, and could be instrumental in reducing resistance to polio vaccination. The study offers practical recommendations for health policy makers, emphasizing the need for community-based approaches that respect religious beliefs while promoting public health objectives. This research contributes to the broader discourse on health interventions in religious communities and has implications for other regions facing similar challenges with vaccine hesitancy.*

**Keywords:** Islamic scholars, Northern Nigeria, perception, Polio, vaccination

## INTRODUCTION

Poliomyelitis, commonly referred to as polio, is a debilitating viral disease primarily affecting children under the age of five, with a potential for irreversible paralysis and, in severe cases, death World Health Organization [WHO] [1]. The global fight against polio, led by the WHO and the Global Polio Eradication Initiative (GPEI), has significantly reduced the incidence of the disease worldwide. However, certain areas, including Northern Nigeria, continue to face challenges in fully eradicating polio due to complex socio-cultural and religious dynamics [2]. In this region, Islamic scholars, or *Ulamas*, are influential community figures whose views on public health

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interventions can greatly impact community perceptions and behaviours Understanding the perceptions of these scholars toward polio vaccination is essential for overcoming vaccine hesitancy and fostering acceptance of public health campaigns [3, 4].

Despite global progress, Nigeria has remained one of the last strongholds for wild poliovirus, largely due to resistance to vaccination in its Northern regions [5] Vaccine hesitancy here is shaped by a convergence of factors, including deeply rooted religious beliefs, historical mistrust of Western-led interventions, and the widespread dissemination of misinformation [6]. For instance, in the early 2000s, rumours circulated that polio vaccines were part of a conspiracy to sterilize Muslim populations in the North, which led to widespread vaccine refusals and a temporary suspension of immunization campaigns in certain states [7, 4]. Although these claims have been thoroughly debunked, the mistrust that was sown during this period has left a lasting impact, and scepticism toward vaccines remains prevalent in some areas [8].

In Northern Nigeria, Islamic scholars play a central role in shaping community beliefs and norms, especially in rural and traditionally religious areas. These scholars, regarded as both spiritual and moral authorities, influence local attitudes toward health practices, including vaccination. Studies suggest that the endorsement or opposition of religious leaders can significantly influence vaccine acceptance in their communities, either fostering compliance with health campaigns or contributing to vaccine hesitancy [9, 10]. Islamic perspectives on health can be supportive of vaccination, as Islamic teachings prioritize *Maslaha* (Public interest) and protection of life, which aligns with the goals of immunization [11]. However, a lack of accurate health information, combined with concerns about foreign influence, has led some Islamic scholars to adopt a cautious or even oppositional stance on polio vaccination [5].

The influence of misinformation in Northern Nigeria further complicates the public's response to vaccination campaigns. Common misconceptions, such as beliefs that the polio vaccine is laced with substances intended to cause infertility or that it is part of a Western agenda, have contributed to a climate of suspicion [8]. Additionally, limited access to credible health information has allowed these rumours to persist within communities. Islamic scholars, particularly those without formal medical education, may inadvertently contribute to vaccine hesitancy by echoing unverified information or expressing doubts about the vaccine's safety [9]. These dynamics underscore the need for culturally sensitive engagement with religious leaders to build trust and improve public understanding of vaccination [6].

This study aims to address these complexities by examining the perceptions of Islamic scholars toward polio vaccination in Northern Nigeria. Specifically, it seeks to answer three key research questions: (i) What are the predominant attitudes of Islamic scholars in Northern Nigeria toward polio vaccination? (ii) What religious, cultural, and political factors influence their views? and (iii) How can health authorities effectively engage Islamic scholars to support polio eradication efforts? By exploring these questions, this research aims to provide insights into the socio-religious context of vaccine hesitancy and to inform strategies that health authorities can use to engage religious leaders as advocates for public health.

Through a qualitative research design, this study uses in-depth interviews with a diverse group of Islamic scholars from several states in Northern Nigeria. Qualitative methods allow for a deeper exploration of the beliefs and attitudes that inform scholars' perspectives, as well as the social dynamics influencing vaccine acceptance in these communities [12]. By identifying key themes and patterns in scholars' responses, this study aims to bridge the gap between public health policy and religious perspectives, fostering a more cooperative approach to polio eradication [2].

The findings of this research have implications for the broader discourse on health interventions in religious communities, particularly in settings where vaccine hesitancy is rooted in cultural or religious beliefs. In regions where religious leaders hold substantial authority, collaborating with these leaders in

public health initiatives can be a powerful tool for fostering trust, addressing misinformation, and ultimately increasing vaccine uptake. This research contributes to a growing body of literature on the intersection of religion and public health, offering practical recommendations for public health practitioners and policymakers seeking to reduce vaccine hesitancy and improve immunization rates in Northern Nigeria and similar settings [11, 6, 9].

