Knowledge and Acceptance of Information on Polio Eradication in Sabon Gari Local Government Area of Kaduna State, Nigeria

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Abstract
This study examines the knowledge and acceptance of information on polio eradication in Sabon Gari Loal Government Area of Kaduna State in Nigeria with the aim of finding the various communication strategies used in disseminating information on polio and the challenges faced by the health workers in doing so. A survey of 110 respondents was carried out to get information on knowledge and acceptance while three health workers were interviewed for communication strategies and challenges. Findings from the research show a high level of awareness on polio yet 21% of the respondents were still not convinced on the importance of routine immunization and as such did not accept the information on polio eradication. The health workers used regular meetings with the stakeholders in the community to gain the trust of the people as the major communication strategy; programmes on local radio and the use of handbills and leaflets were also employed. The major challenge encountered by the health workers was lack of trust by the people in the community. The study therefore recommends that health issues that require trust should employ members of the community for easy access into the community and vaccines for children under the age of 5 should be inculcated in the normal routine vaccination for easy acceptance by the public.

Introduction
The urgent need to efficiently improve the delivery of health care services to communities has led to a global movement aimed at renewing primary health care (WHO, 2011). This can only be achieved through development communication using advocacy, social mobilization and programme communication. The presence of primary health care centers in Kaduna State has made this form of communication easy due to its proximity with the people.

The Kaduna State government in 2008 developed the Kaduna State Medium Term Plan 2010-2015 which was superseded by the Kaduna State Strategic Health Development Plan (KDSSHDP, 2010-2015) all under the support of Partnership for Transforming Health Systems (PATHS2). Other plans include Routine

Immunization Strategy and Operational Plan (Kaduna State Ministry of Health, 2015).

In the 1960s and 1970s, "lameness surveys" of school children in more than 20 countries revealed lower-limb paralysis rates of 2 to 11 per 1000 more than those of the peak polio-epidemic years in the United States. Inspired by the success of global smallpox eradication and poliomyelitis control in America, the World Health Organization made a commitment in 1988 to eradicate world polio by the year 2000 (World Health Organization, 2012).

In 1988, the Global community adopted the goal of ending polio through the Global Polio Eradication Initiative (GPEI) in which communication interventions have played a consistently central role. GPEI a private-public partnership that involves the World Health Organization (WHO), Rotary International, the US Centre for Disease Control (CDC), UNICEF, and the Gates Foundation has reduced polio worldwide by 99% (Marchildon & Gralki, 2019).

Several approaches have been used to pass information most especially to the rural people on the importance of vaccination. This has led to success in the fight against WPV. Obregon, Hitnisk, Morry, Feek, Bates, Galway and Ogden (2009: p 624) note that "mass media and information dissemination approaches used in immunization world- wide have contributed to this success".

According to Adebisi, Prisno and Nuga (2020), Polio is a contagious viral illness that in its most severe form causes paralysis, difficulty in breathing and sometimes death. The disease is spread through person-to-person contact. When a child is infected with wild polio virus, the virus enters the body through the mouth and multiplies in the intestine. It is then shed into the environment through the feaces where it can spread rapidly through a community especially in situations of poor hygiene and sanitation.

In 2003, polio-immunization activities were halted in northern Nigeria owing to false rumours about adverse effects of OPV. The propaganda that the west is keen to reduce the population of Muslim communities through covert sterilization campaigns disguised as immunizations helped stir people against polio workers (Abimbola, Malik, & Mansoor, 2013). Nigeria marked two years without any case of WPV1 in September 2018. This was made possible with increased vaccination

and surveillance reach in inaccessible areas in the north east. Reaching Every Settlement and Reaching Every Inaccessible Child strategies were used in Borno and Yobe states (National Primary Health Care Development Agency, 2018).

However, in August 2020, WHO and UNICEF congratulated Nigeria for ending Wild Polio Virus and called for strengthening of routine immunization (WHO, 2020). According to Scherbel-Ball (2020), Walter Kazadi Mulumbo the WHO Nigeria country representative said that wild polio-free certification is undoubtedly the greatest public health triumph in the annals of Nigeria and indeed Africa that will bequeath to posterity lessons learnt and best practices for addressing future public health interventions. How this success came to be would be an area of interest in this research.

Statement of Problem

Nigeria was one of the most entrenched reservoirs of wild polio virus in the world with ongoing polio transmission (Adnan, Malik & Hameed, 2020). This could be due to the dense population, poor environmental sanitation and poor health attitude exhibited by people in the Northern part of the country. It was the only country with on-going transmission of all three serotypes: wild polio virus Type1, Type 3 and circulating vaccine derived polio virus 2 as at 2016. Northern parts of the country are the main source of polio infections elsewhere in Nigeria and neighboring countries (Murele, Vaz, Gasasira, Mkanda, Erbeto & Okeibunor, 2014).

