**ATTITUDE OF MOTHERS TOWARDS IMMUNIZATION IN IKPOBA-OKHA LOCAL GOVERNMENT AREA OF EDO STATE**

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**ABSTRACT**

This study is attempted to provide a general information and knowledge about the attitude of mothers towards immunization from the findings, it was observed that ignorance and inability of mothers to get their child immunized lead to death of children so government area advised to explain the main importance of immunization to mothers in order to increase the rate of immunization.

**CHAPTER ONE**

**INTRODUCTION**

**1.1 BACKGROUND OF THE STUDY**

       According to the oxford advanced learners dictionary, immunization is the process of protecting an individual or animal from a disease especially by giving them an injection or a vaccine. Immunization is also defined as a process by which human beings protect themselves from, or against deadly diseases such as poliomyelitis, measles, tuberculosis, diphtheria, whooping cough, vaccination is also another name for immunizing living things against deadly diseases. Immunization is done to make the body resist invasion of pathogenic microbes like bacteria, protozoa and virus. In immunization, a small quantity of a dead parasitic organism is injected into the body of a healthy person (somebody that is free from that parasite organism), the body recognized the antigen as foreign response by realizing specialized protein called antibodies. These antibodies have specific protective properties and the body become immune against the disease that are caused by micro-organisms. Immunization can be active, positive, natural, or acquired.

          Acquired immunity artificially when there is an epidemic outbreak of small doses, antibodies from an animal are given to people to provide urgent temporary immunity to the body. Active artificial immunity is done by injecting vaccine so as to weakened or kill the bacteria product into the body. In this way, the body can have its own antibodies, an example is the small pox vaccine.

          Parent especially the mothers in question do not get their children immunized. The superstition belief or idea that disease are caused by witches and wizards are strongly rooted in their mind, some believes that diseases are caused by evil spirit and the only way out for them to avoid it is by offering sacrifice and some believe that it is the sin that the parents have committed towards the gods that make the child to be like that and there is no solution to the sickness of the child.

          Some parent know where and how to obtain it but do not take their children to the clinic for immunization while others that made attempts to take their children to the clinic for immunization may start and will not complete the normal dose they are supposed to give to that child. In a particular health center, i.e. Ikpoba Okha Health center in Edo State, between January 2007 to December 2010, fifty six thousand six hundred and forty two (56,642) children were registered for different types of immunization. Out of these only thirty four thousand six hundred and twenty two (34, 622) children completed their immunization, the remaining twenty two thousand and twenty (22,020) fall to complete their immunization. Some mothers later brought their children to complete their immunization after along time. When they asked them why they did not bring their children ever since, the most population reason they gave was that, they were not chanced due to their jobs. They devoted much time to their jobs e.g. trading, government workers etc others said they came several times but in most occasions, the nurses asked them to go home that the health of their babies was poor.

**1.2 STATEMENT OF THE PROBLEM**

          The decision to carry out the study was due to the attitude of women towards immunization in Ikpoba Okha Local Government Area. In the past, many children died before the age of 5 or before the school age due to communicable diseases e.g. tuberculosis, diphtheria, poliomyelitis, whooping cough, measles, tetanus etc. they did not know that these disease could be prevented. These communicable disease were discovered by scientific researcher, clinics are established where the disease can be  prevented by treatment. Many people are not still making use of the clinic and health center, perhaps due to ignorance, inability of mothers to get the facilities or non availability of vaccine or lack of understanding.

**1.3 PURPOSE OF THE STUDY**

          This research work is an attempt to study the attitude of mothers towards immunization in Ikpoba Okha Local Government Area in Edo State. The purpose of this study is to:

1.   To find out why mothers refused to bring their children for immunization

2.   To know why some mothers started but refuse to complete the normal schedule

3.   To know or find out how many children register in the clinic and health center for the immunization during the period of January 2010 to December 2010.

4.   To know the number of children who started the immunization and completed the normal schedule

5.   To know the number of children that started the immunization but refuse to complete it.

**1.4 RESEARCH QUESTIONS**

          Based on the assumption made, the following research questions are postulated.

1.   Does ignorance of mothers contribute to their attitude towards immunization?

2.   Does lack of immunization lead to death of children?

3.   Do mother get actively involved and delighted in the immunization of the children?

4.   Does the behaviour of health workers affect mothers in the immunization of their children?

**1.5 SIGNIFICANCE OF THE STUDY**

          This research is expected to be of great importance to parents and the general public in Ikpoba Okha Local Government area who will appreciate the implication of the problem of immunization and know the best way to handle them. The study conducted was done to aid the following group of people.

a.   The mothers

b.   The health center

c.   Ministry of health, Edo State.

**The Mothers**: The mother will be advice properly on what they should do. The information gathered will be of great importance which may change mother’s attitudes towards immunization programme.

**The health center**: The suggestion made will be used as a source of correction measure to health persons on one way or the other may have contributed to the lukewarm attitude of mothers when they bring their children for immunization through health education and lack of follow up visit to trace defaulters.

**Ministry of health, Edo State**: The findings may serve as a clue for Edo State Ministry of health to make better plan by making of health to make better plan by making adequate provision of vaccine and training more people into the health sector to promote child immunization in Edo State.

**1.6 SCOPE OF THE STUDY**

          This is restricted to the attitude of mothers towards immunization in some selected health centres in Ikpoba Okha Local Government Area of Edo State. The sample population is made up of mothers who were selected by simple random process.

**1.7 DEFINITION OF TERMS**

**Health**: The state of well being physically and mentally.

**Health Center**: A building where group of doctors, nurses and health workers see their patients.

**Mothers**: A female parent of a child.

**Child**: A young human who is not yet an adult.

**Immunization**: To protect a person or an animal from disease or an animal from disease especially by giving them an injection or a vaccine.

**Measles**: An infectious disease especially of children that cause fever and small red spots that cover the whole body.

**Tuberculosis**: A serious infectious disease in which swellings appear on the lungs and other part of the body.

**CHAPTER TWO**

**LITERATURE REVIEW**

**INTRODUCTION**

Our focus in this chapter is to critically examine relevant literature that would assist in explaining the research problem and furthermore recognize the efforts of scholars who had previously contributed immensely to similar research. The chapter intends to deepen the understanding of the study and close the perceived gaps.