## **LITERATURE REVIEW**

### **Polio Vaccination Efforts in Nigeria**

Poliomyelitis has been a persistent public health challenge in Nigeria, especially in its Northern regions. Despite extensive vaccination campaigns led by the Global Polio Eradication Initiative (GPEI), Nigeria was one of the last countries in Africa to be declared polio-free, a milestone achieved only in 2020 [1, 2]. The polio eradication campaign faced numerous obstacles, from logistical difficulties in reaching remote areas to vaccine hesitancy fuelled by social, political, and religious factors [5–8]. In Northern Nigeria, where Islamic beliefs are central to daily life, religious and community leaders wield significant influence over public health behaviours, shaping perceptions toward vaccination efforts. The challenges faced in polio eradication highlight the need to understand the socio-cultural dynamics that impact vaccine acceptance, particularly the role of Islamic scholars who are respected authorities in these communities [4].

### **Vaccine Hesitancy in Islamic Communities**

Vaccine hesitancy, defined as the delay in acceptance or refusal of vaccines despite availability, is a complex phenomenon influenced by factors such as cultural beliefs, trust in health systems, and misinformation [13]. In Northern Nigeria, hesitancy toward the polio vaccine has often been rooted in religious beliefs and reinforced by community leaders who may view the vaccine with suspicion. Research has shown that in regions with significant Islamic populations, religious leaders can either endorse or challenge health interventions, which has a powerful effect on public attitudes [9]. A significant barrier to vaccine acceptance in Northern Nigeria has been the spread of misinformation, such as the belief that polio vaccines are part of a Western plot to control the Muslim population through sterilization, a rumour that gained traction in the early 2000s [4–8]. Although Nigerian authorities and global health organizations have actively debunked these claims, the lingering distrust has left a lasting impact on vaccination efforts in the region.

Religious beliefs play a dual role in vaccine hesitancy. Some Islamic teachings advocate for the protection of health and well-being as a moral duty, aligning with public health objectives. For example, the principle of *Maslaha* (Public interest) supports actions that preserve life, which could extend to vaccination efforts [9, 10]. However, differing interpretations of religious doctrine, combined with a lack of formal medical knowledge among some religious leaders, can lead to misunderstandings about vaccination's role in health protection [5]. Understanding how these beliefs and interpretations influence Islamic scholars' views on polio vaccination is crucial for developing culturally sensitive strategies to increase vaccine acceptance.

### **The Role of Trust and Misinformation**

Trust is a critical factor in vaccine acceptance, particularly in communities where past experiences with health interventions have been fraught with tension. Studies have shown that communities with low trust in government and international organizations are more likely to resist vaccination campaigns, often due to fears that these interventions serve ulterior motives [6–8]. In Northern Nigeria, historical mistrust of Western-led health initiatives has been exacerbated by rumours and conspiracy theories about the polio vaccine's safety and purpose. Islamic scholars, who hold respected positions in the community, can either alleviate or exacerbate these fears based on their perceived credibility and authority [11]. For this reason, engaging Islamic scholars in vaccine education and involving them in public health communication efforts can help build trust and reduce misinformation-related vaccine hesitancy.

### **The Role of Islamic Scholars in Public Health**

Islamic scholars in Northern Nigeria hold a unique position in society as both spiritual guides and moral authorities. Their influence extends beyond religious matters, affecting aspects of daily life, including health practices. Previous research highlights the positive impact religious leaders can have when they endorse public health interventions. For example, in regions of Pakistan and Afghanistan with high rates of polio, the endorsement of vaccination by local imams has been linked to improved vaccination uptake [14, 15]. In Northern Nigeria, however, mixed responses among Islamic scholars have led to varied outcomes in polio vaccination efforts, with some scholars encouraging vaccination as a religious duty and others expressing scepticism based on distrust of Western motives or concerns about vaccine safety [10, 5].

### **Theoretical Framework: Health Belief Model (HBM)**

To analyze the perceptions of Islamic scholars toward polio vaccination, this study draws on the Health Belief Model (HBM) as a guiding theoretical framework. The HBM is widely used to understand and predict health behaviours by examining factors that influence individuals' decisions to engage in health-promoting actions. Developed by Rosenstock in the 1950s, the HBM posits that health behaviours are determined by individuals' perceptions of the following components: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy [16].

