

# Perceived Immunization's Impacts on Under Five in Prevention of Morbidity and Mortality among Mothers at Federal Medical Centre Owo, Ondo State, Nigeria.

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## ABSTRACT

**Background:** Childhood immunization is a key method of reducing childhood morbidity and mortality, and reducing the number and severity of communicable disease outbreaks. In addition, when childhood vaccines are delivered at the right time, they increase the protection of children from vaccine preventable diseases, minimize the risk of children getting infected and decrease the chance of outbreaks of the disease according to —Determinants of compliance with child immunization among mothers of children under five years of age. This study analysed the mother's perceived impacts of immunization on children under 5years in the prevention of infants' morbidity and mortality and the factors that affect its uptake.

**Methods:** The study adopted a descriptive type of non-experimental research design to study the perceived impacts of immunization on children under 5years in the prevention of infant's morbidity and mortality and simple random technique was used to select 250 nursing mothers that use to attend post-natal clinic monthly in Federal Medical Centre (FMC) Owo, Ondo State, Nigeria. The instrument that was used for this study was a self-designed structured questionnaire and was administered by the researcher to the consented respondents. Data that was generated was analyzed using IBM Statistical Package for Social Sciences (IBM SPSS) version 25. Results generated were presented in frequency tables, charts (bar and pie charts) and inferential statistics was used to determine relationship between variables.

**Results:** Majority (99.00%) of respondents have heard about child immunization before and majority (96.00%) of respondents defined immunization as the process where by a person is made immune or resistant to an infectious disease. Also, majority (96.00%) of respondents believe that immunization can prevent all the childhood killer diseases. (46.00%) of respondents support that lack of information about the day of immunization can negative influence on the uptake of immunization among mothers while (54.00%) of respondents believed that forgetting the day of immunization can influence the uptake of immunization among mothers.

**Conclusion:** Based on the findings of this study, enlightenment campaigns on the health benefits of childhood immunization, and other childhood immunization issues should be arranged for public consumption from time to time so that even the less educated can have access to childhood Immunization-related knowledge because the unimmunized children can promote the transmission of vaccine preventable disease which can lead to increase in morbidity and mortality rate among under five children.

**Key words:** Childhood immunization, vaccine preventable diseases, Mothers, Under 5years., Morbidity, Mortality.

**Short condensation:** Enlightenment campaigns on the health benefits of childhood immunization improves vaccine uptake among mothers.

## INTRODUCTION

Childhood immunization is a key method of reducing childhood morbidity and mortality, and reducing the

number and severity of communicable disease outbreaks. In addition, when childhood vaccines are delivered at the right time, they increase the protection of children from vaccine preventable diseases, minimize the risk of children getting infected and decrease the chance of outbreaks of the disease according to —Determinants of compliance with child immunization among mothers of children under five years of age in Ekiti State, Nigeria" Odusanya O (2008).

According to Article by —Cleveland Clinic medical professional on 07/25/2017, It is considered important for improving child survival Mersch (2016). This is because more than 10 million children in developing countries die every year because they do not access effective interventions such as immunization that could fight common and preventable childhood illnesses.

According to (Adebiyi, F. 2013) although, about three quarters of the world's child population is reached with the required vaccines, only half of the children in Sub-Saharan Africa get access to basic immunization. Further, in poorer remote areas of developing countries, only one in twenty children have access to vaccination. Immunization against vaccination preventable diseases (VPDs) through the expanded programme of Immunization (EPI) is one of the most economical public health interventions available that contributes extensively to achieving the Millennium Development Goal to reduce the mortality rate of children under five by two thirds between 1990 and 2015. The expanded Programme on Immunization (EPI) was established in 1974 against six vaccine preventable diseases. These are diphtheria, polio, tuberculosis, measles, pertussis and tetanus. In 2003, DPT3 global coverage was 78 percent with about 27 million children not covered. South Asia and sub-Sahara African countries accounted for 9.9 million and 9.6 million, respectively of the children that were not covered. In most of these countries poor functioning health service delivery system impedes the efforts to meet immunization targets. Therefore, children living in remote location and border areas are difficult to be reached. Other areas not reached were displaced populations. Also, some people lack access to vaccination due to social barriers, lack of information or inspiration to get vaccinated.

Nigeria started its Expanded Program on Immunization (EPI) in 1979 (NPI, 2001). Reports have shown that the coverage has been fluctuating especially after the global universal childhood immunization efforts ended in 1990. This could have resulted from low political will and social support, inadequate funding and poor community involvement and participation. In view of this, there is need to improve the efficiency of immunization which was declining so fast and also to meet the universal challenges of immunization.

