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## AWARENESS AND ATTITUDES OF PARENTS TOWARDS POLIO ERADICATION PROGRAMMES IN JOS NORTH LOCAL GOVERNMENT AREA OF PLATEAU STATE, NIGERIA

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### ABSTRACT

*There has been an on ongoing campaign for a total eradication of polio. Nigeria which is one of the three countries still vulnerable to the virus, relentless efforts has been put in place through the polio eradication programme. These programmes have over the years been faced with many challenges ranging from lack of knowledge, non-receptive attitude and even misperception. Hence, this paper aimed at assessing the level of awareness and attitude of parents towards polio eradication programme in Jos North Local Government Area, Plateau State Nigeria. A community-based cross-sectional research design was adopted. Primary data were obtained using quantitative method. In the survey, 367 questionnaires were distributed among parents using multi-stage sampling techniques of Wards, settlements, households and individuals. Results show that the parents are aware of polio eradication programmes and the polio virus although there is a misconception on the symptoms associated with the disease. Findings further showed that the attitude of parents is receptive to the programme. The study recommends a campaign that is geared towards the creation of proper awareness on the symptoms of the disease and also ensures that the wrong perception of the vaccine is dispelled so that parents don't in the future begin to reject the vaccine.*

**Keywords:** *Awareness, Attitudes, Parents, Polio, Programmes*

### INTRODUCTION

The World Health Organization (WHO) estimated that each year about a million infants and children die and three (3) million become deaf, crippled or mentally retarded

because of infections from vaccine preventable disease (WHO, 2006). The further reported that in Nigeria, these diseases contribute 10-20% of all deaths in infants and children (about 220,000 annually). According to Global Polio Eradication Initiative (2015), Nigeria along with one of the polio hot zones along with India, Pakistan and Afghanistan; and also one of the 11 countries that accounted for 66% of the world's measles death.

The Global Polio Eradication Initiative (GPEI) was launched in 1988 with the objective of making the world 'polio free'. This mass campaign was a collaborative effort of national governments, World Health Organization (WHO), Centre for Disease Control and Prevention (CDC), United Nations Children's Fund (UNICEF) and other key partners across the globe (Polio Global Eradication Initiative, 2010). Remarkable efforts and attempts to reduce high morbidity and mortality rates among infants'/children as an initiative began in 1988 (Bonford, 2006). Measles in particular is a major community health problem with an estimate of 3.6 million cases occurring annually that result in about 108,000 infant mortalities and 54,000 morbidities (UNICEF, 2017). Nigeria is one of the few countries in the world where the wild polio virus is highly endemic (Miller, 2004). In an attempt to tackle this, the Nigerian government embarked upon the Expanded Program on Immunization (EPI) in 1975, with collaboration from the World Health Organization (WHO) and UNICEF, mainly to achieve 80 percent of the eradication coverage within the target population by the year 1990.

Hamborsky, Kroger, Wolfe (2015) defined "Poliomyelitis" as an acute infectious viral epidemic and is endemic throughout the world. It is caused by an ultramicroscopic virus, called polio virus - a human entero-virus and member of the family of picornaviridae. It is transmitted by droplets infections and by oral ingestion of the virus. It is mostly found in the gastro-intestinal tract of an infected person. It can be excreted in fecal matter as well as saliva or mucus from the oral cavity and nostrils of an infected person.

Eradication was however not achieved as about 3,500 cases of Wild Poliovirus, (WPV) were reported worldwide (Executive Board Room, 2001) with Nigeria contributing 27 cases (WHO Nigeria, 2001). Assessment of immunization services in Nigeria revealed that immunization coverage is still low. Several factors such as lack of proper planning at State and LGA levels, decreasing motivation of health workers, poor quality of immunization services and low demand for services from the community were evident (FMOH/NPI, 2001). Thus, there is need to reassess the awareness, attitude and perceptions of the people in Jos North L.G.A of Plateau State Nigeria about the polio eradication, and its impact on the ongoing control programme having suffered its fair share of the activities of the insurgents and ethno-religious crises