- *Perceived Susceptibility and Severity:* Islamic scholars' views on polio vaccination may be influenced by their beliefs regarding the susceptibility of their community to polio and the severity of the disease's consequences. If scholars perceive polio as a serious threat to public health, they may be more likely to support vaccination as a preventive measure. Conversely, if they view the risk of polio as low or believe the disease can be managed without vaccination, they may exhibit hesitancy [9, 14].
- *Perceived Benefits:* This component explores the perceived advantages of vaccination. Islamic scholars who see vaccination as a means of protecting community health in line with Islamic principles may advocate for it, drawing on religious values that emphasize the preservation of life and well-being (*Maslaha*). Studies show that religious leaders who perceive vaccination as beneficial are more likely to support it publicly, reinforcing community acceptance.
- *Perceived Barriers:* Barriers may include religious, cultural, or informational obstacles that hinder vaccine acceptance. Scholars who view vaccination as conflicting with religious values, or who have concerns about the vaccine's origin and safety, may oppose or discourage its use. This aligns with findings in previous studies that identify perceived barriers as a primary factor in vaccine hesitancy in religious communities [5, 4].
- *Cues to Action:* Cues to action refer to factors that prompt individuals to take health-related actions. For Islamic scholars, cues may come from trusted health authorities, respected peers within the religious community, or direct requests from public health officials. When scholars are actively engaged by health authorities, they are more likely to serve as advocates for vaccination [6].
- *Self-Efficacy:* Self-efficacy involves confidence in one's ability to perform an action. Islamic scholars who feel they can influence positive health outcomes through advocacy may be more likely to endorse vaccination. This factor is especially relevant in communities where religious leaders are seen as credible health messengers.

By applying the HBM to the perceptions of Islamic scholars, this study seeks to understand the complex motivations and barriers that influence their attitudes toward polio vaccination. The HBM provides a lens for interpreting the balance of religious, cultural, and informational factors that shape vaccine hesitancy or acceptance among these influential leaders. This theoretical approach highlights the need for health interventions that address specific barriers while aligning with perceived benefits in culturally meaningful ways.

Thus, this literature review outlines the key factors influencing vaccine hesitancy in Northern Nigeria and underscores the critical role of Islamic scholars in shaping public health behaviours. The theoretical framework of the Health Belief Model provides a structured approach to understanding these scholars' perspectives, allowing for an in-depth examination of the motivations, barriers, and potential strategies for promoting vaccine acceptance. Addressing these factors can improve public health strategies and foster more effective partnerships with religious leaders in vaccine advocacy.

## **METHODOLOGY**

### **Research Design**

This study employs a qualitative research design to explore the perceptions of Islamic scholars toward polio vaccination in Northern Nigeria. Qualitative methods are particularly suited to understanding complex social and cultural dynamics, allowing for in-depth exploration of attitudes, beliefs, and the socio-religious context that shapes the perspectives of Islamic scholars. This approach aligns with previous research suggesting that qualitative interviews can provide nuanced insights into religious and cultural factors influencing public health behaviours [12–17].

### **Study Setting**

The study was conducted in several states within Northern Nigeria, a region characterized by a predominantly Muslim population and a strong presence of Islamic scholars who hold significant social influence. States included in the study were selected based on their high incidence of vaccine hesitancy and their history of polio outbreaks. By focusing on these areas, the study aimed to capture a broad spectrum of viewpoints and identify region-specific factors affecting vaccine acceptance.

### **Sample and Participant Selection**

The target population for this study included Islamic scholars, or *Ulamas*, who serve as religious leaders and influencers within their communities. These scholars were chosen because of their authority on religious and moral issues, as well as their role in shaping community attitudes toward health practices, including vaccination. A purposive sampling method was used to recruit participants, ensuring that the sample reflected a diversity of views and backgrounds among Islamic scholars. To maximize variation, scholars were selected from different regions within Northern Nigeria, representing both urban and rural settings, and with different levels of influence, ranging from local clerics to well-known religious leaders.

A total of 20 scholars were interviewed, a sample size chosen to allow for a thorough analysis of themes without reaching redundancy. This sample size is consistent with other qualitative studies aiming to explore in-depth perspectives in specific social or religious contexts [18]. Participant recruitment was facilitated through contacts within local mosques, religious organizations, and community groups.

## **DATA COLLECTION**

Data were collected through semi-structured, in-depth interviews with each Islamic scholar. Semi-structured interviews were chosen to allow flexibility in exploring topics that emerged during the conversation, while still covering core questions related to the study's research objectives. An interview guide was developed based on existing literature on vaccine hesitancy, religious beliefs, and public health interventions in Muslim communities. Core topics included:

- *General Attitudes towards Polio Vaccination:* Scholars were asked to describe their overall views on polio vaccination and how they perceive its importance within their communities.
- *Religious Beliefs and Health Practices:* Scholars were questioned about any religious teachings or interpretations that influence their views on vaccination, including concepts like *Maslaha* (public interest) and religious duties to protect health.
- *Misinformation and Vaccine Safety Concerns:* Interviewees were asked about common rumours or misconceptions they encounter regarding polio vaccines, including beliefs about foreign agendas or harmful side effects.

- *Trust in Health Authorities:* Scholars were asked to share their perceptions of both Nigerian health authorities and international health organizations, focusing on trust and credibility issues.

Interviews were conducted in person or via phone, when necessary, with each session lasting between 45 minutes to one hour. Interviews were conducted in Hausa or English, depending on the preference of the participant. All interviews were audio-recorded with the participants' consent and subsequently transcribed for analysis. To ensure confidentiality, each participant was assigned a unique identifier, and any identifying information was removed from the transcripts.

