

# Attitude of Child Bearing Mothers towards House-To-House Immunization of Children against Poliomyelitis in Ebonyi North Senatorial Zone of Ebonyi State

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## Abstract

*Regardless of the extensive pulse polio immunization (PPI) administered to children during house-to-house immunization strategy which was introduced by the Nigerian government, eradicating polio out of the country still remains a mirage. Nigeria as a country is not yet free from polio virus together with Afghanistan and Pakistan. The study thus investigated the attitude of child bearing mothers towards house-to-house immunization of children against poliomyelitis in Ebonyi North Senatorial Zone of Ebonyi State. There was one research question and two null hypotheses to guide the study. The population comprised 210,083 child bearing mothers in Ebonyi North Senatorial Zone. The multistage sampling technique was used to pick 100 child bearing mothers used as sample for the study. The instrument for data collection was a self structured attitude of mothers towards house-to-house immunization of children against poliomyelitis (AMTHHIOCAP) questionnaire. The reliability of the instrument was tested using Cronbach Alpha and a reliability coefficient of 0.82 was established. The result of the study revealed that attitude of the child bearing mothers towards house-to-house immunization of children against poliomyelitis in Ebonyi North Senatorial Zone of Ebonyi State was negative. There was significant difference in attitude of the childbearing mothers towards house-to-house immunization of children against poliomyelitis based on educational status. However, there was no significant difference in attitude of the mothers based on religion. By the result of the study, it was concluded that all efforts should be made to change the negative attitude towards the immunization strategy among the childbearing mothers. It was thus recommended among others that health educators should be deployed to various communities so as to sensitize and create awareness among the child bearing mothers on the need for their children to be presented during house-to-house immunization and also bring to their fore, the fatal consequences of avoiding and not immunizing their children.*

**Key words:** Poliomyelitis, House-to-house immunization, Children, child bearing mothers, Attitude.

## Introduction

The Nigerian government has in recent time engaged in massive and extensive campaign against poliomyelitis through house-to-house immunization of children. In spite of the effort, the aim of making the country polio free still remains far-fetched. This problem is favoured by unpleasant religious beliefs, illiteracy, social and political factors (UNICEF, 2013).

According to Med Plus and Shannan (2015), polio which can also be called infantile paralysis, enterovirus or post-polio syndrome has as its preys (susceptible groups) to be pregnant women, people with weakened immunity (immuno-compromised) such as HIV positive people and young children below the age of five (Nwani, 1986; Ike, 2005 & WHO 2015). The infection may come with initial symptoms such as fever, fatigue, headache, vomiting, stiffness in the neck, pain in the limbs and paralysis which can be partial or full. Other symptoms may be sore throat, red throat, general discomfort, abnormal reflexes, difficulty swallowing or breathing, back pain, arm stiffness among others (WHO, 2015; Shannan, 2015 & Merck, 2015). In order to avert the virus and consequently bring to total collapse of its mortality rates, there is urgent need to get all infants and children immunized.

Immunization is described as a deliberate stimulation of body's defenses against specific germs or bacteria. The procedure is described by WHO (2005) as a proven tool for controlling and eradicating diseases. In children, it involves administering certain drug preparations against certain childhood diseases such as polio and spreads out from birth to five years (Opera, 1985; Nwani, 1986; WHO, 2004 & WHO, 2005).

For the fact that health of the children is the wealth of the nation and as part of the children's survival strategy, the government at local, state and national levels, with the sole aim of eradicating polio out of the country introduced the National Programme on Immunization (NPI). It was launched in Nigeria in the year 1990 to enhance immunization coverage (Juluhugwa, 1990). As part of the NPI implementation strategy, house – to- house immunization strategy was introduced.

