CULTURAL HEALTH BELIEF AND HEALTHCARE PROVIDERS' COMMUNICATION STRATEGIES IN TARABA STATE, NIGERIA

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ABSTRACT: This study titled "Cultural Health Belief and Healthcare Providers' Communication Strategies in Taraba State" examined cultural beliefs and healthcare providers' communication strategies for polio-related information in primary health centres in Jalingo. The study anchored the health belief model (HBM) to provide a framework for analysis. Both qualitative and quantitative survey designs were adopted for this study. The population comprised 213 healthcare providers in primary healthcare centres in the Jalingo Local Government Area. The findings of this study revealed that there are prevalent cultural health beliefs regarding polio vaccination, such as divine punishment, herbal remedies/traditional medicine, spiritual rituals, spiritual or supernatural beliefs, and cultural norms. The findings also showed that healthcare providers employed different communication strategies, such as training/workshops for community health workers, media campaigns/collaboration with local media outlets, community engagement events (such as health fairs, awareness walks, talkshows, and rallies), the use of religious or traditional leaders, the provision of gifts to parents/patients, house-to-house awareness campaigns, health talks, and town announcers, among others. Therefore, when healthcare providers incorporate an understanding of local cultural contexts into their communication strategies, the effectiveness of their messages on polio vaccine acceptance can improve significantly. However, stakeholders such as government and health curriculum designers should provide training and workshops for healthcare providers, particularly community health workers, to enhance their communication skills and cultural competence.

Keywords: Culture, Health Belief, Healthcare Providers, Communication Strategies

INTRODUCTION

Poliomyelitis, simply referred to as polio, has been one of the main public health issues for many years. The disease is caused by a virus that mostly affects children under five years of age. It can cause complete paralysis in a couple of hours by invading the nervous system. Polio has no cure; the major strategy for eradicating this deadly disease is vaccination (WHO, 2023). Although several efforts have been made in the provision of vaccines to eradicate polio, adoption of the vaccine has always been a challenge, especially in northern Nigeria (Nasiru, 2012). According to Mohammed, et al. (2009), the consistent failure of Nigeria to completely interrupt polio transmission is largely attributed to children (especially in the north) not being sufficiently vaccinated through routine and repeated supplemental vaccination activities. Renne (2006) suggested that polio vaccination is hampered in northern Nigeria by several

factors. Key among such factors are cultural and religious beliefs surrounding polio and the vaccine as a whole.

Therefore, the foundation of effective polio eradication lies in effective communication. Communication is simply the sharing of information, ideas, and thoughts from a sender to a receiver with the intention of bringing about a particular change or action (Okunna, 2013). Carefully planned communication strategies can break barriers to polio vaccination in the hardest-to-reach and most resistant populations (Nasiru et al., 2012). Previous empirical evidence (e.g., Obregon et al., 2012; Galaway, 2005) has shown that communication enhances the use of polio vaccination in the hardest-to-reach communities in India and Pakistan, leading to a reduction in the incidence of polio disease in those countries.

In Nigeria, polio vaccine communication has been carried out by several stakeholders through different channels of communication, including mass media channels and face-to-face communication. One major group championing polio vaccine communication is health care providers in various primary health centres located in different communities. Primary health care providers are the closest to community members; they have the responsibility to educate and convince community members, mostly in rural areas, about the causes, risks, prevention and treatment of diseases, including polio. However, communication between healthcare providers in culturally diverse locations often faces substantial challenges that can affect the understanding and acceptance of polio messages by healthcare providers.

Effective communication strategies are imperative for bridging cultural gaps and facilitating meaningful interactions between healthcare providers and patients. Communication is not merely about transmitting medical information; it encompasses verbal and nonverbal exchanges, active listening, empathy, and mutual respect. In multicultural healthcare settings, communication strategies must be tailored to accommodate linguistic diversity, cultural norms regarding authority and decision-making, and preferences for information sharing and involvement in care. This set the stage for exploring the dynamic interplay between cultural health beliefs and healthcare providers' communication strategies by elucidating the significance of cultural competence and effective communication in healthcare delivery. A multitraditional, religious, and cultural community can have a significant influence on attitudes about vaccination and behaviours related to seeking health care among its members. These ideas frequently influence how people and communities view polio and react to it, which has an impact on the effectiveness of health initiatives such as vaccination drives.

Specifically, cultural health beliefs often influence community members' perceptions regarding the causes, transmission, and prevention of diseases, including polio. For instance, some communities may hold beliefs that attribute diseases such as polio to supernatural causes, leading to scepticism or reluctance to accept modern medical interventions. Additionally, traditional healing practices and cultural norms may conflict with conventional medicine, affecting the acceptance and adherence to vaccination schedules (Sani-Gwarzo et al., 2012). These beliefs can significantly undermine the critical role of healthcare providers in primary health care centres in disseminating information and administering polio vaccinations. The cultural health beliefs prevalent in a community can be a source of misunderstandings, misinterpretations, or rejection of useful health intervention messages about polio-related information and vaccination services.

Jalingo is an atypical multicultural setting with different belief systems regarding health-related issues such as polio. Understanding the intricate interplay between cultural health beliefs and effective communication strategies among healthcare providers is crucial for developing context-specific interventions to bridge communication gaps and improve the acceptance and acceptance of polio vaccination in Jalingo. This is expedient because Jalingo is part of northern Nigeria, which is regarded as the world's largest reservoir of polio cases, accounting for more than 80% of the global cases (Sambe, Nkrumah, & Leke, 2004). This study aimed to analyse the influence of cultural health beliefs on the communication practices of healthcare providers in primary health care centres within Jalingo concerning polio. By revealing the complexities of cultural health beliefs and their influence on communication, this research might lead to valuable insights that can inform policymakers in designing more culturally appropriate and effective strategies for polio eradication efforts in Jalingo and similar culturally diverse settings.

Statement of the Problem

Effective communication of crucial health information, especially about polio vaccination, is a significant challenge in primary health care centres. This is due to prevailing cultural health beliefs among diverse cultural groups regarding polio. These beliefs often lead to misconceptions, misinformation, or reluctance to accept vaccination, which negatively impacts polio eradication campaigns. To enhance effective communication strategies in primary healthcare settings, there is a need to understand the complex interplay between cultural health beliefs, communication barriers, and polio vaccination acceptance. However, the literature lacks a comprehensive exploration of these variables, especially within the context of Jalingo, although Jalingo is a multicultural setting.