Precisely, the chapter will be considered in two sub-headings:

* Conceptual Framework
* Chapter Summary

**2.1 CONCEPTUAL FRAMEWORK**

# National Programme on Immunization

The Expanded Programme on Immunization (EPI) which was launched by the world Health Organization (WHO) in 1974 globally focused on prevention of six childhood vaccine preventable diseases namely tuberculosis, poliomyelitis, measles, diphtheria, Pertussis (whooping cough) and tetanus. However, high prevalence of some vaccine preventable diseases such as hepatitis and yellow fever has necessitated their inclusion in the national immunization programme of some countries including Nigeria. The Federal government of Nigeria which has pursued an active immunization programme through the Federal Ministry of Health (FMOH) introduced the EPI in 1979. In view of the critical need to enhance the effectiveness of immunization which was fast declining and to meet the global challenges of immunization, the EPI was restructured in 1997 and renamed National programme on immunization (NPI).

Following the Health Sector Reform of 2007, the NPI was merged with the National Primary Health Care Development Agency (NPHCDA) which is charged with the responsibility of effectively controlling through provision of vaccines and immunization guidelines, the occurrence of the eight vaccines preventable diseases (VPDs) earlier mentioned. Currently, the country has introduced the Haemophilus Influenzae type b vaccine as Penta-valent vaccine into its EPI programme in order to reduce substantially child mortality from pneumonia and meningitis.

In Nigeria, the government provide vaccines and immunization services free to all eligible populations through the functional Primary Health Care (PHC) centres government and private health facilities. The Target Groups for Immunization in Nigeria are: Children 0 – 11 months, Children 0 – 59 months, Women of child bearing age 15 –49 years, Other at – risk groups especially in outbreak situation and those travelling to endemic areas and International travellers. The traditional routine immunization vaccines that are administered in Nigeria are nine and they include Bacille-Calmette Guerin (BCG) for tuberculosis, oral polio vaccine (OPV) for poliomyelitis, Penta-valent vaccine for diphtheria, Pertussis, tetanus, hepatitis b and Haemophilus Influenzae type b, measles and yellow fever vaccines.

Nigeria routine immunization schedule is designed to include all children aged 0 – 1 year who are to receive one dose of BCG vaccine which is given at birth, 3 doses of Pentavalent vaccines given as Pentavalent 1 at 6 weeks of age, Pentavalent 2 at 10 weeks of age and Pentavalent 3 at 14 weeks of age, 4 doses of OPV given as OPV0 at birth, OPV1 at 6 weeks, OPV2 10 weeks and OPV3 14 weeks of age, 4 doses of Hepatitis B vaccines given as HepB0 birth while the remaining are given as Pentavalent vaccine at 6 weeks, 10 weeks and 14 weeks of age, one dose of Measles vaccine is given at 9 months of age and one dose of Yellow Fever vaccine also given at 9 months of age.7,12

The funding of immunization is a collective responsibility of the Federal, State and Local Governments. However, external donors/development partners such as World Bank, European commission, USAID, WHO, DFID, UNICEF, GAVI are explored for financing immunization services on a sustainable basis.7

There are medical incident that take place within one month after an immunization and is believed to be caused by the immunization and they are referred to as adverse events following immunization (AEFIS). They include; hotness of the body, pains and swellings at the injection site, restlessness. Other serious or severe effects are all deaths that are thought by health workers to be related to immunization, that occur within one month of an immunization, all cases requiring hospitalization that are thought by health workers and/ or the public to be related to immunization, that occur within one month of an immunization and any severe or unusual medical incidents that are thought by health workers and/ or the public to be related to immunization.

**Infant Immunization Coverage**

In order to improve national immunization program and decrease the VPDs associated with morbidity and mortality, the WHO and United Nations Children‟s Fund (UNICEF) in 2005 developed the global immunization vision and strategy (GIVS). The goal is to reach sustained national vaccination coverage of 90% in all countries and at least 80% coverage in every district. According to 2011 vaccination coverage, an estimated 106.8 million (representing 83%) of infants globally received at least 3 doses of DPT. This ranges from 71% in African Region to 96% in Western Pacific Region. The estimated global coverage for BCG, Polio 3, and MCV1 was 88%, 84% and 84% respectively. Among the 194 WHO member states, about 130 (67%) achieved ≥90% national DPT3 coverage and 46 (24%) achieved GIVS goal of ≥80% DPT3 coverage in every district (administrative unit).

Also, in 2011 about 22.4 million children did not receive 3 dose of DPT during the first year of life. Of these, more than half 11.8 million children lived in three countries; India (32%), Nigeria (17%) and Indonesia (7%). Nearly 14 million (62%) these children did not receive the first dose of DPT while 8.4 million (38%) started but did not complete the 3 dose of the DPT series.5 In 2005, the distribution of children according to their immunization status in Luck now district of India showed that 44.1% of children were fully immunized while 32% and 23.9% were partially and unimmunized respectively13. In another study in Etawah India, 40.0% of children were found to be fully immunized, 40.5% partially immunized and 19.5% unimmunized.14 These studies revealed that the proportion of children who are fully immunized was far below the national goal, however other studies showed a much higher results.15,16

**Immunization Coverage in Nigeria**

Nigeria is ranked 16th in the world with infant mortality rate of 74.36 deaths/1,000 live birth. Most of these deaths are due to VPDs that is to say they accounted for 872,000 deaths in 2002 representing 22% of under-five mortality. Immunization coverage in Nigeria has remained a major challenge. The national DPT3 coverage has declined from 56% in 1990 to 41% in 2012 with a peak of 63% in 2009.17

Based on the National Demographic Health Survey (NDHS) 2013, only 25% of Nigeria children aged 12-23 months received all the recommended vaccines (fully immunized) compared to 2008 figure of 23%. Though there was slight improvement in the vaccination coverage in 2013, there are variations between the geographical zones of the country. While the highest coverage of 52% was recorded in the South Eastern and South South zones, the north western zone has the lowest coverage of 10%. More so, significant variation was noted between the urban and rural areas with coverage of about 40% and 16% respectively.