### **Statement of the Problem**

Tackling polio in the last of the endemic countries has been a continuing priority for the GPEI. However, logistical barriers, especially in conflict areas; management challenges; uncertain funding; political tension; persisting anti-vaccine rumours and resistance have arrayed against the efforts of polio eradication (Larson & Ghinal, 2011). Amidst these, public acceptance of vaccines remains important as that is the only measure that can help in polio eradication. Ghinal, Willot, Dadari & Larsons (2013) noted that negative communications about polio vaccines in Nigeria resulted in decrease acceptance of vaccines in five states in Northern Nigeria. According to them, serious and well documented set of refusals occurred

due to the endorsement of rumours by religious and political leaders as they consider it as an American conspiracy to cause HIV and infertility in local population.

Various studies have been conducted to determine barriers to polio eradication in polio. A survey conducted by Harvard Opinion Research Program in collaboration with UNICEF (2014) reported low oral polio vaccine (OPV) coverage in higher conflict areas of Pakistan (FATA) and Nigeria. Also, they further noted that parent' misperception about polio virus and OPV, and lack of parental trust on local healthcare workers was a major setback to polio eradication. One of the persistent polio immunization challenges is the negative and unhealthy beliefs about polio vaccines. It creates a pool of unvaccinated children thereby increasing the risks of spread of the infection. Vaccine hesitancy was found to be the main cause of polio re-importation in previously free polio countries.

Nigeria is striving to keep up with the global eradication initiative through radical immunization efforts. Immunization coverage in Nigeria was 74% in 2011, an improvement on 69% in 2010 and 50% in 2008 (WHO, 2012b). These efforts can be attributed to concerted efforts by the Federal government, community and religious leaders (UNICEF, 2011). However, in northern Nigeria there is a major challenge of erroneous beliefs and negative attitude towards acceptance of polio vaccination. Even with the acclaimed improved vaccination coverage, Abubakar, (2013) reported low level of immunity among children in Jos- Plateau state, and Ilorin - Kwara State (north central Nigeria).

Several studies such as Abdullah (2015) on "Polio Immunization Social Norms in Kano State, Nigeria: Implications for Designing Polio Immunization Information and Communication Programs for Routine Immunization Services", Muhammad, Yahaya, Ibrahim Tijjani and Ahmad (2015) on "Polio eradication in Nigeria: Prospects and challenges. A Review", and Stephen, Shaw, Gwen, Thangeswaren and Nanvyat (2019) on "Knowledge, attitude and practice of mothers towards the acceptance of oral polio vaccine for their children in Mista Ali community Jos Plateau State" have been conducted on the issues of polio immunization. However, none of this study has paid a keen interest on the dynamism and variation in awareness, attitude and perception of polio eradication programme in Jos north Local Government Area of Plateau State which is largely a heterogeneous setting with different ethnic groups, migrants, and religious variation.

### **Research Hypotheses**

- i. There is no significant relationship between parents' level of educational attainment and them been worried on over dose of polio vaccine dosage
- ii. There is no significant relationship between parents' level of educational attainment their attitude towards having their children been immunized with the polio vaccines
- iii. There is no significant relationship between parents' knowledge of polio vaccine their attitude towards having their children been immunized with the polio vaccines.

### **CONCEPTUAL AND THEORETICAL FRAMEWORK**

#### **Polio**

Etymologically, the word Poliomyelitis can be traced to two Greek words polio (meaning grey) and myelon (meaning marrow, indicating the spinal cord). It is usually as a result of the effect of poliomyelitis virus on the spinal cord that often leads to the classic manifestation of paralysis in children. Poliovirus is a member of the enterovirus subgroup and within the Picornaviridae family. There are three poliovirus serotypes (P1, P2, and P3).

There is minimal heterotypic in Polio is a highly infectious disease caused by a virus that attacks mostly children under the age of five. It invades the nervous system, and can cause total paralysis in a matter of hours. The virus is transmitted by person-to-person spread mainly through the faecal-oral route or, less frequently, by a common vehicle (for example, contaminated water or food) and multiplies in the intestine (WHO, 2017). Poliomyelitis as an epidemic disease was first described by Michael Underwood, a British physician who had described a debility of the lower extremities in children that was recognizable as poliomyelitis in England in 1789 (Sharma, 2012).