Adebisi, Prisno and Nuga (2020) are of the view that the major achievement of polio eradication has not come without challenges in Nigeria ranging from insecurity in the North East to Myths about the negative effects of immunization, parent vaccine refusal and other health issues like malaria and HIV taking priority in an already stressed health environment. This study is aimed at exploring the challenges faced by the health workers in Sabon Gari Local Government area of Kaduna State in securing a polio free environment.

Objectives of the study

The objectives of the study are

- To examine the knowledge of WPV among the residents of Sabon Gari Local Government.

- To know the level of acceptance or rejection of WPV in Sabon Gari Local Government.
- To identify the various communication strategies used in disseminating WPV messages in Sabon Gari Local Government
- To examine the challenges faced by the primary health care workers in implementing the communication strategies.

Research Questions

The following research questions guided the study:

- Do residents of Sabon Gari Local Government have knowledge of WPV?
- What was the level of acceptance or rejection of the Polio vaccines among the residents of Sabon Gari Local Government?
- What were the communication strategies used to send information on WPV in Sabon Gari Local Government?
- What challenges did the Primary Health Care workers face in using these communication strategies?

Significance

Several studies (Khan, Ahmad & Khan, 2015; Olajide, Onoja & Adewuyi, 2014; Tagbo, Uleanya, Nwokoye & Omotowo, 2012) have been carried out with the aim of assessing the knowledge, attitude and perception of parents. While Tagbo, Ughasoro and Esangbedo (2014) focused on knowledge and information acceptance by parents, Khan, Ahmed, Aqeel, Akbar, Salman and Idrees (2015) and Solomon (2021) focused on the health workers. None of these studies have assessed knowledge and information acceptance alongside communication strategies and challenges faced by health workers in implementing the communication strategies. Findings from this research will help fill the gap created by the preceding studies. Findings from his study will also help the health workers in tackling the challenges faced in information dissemination for upcoming diseases that would require vaccination like COVID 19.

Review of related literature

Several studies have been carried out on polio eradication within and outside Nigeria. For the purpose of this study, the researcher reviewed articles based on the variables of the study which are: knowledge, acceptance, challenges and information on polio eradication.

Nasir, Aliyu, Ya'u, Gadanya, Mohammad, Zubair and El- Kamary (2014) in their article "From intense rejection to advocacy: How Muslim clerics were engaged in a polio eradication initiative in Northern Nigeria" discussed the involvement and impact of the Imams in promoting polio vaccination and the emerging coalition of polio vaccine promoters at the community level in Northern Nigeria. The study found vaccination rejection by Muslim clerics to be the major setback suffered by polio eradication initiative.

Ghinai, Willott, Dadari and Larson (2013) conduced a research titled "listening to rumours: what the northern Nigerian polio vaccine boycott can tell us ten years on". The study used sociological concepts to analyze why men gained influence among northern communities through the use of Key Informant Interviews. Stakeholders were interviewed and it was gathered that the northern people hold their leaders with high esteem due to their norms and beliefs. To succeed in polio vaccination, community talks would need to be done to engage the leaders in the society.

In a study conducted by Ozohu (2010) on media and interpersonal persuasions in the polio eradication campaign in Northern Nigeria with the aim of determining the level of campaign acceptance and compare the influence of mass media and interpersonal communication sources in Zaria Local Government, the researcher used quantitative survey as a method of data collection. The study revealed close ranks between campaign acceptance and resistance by the respondents, and a higher performance of interpersonal communication than mass media sources in influencing campaign acceptance and resistance. Newspapers and magazines were also found to be the most influential media. The study concluded that a polio eradication campaign, backed with competent and sufficient communication expertise that utilizes knowledge-based indigenous interpersonal communication strategies, would likely result in greater community acceptance in northern Nigeria. Residents of Zaria Local Government are mostly semi-literate and therefore listen to radio more than reading newspapers and magazines. The study was limited to residents without making any effort to contact the Primary Health Care givers in the area.

In determining the level of knowledge about polio eradication efforts in a rural area in Nigeria, Olajide et al. (2014) used survey to randomly select respondents. The study also considered sources of information on polio, the frequency of use and constraints encountered in assessing such information. Findings from the research show that primary health care centers and radio are the major source of information on polio contrary to the findings of Ozohu (2014) who found newspapers and magazines as the primary source of information. The study also found high level of knowledge of polio. Although there was a high level of knowledge of polio, most of the respondents were ignorant of the symptoms of the disease like pain in the limb and stiffness of the neck. The study recommends the use of conventional and traditional means of communication for information dissemination on polio initiatives.

