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Maternal Knowledge and Attitudes Toward Routine Immunization Among Mothers Patronizing Ugbiyokho Primary Healthcare Centre, Edo State

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ABSTRACT
The study investigated maternal knowledge and attitudes toward routine immunization among mothers patronizing Ugbihoko Primary Healthcare Centre. It also assessed the influence of age, educational level and religion on the respondents. In view of these, eight research questions were raised and six hypotheses were formulated and tested at 0.05 level of significance. The theoretical framework of the study was hinged on the health belief model.The study utilized the descriptive survey research design. The population of the study was four and fifty-five (455) mothers of Ugbihoko quarters and its environs whose children are less than fifteen (15) months and have had their infants immunized at the Ugbihioko Primary Healthcare Centre. The sample size was two hundred and two (202) mothers selected from Ugbihioko Primary Healthcare Centre. The systematic sampling technique was used in selecting the respondents in the study. The instrument for the study was a self-structured questionnaire titled maternal knowledge and attitude towards routine immunization. The instrument was content and face validated by the researcher's supervisor and two other experts from the Department of Health, Safety and Environmental Education, Faculty of Education, University of Benin, Benin City. To establish the reliability of the instrument on knowledge, the split half reliability was used and Kuda-Richardson 20 was used to analyze the collected data, while the internal consistency on the items on attitude was measured using Cronbach alpha statistics. The instrument was administered to 20 respondents who do not form part of the sample. Items measuring knowledge reported alpha values of 0.75 and 0.78 for attitude. Data were analyzed using frequency counts, percentages and stated hypotheses were tested using chi square at 0.05 level of significance.It was discovered in the study that majority of the respondents have moderate knowledge on routine immunization, majority of the respondents in the study have positive attitudes toward routine immunization, knowledge on routine immunization among mothers patronizing Ugbiyokho Primary Health Care Center is significantly influenced by age, attitude toward routine immunization among mothers patronizing Ugbiyokho Primary Health Care Center are significantly influenced by age, knowledge of routine immunization among mothers patronizing Ugbiyokho Primary Health Care Center is significantly influenced by education, attitude of routine immunization among mothers patronizing Ugbiyokho Primary Health Care Center is not significantly influenced by education, knowledge of routine immunization among mothers patronizing Ugbiyokho Primary Health Care Center is significantly influenced by religion, attitudes of routine immunization among mothers patronizing Ugbiyokho Primary Health Care Center is significantly influenced by religion. It is recommended that mothers should be motivated to have their children immunized by doubling efforts at enlightening them and by reiterating the benefits of child immunization to pregnant women during ante-natal clinics.
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INTRODUCTION

The preventive measures against diseases at childhood stage are through immunization which is a complete course of injection that is administered to children soon after birth. Vaccines are among the greatest advances in global health and development. They act as a protective shield, keeping families and communities safe. United Nations Children's Fund (Unicef, 2022), observed that for over two centuries, vaccines have safely reduced the scourge of diseases like polio; measles and smallpox, helping children grow up healthy and happy. Similarly, Uzuegbu (2022) opined that a review of the childhood vaccination trend of children aged 12-23 months in Nigeria revealed that in the past 15 years (2003-2018), there has been an improvement in the percentage of children that have received all basic vaccination or have been vaccinated at all. She maintained that the percentage of children that have received all basic vaccinations increased from 13% in 2003 to 31% in 2018. Again, the percentage of children that have not received vaccination decreased from 27% in 2003 to 19% in 2018.

Despite all these milestones in childhood vaccination, Nigeria is still much far from reaching Sustainable Development Goal 3's target of achieving more than 90% coverage of all basic vaccinations among children. Again, Nigeria's childhood vaccination coverage also falls short of Global Vaccine Action Plan (GVAP) targets, putting a large number of children at risk of death and vaccine-preventable diseases in the future (Uzuegbu, 2022).