Few studies have investigated communities' perceptions of and receptivity to polio-related information communicated by healthcare providers. These perceptions and beliefs may affect the acceptance and adoption of preventive measures or vaccinations, making them vital factors to consider in fostering trust and effective communication in polio-related health interventions. This study addresses the challenges of effectively communicating polio vaccination information amidst diverse cultural beliefs in Jalingo.

Objectives of the study

The main objective of this study was to examine cultural beliefs and healthcare providers' communication strategies for polio-related information in primary health centres in Jalingo. The specific objectives of the study were as follows:

- i. To identify key cultural beliefs impacting polio vaccination acceptance.
- ii. To identify the communication strategies currently employed by healthcare providers to convey information about polio in Jalingo.
- iii. To explore the challenges faced by primary health care providers in addressing cultural health beliefs while communicating information about polio in Jalingo.

LITERATURE REVIEW

Cultural Sensitivity in Health Communication

Culture is an important factor that influences people's attitudes and behaviours in health. It is the total sum of behaviour, beliefs, mores, thinking patterns and values of people or groups. It

provides a shared identity, a sense of survival and belonging (Amodeo & Jones, 1997, as cited in Ahmad et al., 2019). Culture plays a vital role in the health care of patients and public health worldwide. Thus, cultural awareness helps to improve general knowledge of diseases and preventive measures (Koenig & Al-Shohaib, 2016). Culture is an essential component of the basis of every society. It can be seen as the attitudes and behaviours that distinguish a specific community or social group or its organization. Cultural norms, mores and values are derived from the set traditions and religion of the identified community and its people. In the same vein, Babatunde and Mustafa (2018) argue that in a multireligious society such as Nigeria, the culture and tradition of the people still strive despite Western civilization, which adds to the existing complexity and diversity of society (Babatunde & Mustafa, 2018). Similarly, the total sum of tradition, norms and behaviour is derived from religion because religion is a very important and crucial part of the culture that guides societal beliefs, norms and practices. The religion of the people as a cultural identity remains and persists as a cultural heritage of society (Ahmad & Harrison, 2007).

Thus, the health communication strategy of reaching out to people for health behavioural change should be derived from the culturally accepted norms and values of the intended target audience (Ahmad et al., 2019). A study on health communication promotion suggested that health matters and diseases affecting individuals or communities be addressed based on the peculiarities, backgrounds and cultural features of the target communities. Community members remain important for the overall success of health campaigns (Kadiri, 2015).

Cultural sensitivity is, therefore, employed in health communication campaigns to gain the acceptance of the target audience. Health communication experts identify and integrate people's cultural practices, beliefs, behaviours and norms and later plan or package health campaign materials, programmes and resources that will promote the well-being of people in that community (Ahmad et al., 2019). Furthermore, effective message design in health communication makes it easier for a message to be understood, while understanding the cultural sensitivity of the target community enhances the acceptance and action of the messages disseminated. For example, in their study, Acharya and Dutta (2012) argued that central approaches in the fight against HIV/AIDS emphasize the individual level and do not focus on people's beliefs, values, attitudes and behaviours for behavioural change as a means of preventing and intervening in the disease. They discovered in their study that people tend to only accept HIV/AIDS campaign messages that conform to their beliefs and values and are sympathetic to their plights. Similarly, Yahya (2007) and Ozohu-Suleiman (2010) reported the absence of cultural sensitivity in polio message design and hence the rejection of vaccination among people in northern Nigeria, who perceived the entire polio campaign as alien to their cultural and religious beliefs and values.

In polio communication campaigns targeting communities, parents and traditional and religious leaders become the most important target audience (Ozohu-Suleiman, 2010). In a similar vein, cultural values and their sensitivity should guide communication experts when producing messages and programmes that are intended for the audience. However, polio vaccination campaign messages for health behaviour change have failed to reflect the religious beliefs and culture of people in northern Nigeria. Cultural beliefs play a significant role in accepting health campaigns among community members. Religion, culture and sociopolitical factors affect the acceptance of health intervention campaigns, including polio immunization activities, in the northern region (Prata et al., 2012).

Furthermore, the inadvertent oversight of not involving traditional leaders and Islamic clerics in the polio communication campaign at the initial stage impeded efforts to address the challenges of noncompliance, for instance, among Muslim parents in northern Nigeria. These are community stakeholders who are revered, respected and considered guardians of the religion and cultural heritage of society that the Polio Eradication Initiative failed to connect with. This missing link results in the peddling of rumours and misconceptions about polio vaccine safety and efficacy (Nasir et al., 2014). Again, the absence of a cultural communication strategy that can address polio resistance among parents, as noted by polio eradication campaign planners, led to persistent refusal of polio vaccination (Nasir et al., 2014).

The adoption of relevant health communication theory concepts is vital to achieving good results in health promotion campaigns. The target audience receiving and acting on health communication messages sent helps to measure the impact and successes of the messages in a campaign (Corcoran, 2016). Situating this within the context of the study, the study hinges on two theories as its theoretical underpinnings. The Culturally Sensitive Model of Communicating Health can be used to determine how cultural sensitivity in polio vaccination communication campaigns can be used to enhance the acceptance of polio vaccination in northern Nigeria. The model is important because it contains strata of meanings that can be followed when adopting culturally sensitive health communication (Ahmad, 2011).

Principles of Effective Health Communication

For a health communication programme to have a powerful impact on society, it should disseminate appropriate health messages that adhere to the following principles, as prescribed by the Office of Disease Prevention and Health Promotion and World Health Organization, cited in (Uzochukwu et al., 2023).

Accuracy: The content should be valid and contain no errors, interpretations, or judgments.

Availability: The content (whether a targeted message or other information) should be delivered or placed where the audience can access it.

Balance: Where appropriate, the content should present the benefits and risks of potential actions or recognize different and valid perspectives on the issue.

Consistency: The content should remain internally consistent over time and consistent with information from other sources.

Cultural Competence: In creating health communication initiatives, it is essential to consider the sociocultural background of the target audience, language preferences and the relevant media that is outfit to engage. The design, implementation, and evaluation process of health communication should account for these particular issues (level of education, disability, vulnerability, etc.) for the selected population groups.

Evidence-based: Relevant scientific evidence that has undergone comprehensive review and rigorous analysis is useful for formulating practice guidelines, performance measures, review criteria, and technology assessments.

Reach: The content should be available to the most significant number of people in the target population.