According to 2013 NDHS, 21% of children have received no vaccination compared to 27% in 2003 and 29% in 2008. In the north central zone comprising of Abuja, Benue, Kogi, Kwara, Nasarawa, Edo and Plateau, the children age 12-23 months with full immunization coverage is 27%. Abuja has the highest coverage of 61% while Benue and Nasarawa states have the lowest with 20% and Edo state have coverage of 23%.11 In another study conducted in Nigeria, it was found that only 29.5% children were fully immunized, while 65.7% were partially immunized and 4.8% were not immunized at all.18

# Reasons for partial immunization or non-immunization of children

Studies have identified several reasons for partial/non-immunization immunization of children against the VPDs. Among the reasons are those related to obstacles such as, unavailability of vaccine, absent of vaccinators, unavailability of parents either as a result of mother being too busy or mother being ill or sickness of elder sibling as a result of vaccination, child ill- not brought, child ill-brought but not vaccinated. Others include place of immunization too far, time of immunization not convenient, and long waiting time. Issues related to lack of information/knowledge regarding immunization e.g. ; lack of awareness of the need for immunization, lack of awareness of the need to return for second or third dose, place and/or time of immunization unknown, fear of reactions, wrong ideas about contradiction were mentioned as reasons for partial or non immunization of children.

Lack of motivation, too frequent postponement, lack of faith on the effectiveness immunization, rumours while in some cases, polio immunization is considered as the only vaccination to be given. Issues related to infertility or population control fuelled by Western Countries was view by parents as the reasons for childhood immunization the consequence of which is partial or non immunization of children.18,19

# Mothers Knowledge and Attitude on Routine Immunization

Knowledge and attitudes of parents about childhood immunization are among the factors that can influence the optimal uptake of immunization services. Studies have shown that good and adequate knowledge on routine immunization was found to be associated with full immunization coverage. Likewise, poor knowledge of routine immunization has been identified as one of the factors responsible for partial or non immunization of children. This was found in study on determinants of immunization coverage on 12-23 months in urban slums of Lucknow district of India.13 Also, incorrect knowledge about preventive role of routine immunization is wide spread in Nigeria. Diseases such as malaria, diarrhoea, vomiting, pneumonia, and convulsion were believed to be VPDs. Also some decision makers and caregivers in Katsina state believed that polio immunization is all that is required, that is polio immunization protects against any childhood illness.10

However, another study in Nigeria revealed that 87% of mothers had satisfactory knowledge about vaccine preventable diseases.20 and that 99.1% of mothers had very positive attitudes towards immunization. The study also found that knowledge of mothers on immunization and vaccinations at a privately funded health facility were significantly correlated with the rate of full immunization.

In a study on the reasons for incomplete vaccination and factors for missed opportunities among rural Nigerian children, it was found that the main sources of information on immunization were from health workers 72.7%. However, 14.1% of the mothers knew that vaccination against childhood disease should be completed at nine month of age with yellow fever and measles vaccines, while 20.1% knew that immunization is a means of preventing children against killer diseases and only 12.8% of mothers knew that BCG is given at birth.19

# Socio-demographic Factors affecting Routine Immunization

The socio-demographic factors of a mother are one of the most determinant factors of childhood immunization. A study conducted on immunization coverage in Etawah a border district of Uttar Pradesh, India, significant association was found between literacy status of mothers and the full immunization of the children. Only 29% of children of illiterate mothers were fully immunized compared to 50% of literate mothers.14

Similarly, a study on the determinants of immunization coverage among 12-23 month old children in urban slums of Lucknow district of India showed that “a child with an illiterate mother had about four times greater chance of being partially immunized than that with „XII class‟ passed mother”.13 Findings from a study in Kenya, shows a significant association between maternal education and immunization coverage. The proportion of fully immunized children whose mother/guardians has attained secondary education and above was 81.6% while those with primary education is 76.7% and those without formal education was 42.9%.15 In Nigeria, factors that were found to be associated with higher rate of immunization against the seven diseases include at least attaining secondary school education. Also, maternal education was found to be significantly associated with child immunization status in another study in Nigeria. Mothers without formal education were less likely to have fully immunized children.21

Religion was found to be one of the factors that are militating against immunization. Muslim religion is significantly associated with increased risk of non-immunization. In the North East and West of Ekiti state (Nigeria), a predominantly Muslim area, is noted to have low immunization coverage and also poor educational attainment. The immunization coverage was found to be 24%.2% among Christians compared to 8.8% among Muslim.22

# Socio-economic Factors Affecting Vaccination Coverage

Socio-economic factors plays an important role in the vaccination of a child, parent with higher socio-economic status are more likely to take their for vaccination than those with lower socio-economic status. Study has shown the difference in the utilization of immunization services and the type of job the parent holds.34,35 another study in India has shown that household income plays a major role in accessing health care services.36

More so, study has revealed the importance of family support in assessing vaccination service where those with joint family structure has less challenge in taking their children for vaccination than those in mothers in nuclear family.37

# Socio-cultural Factors affecting Immunization

Role of traditional healer and its effect on vaccination of children have been documented; a study in Haiti showed that the patronage of traditional healers by mothers as the first treatment option affects vaccination rates negatively.38

# Health System and Operational Barriers to Routine Immunization

Both the supply and demand are important factors associated with routine immunization performance in Nigeria. Among the supply issues are, weak primary health care services with poor integration of services, inadequate financing to support recurrent costs at LGA levels. Others include logistic challenges (frequent vaccine stock out, lack of cold chain) and lack of leadership i.e. political leaders who do not consider RI as a priority. Study conducted in DRC highlighted the issue of poor funding and logistic.44

There exist some operational barriers to routine immunization. These barriers among others include; poor training of health workers, irregular funding and support for outreach sessions and poor supportive supervision.

Community demand for routine immunization is poor due to sub-optimal community enlightenment, health education and promotion, poor involvement of NGO and COBs in routine immunization activities. There is also poor participation of community in planning and implementation of routine immunization activities.

# CHAPTER THREE

# METHODOLOGY

# 3.1 Study Area

The study area is Izom District in Ikpoba-Okha Local Government Area of Edo state. The district is a rural community with a 2014 population of 10,844 projected from 2006 National Population Census.

It is divided into six villages namely, Abuchi Gwari, Abuchi Koro, Gwale, Izom, Kpou and Wagu (Zhigbodo) and each is being headed by a village head called Sarki.

A total of 46 settlements (clusters) are scattered among these villages (Appendix V).

The district is made up of predominantly Gwari speaking people with farming as the major occupation. About 70% of the inhabitants are Muslims by religion while the remaining 30% are Christians.

The routine immunization services are provided by two public health centres in the communities i.e. Izom Basic Health Centre with staff strength of 14 but only two of them (a vaccinator and a recorder) provides the services on every Thursday of the week. the other is Abuchi Primary Health Care with staff strength of 5, and RI services are provided on every Tuesday of the week. There are also two private health facilities but do not provide RI due to inadequate staff. Outreaches are conducted from time to time to provide RI services in hard to reach areas.

