



Barriers to the Uptake of Immunization Services Among Mothers of Under Five Years in Emohua Local Government Area of Rivers State

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ABSTRACT

This study identified the barriers to the uptake of immunization services among mothers of under five years in Emohua Local Government Area of Rivers State. The design for this study was a descriptive cross-sectional survey design. The population of the study consisted of all the postnatal women between the ages of 15-45 years in Emohua Local Government Area was eleven thousand four hundred and six, Rivers state (11406). The sample size was 400 nursing mothers using Taro Yemane method. A multi-stage sampling procedure was adopted for the study which were in three stages. The instrument for data collection was self-structured questionnaire designed by the researcher titled “Barriers to Uptake of Immunization Service among Mothers” (BUIM). The instrument was validated by the researcher’s supervisor and two other experts in the Department of Human Kinetics, Health and Safety Education in Ignatius Ajuru University of Education to establish its face, and content validity. Cronbach alpha a reliability index of 0.81 was high enough and used for the study the study. Data collected from this study were coded and analyzed using Statistical Products Service Solution version 25.0. The result showed that there was a statistically significant association between knowledge of benefit of immunization and immunization uptake ($p<0.05$). The result showed that there was a statistically significant association between attitude of healthcare workers and immunization uptake ($p<0.05$). The result showed that there was a statistically significant association between religious affiliation and immunization uptake ($p<0.05$). The result showed that there was a statistically significant association between access to healthcare facility and immunization uptake ($p<0.05$). The result showed that there was a statistically significant association between mother’s level of education and immunization uptake ($p<0.05$).+Based on the findings of this study, it was concluded that the factors that deter the uptake of immunization service among mothers of under five years were knowledge of benefit of immunization, belief system, access to the health and facility and attitude of health providers were significant. There is need to consider immunization-based factors, client-based factors, health workers-based factors and community-based factors in the utilization of health care services. it was recommended that: health professionals should be encouraged to engage in better communications with parents, standing from pregnancy period and paying special attention to less educated mothers, because good proportion of postpartum mothers had insufficient knowledge or were misinformed.

Keywords: immunization services, mothers, health service

INTRODUCTION

Immunization has been regarded as one of the global means of preventing infectious diseases which could be success through health behaviour. Effective uptake of immunization services among women both for antenatal and postnatal service is a strong pillar of community health as it is cost effective intervention to prevent and disability and saves millions lives every year. World Health Organization (WHO, 2020) defined health as the complete state of physical, mental and social wellbeing, and not merely the presence or absence of disease or infirmity. However, health promoting behaviour refers to all those action humans (nursing mothers) exhibited to detect diseases and prevent diseases in their asymptomatic stages. Vaccines protect against many different diseases, including: cervical cancer, cholera, COVID-19, diphtheria, hepatitis B, influenza, Japanese encephalitis, malaria, measles, meningitis, mumps, pertussis, pneumonia, polio, rabies, rotavirus, rubella, tetanus, typhoid, varicella, yellow fever (World Health Organization, 2020).

Additionally, appropriate nutrition, regular exercise, obtaining health care service, controlling emotion, managing stressful condition, and establishing individual relationships with the family are considered health promoting behaviours (Kazemi & Hajian, 2018). Many diseases are caused by unhealthy lifestyles or behaviour; the period of pregnancy is considered critical because of the impact of maternal behaviours on the consequences of childbirth and quality of life of mother and child. Cronin (2013) demonstrated that the decision to engage with a particular medical channel is influenced by a variety of factors such as socio-economic status, maternal age, educational status, the type of illness, access to services and perceived quality of the service. The use of immunization service is an action that goes a long way to improve healthful living. Awareness of use of immunization among women who are nursing babies as health relating behaviour may reduce the risk of chances of health problems and postnatal health during nursing care. Health promoting behaviours are adopted pattern to maintain and improve good health status (Lin et al. 2009; Cyphers et al. 2017). The adoption of a health promoting lifestyle during pregnancy during pregnancy can be a safe strategy to maintain improve child health. Such behaviours include the use of immunization service, regular visits to the antenatal clinic, good nutrition, avoid heavy intake of alcohol, exercise to improve physical and mental health and prevention of chronic diseases.