Reliability: The source of the content should be credible, and the content itself should be up to date.

Repetition: The delivery of, or access to, the content continues or repeats over time, both to strengthen the impact on a target audience and to reach the intending target audience.

Timely: Content is available when the audience is most receptive to, or in need of, the specific information. Timely and accurate information at all levels is crucial to minimize unwanted and unforeseen social disruption and economic consequences and to maximize the productive outcome of the response.

Understandable: The reading or language level and format (including multimedia) are appropriate for the specific audience.

Actionable: Health communicators must understand the knowledge, attitudes and behaviours of their target audience to create messages that can address obstacles and encourage decision-makers to adopt the recommended steps.

Credibility and Trust: Health communicators use every opportunity to reinforce trustworthiness so that their recommendations become the basis for health decisions.

Multipronged approach: Any effective health communication strategy must take a multipronged approach in combination with other interventions, such as improvements in healthcare delivery systems and policy changes. A health communication initiative with institutional support at the policy level is more efficient than an initiative without institutional support.

Barriers to Effective Health Communication

According to Uzochukwu et al. (2023), the following factors can hinder effective communication for health:

Limited internet Access: In contemporary society, social media seems to be the preferred channel of communication worldwide. However, in some communities, internet access is still too costly or may even be unavailable. Although there is sufficient health information on the internet, especially on social media, it is still out of reach for most people living in rural areas.

Inadequate Research Activities in Developing Countries: To design, develop and implement effective health communication interventions, research and evaluation are essential. Unfortunately, the main goal of most related studies is to address health problems in the developed world, while the pressing health problems in the developing world are often neglected. Even when the research is about developing countries, people who need information rarely access the results or findings of the study.

Low Level of Health Literacy: Mostly, illiterate and semiliterate people cannot access information because health communication experts predominantly relay health messages via

writings. Thus, health messages are custom-made in a style appropriate for the level of understanding of the target audience. The main reason for health literacy programmes is to empower low-literacy individuals in society.

Language barriers: Language barriers pose a significant challenge for providing effective and high-quality healthcare services (Maymone et al., 2019). In developing countries such as Nigeria, where English is the lingua franca, people with limited English language proficiency face significant language barriers that limit them from fully participating in healthcare communication. Thus, limited English language proficiency is a widespread problem across the country. Think about the health messages you received during the coronavirus outbreak in Nigeria; they were mostly written or orally presented in the English language. To overcome these language barriers, health communicators should involve multiple steps: identifying language barriers, providing language services, and ensuring cultural competence among healthcare providers and the public.

Cultural Differences: Cultural values go a long way in determining how people value healthcare, what they are looking for in a relationship with a healthcare provider, and their willingness to comply with a treatment routine. Thus, cultural differences should be considered when designing and disseminating health messages to the public. The message should be designed and disseminated in such a way that it cuts across-cultural barriers.

Economy: Despite evidence to support investment in public health, several barriers have been recognized, such as low income, high charges, and the noncomprehensive nature of National Health Insurance Schemes (NHISs) in countries where they exist. Considering these barriers, removing them would require concerted efforts and substantial financial investment by stakeholders.

Theoretical Framework

Health Belief Model (HBM)

The HBM is a theoretical framework frequently used in the analysis of health-related behaviours. It is a psychological model used to explain and predict health behaviour by focusing on the attitudes and beliefs of individuals. It was first developed in the 1950s by social psychologists Hochbaum, Rosenstock and Kegels. The basic assumptions of HBM are that, for a person to take a preventive or curative action over a given disease or ailment, the person must first see the sickness as serious and a potential threat to his or her wellbeing; second, believe in the prospects of a cure from taking the required action; and third, provide there are no major financial, emotional or social barriers confronting him or her in the course of taking that action (Odishika, 2019).

Much more than Hochbaum's original concern of using the model to test tuberculosis screening in the 1950s, subsequent extensions of the model have been associated with its application in other contexts, including other forms of screening, immunization and compliance with medical treatment for conditions such as diabetes, renal failure and hypertension (Odishika, 2019).

The theory assumes that people are rational and will do the right thing once they are provided adequate information and understand that change is in their personal self-interest. The focus of the HBM is to assess the health behavior of individuals through the examination of perceptions

and attitudes someone may have toward disease and negative outcomes of certain actions (Mitiku, 2015). The HBM assumes that behavior change occurs with the existence of three ideas at the same time:

- i. An individual recognizes that there is enough reason to make a health concern relevant (perceived susceptibility and severity).
- ii. That person understands he or she may be vulnerable to a disease or negative health outcome. (perceived threat).
- iii. Last, the individual must realize that behavior change can be beneficial and that the benefits of that change will outweigh any costs of doing so. (perceived benefits and barriers).

The HBM has been used to develop effective interventions to change health-related behaviours by targeting various aspects of the model's key constructs (Carpenter, 2010). Interventions based on the HBM may aim to increase perceived susceptibility to and perceived seriousness of a health condition by providing education about the prevalence and incidence of disease, individualized estimates of risk, and information about the consequences of disease (e.g., medical, financial, and social consequences) (Glanz et al., 2008). Interventions may also aim to alter the cost–benefit analysis of engaging in a health-promoting behaviour (i.e., increasing perceived benefits and decreasing perceived barriers) by providing information about the efficacy of various behaviours to reduce the risk of disease, identifying common perceived barriers, providing incentives to engage in health-promoting behaviours, and engaging social support or other resources to encourage health-promoting behaviours (Glanz et al., 2008).

The health belief model (HBM) is highly applicable to the current study on cultural health beliefs and healthcare providers' communication of polio vaccines in primary healthcare in Jalingo. The health belief model is a psychological framework that seeks to explain and predict health-related behaviours based on individuals' perceptions and beliefs. It provides a valuable framework for understanding and predicting health-related behaviours, making it applicable to the study of cultural health beliefs and healthcare providers' communication of polio vaccines in primary healthcare centres in Jalingo.

Although the model has been criticized for being more descriptive than explanatory and does not suggest a strategy for changing health-related actions (the health belief model, n.d.), the study finds it relevant because it can provide insights into the factors influencing vaccine acceptance and tailor communication strategies to address the specific beliefs and perceptions of the community, hence the applicability of the theory to the study.