## DATA ANALYSIS

Data were analyzed using thematic analysis, a method suitable for identifying, analyzing, and reporting patterns within qualitative data [19]. This approach enabled the researcher to categorize the data into meaningful themes, reflecting the complex interplay of religious, cultural, and social factors shaping Islamic scholars' perceptions of polio vaccination. The analysis process included several steps:

- *Familiarization with the Data:* The researcher first reviewed each transcript to gain an initial understanding of the responses.
- *Coding:* Transcripts were coded by identifying meaningful statements or phrases that reflected the participants' views on vaccination, religious beliefs, and perceived barriers to vaccination acceptance.
- *Theme Development:* Codes were grouped into themes based on recurring patterns in the data. Key themes included religious beliefs surrounding vaccination, concerns about vaccine safety, influence of misinformation, and levels of trust in health authorities.
- *Reviewing and Refining Themes:* Themes were reviewed to ensure they accurately captured the data and were relevant to the study's research questions. This process involved revisiting the transcripts and adjusting themes to better represent the perspectives shared by participants.
- *Interpretation:* Final themes were analyzed in the context of existing literature to interpret their significance and implications for public health strategies in Northern Nigeria.

Throughout the analysis, reflexivity was maintained by considering how the researcher's own background and assumptions might influence the interpretation of the data [17]. Additionally, member-checking was conducted with a subset of participants to ensure that the findings accurately represented their views, further enhancing the credibility of the analysis.

## Ethical Considerations

This study was conducted following ethical guidelines for research involving human subjects. Ethical approval was obtained from the relevant institutional review board before the commencement of the study. Participants were fully informed about the purpose of the research, their right to withdraw at any time, and measures to protect their confidentiality. Informed consent was obtained from each participant before the interview, and all data were anonymized to maintain privacy.

## LIMITATIONS

While this study provides valuable insights, several limitations should be acknowledged. First, the reliance on self-reported data may introduce bias, as participants might have framed their responses in a socially desirable manner. Additionally, the findings may not be generalizable to all Islamic scholars in Northern Nigeria, as the sample was limited to selected states. Finally, language barriers and cultural differences between the interviewer and participants may have influenced the data collection and interpretation process. Despite these limitations, this study offers an in-depth understanding of Islamic scholars' perceptions of polio vaccination, which may be applicable to similar contexts within Nigeria and beyond.

## Findings of the Study

The analysis of interviews with Islamic scholars in Northern Nigeria yielded several interconnected themes that reflect the nuanced and multifaceted perspectives on polio vaccination. These findings are

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categorized into five major themes: the intersection of religious beliefs and health, perceived risks and safety concerns surrounding vaccination, the impact of misinformation and rumour, varying levels of trust in government and international health organizations, and scholars' approaches for improving vaccine uptake. These themes provide insights into the complex social, cultural, and religious dynamics that shape attitudes toward vaccination within this community.

### **Intersection of Religious Beliefs and Health**

The role of religious beliefs emerged as a central theme in shaping Islamic scholars' attitudes toward polio vaccination. Many scholars viewed health protection as consistent with Islamic teachings, citing religious principles that emphasize the importance of preserving life. Scholars who supported vaccination often drew upon Islamic concepts such as *Maslaha* (Public interest) and *Hikmah* (Wisdom) to frame vaccination as a moral duty aligned with the protection of community health.

### **One Scholar Noted**

"Islam teaches us that saving lives is one of the highest forms of service. Vaccination, if it protects our children, is in line with our duty to safeguard our community."

This supportive perspective was typically grounded in a belief that protecting health is both a religious and communal responsibility. Scholars with this view advocated for vaccination as part of Islamic obligations to prevent harm, suggesting that vaccination aligns with the Qur'anic emphasis on preserving life and welfare [10].

However, other scholars expressed scepticism, voicing concerns that vaccination might contradict certain religious values or principles of self-reliance. Some viewed reliance on vaccination as a reliance on external, non-divine sources for protection, expressing that such dependence might weaken their community's faith in divine protection.

### **One Scholar Articulated this Hesitancy**

"While it's good to take precautions, we must not forget that ultimate protection comes from Allah. Sometimes, these vaccines are seen as pushing us to rely on human-made solutions rather than divine protection."

These divergent perspectives highlight a tension between support for medical intervention as a religious duty and the belief that faith should be the primary source of protection. Understanding this variability suggests a need for health messaging that resonates with Islamic values and emphasizes vaccination as a complementary, rather than conflicting, act of faith.