Uptake of immunization service among mothers could be determined by their educational status. Most women who have at least secondary to tertiary level of education may have good health knowledge and exhibit positive behaviour to improve good health as compared with less educated women. Studies of Kazemi and Hajian (2018) illustrated that good proportion (78.1%) of mothers with high level of education expresses healthful lifestyles such as regulating the weight and health status of the child as health promoting behaviour. Attending immunization service in the health care facility may sharpen positive behaviour of mothers to prevent diseases. Similarly, Cyphers et al. (2017) revealed that good percentage of mothers of under five years with high education grade are aware of positive actions undertaken to promote good health of the family especially through immunization usage. It could be clear that education attainment provide behaviour modification by enable them to know or discern good actions from bad.

From the mothers' perspective, knowledge of immunization could be a factor that deter the uptake of immunization service. Knowledge is the understanding, familiarity and awareness of ideas, opinions, condition that improve the well-being of the individual. Most people who know about immunization may not hesitate to utilize it. Fikiri et al. (2016) nursing mothers with high knowledge are over 2 times more likely to utilize the immunization service and vaccinate their children. Taiwo et al. (2017) added that mothers who are educated up to secondary level are 1.9 times more likely to be aware of immunization. Most women who have at least secondary to tertiary level of education may have good health knowledge and exhibit positive behaviour to improve good health as compared with less educated women. Studies of Kazemi and Hajian (2018) illustrated that good proportion (78.1%) of mothers under five years children with high level of education expresses healthful lifestyles such as regulating the weight and health status of the child through immunization. Attending immunization service in the health care facility may sharpen positive behaviour of mothers to prevent diseases. Similarly, Cyphers et al. (2017) revealed that

good percentage of nursing mothers with high education grade are aware of positive actions undertaken to promote good health of the family especially through immunization usage. Adedokun et al. (2017) depicted in their study that mothers' educational attainment are 1.63 times more likely to seek for immunization service and vaccinate their children. It could be clear that education attainment provides behaviour modification by enable them to know or discern good actions from bad. Knowledge of immunization provide a platform for women to understand the importance of uptake of immunization service.

Another factor that responsible for uptake of immunization service could be the belief system. The belief system could be the faith professed by an individual that has influence over behaviour which comprises of set supportive beliefs such as Christian, Muslim, and traditional beliefs. Certain cultural beliefs kick against health practices because most population inherited tradition that influences behaviour such as attributing health outcome to disobedience to deity or gods. Cyphers, et al (2017) depicted that 55% of the participants reported their religion influenced all areas of their lives (intrinsic religiosity), the majority of pregnant women reported low levels in the other areas of religiosity (non-organized, organized, and religious commitment). Most families believe that sickness suffer during childhood may attributed to disobedience to gods or a particular problem peculiar to their family. Studies of Rashan, et al (2021) revealed that 24.1% reduction of health-promoting behaviors, respectively, and one-point score increase in social support resulted in 40% increase in health-promoting behaviors ($p < 0.001$). Additionally, Kuuire, et al., (2016) Christians constituted the highest proportion of participants in terms of religion (66.1%) regarding the use of health care service such as immunization. Most nursing mothers are more particular about their beliefs especially when has to do with immunizing their children.

Attitude of health workers has been a concern for mothers. The pattern in which health care providers relate with mothers attending immunization service is poor and most of them are not mannered as a result mothers are not encourage to utilize the immunization service. Taiwo et al., (2017) revealed that health care workers showed negative attitude towards mothers who were present in the immunization service. Recently, Galadima, et al (2021) in their study revealed that workers attitude and mothers of under five are factors determine effective uptake of immunization service. Emohua Local Government Area women of childbearing age especially pregnant women are less likely to seek for maternal and child health care such as early booking of postnatal service for immunization of their child, because of the poor awareness towards health and negative behavior that affect health status. It is pertinent that nursing mothers poorly utilize the immunization service due to little or no knowledge of immunization, long distance to the health facility, inaccessibility, bad attitude of workers, and non-availability of vaccines. It is against this backdrop that this study identifies the barriers to uptake of immunization services among mothers of under five years in Emohua Local Government Area of Rivers State.