# 3.2 Study Design

This was cross sectional study.

**3.3 Study Population**

These are mothers or care givers of eligible children who are permanent resident in the community.

# Inclusion Criteria

# Eligibility

1. Mothers of children aged 12-23 months will be eligible for the study.

# Exclusion criteria

1. Mothers or care givers who are not permanent resident in the community.

# 3.4 Sample Size Determination

The minimum sample size was determined using the formula:

n = [z²xpq/d²] x DEFF20 Where:

n = minimum sample size

z = standard normal deviate at 1.96

p = proportion of children aged 12 -23 months with full immunization coverage in Edo State (12.3%).11 = 0.123

q = 1 – p (87.7%) = 0.877

d = precision 5%

*DEFF* = Design effect = 2

n = (1.96² x 0.123 x 0.877 / 0.05²) x 2

n = (3.8416 x 0.123 x 0.877/0.0025) x 2 = 331.51 ≈ 332

n = 332

In accordance with the WHO recommendation, children were sampled from 30 out of 46 clusters available in the community. The number of children per cluster was calculated to be 332/30 = 11.06 which were rounded to 12, therefore, the sample size is 12 x 30 = 360 The final calculated sample size is 360.

# 3.5 Sampling Technique

For the sampling process, two-stage cluster sampling technique was used:

**Stage 1**: Selection of the community

At the first stage, 30 clusters were selected from the available 46 clusters based on probability proportionate to size. To select the 30 clusters, the following steps were followed:

1. All the six villages in the community were listed; this list constituted the sampling frame.
2. The population of each village was indicated and Cumulative population was computed by adding the population of the next village on the list to the sum of the population of the previous villages as shown in the table below. For example, the population of the second village (Abuchi Gwari) which is equal to 810 was added to the population of the first village i.e. Abuchi Koro which is 700 until the total of all the villages were added up to 10,844.
3. The sampling interval was determined by dividing the total population of the community by the number of clusters to be selected: 10,844/30 = 361. A random number which is less than or equal to the sampling interval, but with the same number of digits was selected using table of random number. The selected number was 277.
4. To identify the village in which the first cluster is located, the first village with cumulative population that is equals to or exceeds the random number 277 was located and that was Abuchi Koro. Location of the second cluster was done by adding the sampling interval with the selected random number i.e. 361+277 = 638 and the village which cumulative number contained this number (Abuchi Koro) was located. Similarly, the third cluster was located in Abuchi Gwari by adding 638 to the random number (638+277 = 915), fourth and fifth clusters were equally located in Abuchi Gwari through the same method. This process continued until the last cluster was located in Wagu/Zhigbodo village.

**Stage 2**: **Selection of Households**: At this stage, 12 households were selected from each of the 30 clusters making a total of 360. The first household was randomly selected and the rest households were selected contiguously till the required number of children was attained. From each of the selected households, one eligible child is randomly selected. In those households with twins, only one of them is selected randomly and in the households where there is no eligible child, the next household was visited and one eligible child selected.

# 3.5 Study Instruments

A structured, interviewer administered questionnaire was used to elicit information from study participants. The questionnaire was structured into four sections:

1. Knowledge of mothers or care givers on routine immunization
2. Attitude of mothers or caregivers on routine immunization.
3. Immunization Coverage of children aged 12 – 23 months
4. Socio-demographic data of mothers or care givers on routine immunization.

The questionnaire was pre-tested in Gawun Babangida.

# 3.6 Method of Data Collection

Data was collected using interviewer administered questionnaires. Two trained female health workers and a male supervisor were used as research assistants. They were adequately trained for two days on the use of the questionnaire to collect data. The actual data was collected from March to May, 2015. The main languages used for collection of data are Gbagyi and Hausa. The information on the vaccination status of the sampled children was ascertained from child‟s immunization card if available and from mother‟s history if immunization card is not available.

**3.7 Data Management and Analysis**

**Statistical Analysis**

The completed data were reviewed on the field before electronic data entry. The data was checked for accuracy, completeness and consistency. The statistical analysis was done using Epi-info software version 3.4.3. Univariate analysis was performed to obtain the frequency and proportions. The bivariate analysis was performed to identify factors associated with full immunization status of children. Outcome of interest are non- immunized or partially immunized and fully immunized. Chi-square test was used to test for association between statistical significant. Factors that were significant at bivariate analysis were subjected to logistic regression analysis.

# Definition of variables

* + 1. **Grading of Knowledge**

In assessing the respondent‟s level of knowledge on routine immunization and vaccine preventable diseases, their knowledge was scored on six-point domains. One point was scored for correct response on each domain while zero was scored for wrong response. The maximum score was six points and the minimum was scored zero. Respondents who scored 3-6 points were graded as having good knowledge, score of 0-2 are graded as having some were graded as having poor knowledge. In order to reduce the possibility of guessing, respondents were asked open ended questions to grade their level of knowledge.

Table 3.1: Grading of knowledge

|  |  |  |
| --- | --- | --- |
| Knowledge | Score 1 | Score 0 |
| Number of Diseases Covered by RI | 4 | None |
| Name of Diseases covered by RI | 4 | None |
| Symptoms of the diseases mentioned | 4 of fever, cough, body rashes, difficulty in breathing, stiffness of body, muscle spasm, paralysis. | None |
| Number of visit to complete RI | 5 | Less or More than 5 |
| When to start the first visit | At 6 weeks | Less or more than 6 weeks |
| When to pay the last visit | At 9 months | Less than 9 months |

# Grading of attitude

Mothers‟ attitude was scored on 5 points domains, one point was scored for positive response on each domain while zero was scored for negative response, the maximum point was five points and minimum point was zero. Respondents with 3-5 scores were graded as having good attitude while those with 0-2 scores were graded as poor attitude towards routine immunization.

# Classification of Vaccination Status of Sampled Children

Vaccination status of sampled children was classified into three categories based on the type and doses of antigens they received. The categories were defined as follows:

**Fully immunized child**: This is defined as child, who had received a dose of BCG, three doses of OPV (excluding the one given at birth), three doses of Pentavalent vaccine, one dose of measles vaccine by 12 months of age.