However despite these longstanding benefits, low immunization levels persist. For the first time in three

decades, the world is witnessing the largest sustained backslide in childhood vaccinations. This backslide is being driven by pandemic disruptions, conflict, displacement and increasing vaccine misinformation. As a result, some 25 million children are now missing out on life-saving vaccines every year, placing them at risk from devastating and entirely preventable diseases like measles and polio. Of the 25 million, more than 60% of these children live in 10 countries: Angola, Brazil, the Democratic Republic of the Congo, Ethiopia, Nigeria etc. (World Health Organization WHO, 2022).

Uzuegbu (2022) observed that data from the Nigerian Demographic and Health Survey 2018 shows that 31% of children aged 12-23 months received all basic vaccinations. Indicating that only 3 out of every 10 children aged 12-23 months received all basic vaccinations, 7 out of 10 children have not received full vaccinations with some having received as low as just one vaccine. The data also showed that 19% of children aged 12-23 months are not vaccinated at all.

There is a schedule for children below the age of five by the health department for the immunization of children, and vaccines are provided by the Expanded Program on Immunization (EPI) which plays a vital role in controlling childhood diseases. Immunization program is more systemized in developed countries, but the situation appears to be poor in most populous countries. In Nigeria, efforts to improve the lives of persons, especially children have been the concern of the government. One of the measures of doing this is the immunization programmes that have been undertaken by the Nigerian government to reduce the effect of deadly communicable disease. To this end, the Federal Ministry of Health (FMOH, 2004) introduced the Basic Guide on Immunization to improve the efficiency of immunization services in Nigeria. This document is produced for service providers on immunization to facilitate and point out their attention primarily on the provision of routine immunization services.

According to the Federal Ministry of Health (2004) the Expanded Programme on Immunization (NPI) has continued in its efforts to implement sustainable strategies and interventions in collaboration with State, Local government and partners with the vision by making immunization a community owned, community driven and community operated services. The above efforts by the Nigerian government have not yielded the desired results; this could be due to inadequate or no maternal knowledge and poor attitudes toward immunization. This is corroborated with ALAmri, Horaib and Rafa (2018) that the level of knowledge parents have regarding child vaccination and their attitudes towards vaccination may influence their practices.

A number of studies indicate that mothers who have inadequate knowledge about immunization and immunization schedules are more likely to have children who are not immunized or partially immunized. Parents' knowledge and understanding of immunization is important so health care providers can provide support. Mother's knowledge about immunization and their attitudes toward them likely influence uptake (Awosika, 2012).

Mothers are the most known determinant factors of child immunization for instance, Tagbo, Uleanya, Nwokoye, Eze and Omotowo (2012) in their study found that maternal highest educational level was significantly associated with knowledge of reason for immunization and acceptance of immunization. According to Babalola and Adewuyi (2006) the more educated a mother is, the higher the chances that her children would be immunized against Childhood killer diseases. In the same vein, the result of the study of Kibreab, Lewycka and Tewelde (2020) suggested that children of mothers who attained primary level were more likely to be fully vaccinated than children of mothers with no education.

Attitudes of mothers towards immunization refer to the learned personal disposition of mothers towards immunization of children against the killer or deadly diseases. Some mothers have unconcerned or nonchalant attitudes toward matters that concern the immunization of their children. Maternal attitude is an important predictor of childhood immunization. Mothers often weigh the risks and benefits of immunization versus disease. The Centre for Disease Control and Prevention (CDC, 2013) stated that the general attitudes of parents were negative towards childhood vaccination programs. Moreover, some parents think that immunization will decrease the fertility rate of their children. Thus, the parents' attitude plays an important role in the vaccination process as they are the decision makers for their children (Falade, 2014).

Children who are immunized are more likely to have parents who have attitudes, beliefs, and behaviours indicative of concerns of safety of vaccines. At the same time, concerns about the safety of vaccination are also prominent in parents who immunize. One of the objectives of healthy people is for young children to have full vaccination coverage; thus, understanding parental concerns about vaccination is important. Their level of awareness and attitudes play an important role in determining the health condition of children. If only they know immunization helps the child to be mentally healthy and active, most people will not feel reluctant to allow their women to go for education and other chores in life due to low literacy rate.