METHODOLOGY

The study adopted both qualitative and quantitative survey designs. The population of this study comprised healthcare providers from primary healthcare centres within ten (10) wards in the Jalingo Local Government Area. In this regard, the population of health workers included in the Taraba State Primary Health Care Development Agency was 213. The sample size was determined using Krejcie and Morgan Sampling Table (1974). Using this formula, the calculated sample for the study is 138 and was therefore used for the study. One (1) primary healthcare centre from each of the wards in the Jalingo LGA was selected for the study. Simple random sampling was, therefore, employed in this process to give each of the centres the benefit of being selected. Additionally, five (5) key healthcare providers were selected from among

the seven (7) primary healthcare centres that are directly involved in organizing and implementing communication strategies for polio vaccines.

An in-depth interview was conducted with the five key healthcare providers to sample their views on the subject under discussion, while simple random sampling was used to sample 138 health workers from the 7 wards under study who were also involved in polio communication with patients and administering vaccines. The study collected relevant qualitative and quantitative data. The qualitative data were collected through in-depth interviews, and a structured questionnaire was used to obtain relevant information from other healthcare providers who are involved in polio communication with patients and administering vaccines. The data for the study were analysed both qualitatively and qualitatively.

RESULTS AND DISCUSSIONS

Table 1: Prevalent cultural health beliefs regarding polio vaccination

Responses	Frequency	Percentage (%)
Belief in divine punishment	34	25.8
Herbal remedies/traditional medicine	28	21.2
Spiritual rituals	18	13.6
Spiritual or Supernatural beliefs	29	22.0
Cultural norms	23	17.4
Total	132	100

Source: Field Survey, 2024

Table 1 shows the prevalent cultural health beliefs regarding polio vaccination in the study area. A total of 34 (25.8%) respondents identified belief in divine punishment, 28 (21.2%) identified herbal remedies/traditional medicine, 18 (13.6%) identified spiritual rituals, 29 (22.0%) identified spiritual or supernatural beliefs, and only 23 (17.4%) identified cultural norms as the prevalent cultural beliefs regarding polio vaccination in the study area.

Table 2: Communication strategies currently employed by healthcare providers to convey information about polio in Jalingo

Responses	Frequency	Percentage (%)
Training/workshops for community health workers	98	74.2
Media campaign/collaboration with local media outlets (e.g. radio, television, and newspapers, town criers).	122	92.4
Using social media and online platforms	76	57.6
Community engagement events (such as health fairs, awareness walks, talk-shows and rallies etc.)	109	82.6
Face-to-face communication between healthcare providers and parents/patient	86	65.2
Framing messages in a culturally sensitive manner to enhance understanding and acceptance	67	50.8
Using religious or traditional leaders	71	53.8
Using testimonies from other community members	43	32.6
Giving gifts to parents/patients	88	66.7

Source: Field Survey, 2024 (** multiple choice apply)

The data in Table 2 provide information on the strategies currently employed by healthcare providers to convey information about polio in Jalingo: using a multiple choice approach, 98 (74.2%) respondents identified training/workshops for community health workers, media campaigns/collaboration with local media outlets (e.g., radio, television, and newspapers, town criers) for 122 (92.4%), social media and online platforms for 76 (57.6%), community engagement events (such as health fairs, awareness walks, talk shows, and rallies) for 109 (82.6%) and face-to-face communication between healthcare providers and parents/patients for 86 (65.2%). Others included framing messages in a culturally sensitive manner to enhance understanding and acceptance (67, 50.8%), using religious or traditional leaders (71, 53.8%), using testimonies from other community members (43, 32.6%) and giving gifts to parents/patients (88, 66.7%). This implies that healthcare providers employed different communication strategies to convey information about polio vaccination in Jalingo.

Table 3: The ways in which the communication strategies used by healthcare providers influence the acceptance of polio vaccination within communities

Responses	Frequency	Percentage (%)
Increases awareness creation about the importance of vaccination in preventing polio		
1 01	54	40.9
Addresses misconceptions and misinformation about polio vaccination		
	81	61.4
Builds trust between healthcare providers and community members		
	79	59.8
Increases cultural sensitivity of community members Engages community leaders, religious leaders, and other influential individuals in promoting vaccine acceptance	63	47.7
	48	36.4
Provides accessible information about polio vaccine Addresses vaccine hesitancy by providing evidence-based information, and promoting dialogue	103	78.0
	43	32.6
Promotes behavioural norms related to vaccination within communities		
	59	44.7

Source: Field Survey, 2024; ** multiple choice applies

Table 3 presents data on how the communication strategies used by healthcare providers influence the acceptance of polio vaccination within communities. Using multiple responses, 54 (40.9%) of the respondents identified increased awareness about the importance of vaccination in preventing polio, 81 (61.4%) said it addresses misconceptions and misinformation about polio vaccination, 79 (59.8%) claimed it builds trust between healthcare providers and community members, and 63 (47.7%) stated that it increases the cultural sensitivity of community members. Another 48 (36.4%) opined that it engages community leaders, religious leaders, and other influential individuals in promoting vaccination acceptance; 103 (78.0%) affirmed that it provides accessible information about polio

vaccination; 43 (32.6%) attested that it addresses vaccination hesitancy by providing evidence-based information and promoting dialogue; and 59 (44.7%) of the respondents said it promotes behavioural norms related to vaccination within communities. This implies that there are different ways in which the communication strategies used by healthcare providers influence the acceptance of polio vaccination within the study area.

Table 4: Challenges faced by primary healthcare providers in addressing cultural health beliefs while communicating information about polio in Jalingo

Responses	Frequency	Percentage (%)
Cultural diversity issues	16	12.1
Misinformation and myths surrounding polio	12	9.1
Religious beliefs	17	12.9
Traditional medicine practices	29	22.0
Stigma and discrimination against individuals with		
disabilities		
	13	9.8
Lack of trust in healthcare providers and government		
vaccination programs		
	19	14.4
Limited Resources in primary healthcare facilities	11	8.3
Resistance to change	15	11.4
_ Total	132	100

Source: Field Survey, 2024

In Table 4 above, the data presented are concerned with the challenges facing primary healthcare providers in terms of cultural health beliefs while communicating information about polio in Jalingo. Sixteen of the 132 sampled respondents (12.1%) identified cultural diversity issues, 12 (9.1%) identified misinformation and myths surrounding polio, 17 (12.9%) identified religious beliefs, 29 (22.0%) identified traditional medicine practices, and 13 (9.8%) identified stigma and discrimination against individuals with disabilities. Others included a lack of trust in healthcare providers and government vaccination programmes (19, 14.4%), limited resources in primary healthcare facilities (11, 8.3%) and resistance to change (15, 11.4%). This implies that there are several challenges facing primary healthcare providers in cultural health beliefs when communicating information about polio in Jalingo.