**Partially immunized child**: This is a child who missed at least one of the doses as stated above.

**Non-immunized child**: This is a child who had not received any of the vaccines at 12 months of age.

# 3.8 Ethical Considerations

The ethical approval for this study was obtained from Edo State Ministry of Health and Hospital Services, Minna (*Appendix vi*). Informed consent was obtained from the participants with the assurance of absolute confidentiality which was maintained throughout the study (*Appendix i*).

# 3.9 Limitations

Recall bias is possible limitation to this study because accuracy of information on child immunization status given by mothers without immunization card could not be verified.

Another limitation is the wilful misstatement by mothers or care givers as the statement cannot be verified.

# CHAPTER FOUR RESULTS

**4.1 INTRODUCTION**

Three hundred and sixty (360) mothers or care givers participated in the study, the mean age of the respondents was 28.1 ± 7.032 years. 67% of mothers or care givers are aware of routine immunization but their levels knowledge was rated poor 30(8.3%) while their attitude towards the immunization was rated good 308 (85.6%).

Table 4.1: Socio-demographic characteristics of the respondents (n=360)

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| **Age group (years)** |  |  |
| 15 - 19 | 14 | 3.9 |
| 20 – 24 | 94 | 26.1 |
| 25 – 29 | 91 | 25.3 |
| 30 – 34 | 84 | 23.3 |
| ≥35 | 77 | 21.4 |
| **Educational level** |  |  |
| Non formal | 191 | 53.1 |
| Primary | 103 | 28.6 |
| Secondary | 62 | 17.2 |
| Tertiary | 4 | 1.1 |
| **Marital status** |  |  |
| Married | 346 | 96 |
| Divorce or separated | 14 | 4 |
| **Occupation** |  |  |
| Unemployed | 291 | 80.8 |
| Trading | 64 | 17.8 |
| Civil servant | 1 | 0.3 |
| Others (tailoring, firewood, vendors) | 4 | 1.1 |
| **Religion** |  |  |
| Islam | 280 | 77.8 |
| Christianity | 80 | 22.2 |

The age group 20-24 years constitute the highest respondents with of 94(26.1%) while the lowest respondents are those in age group 15-19 years which is 3.9%. Majority of the respondents 191(53.1%) had no formal education while 103(28.6%) of them had primary

education, only 4(1.1%) responded attained tertiary education. Most of the respondents 346(96%) are married while only 14(4%) were divorce or separated and majority of are unemployed 291(80.8%) while 64(17.8%) are traders. Christianity and Islam are the two religion practiced in the community with Islam being the dominant religion 280(77.8%) and Christianity 80(22.2%).

50

47

44

8

1

45

40

35

30

25

**Percent (%)**

20

15

10

5

0

Friends

Health workers Radio/TV Social mobilization

**Sources of informationroutine immunization**

Figure 4.1: Sources of information on routine immunization in Izom community (n=241) Of the 241 that are aware of RI, 114(47%) got their information from health workers, 107(44%) from social mobilization and 2(1%) from Radio/TV programme.

Table 4.2: Vaccine preventable diseases known by respondents in Izom community

(n=360)

|  |  |  |
| --- | --- | --- |
| Vaccine preventable diseases (VPDs) | Frequency | Percent |
| Tuberculosis | 56 | 15.6 |
| Poliomyelitis | 235 | 65.3 |
| Diphtheria | 9 | 2.5 |
| Pertussis | 4 | 1.1 |
| Tetanus | 48 | 13.3 |
| Measles | 43 | 11.9 |
| Hepatitis | 25 | 6.9 |
| Malaria | 146 | 40.6 |
| Meningitis | 122 | 33.9 |
| Yellow fever | 31 | 8.6 |

\*Multiple responses

Many of the respondents 235(65.3%) mentioned Poliomyelitis as VPD, 56(15.6%) mentioned TB while Tetanus and Measles were mentioned by 48(13.3%) and 43 (11.9%) respectively. Malaria was mentioned as VPDs by 146(40.6%) and meningitis mentioned by 122 (33.9%) of respondents.

Table 4.3: Symptoms of vaccine preventable diseases known by the respondents in Izom Community (n=360)

|  |  |  |
| --- | --- | --- |
| Symptoms of vaccine preventable diseases (VPDs) | Frequency | Percent |
| Weakness of limb(s) | 29 | 8.1 |
| Cough | 52 | 14.4 |
| Hotness of the body | 232 | 64.4 |
| Difficulty in breathing | 17 | 4.7 |
| Yellowness of the eyes | 21 | 5.8 |
| Generalized skin rashes | 41 | 11.4 |

\*Multiple responses

Various symptoms of VPDs mentioned by the respondents, hotness of the body was the only symptom mentioned by the majority 232(64.4%). Cough was mentioned by 52(14.4%) while 41(11.4%) mentioned generalized skin rashes.

Table 4.4: Adverse reactions associated with vaccine preventable diseases mentioned by respondents in Izom community (n=360)

|  |  |  |
| --- | --- | --- |
| Adverse reactions of vaccine preventable diseases (VPDs) | Frequency | Percent |
| Hotness of the body | 231 | 64.2 |
| Swelling at injection site | 209 | 58.1 |
| Restlessness | 182 | 50.6 |
| Mild rashes | 22 | 6.1 |
| Pains at injection site | 142 | 39.4 |

\*Multiple responses

The respondent‟s knowledge on adverse reactions following immunization, majority of respondents 231(64.2%) and 209(58.1%) mentioned hotness of the body and swelling at the injection site while only 22(6.1%) mentioned mild rashes as side effects of immunization.

Table 4.5: Attitude of respondent on routine immunization in Izom community (n=360)

|  |  |  |  |
| --- | --- | --- | --- |
| Attitude | Yes | No | Do not know |
|  | Freq.(%) | Freq.(%) | Freq.(%) |
| Mothers takes their children to PHC for RI | 240(66.7) | 20(5.6) | 100(27.7) |
| Mothers think immunization is beneficial | 310(86.1) | 50(13.9) | – |
| Mothers will advise others to take their children for immunization | 307(85.3) | 53(14.7) | – |
| Mothers think local preparations can serve as alternative to immunization | 61(17) | 84(23) | 215(60) |

Most of the respondents 240(66.7%) takes their children to Primary Health centre for routine immunization, 310(86.1%) believed immunization is beneficial while 307(85.3%) will advise others to take their children for immunization and 61(17%) believed there are local preparations that can serve as alternative to immunization.