Purpose of the Study

The purpose of this study was to examine the barriers to the uptake of immunization services among mothers of under five years in Emohua Local Government Area of Rivers State. Precisely, the following objectives were raised to guide this study. They are to:

1. Examine mother's knowledge of benefit as a barrier to the uptake of immunization services among mothers of under five years in Emohua Local Government Area of Rivers State.
2. Find out if attitude of healthcare workers is a barrier to the uptake of immunization service among mothers of under five years in Emohua Local Government Area of Rivers State.
3. examine if religion affiliation is a barriers to the uptake of immunization service among mothers of under five years in Emohua Local Government Area of Rivers State
4. determine if access to healthcare service is a barriers to the uptake of immunization service among mothers of under five years in Emohua Local Government Area of Rivers State.
5. ascertain if mothers education status is a barriers to the uptake of immunization service among mothers of under five years in Emohua Local Government Area of Rivers State.

Hypotheses

The following hypotheses were postulated and tested at 0.5 significance level to guide the study.

1. There is no significant association between mother’s knowledge of benefit of immunization and uptake of immunization service among mothers of under five years of Emohua Local Government Area of Rivers State;
2. There is no significant association between attitude of healthcare workers and uptake of immunization service among mothers of under five years of Emohua Local Government Area of Rivers State.
3. There is no significant association between religion affiliation and uptake of immunization service among mothers of under five years of Emohua Local Government Area of Rivers State.
4. There is no significant association between access to health service and uptake of immunization service among mothers of under five years of Emohua Local Government Area of Rivers State.
5. There is no significant association between mother’s education status and uptake of immunization service among mothers of under five years of Emohua Local Government Area of Rivers State.

METHODOLOGY

Research Design: The design for this study was a descriptive cross-sectional survey design. In this study, the researcher collected data on factors hindering the uptake of immunization service among mothers of under five children especially among those who attend immunization service in Emohua Local Government Area of Rivers State and subject it to statistical analysis in order to make logical conclusion.

Population of the Study: The population of the study consisted of all the postnatal women between the ages of 15-45 years in Emohua Local Government Area was eleven thousand four hundred and six, Rivers state (11406), (WHO Immunization Data, 2022).

Sample and Sampling techniques

The sample size was 400 nursing mothers. Taro Yemane method for calculation of sample size was used to calculate the sample size for the study;

$$n = \frac{N}{1 + N (e^2)}$$

where =

n	=	expected sample size
N	=	population size which 11406 nursing mothers
e ²	=	level of significance usually 0.05

The instrument was validated by the researcher’s supervisor and two other experts in the department of Human Kinetics, Health and Safety Education in Ignatius Ajuru University of Education to establish its face, and content validity. Splif Half method was used to test the reliability of the instrument. The instrument was administered to 40 postnatal mothers attending immunization service in Ikwerre Local Government Area which share similar characteristics with the area of study. The result obtained were correlated using Cronbach alpha a reliability index of 0.81 was high enough abd used for the study the study. Hence, the validated instrument was reliable and appropriate for the study. Data collected from this study were coded and analysed using Statistical Products Service Solution version 25.0.

RESULTS

This section focused on the results of the study from the statistical data analysis. The analysis is based on 395. The results of the study are shown below:

Hypothesis 1: There is no significant association between mother’s knowledge of benefit of immunization and uptake of immunization services among mothers of under five year children in Emohua Local Government Area of Rivers State

Table 4.6: Chi-square test showing association between mother's knowledge of benefit of immunization and uptake of immunization services among mothers of under five year children in Emohua LGA

Knowledge	Immunization uptake		Total F(%)	df	χ^2	p-value	Decision
	Good F(%)	Poor F(%)					
High	139(100)	0(0.00)	139(100)	2	225.69	0.00*	H ₀ rejected
Average	24(14.5)	142(85.5)	166(100)				
Poor	37(41.1)	53(58.9)	90(100)				
Total	200(50.6)	195(49.4)	395(100)				

*Significant; $p < 0.05$.