In-depth interviews

To provide support for the quantitative data collected, 5 key healthcare providers were interviewed; the analysis is presented thematically based on the research objectives.

Theme 1: Prevalent cultural health beliefs regarding polio within the community served by primary healthcare centres in Jalingo

The interviewees had attested to different prevalent cultural health beliefs regarding polio vaccination, especially among parents.

Interviewee 2 thus affirmed:

I heard that people have their own personal beliefs concerning polio, some believe that polio vaccination can prevent them from giving birth and that there is a family planning in it. Some because of their religious beliefs, they tend not to allow their children to be vaccinated. They believe that their religion (faith) can protect them, so they do not need vaccination to protect their children from any disease.

Some people also believe that falling ill is a natural thing that can happen to anyone; they believe that it is a punishment from God, so they do not allow their children to receive any vaccination to protect them from polio.

Similarly, Interviewee 3 attested that:

There are some beliefs among parents that taking polio vaccination will prevent their children from becoming pregnant because they are afraid that white men are bringing medicine that will prevent Africans from multiplying.

Sharing a somewhat similar viewpoint, interviewees 4 and 5 opined the following:

There are situations in which a child's health is affected by a lack of immunization because the parents believe that the best way to treat their child is through traditional means. They stick to the intake of herbs, and it has caused a lot of harm to their children. Other parents do not want their children to be vaccinated because they believe that if they take it, they will not conceive of bearing children and that polio vaccination prevents their children from childbirth. While other parents feel that since they have not taken any vaccination but are healthy and strong, their children will not be vaccinated.

In contrast, interviewee 1 claimed that there is no prevalent cultural health belief regarding polio vaccination in the community they serve. In her words:

Within my community, I have never come across any prevalent cultural belief because most of the people here know about polio, and they usually bring their children to be vaccinated.

Themes 2: Communication strategies currently employed by healthcare providers to convey information about polio in Jalingo.

The interviewees confirmed the use of different communication strategies by healthcare providers to convey information about polio vaccination. For instance, interviewee 1 stated the following:

In my community, we use town announcers; we use community leaders and a house-to-house awareness campaign to convey information on the need for polio vaccination.

Interviewee 3 also attested that:

We mostly organize health talks, even when parents bring their children to the facility for immunization. Health talks usually centre on educating and informing parents about the need for their children to be vaccinated and the dangers associated with a lack of vaccination. We also encouraged them to return to their communities and educate those who refused to receive the vaccination so that they could see the need to bring their

children to the facility and accept the vaccination. Health talks also emphasize allowing people to know that the vaccine is not harmful to their children or their health.

Interviewee 2 added the following:

We normally use to have health talks during antenatal visits and at the child welfare unit. The purpose of antenatal health talks is to encourage women who are expecting babies to bring their babies for immunization as soon as they are up to the age of receiving the vaccination. We also employ the use of town announcers to make announcements mostly using the local language so that people can obtain the message clearly and understand what the message entails.

Posters are also placed in strategic locations such as streets, tea houses, churches and mosques, viewing centres, market squares, and salons, among others, which carry important information about polio vaccination with illustrative pictures that can send messages to those who cannot read. Personally, I prefer the posters that project the image because they communicate without using words. This is because pictures speak even when you are not there.

The government at the state and local government levels also sends out messages on radio and television before the commencement of any immunization campaign.

Similarly, Interviewees 3 and 5 noted the following:

We have posters that differentiate a child who is paralyzed as a result of polio resistance by the parents and a healthy child whose parents accepted the vaccines as early as possible. This is what we usually use as an illustrative means to communicate polio messages using pictorial evidence. We also give health talks so that parents would know that taking the vaccination is not harmful to their children, but it is good for them to build immunity to fight against the virus in case their body comes in contact with it.

However, interviewee 4 also attested to the use of town crier and public announcements. She thus added:

We have traditional leaders who we usually use as advocates so that they can talk to their subjects within their community. Religious leaders also send messages to churches and mosques as well as schools. We have a situation in which messages on polio are announced on radio so that people can be aware of what is going on and why it is necessary to have knowledge of what is administered to their children.

Theme 3: Challenges faced by primary healthcare providers in addressing cultural health beliefs while communicating information about polio in Jalingo

Nevertheless, there are several challenges facing primary healthcare providers, as identified by all the interviewees. They outlined challenges such as misunderstanding, lack of knowledge or illiteracy, language barriers, and lack of trained health personnel in terms of strategic communication, among others.

Interviewee 1 asserted the following:

The only challenges we are currently facing are misunderstandings and a lack of knowledge to convey information about polio vaccination. Health workers need to be trained so that they will understand what polio is, have to convince parents to accept vaccination for their children and, most especially, how to effectively communicate the message; where this is lacking, this becomes a serious problem.

Interviewee 3, on the other hand, opined that:

The challenges we normally face here are language barriers during communication. For instance, if a staff member is transferred to a community in which he or she does not speak their language, communicating effectively with the people becomes a problem. Mostly, we look for interpreters who are members of the community, who may not necessarily be health workers, to interpret the message in the local language; this can also be challenging, as interpreters may not clearly understand English or may not interpret the message as expected.

Moreover, cultural differences are another challenge. As healthcare providers, we come from different cultural backgrounds; what is acceptable in our culture may not be acceptable in another people's culture. Understanding and adapting to people's culture is mostly challenging and time consuming.

Interviewee 5, who shared a separate view, affirmed that:

We usually come across people with bad temper; they get angry easily and pick offense at everything you say to them. No matter how you try, they tend not to pick interest or pay attention to what you are saying. Some of them judge you by your physical appearance because of their culture or religion. They tend to reject the person carrying the message before even hearing the message itself.

However, we try as much as possible to train our staff on how to approach people, the kind of cloth they wear to reflect certain cultures, and their manner of approach, which is very important in catching people's attention.

Similarly, Interviews 2 and 4 shared a common opinion on what they feel are the challenges facing healthcare providers in addressing cultural health beliefs about polio. According to them:

Many people are still inclined to believe culturally. People find it difficult to let go of some cultural beliefs stressing that their parents and grandparents would not be happy with them. Another challenge is the lack of adequate staff to go out and talk to people on the importance of accepting polio vaccination.