Table 4.6: Child Characteristics in Izom community (n=360)

|  |  |  |
| --- | --- | --- |
| **Characteristics** | Frequency | Percent |
| **Sex** |  |  |
| Male | 196 | 54.4 |
| Female | 164 | 45.6 |
| **Place of child birth** |  |  |
| Home | 232 | 64.4 |
| PHC | 84 | 23.4 |
| Private Clinic | 44 | 12.2 |
| **Child immunization Status** |  |  |
| Fully immunized | 128 | 35.6 |
| Not immunized | 124 | 34.4 |
| Partially immunized | 108 | 30 |

Many of the respondents 232(64.5%) gave birth at home while 84(23.3%) and 44(12.2%) gave birth at PHC and private clinic respectively. Almost thirty six percent 128(35.6%) were fully immunized while 108(30%) were partially immunized and the remaining 124(34.4%) were not immunized.

Table 4.7: Immunization coverage for various antigens in Izom community (n=360)

|  |  |  |
| --- | --- | --- |
| RI vaccines (antigens) | Frequency | Percent |
| BCG | 219 | 60.8 |
| OPV1 | 212 | 58.9 |
| OPV2 | 188 | 52.2 |
| OPV3 | 161 | 44.7 |
| Pentavalent1 | 212 | 58.9 |
| Pentavalent2 | 188 | 52.2 |
| Pentavalent3 | 161 | 44.7 |
| Measles vaccine | 123 | 34.2 |
| Yellow fever vaccine | 123 | 34.2 |

\*Multiple responses

The BCG coverage is 219(60.8%), OPV1 and Pentavalent vaccine1 is 212(58.9%) and 212(58.9%) respectively, also OPV3 and Pentavalent Vaccine3 is 161(44.7%) and 161(44.7%) respectively, and finally, the Measles vaccine and yellow fever vaccine coverage is 123(34.2%) and 123(34.2%) respectively.

Table 4.8: Immunization status of children in Izom community (n=360)

|  |  |  |
| --- | --- | --- |
| Immunization status | Frequency | Percent |
| Fully immunized | 128 | 35.6 |
| Not immunized | 124 | 34.4 |
| Partially immunized | 108 | 30 |

Almost thirty six percent 128(35.6%) were fully immunized while 108(30%) were partially immunized and the remaining 124(34.4%) were not immunized.

Table 4.9: Reasons given for incomplete vaccination by respondents in Izom community

(n=165)

|  |  |  |
| --- | --- | --- |
| Immunization status | Frequency | Percent |
| Mother too busy | 42 | 25.5 |
| Inconvenient time | 53 | 32.1 |
| Too frequent postponement | 31 | 18.8 |
| Fear of reaction | 17 | 10.2 |
| Place of immunization too far | 12 | 7.3 |
| Long waiting time | 10 | 6.1 |

Inconvenient time is the highest 53(32.1%) reason given by the respondents for incomplete immunization coverage followed by mother too busy with 42(25.5%) and the least is long waiting time 10(6.1%).

Table 4.10: Relationship between children immunization status and socio-demographic Characteristics of the respondents

|  |  |  |
| --- | --- | --- |
| **Variables** | **Children Immunization status** | **Test statistic** |
| **Not Immunize** | **Immunize** |
| **Age category** |  |  |  |
| 15-19 yrs | 21(9.1%) | 4(3.1%) |  |
| 20-24 yrs | 54(23.3%) | 36(28.1%) | X2=8.400 |
| 25-29 yrs | 56(24.1%) | 42(32.8%) | P=0.078 |
| 30-34 yrs | 49(21.1%) | 22(17.2%) |  |
| > 34 yrs | 52(22.4%) | 24(18.8%) |  |
| **Total** | **232(100.0%)** | **128(100.0%)** |  |
| **Sex** |  |  |  |
| Male | 125(53.9%) | 70(54.7%) | X2=0.022 |
| Female | 107(46.1%) | 58(45.3%) | P=0.883 |
| **Total** | **232(100.0%)** | **128(100.0%)** |  |
| **Educational Status** |  |  |  |
| None | 139(59.9%) | 51(39.8%) |  |
| Primary | 59(25.4%) | 44(34.4%) | X2=14.089 |
| Secondary and above | 34(14.7%) | 33(25.8%) | P=0.001 |
| **Total** | **232(100.0%)** | **128(100.0%)** |  |
| **Occupational Status** |  |  |  |
| Employed | 43(18.5%) | 26(20.3%) | X2=0.168 |
| Not employed | 189(81.5%) | 102(79.7%) | P=0.682 |
| **Total** | **232(100.0%)** | **128(100.0%)** |  |
| **Religion Status** |  |  |  |
| Islam | 175(75.4%) | 105(82.0%) | X2=2.079 |
| Christianity | 57(24.6%) | 23(18.0%) | P=0.149 |
| **Total** | **232(100.0%)** | **128(100.0%)** |  |
| **Sources Of Information** |  |  |  |
| Health workers | 41(36.3%) | 73(57.0%) | X2=10.365 |
| Non health workers | 72(63.7%) | 55(43.0%) | P=0.001 |
| **Total** | **113(100.0%)** | **128(100.0%)** |  |
| **Place Of Birth** |  |  |  |
| Health center | 68(29.3%) | 60(46.9%) | X2=10.365 |
| At home | 164(70.7%) | 68(53.1%) | P=0.001 |
| **Total** | **232(100.0%)** | **128(100.0%)** |  |

The table above shows the relationship between the maternal age and the immunization status of the children. The mother‟s age group between 15–19 years have the least (2) out of 128 fully immunized children while mother‟s age group between 25–29 years has the

highest number (41) of children that are fully immunized. However, the difference between maternal age and immunization status was not statistically significant (χ2=8.400, P=0.078).

On the maternal education, it was found that, out of the 128 children that were fully immunized, only 33 of them had mother who attended secondary school and above and 51(39.8%) of mothers with non-formal education had their children fully immunized (χ2=6.6072, p=0.0102).

The relationship between the sources of respondents‟ information regarding RI. Mothers who received information from health workers are more likely to fully immunize their children than those that received information from non health workers. The finding was significant with χ2=10.365 and P=0.001.

The difference between immunization status of children and their place of delivery. There was an observed difference between children delivered at health centre and those delivered at home. The observed difference was statistically significant (χ2=10.365, P=0.001).