Following the introduction of effective vaccines, first inactivated poliovirus vaccine (IPV) in 1955, and oral poliovirus vaccine (OPV) starting in 1961, the reported incidence of poliomyelitis in the U.S. declined dramatically and by 1979 till date there have been no single case of polio in the United States

### **Theoretical Framework**

This paper is situated within Health Belief Model. The Health Belief Model (HBM) is a Psychological Model that attempt to explain and predict health behaviours. This is done by focusing on the attitude and beliefs of individuals. The Health Belief Model was developed in the 1950s by Social Psychologists Hochbaum, Rosenstock and Kegels working in the USA public Health Services. This theory explains psychological health behaviour change, the model is developed to explain and predict health-related behaviours, particularly in regard to the uptake of health services (Janz, Nancy K.; Marshall H. Becker 1984, Rosenstock, 1974). It remains one of the best known and most widely used theories in health behaviour research (Christopher, 2010) The Health Belief Model suggests that people's beliefs about health problems, perceived benefits of action and barriers to action, and self-efficacy explain engagement (or lack of engagement) in health-promoting behaviour (Rosenstock, 1974). A stimulus, or cue to action, must also be presented in order to trigger the health promoting behaviour.

Perceived severity refers to subjective assessment of the severity of a health problem and its potential consequences. The Health Belief Model proposes that individuals who perceive a given health problem as serious are more likely to engage in behaviours to prevent the health problem from occurring (or reduce its severity). Perceived seriousness encompasses beliefs about the disease itself (e.g., whether it is life-threatening or may cause disability or pain) as well as broader impacts of the disease on functioning in work and social roles.

Perceived susceptibility refers to subjective assessment of risk of developing a health problem. The Health Belief Model predicts that individuals who perceive that they are susceptible to a particular health problem will engage in behaviours to reduce their risk of developing the health problem (Rosenstock, 1974). Individuals with low perceived susceptibility may deny that they are at risk for contracting a particular illness (Rosenstock, 1974). Others may acknowledge the possibility that they could develop the illness but believe it is unlikely. Individuals who believe they are at low risk of developing an illness are more likely to engage in unhealthy, or risky, behaviours. Individuals who perceive a high risk that they will be personally affected by a particular health problem are more likely to engage in behaviours to decrease their risk of developing the condition.

Health-related behaviours are also influenced by the perceived benefits of taking action. Perceived benefits refer to an individual's assessment of the value or efficacy of

engaging in a health-promoting behaviour to decrease risk of disease. If an individual believes that a particular action will reduce susceptibility to a health problem or decrease its seriousness, then he or she is likely to engage in that behaviour regardless of objective facts regarding the effectiveness of the action. For example, the aged individuals who believe that exercise can prevent diseases such as cardiac attack more likely to practice healthy behaviour than aged individuals who not believe.

Health-related behaviours are also a function of perceived barriers to taking action. Perceived barriers health condition as threatening and believes that a particular action will effectively reduce the threat; barriers may prevent engagement in the health-promoting behaviour. In other words, the perceived benefits must outweigh the perceived barriers in order for behaviour change to occur. Perceived barriers to taking action include the perceived inconvenience, expense, danger (e.g., side effects of a medical procedure) and discomfort (e.g., pain, emotional upset) involved in engaging in the behaviour (Rosenstock, 1974)

The Health Belief Model posits that a cue, or trigger, is necessary for prompting engagement in health-promoting behaviours of an individual. Cues to action can be internal or external. Physiological cues (e.g., pain, symptoms) are an example of internal cues to action. External cues include events or information from close others, the media (Christopher, 2010) or health care providers promoting engagement in health-related behaviours.