House-to-house immunization strategy involves immunization teams going to people's homes and getting their children immunized (WHO, 1996). The strategy aims to immunize all eligible children below five years who are present during times of visit. It is assumed that through house-to-house immunization strategy, that,

more children under the age of five could easily be reached, while mothers are saved the difficulty encountered in accessing immunization at very distant health centres. The strategy entails also the involvements of increased number of health workers thereby ensuring wider coverage throughout the country (WHO, 2004 & WHO, 2005).

According to UNICEF (2013), the house-to-house immunization strategy has come with it certain conflicting attitudes among childbearing mothers. Attitude in this regard, refers to nursed idea reflected in action or behavior (Ogbe, 2011). Ugorj (2004) described it as the sum total of a man's inclinations, feelings, prejudices or bias, preconceived notions, ideas, fears, threats and convictions about any specific topic (Ugorji, 2004). UNICEF (2013) identified negative feelings of some mothers about house-to-house immunization. These include invading on their privacy, being needless, capable of triggering an underlying illness in a child and also capable of causing infertility in future for its recipients (UNICEF, 2013). The strategy has also been perceived negatively by some mothers to be causing illness and deformity among healthy children (WHO, 2015). Med Plus (2015) recognized some mothers' negative attitude towards immunization by their uncalled questions regarding the need for house-to-house immunization campaign.

Childbearing mothers' attitude to immunization has been found to be influenced by social factors such as education and religion. In the words of Cleland & Ginneken (1988), the past two decades have availed useful information indicating that maternal education has a strong impact on mothers' attitude and tolerance towards immunizing their children. Abuya, Onsomu, Kimani & Moore (2011), found mothers with only primary education to be 2.17 times more likely to develop positive attitude and immunize their children when compared with those lacking any formal education. On the other hand, Illiterate mothers were found by Samra, Rizwan, Masood, Ghulam & Rida (2015) to have negative attitude less than the highly educated mothers towards immunizing their children. In a study by Joseph, Subba, Neiliyanil, Haridath, Kishor, Attavar, Pornima, Rane, Chaithai and Hussain (2011), educational status of childbearing mothers was found to be significantly associated with their attitude towards polio vaccine. Religion on the other hand was found also to be interrelated with immunization (Wikipedia, 2015). Haider (2009) revealed the existence of rumours about vaccine safety in Muslim-run States in Northern Nigeria. This, according to the Author, threatened WHO's polio eradication programme in the zone. Haider (2009) reported also that some faith healing groups of which the Church of Christ, Scientist (Christian Science), believe they can heal all diseases through prayers rather than through medicine thus, making their members to oppose immunization of all sorts. Haider (2009) maintained that in recent time, the main Orthodox Protestants' arguments against vaccination focus on the necessity of trust in divine providence, referring to certain passages in the bible. However, The Church of Jesus Christ of latter day Saints supports childhood immunization urging their members to protect their children through immunization and to join other public-spirited citizens' efforts to eradicate ignorance and apathy to polio vaccination (Wilhelmina, Jeannie, Koos, Sjoerd, Hans & Marles, 2011). Wilhelmina et al (2011) also found the Hindus to have positive attitude towards children's polio vaccination. This was shown by their proactive efforts to eradicate polio in the region. In line with the Hindus, the Roman Catholic Church also affirms and recognizes the importance of vaccination in children and supports its use by her members all over the world (Wilhelmina et al, 2011).

In Nigeria, the problem remains that despite the extensive pulse polio immunization (PPI) administered during house-to-house immunization strategy which was introduced by the government, the aim of making Nigeria polio free remains a mirage with 54 new cases in 2012 (Adeyinka, Oladimeji, Adeyinka & Aimaku, 2013). According to the authors, Nigeria still remains one of the polio hot zones along side Pakistan and Afghanistan.

In Ebonyi North Senatorial Zone which happens to be one of the 3 senatorial zones of the state and having 4 local Government areas, childbearing mothers which the present study regarded as women who are still in the act or process of giving birth were used as respondents for the study. The zone inhabits great number of such women with varying educational status and religious affiliations. While some are educated up to university level, there is also great number of them with low educational status and those without any formal education. People of the zone are predominantly Christians from various denominations. Only a handful of them are traditionalists and Islamists.