Table 4.11: Logistic Regression of socio-demographic characteristics of respondents in Izom community

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variables** | **B** | **Sig.** | **OR** | **95.0% C.I.** |
| **Lower** | **Upper** |
| **Age** |  | **0.313** |  |  |  |
| 15-19 yrs | 1.385 | 0.041 | 3.996 | 1.061 | 15.048 |
| 20-24 yrs | 1.334 | 0.045 | 3.798 | 1.032 | 13.970 |
| 25-29 yrs | 1.153 | 0.105 | 3.168 | 0.787 | 12.751 |
| 30-34 yrs | 1.410 | 0.046 | 4.096 | 1.026 | 16.351 |
| > 34 yrs |  |  |  |  |  |
| **Sex** |  |  |  |  |  |
| Male | -0.222 | 0.425 | 0.801 | 0.465 | 1.381 |
| Female |  |  |  |  |  |
| **Qualification** |  | **0.096** |  |  |  |
| None | 0.692 | 0.037 | 1.998 | 1.042 | 3.832 |
| Primary | 0.073 | 0.838 | 1.075 | 0.535 | 2.161 |
| Secondary |  |  |  |  |  |
| **Occupation** |  |  |  |  |  |
| Employed | 0.221 | 0.536 | 1.247 | 0.619 | 2.512 |
| Not employed |  |  |  |  |  |
| **Religion** |  |  |  |  |  |
| Islam | -0.064 | 0.867 | 0.938 | 0.442 | 1.989 |
| Christianity |  |  |  |  |  |
| **Sources of Information** |  |  |  |  |  |
| Health workers | -0.889 | 0.002 | 0.411 | 0.234 | 0.721 |
| Non health workers |  |  |  |  |  |
| **Place of birth** |  |  |  |  |  |
| Health center | -0.272 | 0.361 | 0.762 | 0.424 | 1.367 |
| At home |  |  |  |  |  |
| **Constant** | **-0.082** | **0.718** | **0.922** |  |  |

The coefficient for age groups 15-19 years and 30-34 years are significant indicating that increasing affluence is associated with increased odds of achieving full child immunization. Mothers of age 30-34 years are 4.1 times more likely to fully immunize their children than the other age group and mothers of age group 15-19 years are 3.996

times more likely to fully immunize their children. Sources of maternal information on routine immunization was found to be a predictor of full immunization coverage of children (OR = 0.411, 95% CI =0.234 to 0.721).

# CHAPTER FIVE

# SUMMARY, CONCLUSION AND RECOMMENDATION

**5.1. SUMMARY**

Researchers have identified the role of maternal knowledge as an important determinant of vaccination coverage.20,24 In this study, maternal knowledge on routine immunization was rated poor as only 21(5.8%) consistent with the study conducted in Zamfara state, Nigeria.43 Similarly only (5.8%) of them knew the correct meaning of RI as the immunization given to children at health centres from birth and at various ages till they are nine months old, 30(8.3%) knew the vaccination schedule for BCG at birth and that OPV, Pentavalent at 6, 10 and 14 weeks of age and measles vaccines at nine months. However, 162 (44.7%) of mothers knew the correct number of visits (5) to be made to health centre before a child can be fully immunize. while 211(58.6%) knew the age at which first visit should be made, 213(59.6%) knew the age at which the last visit is made this is consistent with other findings .27,29 The low levels of mothers or care givers knowledge on routine immunization in this study contrast with the finding,20 in spite of this poor maternal knowledge on routine immunization, high proportion of has positive attitude towards immunization, 86.6% of mothers believed immunization is beneficial and could advise others to take their children for immunization.

The proportion of fully immunized children (35.5%) though higher than the national coverage of 25%,11 the immunization coverage in the community is still very low when compared with acceptable national target of 90%. The finding is similar to a study conducted in northern Nigeria and India.23,43 The coverage for the various antigens shows; BCG has the highest coverage of 60.8% and the lowest is measles vaccine coverage of 34.2% while coverage for both OPV1 and Pentavalent1 was 58.9% (Pentavalent 1 - Pentavalent 3 Drop - out rate was 14.2%). the low coverage for OPV and

Measles vaccines has negative effects on the government efforts to eradicate polio and the fight against measles.

Factors that were found to be significantly associated with full immunization coverage of children in this study are maternal educational status, sources of maternal information on RI and place of child delivery. This study revealed that 50% of mothers who attained secondary school and above had their children fully immunized while 32% of mothers with primary school education and below had their children fully immunized. This is consistent with a study in Kenya.15 This study revealed that educational status of mothers has no independent bearing on the immunization status of children; this finding is similar to study conducted in India.

Maternal occupation is a factor that researchers found to have influence on the immunization status of a child. Mothers who are professionals and managers were found to be significantly associated with higher likely hood of fully immunizing their children than those who are not working.30,34,35 This study showed that occupation is not significantly associated with immunization status of children; this could be as a result of homogeneity nature of the community where the majority are unemployed with just a few engaged in petty trading.

Religion as a factor was found to be significantly associated with child immunization status in a study conducted in Nigeria by Babalola.33 Another study showed that religious affiliation affects immunization status of children with Muslim religion found to be associated with reduced odds of full immunization.39,40,41 likewise, other studies found that increased childhood morbidity and mortality is associated with Muslims religion.42 In this study, no significant association was found between religion affiliation of mothers and immunization status of children. Similarly, a report on the study in three states of

northern Nigeria found little effect of religious inclination on the decision of parents to immunize their children.

Maternal sources of information on routine immunization were found to be significantly associated with child immunization status. Mothers whose sources of information were from health care workers were more likely to get their children fully immunized than those whose source of information were from paramedical workers (non health workers). In this study, 64% of mothers who got information on routine immunization from health care workers, had their children fully immunized (OR= 0.4254) i.e. they are 0.4 times more likely to fully immunize their children than mothers who got information from non health care workers. This is finding is consistent with studies carried out in India and Libya.23,25

The place of child birth contributed significantly to child immunization status. Studies have shown that mothers who delivered at health centres are more likely to have their children fully immunized than those who delivered at home probably because of the lectures and advice given to mothers on the importance of child vaccination by health workers after delivery. In this study, 47% of mothers who delivered at health centres had their children fully immunized and only 29% of mothers who delivered at home had their children fully immunized. The study revealed that the place of child delivery is significantly associated with immunization status of a child which is similar to a study conducted in Edo Delta Nigeria,31 finding from this study was contrary to a Kenya study where mothers who delivered at health centres were found to be independently associated with child immunization status i.e. they were 2.26 times more likely to get their children fully immunized.15

This study revealed difference in immunization status for sex with 19.4% of fully immunized male and 16.1% of fully immunized female. However, the finding is not statistically significant which is consistent with other studies that revealed that sex of a child did not significantly affect immunization.20,25,26,30,32 On the contrary, a study in India showed that males have higher immunization rate than females and that the difference was statistically significant.28

# 5.2 CONCLUSION

The maternal knowledge on the routine immunization was poor (8.3%), however mother‟s and attitudes towards immunization are good.