Self-efficacy was added to the four components of the health belief model (i.e., perceived susceptibility, seriousness, benefits, and barriers) in 1988. Self-efficacy refers to an individual's perception of his or her competence to successfully perform a behaviour. Self-efficacy was added to the health belief model in an attempt to better explain individual differences in health behaviours. The model was originally developed in order to explain engagement in one-time health-related behaviours such as being screened for infection or receiving an immunization. Eventually, the Health Belief Model was applied to more substantial, long-term behaviour change such as diet modification, exercise, and smoking. Developers of the model recognized that confidence in one's ability to effect change in outcomes (i.e., self-efficacy) was a key component of health behaviour change.

The Health Belief Model attempt to predict health behaviour through a variety of means, health is influenced by behaviour and behaviour is modifiable (Conner and Norman, 1996). In a review of Health Belief Model or theory, Chen (2012) demonstrated that the decision to engage with a particular medical channel is influenced by a variety of variables, including sex, age, the social status of the aged, the type of illness, access to services and perceived quality of the service. The polio eradication programme studies look beyond the individual for social patterns or determinants of decision making. The polio eradication programme clearly varies for the same individuals or communities when faced with different illnesses. For example, Barret (2008) highlights contrasting pathways to care for aged women when faced with abnormal vaginal discharge, as opposed to malaria. For the former, the woman is bound far more by rituals and obligations, such as shaving prior to examination, and being accompanied to a medical consultation by her husband.

The polio eradication programme will be used to develop effective interventions to change aged health-related behaviours by targeting various aspects of the model's key constructs (susceptibility, severity, benefits, cue to action). Interventions based on the polio

eradication programme may aim to increase perceived susceptibility and perceived seriousness of a health condition by providing education about prevalence and incidence of disease of the aged, individualized estimates of risks, and information about the consequences of aged related disease or illnesses (e.g., medical, financial, and social consequences). Interventions may also aim to alter the cost-benefit analysis of engaging in a health-promoting behavior. (i.e., increasing perceived benefits and decreasing perceived barriers) by providing information about the efficacy of various behaviours to reduce risk of disease, identifying common perceived barriers towards health care, providing incentives to engage in health-promoting behaviours, and engaging social support or other resources to encourage health-promoting behaviours among the children.

## LITERATURE REVIEW

### Awareness of Polio Eradication Programme in Nigeria

There has been variation in the level of awareness on polio eradication programmes in Nigeria but the most commonly known programme is the routine polio immunization programme. In a descriptive cross-sectional survey conducted by Awodele, Oreagba, Akinyede, Awodele and Dolapo (2009), on the knowledge and attitude towards childhood immunization among mothers attending antenatal clinic in Lagos University Teaching Hospital in Nigeria, it was discovered that a large percentage of the respondents (62.6%) knew that immunization ought to be given at a specific period, 66.5% were convinced that immunization is necessary for their children, 64.2 % of the respondents were ready to ensure their children are immunized irrespective of the cost while 65.4% of the respondents believed they can advise their fellow women to receive immunization for their children. Only a few thought giving a child immunization can cause HIV/AIDS (1.5%) and it was possible to take immunization in a community pharmacy (3.9%). On their knowledge of polio vaccine, a large percentage of the respondents (45.5%) thought that polio vaccines ought to be given five (5) times, 1.6% thought it should be given three (3) times, 7.8% thought it should be given 6 times and 2% thought it should be given 7 times. Only 8.6% knew it should be given four (4) times, which is the standard number of times polio vaccine should be given. Eighty-six (33.5%) of the respondents did not know the specific number of times it should be given.

In another study conducted by Nanbur et'al (2019) on knowledge, attitude and practice of mothers towards the acceptance of oral polio vaccine for their children in Mista Ali Community, Jos, Plateau State, it was found that majority of the respondents were aware of poliomyelitis and polio vaccine; 84.3% and 94.3% respectively. However, about half of the respondents felt dirty environment and lack of good food cannot cause poliomyelitis - 51.4% and 50.7% respectively. Most of the respondents heard about poliomyelitis through the hospital (44.1%). House to house polio immunization showed to be a very important means where the mothers learned about polio vaccine (59.9%). Over half of the respondents (53.6%) knew what poliomyelitis is; and majority of the respondents (90.7%) believed that the polio vaccine has no side effect. Furthermore Ogwumike, Kaka, & Adeniyi (2012) in their work "Children with Paralytic Poliomyelitis. A cross-sectional study of knowledge, attitudes and beliefs of parents in Zamfara state, Nigeria" reported that 65.4% and 23.8% reported good and fair knowledge of paralytic poliomyelitis respectively. Also, Obute and Arulogun (2013) in their research in Gombe state revealed that majority of parents (353, 83.6%) believed that polio was a serious disease, only 216 (50.7%) parents



believed their children were susceptible. Fifty-six per cent of respondents did not know the mode of transmission of the polio virus.