Table 4.6 presents the Chi-square test of association between knowledge and immunization uptake among mothers in Emohua LGA. The result showed that there was a statistically significant association between knowledge and immunization uptake ($\chi^2 = 225.69$; $df = 2$; $p < 0.05$). Thus, the null hypothesis which stated that there is no significant association between mother's knowledge of benefit of immunization and uptake of immunization services among mothers of under five year children in Emohua Local Government Area of Rivers State was rejected.

Hypothesis 2: There is no significant association between attitude of healthcare workers and uptake of immunization services among mothers of under five year children in Emohua Local Government Area of Rivers State

Table 4.7: Chi-square test showing association between attitude of healthcare workers and uptake of immunization services among mothers of under five year children in Emohua LGA

Attitude	Immunization uptake		Total F(%)	df	χ^2	p-value	Decision
	Good F(%)	Poor F(%)					
Positive	152(84.4)	28(15.6)	180(100)	1	151.24	0.00*	H ₀ rejected
Negative	48(22.3)	167(77.7)	215(100)				
Total	200(50.6)	195(49.4)	395(100)				

*Significant; $p < 0.05$.

Table 4.7 presents the Chi-square test of association between attitude and immunization uptake among mothers in Emohua LGA. The result showed that there was a statistically significant association between attitude and immunization uptake ($\chi^2 = 151.24$; $df = 2$; $p < 0.05$). Thus, the null hypothesis which stated that there is no significant association between attitude of healthcare workers and uptake of immunization services among mothers of under five year children in Emohua Local Government Area of Rivers State was rejected.

Hypothesis 3: There is no significant association between religious affiliation and uptake of immunization services among mothers of under five year children in Emohua Local Government Area of Rivers State

Table 4.8: Chi-square test showing association between religious affiliation and uptake of immunization services among mothers of under five year children in Emohua LGA

Religious affiliation	Immunization uptake		Total F(%)	df	χ^2	p-value	Decision
	Good F(%)	Poor F(%)					
Christian	161(64.1)	90(35.9)	251(100)	2	50.69	0.00*	H ₀ rejected
Muslim	27(25.5)	79(74.5)	106(100)				
Tradition	12(31.6)	26(68.4)	38(100)				
Total	200(50.6)	195(49.4)	395(100)				

*Significant; $p < 0.05$.

Table 4.8 presents the Chi-square test of association between religious affiliation and immunization uptake among mothers in Emohua LGA. The result showed that there was a statistically significant association between religious affiliation and immunization uptake ($\chi^2 = 50.69$; $df = 2$; $p < 0.05$). Thus, the null hypothesis which stated that there is no significant association between religious affiliation and uptake of immunization services among mothers of under five year children in Emohua Local Government Area of Rivers State was rejected.

Hypothesis 4: There is no significant association between access to healthcare facility and uptake of immunization services among mothers of under five year children in Emohua Local Government Area of Rivers State

Table 4.9: Chi-square test showing association between access to healthcare facility and uptake of immunization services among mothers of under five year children in Emohua LGA

Access to healthcare facility	Immunization uptake		Total F(%)	df	χ^2	p-value	Decision
	Good F(%)	Poor F(%)					
Far	14(35.0)	26(65.0)	40(100)	3	156.27	0.00*	H_0 rejected
Too far	12(9.4)	115(90.6)	127(100)				
Close	50(64.9)	27(35.1)	77(100)				
Very close	124(82.1)	27(17.9)	151(100)				
Total	200(50.6)	195(49.4)	395(100)				

*Significant; $p < 0.05$.