The theory underpinning the study is health belief model. According to the model, a person's perception of four crucial factors—the gravity of a potential illness, their susceptibility to it, the benefits of taking preventive action, and the barriers impeding that action—determines individual's behavior. This study provided information on these four crucial factors as regard childhood immunization with the aim to bridge a gap in knowledge and perception; and improve uptake of desire childhood immunization vaccines among mothers.

## **METHODS**

### **Research Design**

The study adopted a descriptive type of non-experimental research design to study the perceived impacts of immunization on children under 5 years in the prevention of infant's morbidity and mortality and simple random technique was used to select 250 nursing mothers that use to attend post-natal clinic monthly in FMC Owo, Ondo State, Nigeria. The instrument that was used for this study was a self-designed structured questionnaire and was administered by the researcher to the consented respondents. The questionnaire was composed of section A, B, C & D. section A was on socio-demographic data while section B assessed knowledge and perception of nursing mothers about impact of immunization on children under 5 years in prevention of infant morbidity and mortality, section C was factors affecting proper perception of immunization among mothers section D dealt with Factors influencing the uptake of immunization among mothers and section E composed of Impact of immunization on children in prevention of morbidity and mortality.

### **Study Recruitment and Data Collection Process**

The researcher employed a trained research assistant in the hospital who worked with the researcher in the

administration of the questionnaires. The study involved two stages of data collection: (i) consent forms; (ii) distribution of questionnaires. A consent form was given to the selected subjects for their approval to participate in the research before they were asked to respond to the questionnaire, and the same was retrieved immediately. Research respondents were approached and informed of the purpose of the study; both written and verbal consent was obtained. Only those who indicated their willingness to be part of the study were given the questionnaire. The period of data collection was one month.

### Data Processing and Analysis

Data generated was analyzed using IBM Statistical Package for Social Sciences (IBM SPSS) version 25. The results were presented in frequency tables and charts. Inferential statistics that is Parametric test were used to determine relationships between variables, and only the information gathered from the completed questionnaires was examined. The mean scores (along with standard deviations) of the respondents' responses were calculated using the frequency distributions of all variables. Through the questionnaire the level of childhood immunization vaccination and knowledge was assessed and inferential statistics was used to determine relationship between variables.

## RESULTS

The results from the study are presented in this chapter. The presentation covers the demographic characteristics of respondents and analysis by the three objectives set for the study.

Table 1 shows the modal age group is 20-25 years and 31-35 (28.00%). Majority (75.00%) of the respondents were Yoruba. Majority (83.00%) belonged to the Christian faith and (17.00%) were Muslim. Majority of the respondents were literate (55.00%) had tertiary education (34.00%) had secondary education and (7.00%) had primary education only (4.00%) were illiterate.

Table 1: Demographic characteristics of respondent

Variable	Frequency	Percentage
Age (years)		
20-25	42.00	28.00%
26-30	35.00	23.00%
31-35	42.00	28.00%
36-40	25.00	17.00%
41-45	4.00	3.00%
Above 45	1.00	1.00%
Total	149.00	100.00%
<b>Ethnicity</b>		
Yoruba	112.00	75.00%
Igbo	28.00	19.00%
Hausa	6.00	4.00%
Others	4.00	2.00%

Total	150.00	100.00%
<b>Religion</b>		
Christian	125.00	83.00%
Muslim	26.00	17.00%
Traditionalist	0.00	0.00%
Total	151.00	100.00%
<b>Level of Education</b>		
Primary	10.00	7.00%
Secondary	51.00	34.00%
Tertiary	83.00	55.00%
Nil	6.00	4.00%
Total	150.00	100.00%

The table 2 showed that majority (99.00%) of respondents have heard about child immunization before, majority (96.00%) of respondents believed that Immunization is the process where by a person is made immune or resistant to an infectious disease, (87.00%) of respondents know different vaccines available for under five children. Also, majority (96.00%) of respondents believe that immunization can prevent all the childhood killer diseases, (99.00%) of respondents agree that immunization is best for your children. In addition, majority (98.00%) of respondents' support immunization programmed and majority (86.00%) of respondents know immunization's schedule of children under 5years. Also, majorities (97.00%) of respondents know reasons for childhood immunization and believe that consequences of non-immunization are (diseases, death, and handicap). (72.00%) of respondents have more than one child and (94.00%) of them that their children were all fully immunized.