Studies have shown a direct link of parent's vaccine hesitancy to their religious beliefs. Babalola (2011) stated that some women were unable to take their children for vaccination visits because they were required to stay at home for cultural and religious reasons. It is no news that some religion forbids their people from using scientific methods in preventing, treating and eradicating illnesses and diseases. They are of the opinion that

diseases are caused by God and as such, anyone attacked by diseases has offended the Supreme Being and needed to make atonement for their sins. To some, exercising one's faith in God is the best way of preventing and/or curing ailments, they do not believe in the use of drugs because it doesn't align with their doctrine. Such people will have no need for immunization.

Some others believe in their cultural practices as a way of curing diseases, this they do by making rituals. One's religion is to a large extent determined by his or her culture_ a way of life of a group of people, thus culture and religion are intertwined. Women who are restricted by such religion have limited information and knowledge of vaccine preventable diseases, vaccine benefits to their children and them as parents, and its risks. Some religions hold dearly to the use of roots and herbs made available to them by nature rather than modern drugs. Insufficient knowledge and information resulting from women bounded by such religious beliefs, lead to negative attitudes. The desire to avail their children for immunization is not there since there is no motivating factor from some spouses, religious leaders and neigbhours. The above is further supported by Wilson, Baker, Nordstorm and Legward (2018) when they said low levels of literacy and religion may alter the knowledge of mothers toward childhood immunization.

Furthermore, the study of Adedokun, Uthman, Adekanmbi and Wiysonge (2017) revealed that more than three-quarter of the children (76.3%) were not completely immunized, about 83% of children of young mothers (15–24 years) and 94% of those whose mothers are illiterate did not receive full immunization. This further showed that age and education influence the uptake of immunization. Similarly, it was also indicated that children whose mothers were aged less than 30 years were 2.26 times more likely to be fully immunized (Abubakar & Gajida, 2005). In the same vein the findings of the study of Bello and Daniel (2017) revealed that the level of mothers' education relates to their knowledge and tends to encourage childhood immunization.

From the foregoing, maternal knowledge and attitudes play an important role in determining the health condition of children. It is against the above background that the researcher therefore, intends to investigate the knowledge and attitudes of mothers toward the routine immunization of their children against childhood preventable diseases, as there is the need to replace their misconceptions about immunization through proper knowledge and education as well as attitudes to be shaped in regards to childhood immunization

Statement of the Problem

Routine childhood immunization is one of the sure ways and most cost-effective public health interventions for adverting vaccine preventable diseases in children of age's 0-5 years. Children are gifts to families and societies, parents look forward to seeing them grow healthy mentally, physically, emotionally and otherwise. Immunization is one way of actualizing it as it boosts their immunity against certain future diseases and infections. With complete and routine vaccination, an individual's life expectancy is more guaranteed, herd immunity is made stronger and the world a better, safer and healthier place for us all. However, despite the many benefits of immunization, efforts made by the government and other bodies to eradicate these diseases, millions of children still die from vaccine preventable diseases yearly as a result of either none or incomplete vaccination. Most families are in pain and sorrow arising from the death of their children or having to live with the disabilities caused by these diseases. Could these problems faced by families and communities be a result of inadequate knowledge of immunization by mothers or their attitudes toward it? Is it due to maternal age, education and religious beliefs? There are many studies on maternal knowledge and attitudes toward routine immunization but none however, to the best knowledge of the researchers has been done in Ugbiyokho Community, Egor Local Government Area, Edo State. It was against this background that this study was carried out to assess maternal knowledge and attitudes toward routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre, Ugbiyokho Community, Egor Local Government Area, Edo State.

Research Questions

The following research questions were raised to guide this study;

1. What is the level of knowledge on routine immunization among mothers patronizing Ugbiyokho primary Healthcare Centre in Egor, Edo State.
2. What are the attitudes toward routine immunization among mothers patronizing Ugbihoko Primary Healthcare Centre in Egor, Edo State?
3. Knowledge on routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre in Egor, Edo State is not influenced by age.
4. Attitudes toward routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre in Egor, Edo State are not influenced by age.
5. Knowledge on routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre is not influenced by education.
6. Attitudes toward routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre in Egor, Edo State are not influenced by Education.

7. Knowledge on routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre in Egor, Edo State is not influenced by Religious affiliation.
8. Attitudes towards routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre are not influenced by religious affiliation.