Table 4.9 presents the Chi-square test of association between access to healthcare facility and immunization uptake among mothers in Emohua LGA. The result showed that there was a statistically significant association between access to healthcare facility and immunization uptake ($\chi^2 = 156.27$; $df = 3$; $p < 0.05$). Thus, the null hypothesis which stated that there is no significant association between access to healthcare facility and uptake of immunization services among mothers of under five year children in Emohua Local Government Area of Rivers State was rejected.

Hypothesis 5: There is no significant association between mother's level of education and uptake of immunization services among mothers of under five year children in Emohua Local Government Area of Rivers State

Table 4.10: Chi-square test showing association between mother's level of education and uptake of immunization services among mothers of under five year children in Emohua LGA

Education	Immunization uptake		Total F(%)	df	χ^2	p-value	Decision
	Good F(%)	Poor F(%)					
Primary	38(32.5)	79(67.5)	117(100)	3	32.84	0.00*	H_0 rejected
Secondary	50(50.5)	49(49.5)	99(100)				
Tertiary	100(59.9)	67(40.1)	167(100)				
Others	12(100)	0(0.00)	12(100)				
Total	200(50.6)	195(49.4)	395(100)				

*Significant; $p < 0.05$.

Table 4.10 presents the Chi-square test of association between mother's level of education and immunization uptake among mothers in Emohua LGA. The result showed that there was a statistically significant association between mother's level of education and immunization uptake ($\chi^2 = 32.84$; $df = 3$; $p < 0.05$). Thus, the null hypothesis which stated that there is no significant association between mother's level of education and uptake of immunization services among mothers of under five year children in Emohua Local Government Area of Rivers State was rejected.

DISCUSSION OF FINDINGS

The result showed that there was a statistically significant association between knowledge of benefit of immunization and immunization uptake ($p < 0.05$). Most people who know about immunization may not hesitate to utilize it. Fikiri et al. (2016) nursing mothers with high knowledge are over 2 times more likely to utilize the immunization service and vaccinate their children. Taiwo et al. (2017) added that mothers who are educated up to secondary level are 1.9 times more likely to be aware of immunization. Most women who have at least secondary to tertiary level of education may have good health knowledge and exhibit positive behaviour to improve good health as compared with less educated women. Studies of Kazemi and Hajian (2018) illustrated that good proportion (78.1%) of mothers under five years children with high level of education expresses healthful lifestyles such as regulating the weight and health status of the child through immunization. Attending immunization service in the health care facility may sharpen positive behaviour of mothers to prevent diseases. Studies of Cyphers et al. (2017) buttressed that good percentage of nursing mothers with high education grade are aware of positive actions undertaken to promote good health of the family especially through immunization usage. Adedokun et al. (2017) depicted in their study that mothers' educational attainment are 1.63 times more likely to seek for immunization service and vaccinate their children. It could be clear that education attainment provides behaviour modification by enable them to know or discern good actions from bad. Knowledge of immunization provide a platform for women to understand the importance of uptake of immunization service. Hence, knowledge of benefit of immunization was significantly associated with the uptake of immunization service.

The result showed that there was a statistically significant association between attitude of healthcare workers and immunization uptake ($p < 0.05$). The result of this study required because the way health workers act can directly and or indirectly affect the level of utilization of immunization service. The outcome of this study is in line with Galadima, et al (2021) which revealed that workers attitude and mothers were factors determine effective utilization of immunization service. Gebreeyesus et al. (2021) concord that nursing mothers who reported favourable attitude of health care workers were 4 times more likely to complete utilization of immunization service of their children Worku et al. (2013) reported that one of reasons for non-utilization of immunization service was negative attitude of health workers towards postnatal mothers. Webair and Bin-gouth (2013) buttressed that mothers who were pleased with the treatment and care from the health workers were willing to revisit the same facility more than others. Taiwo et al (2017) revealed that health care workers showed negative attitude towards nursing mothers who were present in the immunization service. The result of this study is plausible because Emohua L.G.A, women of childbearing age especially pregnant women are less likely to seek for maternal and child health care such as early booking of immunization service for immunization of their child because of the poor awareness towards health and negative behavior that affect health status.