Discussion of Findings

This study sought to examine cultural beliefs and healthcare providers' communication strategies for polio-related information in primary health centres in Jalingo. The data were collected from healthcare providers at the selected primary healthcare centre in Jalingo LGA.

The data were analysed and interpreted based on the four research questions and objectives that guided the study. The results revealed the following:

Key Cultural Beliefs Impacting Polio Vaccination Acceptance

The data presented in Table 1 show the prevalent cultural health beliefs regarding polio vaccination in the study area. These include belief in divine punishment (25.8%), herbal remedies/traditional medicine (21.2%), spiritual rituals (13.6%), spiritual or supernatural beliefs (22.0%), and cultural norms (17.4%). Interviewees on theme 1 attested to this submission that there are different cultural beliefs regarding polio vaccination within the community.

This finding corroborates the findings of Basharat and Shaikh (2017), who reported that human behaviour, including the utilization and acceptability of healthcare services, is greatly influenced by religious beliefs and dogmas. Ndivo and Odek (2020) also revealed that parents' educational levels and religious beliefs influence parents' choice to vaccinate their children to a large extent. These cultural and social factors, as well as their occurrence outside of health facilities, determine the decision to take children for vaccination. In a separate study, Odishika and Nwabueze (2021) also reported that respondents' cultural health beliefs influenced their medication adherence and healthcare seeking behaviours.

Religious beliefs play a critical role in whether people accept or reject polio vaccination. Spirituality and health are fairly separated in Western notions of medicine, while in many other cultures, the line is more blurred. According to Olufowote (2011), local culture and beliefs about medical procedures played a significant role in the response to the WHO and the polio vaccine. On a different religious note, many hold the "perception that health and illness are given from Allah," and they argue, "how does immunizing a child help if health is preordained?" (Ghinai et al., 2013). Moreover, Uddin (2013) reported that culture is learned, shared and transmitted knowledge of the values, beliefs and ways of life of a particular group that are generally transmitted intergenerationally and influence thinking, decisions and actions in patterns or in certain ways (Uddin, 2013). A separate study by Lohiniva et al. (2022) revealed that many people believed that the polio vaccine could kill them, while others believed that many children had been paralyzed after receiving polio vaccination. However, past concerns about infertility have been linked to polio vaccination, which is still circulating in various communities (Lohiniva et al., 2022).

However, healthcare providers are expected to appreciate the importance of communication in relation to health because, as observed by Giger and Davidhizar (2012), it can affect the quality of care because effective communication provides motivation to both healthcare seekers and caregivers. This triggered research to determine the different communication strategies currently adopted by healthcare providers in Jalingo to convey information about polio vaccination. The respondents in Table 2 identified training/workshops for community health workers (74.2%), media campaigns/collaboration with local media outlets (e.g., radio, television, and newspapers, town criers) (92.4%), social media and online platforms (57.6%), community engagement events (such as health fairs, awareness walks, talk-shows, and rallies) (82.6%) and face-to-face communication between healthcare providers and parents/patients (86.2%). Others include framing messages in a culturally sensitive manner to enhance understanding and acceptance (50.8%), using religious or traditional leaders (53.8%), using testimonies from other community members (32.6%) and giving gifts to parents/patients

(66.7%). This finding was also supported by the qualitative data collected through in-depth interviews, which revealed that a house-to-house awareness campaign, health talks, town announcers, traditional/religious leaders and other conventional media were among the communication strategies used to convey information about polio in Jalingo.

This finding agreed with the submission of Ahmad et al. (2019), who affirmed that the involvement of Islamic clerics in the polio campaign helped to educate Muslim parents to accept the polio vaccination for their children. Additionally, the study revealed that Muslim-focused cultural sensitivity in polio vaccination messages and communication campaigns will help to eliminate misconception and rumours about polio vaccination safety and efficacy in northern Nigeria.

Effective communication strategies are imperative for bridging cultural gaps and facilitating meaningful interactions between healthcare providers and patients. According to Spath (2007), good caregiver/patient communication can increase patient satisfaction, enhance patient adherence to medication and treatment procedures, reduce medical errors and improve clinical outcomes (Spath (2007). This requires healthcare providers to understand their patients' body language, listen earnestly and, of course, speak clearly to ensure effective communication and positive health outcomes (Odishika, 2019). Patient/physician communication is an integral part of clinical practice that, when performed well, can produce a therapeutic effect for the patient; it increases patient involvement in their health through negotiation and builds a consensus between the patient and physician. Therefore, physicians, who encourage this kind of communication, may obtain more complete information, enhance the prospect of a more accurate diagnosis, and facilitate appropriate counselling, thus potentially improving adherence to treatment plans that benefit the long-term health of patients (Odishika, 2019).

Moreover, the findings in Table 3 indicate that there are different ways in which the communication strategies used by healthcare providers influence the acceptance of polio vaccination within the study area. A total of 61.4% of respondents (40.9%) had identified increased awareness of the importance of vaccination in preventing polio, 61.4% affirmed that it addresses misconceptions and misinformation about polio vaccination, 59.8% claimed that it builds trust between healthcare providers and community members, and 47.7% stated that it increases the cultural sensitivity of community members. A total of 36.4% of the respondents opined that it engages community leaders, religious leaders, and other influential individuals in promoting vaccine acceptance; 78.0% believe that it provides accessible information about polio vaccination; 32.6% confirmed that it addresses vaccine hesitancy by providing evidencebased information and promoting dialogue; and 44.7% said it promotes behavioral norms related to vaccination within communities. This finding corroborated the report of the Institute of Medicine (2012), which stated that recent consensus in public health and health communication reflects increasing recognition of the important role of culture as a factor associated with health and health behaviours, as well as a potential means of enhancing the effectiveness of health communication programmes and interventions (Institute of Medicine, 2012).

Nevertheless, there are challenges facing primary healthcare providers in terms of cultural health beliefs while communicating information about polio in Jalingo. The results in Table 4 revealed challenges such as cultural diversity issues (12.1%), misinformation and myths surrounding polio (9.1%), religious beliefs (12.9%), traditional medicine practices (22.0%), and stigma and discrimination against individuals with disabilities (9.8%). Others are lack of

trust in healthcare providers and government vaccination programmes (14.4%), limited resources in primary healthcare facilities (8.3%) and resistance to change (11.4%). The interviews on theme 3 also agreed with this submission, as they identified lack of knowledge or illiteracy, language barriers, and lack of training for health personnel in strategic communication, among other issues, as the challenges facing primary healthcare providers in communicating information about polio in Jalingo.