Research Hypotheses

The following hypothesis were formulated and tested at 0.05 level of significance to guide the study

1. Knowledge on routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre is not significantly influenced by their age.
2. Attitudes toward routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre are not significantly influenced by their age.
3. Knowledge on routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre is not significantly influenced by their education.
4. Attitudes toward routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre are not significantly influenced by their education.
5. Knowledge on routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre is not significantly influenced by their religion.
6. Attitudes toward routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre are not significantly influenced by their religion.

Purpose of the Study

This study assessed maternal knowledge and attitudes toward routine immunization among mothers patronizing Ugbihoko Primary Health Centre, Ugbihoko Community, Egor Local Government Area, Edo State. This study specifically determined:

METHODS OF THE STUDY

The descriptive survey research design was employed in this study. According to Owie (2017) the design enables for the collection of data from a representative sample without manipulation from which relevant inferences can be derived about the population from which it was gathered. This design is therefore suitable for this study in that it is essentially meant to describe how the independent variable (maternal knowledge and attitudes) will influence the dependent variable (routine immunization).

The population of this study consisted of all the four hundred and fifty-five (455) mothers of Ugbiyokho Quarters and its environs whose children are less than fifteen (15) months and have had their infants immunized at the Ugbihoko Primary Healthcare Centre, Ugbihoko Community Egor Local Government Area, Edo State (National Primary Healthcare Development Agency Child Immunization Register, Edo State, 2022).

Sample of two hundred and two (202) mothers was selected from the Ugbiyokho Primary Healthcare Center's Child Immunization Register. The systematic sampling method was adopted in selecting the subjects from the child's immunization register. The entire target population of four hundred and fifty-five (455) mothers who fall within the needed criteria was assigned numbers from 1, 2, 3 to 455. All even numbers were finally selected for the research work. This sampling technique allows for adequate representation of the population without bias.

The research instrument used for this study was a self-structured questionnaire titled: Maternal Knowledge and Attitudes toward Routine Immunization (MKATRI). The questionnaire consists of two sections, A and B. Section A sought demographic variables of the respondents such as age, education, religion, marital status and occupation, while Section B was segmented into two sub-sections, i.e. sub-section 1 and 2. Sub-section 1 is a 10 item multiple choice question on maternal knowledge which was scored: correct answer = 1, wrong answer = 0. Sub-section 2 measured 10 items on maternal attitude which was rated on a four point rating scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) and was scored: SA=4, A= 3, D=2, SD=1.

The face and content validity of the instrument was done by three experts from the Department of Health, Safety and Environmental Education, Faculty of Education, University of Benin. The final instrument was developed based on their comments, suggestions and corrections.

The reliability of the instrument on knowledge was established using the split-half reliability method and subjected to Kuda Richardson 20 statistical tools. The internal consistency of the items on attitudes was measured using Cronbach alpha statistics. The instrument was administered to twenty (20) respondents who do not form part of the sample. Items measuring knowledge reported coefficient value of 0.75 while that of attitude gave coefficient value of 0.78. Hence, the instrument is reliable.

The research instrument was administered by the researchers with the help of two research assistants who were briefed on how to administer and retrieve the instrument. The exercise lasted for four weeks.

Method of Data Analysis

The data collected were analyzed using frequency counts, percentages and chi-square statistics. The research questions were analyzed using frequency counts and percentages while the research hypotheses were subjected to a chi square statistical tool at 0.05 level of significance.

PRESENTATION OF RESULT AND DISCUSSION OF FINDINGS

Results and discussion of findings are in tables in line with the research questions raised and the formulated hypotheses.

Table one: Frequency table on level of knowledge on routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre in Egor, Edo State

Level of knowledge	Frequency	Percent
High	54	26.7
Low	41	20.3
Moderate	107	53.0
Total	202	100.0

score of 0 to 5- low knowledge; score of 6 to 8- Moderate; score of 9 to 10- High knowledge

The study revealed the Level of knowledge on routine immunization among mothers patronizing Ugbiyokho primary Healthcare Centre in Egor, Edo State. It can be seen that 26.7% of the respondents have high knowledge, 20.3% have low knowledge and 53.0% of the respondents have moderate knowledge of routine immunization. Thus majority of the respondents have moderate knowledge of routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre in Egor, Edo State.