Conversely, there have been recent cases of poliomyelitis in 3 of the local government areas in the zone thereby making the communities polio compliant. The communities involved have been under WHO close watch and observation. Personal interactions with women of the area revealed that they do not receive periodic health awareness programmes through which they can be availed with factual information on polio, effects, consequences, treatment and prevention through vaccinations. This in effect leaves the mothers in the hands of other uninformed women who furnish them with non factual information. This in turn, threatens house-to-house immunization strategy raising conflicting attitudes and misconceptions about the vaccine. In the area of study, some childbearing mothers are still found avoiding health workers who come to immunize their children. Many of the women allowed their babies to be immunized only once i.e at birth while still in the hospital. They complain of their babies being so ill after immunization and also insinuate that vaccination against polio can reversibly cause polio in children. More so, some of the mothers give excuses and doubts about the health workers involved in the

house-to-house immunization. They dread of the workers being “sent” to inject their children with poison. All these perceptions may stir up apathy towards the strategy among the women. Moreover, since they have different educational status and from different religious groups with different teachings and beliefs, their attitude towards the immunization strategy stands yet to be known.

Nonetheless, any result obtained would help to fashion out the best polio eradication intervention strategy. It is in this regard that the study determines to find out the attitude of childbearing mothers towards house-to-house immunization of children against poliomyelitis in Ebonyi North Senatorial Zone of the State and also to determine whether the childbearing mothers’ attitude towards house-to-house immunization of children against poliomyelitis in Ebonyi North Senatorial Zone of Ebonyi State would significantly differ based on educational status and religion.

### **Research Question**

The following research question guided the study:

1. What is the attitude of childbearing mothers in Ebonyi North Senatorial Zone towards house-to-house immunization of children against poliomyelitis?

### **Hypotheses**

The following null hypotheses guided the study.

- (1) There is no significant difference in the attitude of childbearing mothers towards house-to-house immunization against poliomyelitis based on educational status ( $p < .05$ )
- (2) There is no significant difference in the attitude of childbearing mothers towards house-to-house immunization against poliomyelitis based on religion ( $p < .05$ ).

### **Methods**

The descriptive research design was adopted for the study. The population comprised 210,083 childbearing mothers in Ebonyi North Senatorial Zone (Ebonyi State Population Commission, 2016). Out of the population, 100 of them were selected as sample for the study. This was in accordance with Akuezilo (2002)’s position that a sample size of 30 and above is large enough for a study. The sampling technique used for the study was multistage sampling procedure. The first stage involved using cluster sampling method to divide the population into 4 clusters using the 4 local government areas that make up the zone. The second stage involved using simple random sampling technique of balloting without replacement to pick 2 communities from each of the local government areas. This yielded a total of 8 autonomous communities selected for the study. The next stage involved purposive sampling technique which was used to pick a health centre from each of the selected autonomous communities. Any community without health centre was replaced with another with a health centre in the same local government area. This process yielded 8 health Centres which created access to childbearing mothers attending antenatal or immunization health services. From these health centres, purposive sampling technique was also used to select the first 100 childbearing mothers that attended the clinics. Consequently, the process produced the 100 women used as sample for the study.

The instrument for the study was a self-structured questionnaire titled: Attitude of mothers towards house-to-house immunization of children against poliomyelitis (AMTHHIOCAP) Questionnaire. The instrument was subjected to face validation by health education experts. In determining the reliability of the instrument, 30 women that were not part of the study population were used. From data collected, Cronbach Alpha coefficient was used to test the reliability of the instrument and a reliability co-efficient of  $r = 0.82$  was established. This was considered high enough based on Ogbazi and Okpala’s (1994) suggestion of .60 for good instruments.