### **Perceived Risks and Safety Concerns**

A significant concern expressed by many scholars involved the perceived risks and safety of the polio vaccine. Historical mistrust of vaccination campaigns, stemming from the early 2000s polio vaccine boycott, continues to shape negative perceptions within the community [5]. Several scholars voiced concerns that the polio vaccine might contain harmful ingredients or lead to unintended side effects, such as infertility. These safety concerns were compounded by the belief that foreign entities might use the vaccine to harm the Muslim population in Northern Nigeria.

### **One Scholar Explained**

"Our community still remembers the rumours from years ago that vaccines were designed to control our population. There is a fear that the vaccine might carry risks that we don't fully understand."

These fears reflect a longstanding suspicion of Western-led health interventions, which many scholars perceived as having ulterior motives. This mistrust has persisted despite efforts by health authorities to provide transparency and education. Furthermore, the lack of information on the vaccine's composition and testing reinforced a perception of risk among some scholars, as they felt uncertain about the vaccine's long-term effects.

“We hear about what is inside these vaccines, but we don’t know if it’s safe. There are concerns about possible harm, especially when the vaccine comes from outside our country.”

These concerns highlight the critical need for health authorities to provide clear and reliable information on vaccine safety, including details about manufacturing processes and safety standards. By addressing these concerns transparently, health organizations may be able to alleviate fears and build confidence among influential religious leaders.

### **Impact of Misinformation and Rumour**

The influence of misinformation emerged as another pervasive theme in shaping Islamic scholars’ views on polio vaccination. Many scholars described how rumours and unverified claims about the vaccine circulate widely within their communities, often fuelled by social media and word-of-mouth. Common myths included the notion that the vaccine contains harmful substances, that it is intended to harm Muslim children, or that it causes long-term health issues such as infertility.

### **One Scholar Emphasized the Prevalence of Misinformation**

“People are exposed to many stories about the vaccine causing harm. Social media is full of such messages, and people believe what they hear from friends and family.”

Scholars acknowledged that misinformation has led to widespread distrust, making it difficult for them to encourage vaccination within their communities. Some scholars admitted they themselves were not fully informed about the vaccine’s benefits and risks, which left them feeling uncertain and, at times, unwilling to endorse vaccination without more reliable knowledge.

“If we, the scholars, do not have clear information, it is difficult for us to encourage others. We need trustworthy sources to give us facts that we can share with our people.”

The persistence of misinformation underscores the need for public health authorities to engage Islamic scholars as partners in dispelling rumours and correcting false beliefs. Educating scholars with accurate information and equipping them to counter misinformation within their communities may help mitigate the spread of harmful myths and foster greater vaccine acceptance.

### **Trust in Government and International Health Organizations**

A theme that emerged across all interviews was the role of trust or lack thereof in shaping scholars’ perspectives on vaccination. For many scholars, trust in health authorities, both local and international, was a crucial factor influencing their stance on the polio vaccine. Some scholars expressed deep-seated distrust of both government health agencies and international organizations, often citing past experiences where they felt disrespected or marginalized by these institutions.

### **One Scholar Articulated This Sentiment**

“There have been many cases where our community feels that international organizations only serve their own interests. They come in, tell us what to do, and leave without considering our needs.”

For these scholars, the perception of foreign interference reinforced scepticism, especially when health initiatives were perceived as disconnected from local needs and values. However, other scholars noted that trust could be built if health organizations engaged with local leaders and respected cultural values. Scholars who felt their communities were respected by health authorities were more open to supporting vaccination, indicating that positive engagement could foster support.

“Trust can be earned when health officials work closely with us and show respect. When we feel included, we are more likely to support their work and encourage others to do the same.”

This theme underscores the importance of fostering trust through respectful engagement and collaboration with Islamic scholars. Health initiatives that prioritize culturally sensitive communication

and establish sustained partnerships with local leaders may be more successful in gaining community support.

### **Approaches for Improving Vaccine Uptake**

Despite the challenges identified, many scholars provided constructive approaches for improving vaccine acceptance within their communities. Most participants emphasized the need for culturally appropriate health messaging that aligns with Islamic values and engages respected community figures in the dissemination process. Scholars suggested that health campaigns incorporate Islamic teachings that support health protection and preservation of life, helping to position vaccination as consistent with religious principles.

### **One Scholar Suggested**

“If vaccination can be shown as a part of our religious duty to protect health, people will be more open to it. Working with scholars who understand these values is essential.”

Scholars also recommended that health organizations proactively address misinformation by directly engaging with communities to provide accurate information. Several suggested that religious leaders be trained on vaccination facts, enabling them to serve as reliable sources of information and counteract myths.

“We need training and resources from trusted sources. If we have clear knowledge, we can help our community see the truth and understand that vaccination is safe.”

Another recommendation was to increase transparency and foster collaboration between health authorities and local leaders. Many scholars suggested that involving local scholars in decision-making processes could enhance trust and encourage community support for vaccination campaigns.

“When we are part of the planning and have a voice in how things are done, people feel respected, and they listen. Collaboration is the key to building trust.”