Table two (a): Frequency table on attitudes toward routine immunization among mothers patronizing Ugbihoko Primary Healthcare Centre in Egor, Edo State

s/n	Items	SA	A	D	SD
1	Immunization is important for serious diseases only	81(40.1%)	66(33.7%)	53(26.2%)	-
2	Immunization prevent children from serious diseases	122(60.4%)	66(32.7%)	14(6.9%)	-
3	Most vaccines on children makes them sick	55(27.2%)	27(13.4%)	40(19.8%)	80(39.6%)
4	Immunization is for the children of wealthy parents	14(6.9%)	27(13.4%)	54(26.7%)	107(53.0%)
5	Vaccines are beneficial for most children	81(40.1%)	41(20.3%)	14(6.9%)	66(32.7%)
6	My religion prohibits children immunization	40(19.8%)	14(6.9%)	53(26.2%)	95(47.0%)
7	Educational level of mothers have important role to play on children immunization	41(20.3%)	40(19.8%)	66(32.7%)	55(27.2%)
8	Most mothers that comply with immunization schedules always have positive result	81(40.1%)	53(26.2%)	27(13.4%)	41(20.3%)
9	Immunization is an exercise that keeps children healthy	68(33.7%)	80(39.6%)	40(19.8%)	14(6.9%)
10	The side effects of vaccination on children should be seriously considered	54 (26.7%)	81(40.1%)	39(19.3%)	28(13.9%)

The table two shows the maternal attitudes toward routine immunization. It can be seen that 40.1% strongly agreed that immunization is important for serious diseases only, 60.2% strongly agreed that immunization prevent children from serious diseases, 39.6% strongly disagreed that most vaccines on children makes them sick, 53.0% strongly disagreed that immunization is for the children of wealthy parents, 40.1% strongly agreed that vaccines are beneficial for most children, 47.0% strongly disagreed that their religion prohibits children immunization and 32.7% disagreed that educational level of mothers have important role to play on children immunization. Meanwhile 40.1% strongly agreed that most mothers that comply with immunization schedules always have positive result, 39.6% agreed that immunization is an exercise that keeps children healthy and 40.1% agreed that the side effects of vaccination on children should be seriously considered. Thus it can be seen that majority of the respondent have positive attitudes toward routine immunization.

Table two (b): Frequency table on level of attitudes toward routine immunization among mothers patronizing Ugbihoko Primary Healthcare Centre in Egor, Edo State

Attitude level	Frequency	Percent
Positive	122	60.4
Negative	80	39.6
Total	202	100.0

- ***Score of 1 to 20- Negative attitude; Score 21 to 40- Positive attitude***

The table two (b) reveals the level of Attitudes toward routine immunization among mothers patronizing Ugbihoko Primary Healthcare Centre in Egor, Edo State. It can be seen that 60.4% of the respondents have positive attitude and 39.6% have negative attitude towards routine immunization. Thus majority of the respondents in the study have positive attitudes toward routine immunization.

Table three: Independent Chi-square on knowledge of routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center is not significantly influenced by age.

know_level * age Crosstabulation

Knowledge		Age 15-24	25-34	3s5-44	45 and above	Df	X^2	Sig.
high	Count	0	26	14	14	6	133.7	0.00
	Expected Count	14.4	24.9	11.0	3.7			
Low	Count	0	41	0	0			
	Expected Count	11.0	18.9	8.3	2.8			
moderate	Count	54	26	27	0			
	Expected Count	28.6	49.3	21.7	7.4			
	Count	54	93	41	14			
	Expected Count	54.0	93.0	41.0	14.0			

The table above shows the Independent Chi-square on knowledge of routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center is not significantly influenced by age. It can be seen that the degree of freedom is 6, chi-square value is 133.7 and level of significance of 0.00 which is less than the set alpha level of 0.05. Thus the null hypothesis which states that knowledge of routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center is not significantly influenced by age is rejected. Hence knowledge of routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center is significantly influenced by age. Thus majority of the respondents with high knowledge are in the age bracket of 25-34.