More so, and in spite of the successes recorded in the area of childhood Immunization services in Nigeria, the fully immunized children aged 12-23 months in Izom community was still far below the recommended 80% at district level (35.5%).

Among the factors that were significantly associated with full immunization coverage of children in the community are maternal education, sources of maternal information on routine immunization, and place of child delivery.

While only sources of maternal information on routine immunization was found to be independently associated (predictor) with full immunization coverage of children in the community.

# 5.3 RECOMMENDATIONS

Based on the findings of the study, the following recommendations are proffered

* + 1. The Edo state government through the ministry of health and state primary health care development agency should coordinate and disseminate information on the importance of routine immunization through radio and television messages and jingles.
		2. Ikpoba-Okha Local Government Area should create awareness on routine immunization in the community through the social mobilization.
		3. In the light of the inconvenient time and busy schedule of the mothers or care giver in the community, the community should be involved in the planning and implementation of routine immunization activities.
		4. Ikpoba-Okha Local Government Area should strengthen the communication skills among the health care workers to be able to stress to the mothers and care givers the importance of routine immunization.
		5. The Non-Governmental Organization and Community based Organizations should be involved in routine immunization activities.
		6. Others scope of the study such as health system and operational barriers and demand barriers against RI should be explore for further research.
		7. The Ikpoba-Okha Local Government Area through the health department should advocate and sensitize both the community and religious leaders on the importance of routine immunization in their communities.

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**APPENDIXE**

**QUESTIONNAIRE**

**PLEASE TICK [√] YOUR MOST PREFERRED CHOICE(S) ON A QUESTION.**

**SECTION A**

**PERSONAL INFORMATION**

**1. Age group (years)**

15 - 19 ( )

20 – 24 ( )

25 – 29 ( )

30 – 34 ( )

≥35 ( )

1. **Educational level**

Non-formal ( )

Primary ( )

Secondary ( )

Tertiary ( )

1. **Marital status**

Married ( )

Divorce or separated ( )

1. **Occupation**

Unemployed ( )

Trading ( )

Civil servant ( )

Others (tailoring, firewood, vendors) ( )

1. **Religion**

Islam ( )

Christianity ( )

**SECTION B**

1. **Knowledge of mothers or care givers on routine immunization**

|  |  |  |
| --- | --- | --- |
| **Options** | **Yes** | **No** |
| The first dose of vaccination is given to children at birth. |  |  |
| A particular disease has its vaccine for its immunization |  |  |
| Some of the sickness are not contraindicated for vaccination |  |  |
| Giving children more than one vaccine at a time have no negative impact on their health |  |  |

1. Attitude of mothers or caregivers on routine immunization.

|  |  |  |
| --- | --- | --- |
| **Options** | **Yes** | **No** |
| Mothers takes their children to PHC for RI |  |  |
| Mothers think immunization is beneficial |  |  |
| Mothers will advise others to take their children for immunization |  |  |
| Mothers think local preparations can serve as alternative to immunization |  |  |

1. Immunization Coverage of children aged 12 – 23 months

|  |  |  |
| --- | --- | --- |
| **Options** | **Yes** | **No** |
| BCG |  |  |
| OPV1 |  |  |
| OPV2 |  |  |
| OPV3 |  |  |
| Pentavalent1 |  |  |
| Pentavalent2 |  |  |
| Pentavalent3 |  |  |
| Measles vaccine |  |  |
| Yellow fever vaccine |  |  |

1. Socio-demographic data of mothers or care givers on routine immunization.

**Sex**

Male ( )

Female ( )

**Educational Status**

None ( )

Primary ( )

Secondary and above ( )

**Occupational Status**

Employed ( )

Not employed ( )

**Religion Status**

Islam ( )

Christianity ( )

**Sources Of Information**

Health workers ( )

Non health workers ( )

**Place Of Birth**

Health center ( )

At home ( )

1. What are the vaccine preventable diseases known in Izom community?

|  |  |  |
| --- | --- | --- |
| **Options** | **Yes** | **No** |
| Tuberculosis |  |  |
| Poliomyelitis |  |  |
| Diphtheria |  |  |
| Pertussis |  |  |
| Tetanus |  |  |
| Measles |  |  |
| Hepatitis |  |  |
| Malaria |  |  |
| Meningitis |  |  |
| Yellow fever |  |  |

1. What are the symptoms of vaccine preventable diseases in Izom Community?

|  |  |  |
| --- | --- | --- |
| **Options** | **Yes** | **No** |
| Symptoms of vaccine preventable diseases (VPDs) |  |  |
| Weakness of limb(s) |  |  |
| Cough |  |  |
| Hotness of the body |  |  |
| Difficulty in breathing |  |  |
| Yellowness of the eyes |  |  |
| Generalized skin rashes |  |  |

1. What are the adverse reactions associated with vaccine preventable disease in Izom community?

|  |  |  |
| --- | --- | --- |
| **Options** | **Yes** | **No** |
| Hotness of the body |  |  |
| Swelling at injection site |  |  |
| Restlessness |  |  |
| Mild rashes |  |  |
| Pains at injection site |  |  |

1. What is the Immunization status of children in Izom community?

Fully immunized ( )

Not immunized ( )

Partially immunized ( )

1. What are the Reasons for incomplete vaccination in Izom community ?

|  |  |  |
| --- | --- | --- |
| **Options** | **Yes** | **No** |
| Mother too busy |  |  |
| Inconvenient time |  |  |
| Too frequent postponement |  |  |
| Fear of reaction |  |  |
| Place of immunization too far |  |  |
| Long waiting time |  |  |

**SECTION C**

1. Does ignorance of mothers contribute to their attitude towards immunization?

Yes ( )

No ( )

1. Does lack of immunization lead to death of children?

Yes ( )

No ( )

1. Do mother get actively involved and delighted in the immunization of the children?

Yes ( )

No ( )

1. Does the behaviour of health workers affect mothers in the immunization of their children?

Yes ( )

No ( )