### **Parent's Attitude towards Polio Eradication Programmes**

Several studies have been conducted on the attitude of parents towards polio eradication programmes. In a study by Nanbur et al (2019), findings showed that majority of respondents (82.1%) had positive attitude towards the polio vaccine and they felt it is good for their children to be vaccinated with the polio vaccine while 12.1% expressed their dislike towards the polio vaccine; very few respondents (5.7%) were indifferent about the vaccine. Majority (88.6%) of the respondents said they knew that the vaccine is good for children, while only 11.4% of the respondents said they did not know if the vaccine was good for children.. On a contrary note, results of a study on polio immunization among residents in Pakistan conducted by Khan, Ahmaf, Aqeel, Salman, Ibrahim & Idrees (2011) revealed that, a large proportion of participants (84.8 %) displayed negative attitudes towards polio immunization. This attitude is different among health workers (HCW) who revealed in another study by Khan et al (2015) an overall 57.7% (n = 261) participants showed positive attitudes regarding polio. A large proportion of respondents (n = 424, 93.8%) strongly agreed or agreed that polio is a very serious illness. Majority of respondents believed that all children should be vaccinated for polio (n = 430, 95.1%). HCWs agreed that polio vaccines should be appropriately stored to ensure its effectiveness (n = 397, 87.8%). However, 56.4% (n = 255) participants believed that polio vaccines have sterility issues. In another studies by Closser, Cox, & Parris, (2014), it was reported some parents allow polio vaccine in the Kano state of Nigeria because most them are forced to allow their wards accept the (polio) vaccines unwillingly while (some) take the vaccines because of the meager incentives given to them.

Despite successes in recent times that one could say polio is nearly been eradicated, Gergen (2009) had observed that the virus is on the increase due to upsurge of violence against vaccine workers in conflict zones. Another disturbing challenge to eradicating polio is mistrust of the West and vaccine programs. As there still persists a powerful opposition to vaccines in some afflicted.

### **METHODOLOGY**

Jos North is a Local Government Area in Plateau State, with headquarters in the city of Jos. This study employed survey design. This is because social survey research design makes the collection of data from large population easy using a representative sample to generalize. The design best reveal facts, interpret, produce and integrate information, as well as point to their consequences in interrelationships. The projected population of Jos North local government area has an approximate population of 439,217 comprising of 220,856 males and 216,361 females based on 2006 census and a projected population of 741, 106 as at 2020 (National Population Commission, 2020). However, the target population for this study is not the entire population of Jos North Local Government Area but adult male and female residing in some selected electoral wards to include Gangare (17, 301), Jenta Adamu (18,274), Jos Jarawa (16, 895), Tafawa Balewa (21,632), Tudun Wada (20,691) and Vanderpuye (19,473) totally 114, 266 (National Population Commission, 2020).

The study took a sample size of 379 based on the Krejcie and Morgan formula 1970. The sample size is study 379 respondents as determined using Krejcie Morgan's formula (1970) which is given as;

$$S = \frac{x^2 NP(1-P)}{d^2(N-1) + x^2(1-P)}$$

Where;

S= Squared sample size

$X^2$  = the table value of chi square for degree of freedom derived confidence level (3.81410)

N= the population size (114266)