These recommendations suggest a pathway for improving vaccine uptake through partnership with Islamic scholars, culturally sensitive messaging, and targeted efforts to counter misinformation.

To this end, the findings reveal a complex interplay of religious beliefs, safety concerns, misinformation, and trust in shaping Islamic scholars’ attitudes toward polio vaccination in Northern Nigeria. While some scholars view vaccination as compatible with Islamic teachings and an important public health measure, others are influenced by longstanding concerns about vaccine safety, foreign agendas, and pervasive misinformation. Trust in health authorities, both local and international, emerged as a critical factor, with scholars expressing a willingness to support vaccination when they felt respected and involved in health initiatives. The scholars’ recommendations for improving vaccine acceptance emphasize the potential for collaboration, suggesting that engagement strategies that involve religious leaders and respect cultural values could foster greater vaccine acceptance and contribute to the success of polio eradication efforts in Northern Nigeria [11].

## **DISCUSSION**

The findings of this study reveal the complex, multifaceted perspectives of Islamic scholars toward polio vaccination in Northern Nigeria, illustrating how religious beliefs, historical mistrust, safety concerns, and misinformation influence attitudes toward vaccination. By exploring these factors, this study offers valuable insights into the social and cultural dynamics that affect vaccine acceptance in religious communities. The discussion below contextualizes these findings within existing literature and explores their implications for public health strategies aimed at overcoming vaccine hesitancy.

### **Religious Beliefs and Health: Balancing Faith and Medical Intervention**

The study found that many Islamic scholars viewed polio vaccination as aligned with the religious duty to protect life, drawing on Islamic principles, such as *Maslaha* (public interest) and *Hikmah* (wisdom) to advocate for vaccination as a moral responsibility. This perspective aligns with prior research indicating that religious leaders can be strong proponents of public health when health initiatives resonate with religious values [9, 12]. However, the finding that some scholars view reliance on vaccines as potentially weakening faith in divine protection highlights a tension between faith and medical intervention. This tension is also documented in studies of other religious communities, where similar beliefs shape health practices [11–14].

This dual role of religion as both a motivator for and a barrier against vaccination suggests the need for public health messaging that respects and incorporates Islamic values. By framing vaccination as consistent with Islamic teachings on health preservation, health authorities can foster greater alignment between public health goals and religious beliefs. Such approaches have been effective in similar contexts, where religious teachings have been leveraged to promote vaccination acceptance [15]. Thus, integrating religious messages into vaccination campaigns could help bridge the gap between faith and medical intervention, fostering a more supportive environment for vaccination.

### **Perceived Risks and Safety Concerns: The Legacy of Historical Mistrust**

A prominent finding was the persistent concern among scholars regarding the safety and intentions behind the polio vaccine, echoing the widespread mistrust stemming from the early 2000s polio vaccine boycott. This mistrust, rooted in rumours that the vaccine contained sterilizing agents targeting Muslims, has had lasting effects on vaccine acceptance in Northern Nigeria [7].

Similar findings have been observed in other Muslim-majority regions, where historical grievances and perceptions of Western-led health initiatives as culturally intrusive have fuelled scepticism [18].

Addressing these concerns requires a proactive approach that not only dispels myths but also fosters long-term trust. Transparent communication about vaccine safety, combined with an acknowledgment of past grievances, could help health authorities rebuild credibility. Health authorities should consider involving trusted local leaders in communicating safety information and providing open channels for addressing concerns about vaccine composition and side effects. This approach may help to counteract the lingering fears from past controversies and shift perceptions from suspicion to acceptance.

### **The Influence of Misinformation: The Need for Accurate Health Education**

The study's findings underscore the pervasive impact of misinformation in shaping negative attitudes toward polio vaccination. Common rumours, such as claims that the vaccine causes infertility or contains harmful ingredients have fuelled vaccine hesitancy, consistent with other studies that highlight misinformation as a significant barrier to vaccine acceptance in religious communities [6–9]. The role of social media and informal networks in disseminating unverified information further complicates efforts to promote vaccine acceptance, as misinformation often spreads faster than corrective information.

This issue points to the importance of equipping religious leaders with accurate, evidence-based information about vaccines. Training Islamic scholars as informed advocates who can address community concerns and dispel myths may serve as an effective strategy to counteract misinformation. Previous studies have demonstrated that empowering religious leaders with health education resources can enhance their role as credible sources of information, helping to bridge knowledge gaps and reduce vaccine hesitancy [9]. By enabling scholars to act as informed intermediaries, health authorities can increase their reach and credibility within communities resistant to external health messaging.

### **Trust in Health Authorities: The Importance of Culturally Sensitive Engagement**

The findings highlight that trust in health authorities plays a critical role in shaping scholars' perceptions of vaccination. Many scholars voiced a lack of trust in both local and international health

organizations, citing concerns about foreign influence and a perceived disregard for local values. This distrust is consistent with research showing that communities are more likely to resist vaccination efforts when they perceive health initiatives as imposed by external forces [8]. Additionally, studies in other settings reveal that building trust requires health authorities to demonstrate respect, transparency, and genuine collaboration with community leaders [14].