Table four: Independent Chi-square on attitudes toward routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre are not significantly influenced by their age

attitude_leve * age Crosstabulation

Attitude		Age 15-24	25-34	35-44	45 and above	Df	X^2	Sig.
Positive	Count	41	40	27	14	3	26.88	0.00
	Expected Count	32.6	56.2	24.8	8.5			
Negative	Count	13	53	14	0			
	Expected Count	21.4	36.8	16.2	5.5			
Total	Count	54	93	41	14			
	Expected Count	54.0	93.0	41.0	14.0			

The table above shows the Independent Chi-square on attitudes of routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center is not significantly influenced by age. It can be seen that the degree of freedom is 3, chi-square value is 26.88 and level of significance of 0.00 which is less than the set alpha level of 0.05. Thus the null hypothesis which states that attitudes toward routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center are not significantly influenced by age is rejected. Hence attitudes toward routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center are significantly influenced by age. Thus majority of the respondents with positive attitudes are in the age bracket of 15-24 years.

Table four: Independent Chi-square on knowledge on routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre is not significantly influenced by their education.

know_level * education Crosstabulation

			Education						
			no formal	Primary	secondary	tertiary	Df	X^2	Sig.
know	High	Count	0	14	13	27	6	114.39	0.00
		Expected Count	7.2	17.9	18.2	10.7			
	Low	Count	0	0	28	13			
		Expected Count	5.5	13.6	13.8	8.1			
	Moderate	Count	27	53	27	0			
		Expected Count	14.3	35.5	36.0	21.2			
Total		Count	27	67	68	40			
		Expected Count	27.0	67.0	68.0	40.0			

The table above shows the Independent Chi-square on knowledge on routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center is not significantly influenced by education. It can be seen that the degree of freedom is 3, chi-square value is 26.88 and level of significance of 0.00 which is less than the set alpha level of 0.05. Thus the null hypothesis which states that knowledge on routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center is not significantly influenced by education is rejected. Hence knowledge of routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center is significantly influenced by education. Thus majority of the respondents with high knowledge have tertiary education.

Table five. Independent chi-square on attitudes toward routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre are significantly influenced by education

atitude_leve * education Crosstabulation

		Education						
		no formal	Primary	Secondary	tertiary	Df	X^2	Sig.
Positive	Count	14	40	41	27	3	1.68	0.64
	Expected Count	16.3	40.5	41.1	24.2			
Negative	Count	13	27	27	13			
	Expected Count	10.7	26.5	26.9	15.8			
Total	Count	27	67	68	40			
	Expected Count	27.0	67.0	68.0	40.0			

The table above shows the Independent Chi-square on attitudes towards routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center are not significantly influenced by education. It can be seen that the degree of freedom is 3, chi-square value is 26.88 and level of significance of 0.64 which is greater than the set alpha level of 0.05. Thus the null hypothesis which states that attitude of routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center are not significantly influenced by education is accepted. Hence attitudes toward routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center are not significantly influenced by education.

Table six: Independent chi-square on knowledge on routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre is not significantly influenced by religion

know_level * religion Crosstabulation

			Religion					
			Christian	Islam	Atr	Df	X^2	Sig.
know	High	Count	54	0	0	4	148.98	0.00
		Expected Count	39.3	7.2	7.5			
	Low	Count	13	0	28			
		Expected Count	29.8	5.5	5.7			
	Moderate	Count	80	27	0			
		Expected Count	77.9	14.3	14.8			
Total		Count	147	27	28			
		Expected Count	147.0	27.0	28.0			

The table above shows the Independent Chi-square on knowledge on routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center is not significantly influenced by religion. It can be seen that the degree of freedom is 4, chi-square value is 148.98 and level of significance of 0.00 which is less than the set alpha level of 0.05. Thus the null hypothesis which states that knowledge of routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center is not significantly influenced by religion is rejected. Hence knowledge on routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center is significantly influenced by religion. Thus majority of the respondents with high knowledge were Christians.