This finding conforms with the findings of Oku et al. (2017), who studied the factors affecting the implementation of childhood vaccination communication strategies in Nigeria and found that some of the commonly reported health system barriers among stakeholders interviewed included funding constraints, human resource factors (health worker shortages, training deficiencies, poor attitudes of health workers and vaccination teams), inadequate infrastructure and equipment and weak political will. Moreover, the GAVI Alliance (2011) reported that many low- and low- to middle-income countries such as Nigeria have weak health systems, in most instances with poor logistics, infrastructure, and human and financial resources.

Additionally, in their study, Maymone et al. (2019) reported that language barriers pose a significant challenge to providing effective and high-quality healthcare services. In Nigeria, for instance, where English is the lingua franca, people with limited English language proficiency face significant language barriers that limit them from fully participating in healthcare communication. Additionally, cultural values go a long way in determining how people value healthcare, what they are looking for in a relationship with a healthcare provider, and their willingness to comply with a treatment routine (Maymone et al., 2019). Similarly, Uzochukwu et al. (2023) confirmed that illiterate and semiliterate people usually cannot access information because health communication experts predominantly relay health messages via writing. Thus, health messages are customized in a style appropriate to the level of understanding of the target audience. The main reason for health literacy programmes is to empower low-literacy individuals in society.

Conclusion

The study "Cultural Health Belief and Healthcare Providers' Communication Strategies in Taraba State" conclusively reveals the profound impact of cultural health beliefs on the success of healthcare communication strategies. Through examination of local beliefs about polio vaccination and diverse communicative approaches, the research highlights the necessity for healthcare providers to, not only recognize but also, strategically incorporate cultural contexts into their messaging. This integration facilitates greater receptivity and cooperation from the community, thereby improving public health outcomes. It is imperative that healthcare initiatives in Jalingo and Taraba State as a whole prioritize culturally informed communication strategies to bridge the gap between medical science and cultural belief systems, ensuring that health interventions are both respected and effective.

Healthcare providers in Taraba State typically face challenges in communicating health-related information due to these cultural beliefs. However, this research has shown that when healthcare providers incorporate an understanding of local cultural contexts into their communication strategies, the effectiveness of their messages on polio vaccine acceptance can improve significantly. Therefore, this study concluded that the cultural health beliefs in Jalingo significantly impact the success of communication strategies used by healthcare providers. This finding stresses the crucial need for these strategies to be culturally harnessed to enhance the

understanding, acceptance, and effectiveness of health interventions within the community. Employing culturally sensitive communication techniques can enable healthcare providers to increase engagement, reduce resistance, and improve overall health outcomes within these communities.

Recommendations

Based on the findings of the study on prevalent cultural health beliefs regarding polio vaccination and the communication strategies employed by healthcare providers in Jalingo, the following recommendations are made:

- i. Stakeholders such as government and health curriculum designers should provide training and workshops for healthcare providers, particularly community health workers, to enhance their communication skills and cultural competence. Training should focus on addressing challenges such as misinformation, myths, and stigma surrounding polio vaccination.
- ii. Government and policy maker should develop and implement communication strategies that are specifically tailored to address prevalent cultural health beliefs regarding polio vaccination.
- iii. There is also a need for healthcare providers to strengthen collaboration between community stakeholders, including religious and traditional leaders, to disseminate accurate information about polio vaccination.

REFERENCES

- Acharya, L., & Dutta, M. J. (2012). Deconstructing the portrayals of HIV/AIDS among campaign planners targeting tribal populations in Koraput, India: A culture entered interrogation. *Health Communication*, 27(7), 629-640.
- Ahmad, G. I., Ahmad, M. K., & Lynn-Sze, J. C. (2019). Exploring the Muslim-focused cultural sensitivity in polio vaccination communication campaign in Northern Nigeria. *Saudi Journal of Humanities and Social Science*, 4(5), 342-350.
- Ahmad, M. K. (2011). Islamic Persuasive Communication: Concepts, Characteristics, and Impacts of Media Health Programs. Unpublished PhD Thesis University of Queensland, Australia.
- Ahmad, M. K. H., & Harrison, J. (2007). Untapped potential: Cultural sensitivity-Islamic persuasive communication in health promotion programs. In *Global Communication and Development Conference*, 16-21.
- Amodeo, M., & Jones, L. K. (1997). Viewing alcohol and other drug use cross-culturally: A cultural framework for clinical practice. Families in Society. *The Journal of Contemporary Human Services*, 78(3), 240-254.
- Babatunde, K. A., & Mustafa, S. E. (2018). Culture and communication: effects of cultural values and source credibility in a multicultural society, Nigeria. *Malaysian Journal of Media Studies*, 20(2), 39-54.

- Basharat, S., & Shaikh, B. T. (2017). Polio immunization in Pakistan: Ethical issues and challenges. *Public health reviews*, *38*, 1-6.
- Carpenter, C. J. (2010). "A meta-analysis of the effectiveness of health belief model variables in predicting behavior". *Health Communication*, 25 (8): 661–669.
- Chhabra, N. & Chhabra, A. (2012). Parental knowledge, attitudes and cultural beliefs regarding oral health and dental care of preschool children in an Indian population: A quantitative study. *Eur Arch Paediatr Dent*, *13*, 76-82.
- Corcoran, N. (2016). Communicating Health: Strategies for Health Promotion. SAGE Publications, Ltd.
- Culture and Society (2004). Health Literacy NCBI Bookshelf. https://www.ncbi.nlm.nih.gov/books/NBK216037/#:~:text=Cultural%20health%20bel iefs%20affect%20how,care%20interventions%2C%20and%20treatment%20adherence.
- Galaway M. (2005). Polio communication. *Journal of Indian Medicine Association*, 103(12):679, 707.
- GAVI Alliance. (2011, 20 August). Tried and tested. Available at: http://www.gavialliance.org/about/value/tried-andtested/.
- Ghinai, I., Willott, C., Dadari, I., & Larson, H. J. (2013). Listening to the rumours: What the northern Nigeria polio vaccine boycott can tell us ten years on. *Global Public Health*, 8(10), 1138–1150. https://doi.org/10.1080/17441692.2013.859720
- Giger, J.N. & Davidhizar, R. (2012). Culturally competent care: Emphasis on understanding the people of Afghanistan, Afghanistan Americans and Islamic culture and religion. *Int Nurs Rev*, 49, 79-86.
- Glanz, K., Barbara, K., Rimer, K. & Viswanath, R. (2008). Health behavior and health education: Theory, research, and practice (PDF) (4th ed.). San Francisco, CA: Jossey-Bass, 45–51.
- Government of India. (2012). From 200,000 to Zero: The Journey to a Polio Free India. *Ministry of Health and Family Welfare, Government of India and Rotary International*.
- GPEI Global Polio Eradication Initiative. 2020. Available online: https://polioeradication.org/ (accessed on 12 August 2022).
- GPEI Polio Eradication Strategy 2022–2026: Delivering on a Promise (2021, August 9). Available online: https://polioeradication.org/wp-content/uploads/2022/06/Polio-Eradication-Strategy-2022-2026-Delivering-on-a-Promise.pdf.
- Health Facilities Taraba State Primary Health Care Development Agency. (2022, July 18). Health Facilities Taraba State Primary Health Care Development Agency. https://phcda.tr.gov.ng/health-facilities/