P= the population assumed to be 0.5 since this will provide the maximum sample size

d= the degree of accuracy expressed as a portion (0.05)

$$s = \frac{3.814 \times 114266 \times 0.5(1-0.5)}{0.05^2(114266-1) + 3.814(1-0.5)}$$

$$= \frac{108952.631}{287.567}$$

$$= 378.89$$

Multistage sampling technique was used for the study. In this sampling procedure, the primary groups and sub-groups are selected on the basis of geographical distribution rather than other characteristics. The multi-stage sampling procedure was adopted for the study; the population was clustered into women of reproductive age in the study area. Multistage sampling technique was employed in the selection of electoral wards; streets; houses/compounds, household and respondent/individual. The study utilizes data from the primary and secondary sources of data collection. The primary data was generated through the use of questionnaires. Questionnaire is the most appropriate instrument for this study because of its general simplicity and has a wider reach of the respondents. It provides a standard form of responses for the generality of the target respondents which also makes it easy for analysis. This research seeks to elicit data using both quantitative and qualitative methods. Quantitative data were analyzed using bivariate analysis. Bivariate analysis involved the use of cross tabulation of key variables in order to show the relationship among the variables.

## ANALYSIS AND RESULTS

**Table 1: Relationship between Respondents Level of Educational Attainment and on worry about polio vaccine overdose**

Respondents Level of Educational Attainment	Response on worry about polio vaccine overdose		Total
	Yes	No	
Non formal Education	42(21.3)	29(17.2)	71(19.3)
Primary	77(38.8)	57(33.7)	134 (36.5)
Secondary	65(32.8)	47(27.8)	112(30.5)
Tertiary	14(7.1)	36(21.3)	50 (13.6)
<b>Total</b>	<b>198 (100)</b>	<b>169(100)</b>	<b>367(100)</b>

*Pearson Chi square=15.745, df =3Asymp.sign (2-sided) =0.001 Critical Value=7.825*



Table 1 revealed the relationship between parents' level of educational attainment and their perception on whether they have worries on polio vaccine overdose. The chi square test indicates that the calculated value is 15.745,  $df = 3$  and at .05 level of confidence and the table value is 7.825 at  $df = 3$  at confidence level .05. This shows that the calculated chi square is higher than the critical value. Given that the calculated chi square is higher than the table chi square, the null hypothesis is rejected. Thus, there is a significant relationship between parents' level of educational attainment and them been worried on over dose of polio vaccine dosage.

**Table 2: Relationship between Respondents Level of Educational Attainment and whether respondents will allow Children get Immunized**

Respondents Level of Educational Attainment	Response on whether respondents will allow		Total
	Yes	No	
Non formal Education	66 (21.5)	5 (8.3)	71(19.3)
Primary	113 (36.8)	21 (35.0)	134 (36.5)
Secondary	85 (27.8)	27 (45)	112(30.5)
Tertiary	43 (14.0)	7 (11.7)	50 (13.6)
<b>Total</b>	<b>307 (100)</b>	<b>60 (100)</b>	<b>367 (100)</b>

*Pearson Chi square=9.673,  $df = 3$  Asymp.sign (2-sided) =0.022 Critical Value=7.825*

Table 2 reveals the relationship between parents' level of educational attainment and their attitudes towards getting their children immunized with the polio vaccine. The chi square test indicates that the calculated value is 9.673,  $df = 3$  and at .05 level of confidence and the table value is 7.825 at  $df = 3$  at confidence level .05. This shows that the calculated chi square is higher than the critical value. Given that the calculated chi square is higher than the table chi square, the null hypothesis is rejected. Thus, there is a significant relationship between parents' level of educational attainment their attitude towards having their children been immunized with the polio vaccines.

**Table 3 Relationship between whether respondents have heard of polio virus and Whether respondents will allow children get immunized**

Whether respondents have heard of polio virus	Response on whether respondents will allow vaccination		Total
	Yes	No	
Yes	280 (91.2)	49 (81.7)	329(89.6)
No	27 (8.8)	11 (18.3)	38(10.4)
<b>Total</b>	<b>307 (100)</b>	<b>60 (100)</b>	<b>367 (100)</b>

*Pearson Chi square=4.920,  $df = 1$  Asymp.sign (2-sided) =0.027 Critical Value=3.841*

Table 3 reveals the relationship between parents' awareness on polio vaccine and their attitudes towards getting their children immunized with the polio vaccine. The chi square test indicates that the calculated value is 4.920,  $df = 1$  and at .05 level of confidence and the table value is 3.841 at  $df = 1$  at confidence level .05. This shows that the calculated chi square is higher than the critical value. Given that the calculated chi square is higher than the table chi square, the null hypothesis is rejected. Thus, there is a significant

relationship between parents' knowledge of polio vaccine their attitude towards having their children been immunized with the polio vaccines.