The research question was answered using mean scores. A grand mean score of 2.50 and above indicated positive attitude while a grand mean below 2.50 (i.e. from 2.49 down) indicated negative attitude among the mothers. In other to test the 2 null hypotheses, analysis of variance (ANOVA) was used to test the first null hypothesis while t-test was used to test the second null hypothesis, both at 0.05 level of significance.

### **Results**

#### **Research Question 1**

What is the attitude of childbearing mothers towards house-to-house immunization of children against poliomyelitis in Ebonyi North Senatorial zone of Ebonyi State?

**Table 1: Attitude of Mothers towards House-To-House Immunization of Children against Poliomyelitis**

S/N	Information on house-to-house immunization of children against polio	$\bar{X}$	SD	Decision
1.	I believe that house-to-house immunization would help to eradicate polio in Nigeria	3.77	0.69	Positive attitude
2.	A healthy child needs not undergo any form of immunization be it at home or in hospitals.	2.00	1.18	Negative attitude
3.	I don't want my child to suffer infertility in future because of immunization in any manner.	2.29	1.12	Negative attitude
4.	I feel that house-to-house immunization of children, 0-5 years, against polio is a good health intervention strategy.	3.54	0.67	Positive attitude
5.	I consider polio a dangerous disease and thus require urgent house-to-house immunization against it.	3.30	1.05	Positive attitude
6.	I have double doubts about the effectiveness of the oral polio vaccine administered during house-to-house immunization.	2.10	0.98	Negative attitude
7.	I don't fancy having my children getting immunized in any place other than hospitals.	2.20	1.09	Negative attitude
8.	A lot of fears engulf me having strangers to immunize my children in the house or along the street.	2.83	0.94	Positive attitude
9.	I would rather prefer going to health centres to immunize my babies to being immunized at home with unknown drugs.	2.76	1.07	Positive attitude
10.	I don't even understand the essence of the campaign against polio.	1.84	1.11	Negative attitude
11.	My religion considers immunization a fatal process that should be discouraged.	1.56	0.94	Negative attitude
12.	I don't canvas for house-to-house immunization due to unqualified personnel involved in the process.	2.45	1.13	Negative attitude
13.	Polio virus, in my view, does not exist not to talk of house-to-house immunization against it.	1.66	1.02	Negative attitude
14.	House-to-house immunization should not be allowed since hospitals are everywhere.	1.91	0.99	Negative attitude
15.	Encouraging house-to-house immunization of children can aggravate underlying diseases in the children.	2.20	0.98	Negative attitude
16.	There is no need for polio vaccination once a child was well breast-fed.	1.92	1.08	Negative attitude
17.	House-to-house immunization is quite good because the problem of standing in long queues, for immunization is over.	2.87	1.09	Positive attitude
18.	I strongly believe that house-to house immunization would ensure wide immunization coverage.	3.13	0.98	Positive attitude
19.	I don't advocate for polio immunization to be administered in any way because it causes deformity in children.	2.06	1.20	Negative attitude
20.	I'm not bothered any longer about my child's next immunization date with the introduction of house immunization.	1.84	1.04	Negative attitude
<b>Overall</b>		2.41*	0.26	Negative attitude

From the data in Table 1, the mothers have positive attitude towards items 1, 4, 5, 8, 9, 17 and 18 by scores above the criterion mean of 2.50; while they have negative attitude to items 2, 3, 6, 7, 10, 11, 12, 13, 14, 15, 16, 19 and 20 by scores below the criterion mean of 2.50. The overall mean for all the items is 2.41 and a standard deviation of 0.26.