Tagbo et al. (2012) conducted a research to assess mothers' knowledge, perception and practice of routine immunization in Enugu. The study surveyed 207 mothers with at least one child of less than five years of age. Findings from the study revealed that most of the mothers had good knowledge and perception on polio. However, the campaign immunization rejection rate was high because it was often assumed that non-compliance was not a problem. The study recommended that more attention should be directed at better understanding of perception, practices and beliefs of mothers on childhood immunization to raise coverage in Nigeria.

In another study, Tagbo et al. (2014) assessed parental acceptance of inactivated polio vaccine in Southeast Nigeria using a qualitative cross-sectional method. The study revealed that parents knowledge as well as IPV acceptance was poor among the respondents, but improved with provision of extra information. The study recommended the immediate development and implementation of clear strategies and policies on awareness and sensitization of IPVs.

In a descriptive cross-sectional study by Khan et al. (2015) where knowledge, attitude and perception towards polio immunization among residents of two highly affected regions of Pakistan were assessed. Part of the findings showed that 38.8% of the respondents exhibited good knowledge while a large proportion of the population displayed negative attitude towards the immunization practices mainly because of false religious beliefs, lack of knowledge, fear of infertility by polio vaccines, and security issues.

Similarly, Taylor, Khan, Muhammad, Akpala, Strien, Morry, Feek and Ogden (2017) in understanding vaccine hesitancy in polio eradication in Northern Nigeria surveyed households of three high risk states (Sokoto, Kano and Bauchi). The survey was aimed at understanding factors at household and community level associated with propensity to refuse polio vaccine. Major findings reveal lack of trust, religious beliefs and poor knowledge on polio vaccines as the major barriers to vaccine acceptance. The study points to the potential importance of strengthening relationships of trust between the government and communities.

Haruna, Isma'il and Baba (2015) used focus group discussion to assess the knowledge of polio virus among nursing mothers in Anguwa Maigamo and Sabon Gida villages of Giwa Local Government of Kaduna State. The study found low level of knowledge on polio virus. In a a similar study conducted by Osowole and Obute (2005), focus group discussion and survey were employed to assess parents' awareness and perception of the polio eradication programme in Gombe Local Government Area of Gombe State. Findings from this study also revealed that a majority of the parents did not know the mode of transmission of the disease. Routine immunization was also rejected because of high frequency of immunization days. Based on the findings, the researchers recommend the need for more advocacy and enlightenment campaign with emphasis on mode of transmission and need for immunization.

Solomon (2021) narrated the untold story of community mobilizers re-engaging and dis-engaged community during the endemic era of polio in India. The study was based on conversations with individuals in southern states of India. Findings of the study showed a strong rejection of the polio vaccine. As such, they had to device means to reach and engage the people. Part of the communication strategies used in building bridges between the people and the programme was the creation of mother groups to discuss health issues. Fathers were accessed through other contacts like local barbers that were trained to initiate conversations about immunization in general and polio while they cut hair.

In a study conducted in Zamfara State, Ogwumike, Kaka and Adeniyi (2012) carried out a cross-sectional survey of households with the aim of assessing the

knowledge, attitude and beliefs of parents who have children with paralytic poliomyelitis. Result from the study showed 65.4% of respondents had good knowledge on polio and most respondents showed a reasonable belief over the cause of their children's condition rather than the erroneous traditional belief that polio is caused by spiritual forces. The study thus concluded that the findings of the research did not play a prominent role in preventing children from polio. They recommend that Nigerian policy makers should device more strategic measures towards the prevention of polio in sub regions.

In another study aimed at assessing knowledge, attitude and perception of parents/caregivers about polio immunization, Ahmed, Yunusa, Wudil, Gidado, Sharif and Kabara (2015) employed focus group discussion and key informant interview to influence planning for rapid interruption of transmitting of WPV in Gaya Local Government Area of Kano State. The results of the study showed a high level of awareness on the existence of polio vaccine and immunization exercise. However, 34% of the respondents did not believe the vaccine can protect against polio. It was recommended that social mobilization activities should be intensified in the community and unmet needs of the community should be accorded priority as the people were not comfortable with giving polio, which they did not regard as deadly as other diseases, much attention.

Duru, Usman, Adeosun, Stamidis and Bologna (2019) conducted a research to explore the contributions of the two thousand one hundred and thirty (2,130) volunteer community mobilizers deployed in thirty-one (31) participating LGAs in the five states implementing the Core group polio project (CGPP) from 2014-2017 to increase awareness, understanding and acceptance of polio immunization. The study surveyed the Volunteer community mobilizers supervisors, conducted a focus group discussion with the volunteers and an in-depth interview with community stakeholders. General findings from the study showed that the volunteer mobilizers used the following strategies to ensure high vaccination coverage: house to house mobilization, community dialogue, compound meetings, community health camps and tracking of non-compliant families, missed children and drop-outs.