To build trust, health authorities must adopt culturally sensitive approaches that prioritize collaboration with local leaders. Involving Islamic scholars in the planning and implementation of vaccination campaigns can help foster a sense of ownership and respect, signalling that health authorities value local perspectives. Furthermore, establishing sustained partnerships with religious leaders can shift perceptions from short-term intervention to long-term commitment, enhancing the credibility of health organizations and reducing resistance to public health initiatives.

### **Approaches from Scholars: Leveraging Community-Driven Solutions**

Many Islamic scholars offered constructive approaches for improving vaccine acceptance, emphasizing the need for culturally tailored messaging and direct engagement with local leaders. Scholars suggested that vaccination campaigns incorporate Islamic teachings on health preservation, which aligns with other studies indicating that religious messaging can be an effective tool for promoting vaccine acceptance [15, 9]. This aligns with the Health Belief Model's focus on perceived benefits, as framing vaccination as a religiously endorsed health measure could strengthen the perceived value of vaccination among hesitant populations.

The scholars' suggestions to address misinformation by providing religious leaders with health education resources also align with the HBM component of "cues to action." Studies indicate that cues from trusted community leaders can serve as powerful motivators for health behaviour change, especially in contexts where vaccine hesitancy is widespread [13]. By empowering Islamic scholars to dispel myths and provide accurate information, health authorities can leverage the scholars' influence as respected community figures to counter misinformation and encourage vaccination [18].

### **Implications for Public Health Policy**

The findings of this study have several implications for public health policy, particularly in regions where religious beliefs and cultural values strongly influence health behaviours. First, integrating religious leaders into health communication strategies can serve as a bridge between public health authorities and communities, increasing trust and acceptance of vaccination. Health policymakers should consider developing partnerships with religious organizations, providing training for leaders, and creating communication materials that incorporate religious teachings supportive of vaccination.

Second, addressing historical grievances and perceptions of foreign influence requires long-term, trust-building efforts. Health organizations can achieve this by demonstrating transparency, maintaining open dialogue with community leaders, and ensuring that interventions align with local priorities. This approach aligns with research showing that culturally sensitive engagement is essential for reducing resistance and promoting health behaviours in culturally distinct communities [11–20].

Finally, targeting misinformation through community-driven education initiatives, particularly by empowering Islamic scholars as advocates, may be a powerful tool for reducing vaccine hesitancy. Health policymakers should prioritize developing accessible, evidence-based resources that religious leaders can share with their communities to counteract misinformation effectively [20].

### **CONCLUSIONS**

This study's findings underscore the importance of addressing the socio-cultural and religious factors that shape vaccine hesitancy in Northern Nigeria. Islamic scholars' perspectives on polio vaccination reveal a complex interplay of religious beliefs, safety concerns, historical mistrust, and misinformation that affects vaccine acceptance. By adopting culturally sensitive engagement strategies, building trust

through respectful collaboration, and equipping religious leaders with accurate information, health authorities can foster a more supportive environment for vaccination efforts. The implications of this study extend beyond polio, offering insights into how religious leaders can be engaged to promote public health in other settings facing similar challenges with vaccine hesitancy. Through sustained partnerships with local religious leaders, health authorities may not only advance polio eradication in Northern Nigeria but also improve public health outcomes in other regions with high levels of vaccine hesitancy.

### **Recommendations**

The recommendations of this study emphasize the importance of cultural sensitivity, trust-building, and collaboration with religious leaders to increase vaccine acceptance in Northern Nigeria. By engaging Islamic scholars as trusted advocates, addressing misinformation directly, building long-term relationships, and fostering community ownership, public health authorities can create a supportive environment for vaccination campaigns. Implementing these strategies will not only help overcome existing barriers to polio vaccination but may also provide a model for addressing vaccine hesitancy in other culturally distinct communities worldwide as provided below:

#### **Engage Islamic Scholars as Key Partners in Public Health Campaigns**

Given the influence of Islamic scholars within Northern Nigerian communities, it is essential for public health authorities to actively involve these religious leaders as partners in vaccination campaigns. Scholars can serve as trusted advocates who bridge the gap between health authorities and the local population. By engaging scholars as collaborators rather than passive recipients of information, health organizations can foster a sense of ownership and commitment to the success of vaccination efforts. Practical steps include:

- Establishing advisory councils with respected Islamic scholars who can provide input on campaign planning, messaging, and cultural sensitivity.
- Involving scholars in campaign development, ensuring that their voices are included in the design of materials and outreach strategies.