Table 2: Assess knowledge and perception of nursing mothers about impact of immunization on children under 5years in prevention of infant morbidity and mortality

S/N	QUESTION	YES%		NO%		Total (100%)
		Frequency	Percentage	Frequency	Percentage	
1	Have you heard about child immunization before?	151.00	99.00%	1.00	1.00%	152.00
2	Immunization as the process where by a person is made immune or resistant to an infectious disease	143.00	96.00%	6.00	4.00%	149.00
3	Do you know different vaccines available for under five children?	133.00	87.00%	17.00	13.00%	150.00
4	Do you believe that immunization can prevent all the childhood killer diseases?	145.00	96.00%	6.00	4.00%	151.00

5	Do you think immunization is best for your children	150.00	99.00%	2.00	1.00%	152.00
6	Do you support immunization programme?	146.00	98.00%	3.00	2.00%	149.00
7	Do you know immunization's schedule of children under 5years	133.00	86.00%	22.00	14.00%	155.00
8	Do you know reasons for childhood immunization?	146.00	97.00%	5.00	3.00%	151.00
9	Do you believe that consequences of non-immunization are (diseases, death, handicap)?	146.00	97.00%	5.00	3.00%	151.00
10	Do you have more than one child?	104.00	72.00%	41.00	28.00%	145.00
11	If your answer in question 10 is yes, are they all fully immunized?	98.00	94.00%	6.00	6.00%	104.00
Total		1495.00	93.00%	114.00	7.00%	1609.00

Table 3 showed that majority (70.00%) of respondents were not in agreement that there is no different between immunized and unimmunized children in terms of disease, death, handicap. Also (64.00%) disagreed with this believed that vaccination was optional since there were alternatives for protecting a child and that parents refuse to take their children for immunization, because they want to protect their children from being harmed and they are not sure of the immunization's safety. (51.00%) of respondents agreed that ignorance of importance of childhood immunization while 43.00% of respondents disagreed and only (6.00%) said they don't know. (56.00%) of respondents agreed that non-challant attitude of mothers towards immunization one of factors affecting proper perception of immunization's impact on children. Majority (60.00%) of respondents did not agree that mothers value work more than child immunization while (36.00%) agree and only (4.00%) said they don't know.

Table 3: Factors affecting proper perception of immunization's impact on children among nursing mothers

S/N	QUESTIONS	AGREE		DISAGREE		I DON'T KNOW		TOTAL (100%)
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	
1	No different between immunized and unimmunized children in terms of disease, death, handicap	39.00	27.00%	103.00	70.00%	5.00	3.00%	147.00
2	I believed that vaccination was optional, since there were	51.00	34.00%	98.00	64.00%	3.00	2.00%	152.00

	alternatives for protecting a child							
3	Parents refuse to take their children for immunization, because they want to protect their children from being harmed	47.00	31.00%	97.00	64.00%	7.00	5.00%	151.00
4	Not sure of the safety	35.00	23.00%	96.00	64.00%	19.00	13.00%	150.00
5	Ignorance of importance of childhood immunization	76.00	51.00%	63.00	43.00%	9.00	6.00%	148.00
6	Non-challant attitude of mothers towards immunization	82.00	56.00%	52.00	35.00%	13.00	9.00%	147.00
7	Mothers value work more than child immunization	54.00	36.00%	90.00	60.00%	7.00	4.00%	151.00
Total		308	34.00%	536	60.00%	54	6.00%	

Figure 1 shows the overall percentage of respondents to factors influencing the uptake of immunization among mothers, more than half (55.00%) of respondents disagreed with it while (45.00%) supported it.