### Hypothesis 1

There is no significant difference in the attitude of childbearing mothers towards house-to-house immunization against poliomyelitis based on educational status ( $p < .05$ )

**Table 2: Summary of the test of ANOVA based on educational status of the childbearing mothers**

S/N	Information on house-to-house Immunization of Children against Polio	F-ratio	p-value
1.	I believe that house-to-house immunization would help to eradicate polio in Nigeria	2.000*	0.141
2.	A healthy child needs not undergo any form of immunization be it at home or in hospitals.	0.146*	0.864
3.	I don't want my child to suffer infertility in future because of immunization in any manner.	0.053*	0.948
4.	I feel that house-to-house immunization of children, 0-5 years, against polio is a good health intervention strategy.	0.785*	0.459
5.	I consider polio a dangerous disease and thus require urgent house-to-house immunization against it.	1.289*	0.280
6.	I have double doubts about the effectiveness of the oral polio vaccine administered during house-to-house immunization.	1.988*	0.143
7.	I don't fancy having my children getting immunized in any place other than hospitals.	4.809*	0.010
8.	A lot of fears engulf me having strangers to immunize my children in the house or along the street.	1.192*	0.308
9.	I would rather prefer going to health centres to immunize my babies to being immunized at home with unknown drugs.	0.082*	0.921
10.	I don't even understand the essence of the campaign against polio.	1.449*	0.240
11.	My religion considers immunization a fatal process that should be discouraged.	0.242	0.786
12.	I don't canvas for house-to-house immunization due to unqualified personnel involved in the process.	1.616*	0.204
13.	Polio virus, in my view, does not exist not to talk of house-to-house immunization against it.	3.007*	0.054
14.	House-to-house immunization should not be allowed since hospitals are everywhere.	1.985*	0.143
15.	Encouraging house-to-house immunization of children can aggravate underlying diseases in the children.	2.601*	0.079
16.	There is no need for polio vaccination once a child was well breast-fed.	2.661*	0.103
17.	House-to-house immunization is quite good because the problem of standing in long queues, for immunization is over.	0.327*	0.722
18.	I strongly believe that house-to house immunization would ensure wide immunization coverage.	0.426*	0.654
19.	I don't advocate for polio immunization to be administered in any way because it causes deformity in children.	1.749*	0.179
20.	I'm not bothered any longer about my child's next immunization date with the introduction of house immunization.	6.649*	0.002
<b>Overall</b>		<b>34.726*</b>	<b>0.000</b>

Table 2 shows the test of analysis of variance (ANOVA) based on educational status of the childbearing mothers. The analysis indicates significant difference in the attitude of the Respondents towards house-house immunization of children against polio based on educational status. This arose from the fact that the p value is less than 0.05 significant level.

### Hypothesis 2

There is no significant difference in the attitude of childbearing mothers towards house-to-house immunization against poliomyelitis based on religion ( $p < .05$ ).

**Table 3: Summary of the T-test Analysis Based on Religion of the Childbearing Mothers**

Variable	N	$\bar{X}$	SD	t-value	p-value	Decision
Christianity	83	2.42	0.392	0.240	0.811	NS
Islam	18	2.39	0.52			

Table 3 shows the test of analysis of variance based on religion of the childbearing mothers. The analysis indicates no significant difference in the attitude of childbearing mothers towards house-to-house immunization of children against polio based on religion. This arose from the fact that p value is greater than 0.05 significant level.

## Discussion

Research question 1 sought to find out the attitude of childbearing mothers towards house-to-house immunization of children against poliomyelitis in Ebonyi North Senatorial Zone of Ebonyi State. The results in Table 1 indicated that the attitude of the childbearing mothers towards house-to-house immunization of children was negative ( 2.41). This index could imply that the childbearing mothers under study did not favour the idea of their children being immunized through house-to-house immunization against poliomyelitis strategy. The result of the study as it borders on the research question 1 was in the same accord with UNICEF (2013) study where it was revealed that some childbearing mothers exhibited negative attitude towards immunization by seeing it as invading on their privacy, being needless, capable of triggering an underlying illness in a child and also capable of causing infertility in future for its recipients (UNICEF, 2013). The study also affirmed WHO (2015)'s finding that some childbearing mothers perceived immunization of all sorts to be causing illness and deformity among healthy children. The result of the study also mirrored Med Plus (2015) study which recognized the childbearing mothers' negative attitude towards immunization by their unwarranted questions on the need for house-to-house immunization campaign.