## DISCUSSION OF FINDINGS

On respondents Level of Educational attainment, the findings of the study revealed that a large proportion of the respondents agreed that level of respondents' educational level affect the utilization of polio immunization in the study area. This corroborates with the findings of Ogwumike et al (2013), among parents in Zamfara state who found that 65.4% and 23.8% reported good and fair knowledge of paralytic poliomyelitis respectively. Nanbur et'al (2019) also found out that majority of populace of Mista Ali in Jos North had knowledge on polio and polio vaccines. Furthermore, findings revealed that the source of information regarding polio and polio vaccine among respondents is the house to house immunization, hospital, places of worship and radio stations. This also agrees with Nanbur et'al (2019) who noted that the house to house campaign and radio station perform a significant role in creating awareness about polio and polio vaccines. On the attitude towards polio eradication programme, the study revealed that parents have a positive attitude toward polio vaccine as about 83.7 percent have them reported that they like polio vaccine, it is good for their children and they will consent to their children been immunized with the polio vaccine. But among respondents who said they won't let their get their children to be immunized, their reasons mostly includes; their husbands disapproves of it (46.7 Percent) and it causes infertility. This shows that there is still an unmet gap in the knowledge of polio vaccine. This corroborates the findings of Nanbur et'al (2019) who reported that majority of mothers that do not allow their children to be vaccinated with the polio vaccine (65%) because it causes fever to the children, while others said their husbands instructed them not to take the vaccine for their children . In a similar study by Abdulrahaam et'al (2008), it was found that there are various reasons adduced by mothers for incomplete vaccination of their children such as: child ill-health at the time of immunization (3.6%), parents' objection, disagreement or concern about immunization (38.8%). Theoretically, the health belief model further explains the attitudes of parents towards polio eradication. Thus since parents consider the vaccine good, they consent to having their children receive the vaccine.

## CONCLUSION AND RECOMMENDATIONS

Evidently, the incidence of polio eradication campaigns and the distribution of polio vaccine is a common sight in Nigeria. By creating awareness and the attitude about polio and polio vaccine have changed over time. This has accounted in the reduction in the cases of polio outbreak in Nigeria and in other parts of the world. Despite the enormous impact of polio eradication programmes, some parents have a negative perception of the programme. This can in the future lead to change of attitude toward the programme thereby causing a relapse from the success it is enjoying today. Based on the findings, the study recommends the following;

- i. As revealed by the study despite the show of awareness of polio virus and polio vaccine, the findings revealed that there is a misconception on the meaning of polio disease among parents. Thus, there is a need for an enlightenment campaign that will ensure that parents have a full understanding of the disease, know how to identify it symptoms as that will help ensure that early cases of the infection is quickly reported. Government and major health stakeholders should ensure that parents are well informed on the major causes and symptoms of the virus.

- ii. Government, non- governmental organizations, religious organizations, community leaders and schools should organize programmes that will sensitize and create awareness on the effects of non-utilization of polio vaccines so as to ensure a total acceptance of polio campaign in Jos North Local Government Area of Plateau State.
- iii. Despite the high knowledge as well as approval of polio vaccines, parents have some negative perceptions about polio eradication programmes. Thus, there is a great need in Jos North Local Government Area, Plateau state and Nigeria to re orient parents on the need and health benefits of polio eradication programmes.

Also, since findings revealed that religious institutions play a significant role in creating awareness as well as informing the populace about polio vaccine, such institution should be incorporated in any decision that relates polio campaign. Hospitals also should be well equipped and manned so that health care services especially antenatal and postnatal services are readily available.

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