Theoretical review

Two- step flow theory

The two-step flow theory of information and influence attempts to explain the relationship between interpersonal contact and mass media in persuasive

campaigns (Baran & Davis, 2012). Polio eradication campaign is a persuasive campaign as it tends to change peoples' attitudes towards vaccination. This theory asserts that information from the media moves in two distinct stages. First are individuals (opinion leaders) who pay close attention to the mass media and its messages. They pass on their own interpretation in addition to the actual media content. Opinion leaders are quite influential in getting people to change their attitudes and behaviours.

This theory helps to explain why certain media campaigns may have failed to change people's attitudes. The theory is relevant to this research in the sense that it seeks to explain how information is passed from the health workers to the opinion leaders who in turn interpret the messages in their own words to the people in their community for attitude and behavioural change.

Research Method

This study adopted quantitative and qualitative methods. The survey method was used to help the researcher elicit valued information from the respondents without any attempt to manipulate or control them. In order to have a manageable size and a reliable data, non-systematic sampling method was used. Samples were picked accidentally; 10 respondents were picked from each of the 11 wards (Bassawa, Bomo, Chikaji, Dogarawa, Hanwa, Jama'a, Jushi, Muchiya, Samaru, U/Gabas and Zabi) in Sabon Gari Local Government. In general, 110 copies of the questionnaire were used.

The interview schedule was used to obtain information from a cool chain officer at the state primary health care center in Sabon Gari Local Government Area of Kaduna State. A public health worker and also an observer (monitor) were interviewed.

Results and analysis

Research objective one (1) on respondent's knowledge on WPV

Answer	Frequency	Percentage
Yes	110	100%
No	0	
Total	110	100%

All the respondents in the table above know about polio. This could be as a result of the intense campaign to eradicate the disease. The importance of the eradication process and routine house-to-house mop up has contributed a lot to the creation of awareness about polio. Even children found playing on the streets know about polio.

Research objective two (2) on respondent's acceptance or rejection of the Polio vaccine

Level of acceptance or rejection	Frequency	Percentage
Strongly agree	50	45%
Agree	37	34%
Disagree	12	11%
Strongly disagree	11	10%
Total	110	100%

The above indicates that a majority of the population strongly believe that the polio vaccine is good for health. A total of 21% of the population still do not agree. They form the bulk of the people that reject the vaccination for their children. Most of them do not understand why polio would be given much importance as there are other killer diseases. Others conform to decisions by their religious clerics. Answering interview questions, a health worker gave testimony on the increase in the number of households that accept the vaccine. According to her, there has been tremendous success. People now accept the vaccine willingly unlike before. They used to go through a series of lectures. Parents would hide their children and claim there was no child in the house. Although not everybody accepts the vaccine, some people still believe it is not healthy or that it causes infertility; others said some Islamic scholars preached against it so they won't let their children take the vaccine.

Research Objective three (3) is on the communication strategies used by the primary health workers in disseminating information about polio.

The major communication strategy employed by the health workers was community engagement through regular meetings with community stakeholders in the eleven wards of the local government. Decisions were made together with the stakeholders for proper and peaceful execution of the duties of the health care workers.

The health workers also engaged in health talks on radio through programmes that encourage people to accept the vaccine on the local station (Queen FM, Zaria).

The use of flyers, pamphlets and leaflets carrying polio immunization messages was also part of the methods used to reach out to people.

Primary Health Care Worker (Independent monitor)
Research objective four (4) is focused on the major challenges faced in disseminating information on polio.

The primary health care worker relates fear of the unknown as the major challenge. Since the vaccines were not accepted in some areas, the health worker wouldn't know what they can do. The mothers/care givers could not trust them enough to tell them if their children received the vaccine or not. There was also communication barrier. Some of health workers could not speak the language of the natives so a translator was assigned to them by the traditional ruler. Sometimes they had to use sign language to communicate. There was also the issue of funding. The funds were not enough for them to cover all the places they were assigned to cover. Poor road network was also a major challenge.

Conclusion and Recommendations
General findings from the study show a high level of knowledge on polio which could be attributed to the hard push for the end polio campaign which employed different communication strategies in a bid to completely eradicate polio. With the high level of knowledge, 21% of the respondents were still adamant on the issue of immunization. The health workers encountered problems like lack of trust from the community and language barrier which deterred their communication effort.

The study therefore recommends that any new vaccine for children under the age of five should be inculcated in the normal routine vaccination given to children from child birth instead of making health workers go round to administer it, making it look different. People would trust the vaccine more, and a child would get the required dose before the age of five.

The health workers should be provided with enough funds to reach their destinations safely. This would be useful for the population that do not like going to the hospital especially the hard-reach population. They should have a sound knowledge of the community, their norms and beliefs, how they greet, etc. These recommendations would help in the fight against present and upcoming diseases that would need routine immunization.

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