The result of the null hypothesis 1 revealed that there is significant difference in the attitude of childbearing mothers based on educational status. The result agreed with Joseph et al (2011) which found educational status of mothers to be associated with their attitude towards polio vaccine. The finding was also in consonance with Abuya, Onsomu, Kimani & Moore (2011) where mothers with primary education were found to be 2.17 times more likely to develop positive attitude and immunize their children when compared with those lacking any formal education. On the other hand, the result of the 2 null hypothesis revealed that there is no significant difference in attitude of the childbearing mothers towards immunization against polio based on religion. This means that the women's negative attitude manifested regardless of their religion. They did not differ in their attitude based on their religious inclinations. The finding was not in line with Wikipedia (2015) where it was revealed that some religious groups consider immunization to be a dangerous process while others consider it a healthy and life enhancing strategy. The Respondents in the study did not significantly differ in their attitude despite their religious backgrounds.

The result of the second null hypothesis was not expected in view of the fact that the Respondents belong to various religious groups with different opinions and beliefs. While some of them consider immunization to be a fatal process and a way of challenging God and preventing his wish from being done that should be discouraged, others perceived it as an exercise worth doing to help protect young children from all kinds of communicable diseases thereby securing their future. This could be seen in a study by Haider (2009) that found the Muslim-run states in the Northern part of the country to exhibit negative attitude towards polio vaccine while their Christian counterparts favour the strategy. Considering the result in relation to the location of the study, it could be due to lack of health awareness on the immunization strategy. Moreover, the location is mostly of rural dwellers that may not have access health sensitization talks.

## Conclusion

The study determined attitude of childbearing mothers towards house-to-house immunization of children against poliomyelitis in Ebonyi North Senatorial Zone of Ebonyi State. The study found the childbearing mothers as having negative attitude towards house-to-house immunization of children against polio. It was also found that there was significant difference in attitude of the mothers towards immunization of children against polio based on educational status. However, there was no significant difference in the attitude of the childbearing mothers based on religion. By the result, it implies that the Respondents did not favour house-to-house immunization of their children indicative of their poor knowledge of the benefits of immunization and health problems that could befall their children when not immunized or properly immunized. The result also implies that the Respondents with lower educational status may be more ignorant of the benefits of the strategy than the more educated ones. The result of the study could also be predictive of the Respondents' desire for alternative immunization strategy rather than the house-to-house. Based on the result, all efforts should be made to change the negative attitude among the childbearing mothers.

## Recommendations

Based on the result of the study, the following recommendations are made to the government at various levels, ministry of health, policy makers, childbearing mothers, health educators and others in the area of maternal and child health (MCH)

1. The government at the federal, state and local government levels should organize workshops and seminars periodically for the childbearing mothers in order to avail them the forum through which they can be equipped with relevant and factual information about polio and its devastating effects. This will help to dispel all forms of conflicting attitudes which the mothers may be harbouring.

2. The ministry of health in collaboration with the government may carry out community health outreach in order to meet the mothers at grassroot levels. This is to establish closer contacts with the women. It would also ensure adequate dissemination of necessary information and responding to issues which the women may confront the health officers with.
3. Policy makers should formulate policies that would make it mandatory for every mother to present her child for immunization. Also, laws to enforce the adherence should be enacted.
4. Health educators should be deployed into various communities so as to sensitize and create awareness among the mothers on the need for their children to be presented during house-to-house immunization and also on the consequences of not immunizing them.
5. There may be need for an alternative immunization strategy to be set up by the government. This is to ensure that all childbearing mothers are accommodated within the scheme irrespective of their educational status and religion.

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