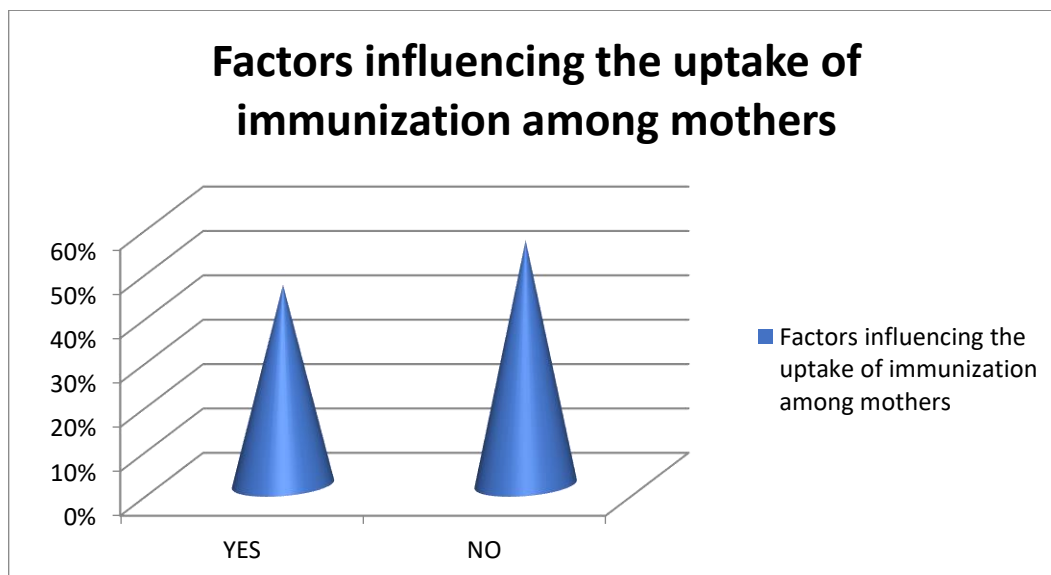
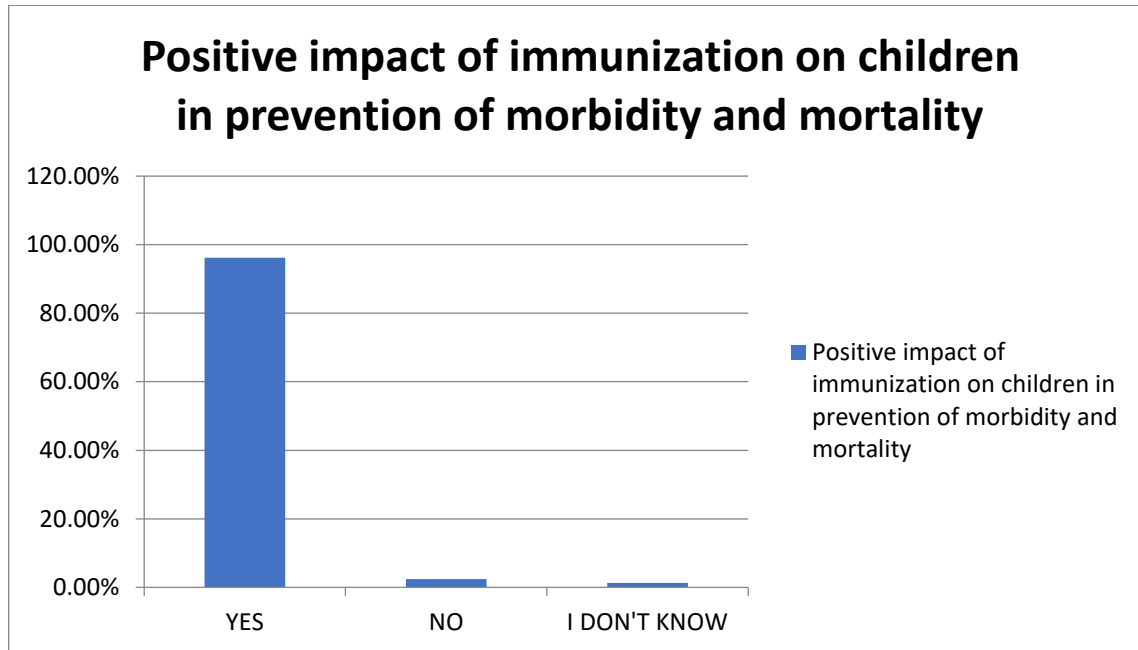


Figure 2 shows the overall percentage of respondents to positive impact of immunization on children in prevention of morbidity and mortality, majority (96.20%) of respondents agreed that there is positive impact of immunization on children in prevention of morbidity and mortality while few (2.40%) disagreed and (1.30%) said I don't know.



## DISCUSSION

This study shows the modal age groups of respondents are 20-25 years and 31-35 (28.00%) that means majority of respondents are mature people. Majority (75.00%) of the respondents were Yoruba. Majority (83.00%) belonged to the Christian faith and (17.00%) were Muslim this also can help them to more to hear about immunization in the assemblies. Majority of the respondents were literate (55.00%) had tertiary education (34.00%) had secondary education and (7.00%) had primary education only (4%) were illiterate. This finding is also consistent with the submission of Lee and Mason that increased literacy and school enrollment of girls and women promotes their health seeking behavior and enhances their ability to process and evaluate relevant information, especially those that will benefit their health and that of their children —2018 Facts and figures E-learning on immunization.