- Institute for Healthcare Advancement (2003, December 9). Health Literacy: An Overview and Research-Supported Solutions. [Online]. Available: http://www.iha4health.org/pdf/research_brochures.pdf.
- Institute Of Medicine (IOM) (2002). Speaking of health: Assessing health communication strategies for diverse populations. Washington DC: National Academy Press.
- Koenig, H. G. & Al-Shohaib, S. (2016). *Health and Well-Being in Islamic Societies: Background, Research, and Applications* (illustrate). Springer International Publishing, 2016.
- Koenig, H. G., & Al-Shohaib, S. (2016). Health and Well-Being in Islamic Societies: Background, Research, and Applications (illustrate). Springer International Publishing, 2016.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, 30(3), 607-610.
- Lohiniva, A. L., Nurzhynska, A., Alhassan, H., Shetye, M., & Ayiku, P. (2022). Understanding Factors Influencing Polio Vaccine Uptake in Ghana Developing Meaningful Community Mobilization and Engagement Strategies in Collaboration with Religious Leaders. *The American Journal of Tropical Medicine and Hygiene*, 107(6), 1345.
- Mitiku, M. (2015, August 15). *The Health Belief Model*. www.academia.edu. https://www.academia.edu/14935230/The Health Belief Model
- Mohammed, A. J., Datta, K.K., Jamjoon, G., Magoba-Nyanzi, J., Hall, R. & Mohammed, I. (2009). Report on Barriers to Polio. *Eradication in Nigeria*. Abuja: WHO.
- Nasir, S. G., Aliyu, G., Ya'u, I., Gadanya, M., Mohammad, M., Zubair, M., & El-Kamary, S. S. (2014). From intense rejection to advocacy: How Muslim clerics were engaged in a polio eradication initiative in Northern Nigeria. *PLoS medicine*, 11(8), e1001687.
- Nasiru, S. G., Aliyu, G. G., Gasasira, A., Aliyu, M. H., Zubair, M., Mandawari, S.U., Waziri, H., Nasidi, A. & El-Kamary, S.S. (2012). Breaking community barriers to polio vaccination in Northern Nigeria: the impact of a grass roots mobilization campaign (Majigi). *Pathog Glob Health*; 106 (3):166-71.
- Ndivo, P., & Odek, A. (2020). The effects of social cultural practices on parental decision to undergo polio vaccination in Mwala Subcounty, Machakos County, Kenya. *African Journal of Health Sciences*, 33(6), 87-97.
- Odishika, E. & Nwabueze, C. (2021). Influence of Cultural Health Beliefs on Healthcare Providers/Patients' Communication. *J Health Commun*, 6 (4), 15.
- Odishika, E.C. (2019). Influence of cultural health beliefs on healthcare providers/patients' communication. Unpublished PhD Thesis. Chukwuemeka Odumegwu Ojukwu University.

- Oku, A., Oyo-Ita, A., Glenton, C., Fretheim, A., Eteng, G., Ames, H., ... & Lewin, S. (2017). Factors affecting the implementation of childhood vaccination communication strategies in Nigeria: A qualitative study. *BMC public health*, *17*(1), 1-12.
- Okunna, C.S. (2012). Introduction to Mass Communication. Enugu: New Generation Press
- Olufowote, J. O. (2011). Local Resistance to the Global Eradication of Polio: Newspaper Coverage of the 2003–2004 Vaccination Stoppage in Northern Nigeria. *Health Communication*, 26(8), 743–753. https://doi.org/10.1080/10410236.2011.566830
- Ozohu-Suleiman, Y. (2010). Media and interpersonal persuasions in the polio eradication campaign in northern Nigeria. *Journal of public health in Africa*, *I*(1), e2.
- Prata, N., Ejembi, C., Fraser, A., Shittu, O., & Minkler, M. (2012). Community mobilization to reduce postpartum haemorrhage in home births in northern Nigeria. *Social Science & Medicine*, 74(8), 1288-1296.
- Renne E. Perspectives on polio and immunization in northern Nigeria. *Social Science Medicine*; 63(7):1857–69.
- Saha, S., Beach, C. & Cooper, L.A. (2008). Patient centeredness, cultural competence and healthcare quality. *J Natl Med Assoc*, 1275-1285.
- Singleton, K., Elizabeth, M.S. & Krause, A.B. (2009). Disclosures. Online J Issues Nurs, 14.
- Spath, P.L. (2007). Taming the measurement monster. Front Health Serv Manage, 23, 3-14.
- Sule, S.S., Ijadunola, K.T., Onayade, A.A., Fatusi, A.O. & Soetan, R.O. et al. (2008). Utilization of PHC facilities: Lessons from a rural community in South West Nigeria. *Niger J Med*, *17*: 98-106.
- Uddin, J., Hossain, M.Z. & Mahbub, F. (2013). Healthcare seeking behaviour among the chakma ethnic group in bangladesh: Can accessibility and cultural beliefs shape healthcare utilization? *Int Q Community Health Educ*, *33*, 375-389.
- WHO Poliomyelitis (2022). Available online: https://www.who.int/news-room/fact-sheets/detail/poliomyelitis (accessed on 19 July 2022).
- World Health Organization: WHO. (2023, October 24). Poliomyelitis https://www.who.int/news room/fact-sheets/detail/poliomyelitis
- Yahya, M. (2007). Polio vaccines no thank you! Barriers to polio eradication in Northern Nigeria. *African Affairs*, 106(423), 185-204.