The result showed that there was a statistically significant association between religious affiliation and immunization uptake ($p < 0.05$). The result of this study is expected because belief system could based on faith professed by an individual that has influence over behaviour which comprises of set supportive beliefs such as Christian, Muslim, and traditional beliefs. Certain cultural beliefs kick against health practices because most population inherited tradition that influences behaviour such as attributing health outcome to disobedience to deity or gods. The result of this study is in tandem with findings of Cyphers, et al (2017) which depicted that 55% of the participants reported their religion influenced all areas of their lives (intrinsic religiosity), the majority of pregnant women reported low levels in the other areas of religiosity (non-organized, organized, and religious commitment). Most families believe that sickness suffer during childhood may attributed to disobedience to gods or a particular problem peculiar to their family. Studies of Rshan, et al (2021) revealed that 24.1% reduction of health-promoting behaviors, respectively, and one-point score increase in social support resulted in 40% increase in health-promoting behaviors ($p < 0.001$). Additionally, Kuuire, et al., (2016) Christians constituted the highest proportion of participants in terms of religion (66.1%) regarding the use of health care service such as immunization.

Most nursing mothers are more particular about their beliefs especially when has to do with immunizing their children.

The result showed that there was a statistically significant association between access to healthcare facility and immunization uptake ($p < 0.05$). The outcome of this study is required because postnatal mothers who have access to the facility will have chances of using the immunization schedule. The result of this study is in tandem with Kuuire, et al. (2016) which indicated that mothers whose health care facility is far away from their reach are less likely to utilize immunization services as compared with others who lives close or very close to the facility. Akeju, et al (2016) affirmed that high cost of health care was a deterrent to the accessing service of immunization. Gao, et al (2012) added that children whose parents are located very far away from the health facility are 2 times more likely to have incomplete utilization of immunization services and was significantly associated with it. Maness and Buchi (2016) affirmed that access to health care services and primary health care were significantly associated with the use of utilization of immunization service. Sialubanje, et al (2014) whose studies reported that good proportion of mothers fail to utilize immunization service of their children because the health care service was not accessible to them. In the contrary, Melaka, et al (2014) reported that only 32% of mothers with poor access to health care service could not utilize health care services. It is plausible because several factors are responsible for the accessing health care service which differs in families. The difference between the outcome of the previous studies and current one was due the sample, design and location of the study coupled with dissimilarities in variables.

The result showed that there was a statistically significant association between mother's level of education and immunization uptake ($p < 0.05$). The result of this study is required because most women who have at least secondary to tertiary level of education may have good health knowledge and exhibit positive behaviour to improve good health as compared with less educated women. Studies of Kazemi and Hajian (2018) illustrated that good proportion (78.1%) of mothers with high level of education expresses healthful lifestyles such as regulating the weight and health status of the child as health promoting behaviour. Attending immunization service in the health care facility may sharpen positive behaviour of mothers to prevent diseases. Similarly, Cyphers, et al, (2017) revealed that good percentage of mothers of under five years with high education grade are aware of positive actions undertaken to promote good health of the family especially through immunization usage. It could be clear that education attainment provide behaviour modification by enable them to know or discern good actions from bad.

CONCLUSION

Based on the findings of this study, it was concluded that the factors that deter the uptake of immunization service among mothers of under five years were knowledge of benefit of immunization, belief system, access to the health and facility and attitude of health providers were significant. There is need to consider immunization-based factors, client-based factors, health workers-based factors and community-based factors in the utilization of health care services.

RECOMMENDATIONS

In respect to the findings and conclusion of this study, it was recommended that:

1. Health professionals should be encouraged to engage in better communications with parents, standing from pregnancy period and paying special attention to less educated mothers, because good proportion of postpartum mothers had insufficient knowledge or were misinformed.
2. Maternal health care services especially primary healthcare should be cited in the rural area to enable full access to health service and nearby location to the facility which in turn promote effective utilization of immunization service.
3. Health care providers should motivate and counsel mothers to attend antenatal and postnatal care services.

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