Majority (99.00%) of respondents have heard about child immunization before and majority (96.00%) of respondents defined immunization as the process where by a person is made immune or resistant to an infectious disease. Also, majority (96.00%) of respondents believe that immunization can prevent all the childhood killer diseases, (99.00%) of respondents agree that immunization is best for your children. this is in line with the findings (WHO, 2008) which says Childhood immunization is the initiation of immunity through application of vaccine and it is considered important for improving child survival. In addition (87.00%) of respondents know different vaccines available for under five children, majority (98.00%) of respondents' support immunization programmed and majority (86.00%) of respondents know immunization's schedule of children under 5years.

Also, majorities (97.00%) of respondents know reasons for childhood immunization and believe that consequences of non-immunization are (diseases, death, and handicap). (72.00%) of respondents have more than one child and (94.00%) of them that their children were all fully immunized. This is in line with the finding's childhood immunization is a key method of reducing childhood morbidity and mortality, and reducing the number and severity of communicable disease outbreaks. Also, it was in line with WHO'S VISION AND MISSION ON IMMUNIZATION AND VACCINES 2015 – 2030 Childhood immunization prevents infant morbidity and mortality. It also prevents deformities in children (Adedayo et al 2019). The study revealed that factors affecting proper perception of immunization's impact on children among nursing mothers majority (70.00%) of respondents were not in agreement that there is no different between immunized and unimmunized children in terms of disease, death, handicap. Also (64.00%) disagreed with this believed that vaccination was

optional since there were alternatives for protecting a child and that parents refuse to take their children for immunization, because they want to protect their children from being harmed and they are not sure of the immunization's safety. (51.00%) of respondents agreed that ignorance of importance of childhood immunization while 43.00% of respondents disagreed and only (6.00%) said they don't know. (56.00%) of respondents agreed that non-challant attitude of mothers towards immunization one of factors affecting proper perception of immunization's impact on children. This is consonance with the findings of Sarfaraz (2017), Streefland (2019) and Adebiyi, F. (2013) Determinants of compliance with child immunization among mothers of children under five years. Likewise, on factors influencing the uptake of immunization among mothers the study shows more than half (54.00%) of respondents didn't support that lack of information about the day of immunization can influence the uptake of immunization among mothers while (46.00%) of respondents support it.

Moreover, (54.00%) of respondents believed forgetting the day of immunization can influence the uptake of immunization among mothers while (46.00%) of respondents didn't believe it. Many (59.00%) of respondents didn't accept that inability to go because of work can be a hindrance but (41.00%) of respondents still believe it. The significant influence maternal educational status had on mothers' immunization-related knowledge and compliance with child immunization in this study is worthy of note. According to previous researchers' Abdulraheem et al. (2019), Babalola, S. (2009), Jegede (2019) and Lee, S. (2019) support education influences a mother's knowledge, attitudes and behavior, which, in turn, impacts the health outcomes of their children. In addition, Odusanya (2008) and Omer (2014) support the knowledge, personal and social skills provided through education can better equip individuals to access and use information and services to maintain and improve their own and their family's health. Through education, therefore, a healthy behavior can be promoted and the use of health services can be enhanced Mugada, (2017).

The study was limited as a result of lack of funding and researcher's assistance, therefore, not all hospitals in Ondo State were included in the study. The major challenge encounter was that some respondents didn't understand English Language and interpreter was provided for them.

## CONCLUSION

This study has shown that majority of mothers have good knowledge of immunization's impact on under five years children while the remaining had poor knowledge of it, also majority of respondents disagreed with factors mention in about the factors affecting proper perception of immunization's impact on children among nursing mothers while some of respondents supported it and few said they didn't know. The overall percentage of respondents to factors influencing the uptake of immunization among mothers, shows that more than half of respondents disagreed with it while some supported it. Moreover, majority of respondents agreed that there is positive impact of immunization on children, and only few were not in support. The remaining few that were not in support, their children can promote the transmission of vaccine preventable disease which can lead to increase in morbidity and mortality rate among under five children. Therefore, enlightenment campaigns on the health benefits of childhood immunization, and other childhood immunization issues should be arranged for public consumption from time to time so that even the less educated can have access to childhood Immunization-related knowledge.

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