#### **Provide Health Education and Training for Religious Leaders**

The findings indicate that Islamic scholars' understanding of vaccination may be limited by access to accurate information, which can fuel uncertainty and reinforce hesitancy. Public health authorities should develop educational programs specifically for religious leaders to improve their knowledge about polio vaccination, vaccine safety, and public health principles. Education initiatives could include:

- Workshops and seminars that provide clear, scientifically accurate information about vaccines, their benefits, and safety protocols, tailored to address specific concerns raised by religious leaders.
- Resource kits with fact sheets, FAQs, and responses to common misconceptions about vaccines that religious leaders can use to educate their communities.
- Ongoing support, such as hotlines or contact points where religious leaders can seek information or clarification when needed, helping them act as reliable sources of information in their communities.

#### **Develop Culturally Sensitive Messaging That Aligns with Islamic Values**

To foster vaccine acceptance, it is crucial for health campaigns to frame vaccination as compatible with Islamic teachings on health and well-being. Public health messages should incorporate Islamic principles, such as *maslaha* (public interest) and the duty to protect life, positioning vaccination as an act that aligns with the values of preservation and compassion. Strategies to achieve this include:

- Incorporating religious references into communication materials, emphasizing that vaccination is consistent with the Islamic duty to protect life and prevent harm.
- Partnering with local scholars to develop sermon materials that support vaccination, which imams can use during Friday prayers or other community gatherings.

- Creating video testimonials from respected religious figures who discuss the compatibility of vaccination with Islamic teachings, which can be shared widely through social media and community events.

### **Counteract Misinformation Through Targeted Community Outreach**

Misinformation and rumours about the polio vaccine continue to shape public perception and fuel vaccine hesitancy in Northern Nigeria. Addressing these myths requires targeted outreach efforts that directly engage communities and dispel common misconceptions. Public health authorities should work with Islamic scholars to correct misinformation and provide clear, evidence-based information about the safety and efficacy of the polio vaccine. Approaches could include:

- Community dialogue sessions led by trained religious leaders who can answer questions and clarify doubts about the vaccine in a respectful, open environment.
- Social media campaigns featuring Islamic scholars who address specific myths and misconceptions, helping to reach younger populations who may rely on digital platforms for information.
- Printed materials (e.g., brochures, posters) with fact-checking information placed in mosques, schools, and health centres, where community members can access reliable information.

### **Build Long-Term Trust with Consistent and Transparent Engagement**

The study highlights that historical mistrust of health authorities has contributed to vaccine hesitancy. To overcome this legacy of mistrust, public health organizations need to build long-term, transparent relationships with communities, demonstrating that they prioritize community welfare. Effective strategies include:

- Consistent presence and follow-up by health officials in the community, ensuring they remain visible and engaged beyond temporary vaccination drives.
- Regular updates on vaccination progress and health outcomes, shared with community leaders and residents, to demonstrate accountability and transparency.
- Feedback mechanisms that allow community members to express concerns, ask questions, and receive responses, fostering a sense of two-way communication and respect.

### **Leverage Community Events and Local Media for Outreach**

Public health campaigns should use local gatherings and media platforms familiar to Northern Nigerian communities to maximize reach and impact. Health authorities can use these settings to deliver culturally relevant messages about polio vaccination and respond to community concerns in real time. Strategies include:

- Public forums held at community centers or mosques where health officials, in partnership with Islamic scholars, discuss vaccination and answer questions from community members.
- Radio and television programs that feature respected religious leaders discussing the benefits of vaccination, with a focus on answering common questions and correcting misinformation.
- Inclusion of vaccination messaging at community events like weddings, religious gatherings, and festivals, where health professionals can provide on-site information and vaccination services.

### **Foster Collaboration between Health Organizations and Local Religious Councils**

To establish a coordinated and unified approach, health organizations should work closely with local religious councils that include Islamic scholars, imams, and other influential religious figures. By aligning health messages with religious leaders' perspectives, health campaigns can be more effectively tailored to the community's values. Possible initiatives include:

- Regular meetings with local religious councils to discuss vaccination progress, address emerging challenges, and refine strategies based on community feedback.
- Joint public statements issued by health organizations and religious councils endorsing vaccination as a community priority.
- Co-developed training sessions for both health professionals and religious leaders, helping both groups understand each other's perspectives and work collaboratively toward common goals.

### Promote Community Ownership of Health Initiatives

Building a sustainable foundation for health acceptance in the community requires initiatives that encourage local ownership and leadership in health-related matters. By promoting community-led health initiatives, public health organizations can foster a sense of empowerment and reduce perceptions of external imposition. Suggested actions include:

- Establishing community health committees composed of religious leaders, healthcare workers, and residents who jointly oversee vaccination efforts and ensure that campaigns are relevant to the community's needs.
- Empowering youth ambassadors from local communities to share accurate vaccine information, counter misinformation, and demonstrate the importance of vaccination to their peers.
- Providing micro-grants for community-driven health projects that encourage active participation in improving community health, creating a sense of shared responsibility for vaccination and disease prevention.

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