Table seven: Independent chi-square on attitudes toward routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre are not significantly influenced by religion

Attitude _level * religion Crosstabulation

			Religion					
			Christian	Islam	Atr	Df	X^2	Sig.
Attitude	positive	Count	81	27	14	2	20.69	0.00
		Expected Count	88.8	16.3	16.9			
	negative	Count	66	0	14			
		Expected Count	58.2	10.7	11.1			
Total		Count	147	27	28			
		Expected Count	147.0	27.0	28.0			

The table above shows the Independent Chi-square on attitudes toward routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center are not significantly influenced by religion. It can be seen that the degree of freedom is 2, chi-square value is 20.69 and level of significance of 0.00 which is less than the set alpha level of 0.05. Thus the null hypothesis which states that attitudes toward routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center are not significantly influenced by religion is rejected. Hence attitudes toward routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center are significantly influenced by religion. Thus majority of the respondents with positive attitude were Christians.

Discussion of Findings

The study revealed that majority of the respondents has moderate knowledge of routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Centre in Egor, Edo State. This is corroborated by statement of Shehu et al (2015) who noted that mothers that attend ANC and give birth at the health facility are knowledgeable of the benefits of routine immunization and they got their awareness of immunization at the antenatal clinics.

It was also discovered in this study that majority of the respondents in the study have positive attitude towards routine immunization. This is contrary to study by Oladepo et al (2019) when they stated that poor knowledge and negative attitudes amongst mothers on routine immunization were the major impediments to the completion of childhood immunization in Nigeria which has led to high child mortality.

In the hypotheses tested, knowledge and attitude towards routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center was significantly influenced by age and majority of the respondents with high knowledge are in the age bracket of 25-34. This is in line with Uthman et al (2017) as they stated that more experienced mothers are likely to acknowledge the struggles of caring for a sick or disabled child. They further stated that maternal age go hand in hand with maternal education, older mothers are more likely to have acquired higher education than teenage or young ones.

In terms of the influence of education on knowledge and attitude towards routine immunization, the study revealed that knowledge of routine immunization among mothers patronizing Ugbiyokho Primary Health Care center was significantly influenced by education. But attitude of routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center was not significantly influenced by education. This is supported by Tagbo et al (2012) in their study found that maternal highest level of educational level was significantly associated with knowledge of reason for immunization and acceptance of immunization. Also Babalola and Adewuyi (2006) opined that the more educated a mother is, the higher the chances that her children would be immunized against childhood killer diseases.

For the influence of religion on knowledge and attitude of routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center, the study revealed that knowledge and attitude towards routine immunization among mothers patronizing Ugbiyokho Primary Healthcare Center was significantly influenced by religion. Thus majority of the respondents with high knowledge and positive attitude were Christians. This

finding is supported by Babalola (2011) when he stated that some women were unable to take their children for vaccination visit because they were required to stay at home for cultural and religious reasons. In same vein, Wilson et al (2020) opined that low level of literacy and religion may alter the knowledge of mothers towards childhood immunization.

Recommendations

Based on the findings and conclusion, the following recommendations were made:

1. Health educators should wake up to their responsibilities of promoting high knowledge of immunization among pregnant mothers during ante natal care visit and by embarking on health campaign on immunization in media houses.
2. Governments, individuals, NGOs and Partners in health should help to sustain the positive attitudes of mothers in Ugbhiyokho through incentives.
3. Every girl child should be exposed to knowledge of childhood immunization early in life because they are the near future mothers who will need such knowledge in taking care of their children
4. Mothers should be encouraged to sustain their positive attitudes toward routine immunization by continuously emphasizing its benefits to them.
5. Girl child should be encouraged by the parents and the society to attain the highest educational level as this will not only improve their knowledge but also help them to make informed decisions that will promote their health and that of their immediate family and by extension, the society at large.
6. Continues efforts should be made by management of PHC in Ugbihyikho to promote activities that promote positive attitudes toward immunization.
7. Efforts should also be made by stake holders to encourage religious leaders to improve the knowledge of immunization among their members through seminars and workshops.
8. Incentives should be offered to religious leaders to encourage them to instill in their congregant the right attitudes towards immunization.

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