



KNOWLEDGE, ATTITUDE AND UPTAKE OF CHILDHOOD IMMUNIZATION AMONG CAREGIVERS IN LAGOS ISLAND LOCAL GOVERNMENT AREA, LAGOS STATE

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KEYWORDS: Knowledge, Attitude, Uptake

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ABSTRACT

INTRODUCTION: Immunization is among the most successful components of preventive medicine. It remains one of the most important public health interventions and a cost effective strategy to reduce both the morbidity and mortality associated with infectious diseases. About 30 million out of the 130 million children born every year worldwide are not receiving vaccination of any kind. Improving parents' knowledge, attitudes towards and uptake of immunizations would help in reducing the prevalence of Vaccine Preventable Diseases (VPD) and therefore, reduce under five mortality rate.

MATERIALS AND METHODOLOGY: A descriptive cross sectional study was done among caregivers of children in Lagos Island Local Government Area and the sample size was 216. An interviewer administered questionnaire was used as the survey tool to generate quantitative data. Data entry and analysis was done using EPI – info 7 software computer program by me. The quantitative data was presented in form of tables and analyzed as descriptive frequencies and percentages.

RESULT: 99.5% of the respondents were aware of childhood immunization. The overall knowledge score 52.1% was fair. Majority (98.2%) of the respondents had positive attitude towards childhood immunization. Most (61.4%) of respondents had fully immunized their children.

CONCLUSION: Almost all caregivers were aware of immunization and also had a positive attitude towards it. An appreciable amount had fair knowledge and uptake of the immunization.

KEYWORDS: knowledge, attitude, uptake, childhood, immunization.

BACKGROUND

Prevention of diseases is the need of the day⁶. Every year, more than 10 million children die before they reach their fifth birthdays in low- and middle-income countries¹. Most of these deaths are as a result of lack of effective interventions that would combat common and preventable childhood illnesses¹. The morbidity and mortality caused by diseases and rising costs of treating them requires us to focus more on their prevention. Immunization is among the most successful components of preventive medicine. It remains one of the most important public health interventions and a cost effective strategy to reduce both the morbidity and mortality associated with infectious diseases. It has prevented more deaths in the past years than any other health intervention globally⁶. World Health Organization also stated that immunization is a proven tool for controlling and eliminating life-threatening infectious disease and has been estimated to alleviate 2 to 3 million deaths each year⁶. WHO further stated that although global vaccination coverage is holding steady but an estimated 22 million infants worldwide are still missing out on basic vaccines⁶. The child survival programmes were developed by the United Nations Children's Fund to decrease morbidity and mortality of children less than five years of age.¹⁷

While advanced nations have achieved highly significant reduction in morbidity and mortality rates from communicable diseases through effective immunization programme, infectious diseases remain a major contributory factor to the high infant and child morbidity and mortality rates in developing countries.¹⁰

Nigeria like many countries in Africa is making efforts to strengthen its health system especially the routine immunization so as to reduce the burden from vaccine preventable diseases. Nigeria's immunization programme has been characterized by intermittent failures and successes since the initial introduction⁵. The Extended Programme for Immunization (EPI) was initiated in 1979, re launched in 1984 due to poor coverage and launched as National Programme on Immunization (NPI) in 1996. In Nigeria, universal childhood routine immunization is provided free of charge as in some countries of the world. The Government of Nigeria has put routine immunization high on the agenda and is committed to reverting this negative trend. A rate of 95% immunization coverage is necessary for the sustained control of vaccine preventable diseases⁷. The standard measure of immunization coverage is the percentage of children who have received the requisite number of vaccine doses irrespective of the age at receipt of the vaccine⁷. However, for maximum protection against vaccine-preventable diseases, a child should receive all immunizations within recommended intervals.⁷

The Nigerian NPI schedule covers diseases such as tuberculosis, hepatitis, diphtheria, tetanus, pneumonia and meningitis, pertussis, poliomyelitis, measles and yellow fever¹⁷. This is given as Bacille Calmette Guerin (BCG), Oral Polio Vaccine (OPV)0, Hepatitis B Vaccine (HBV) at birth; Pentavalent (PENTA)1 (diphtheria, pertussis, Hemophilus influenza type b, tetanus, hepatitis B), OPV1 at 6 weeks; OPV2, PENTA 2 at 10 weeks, OPV3, PENTA 3 at 14 weeks; Measles, and Yellow Fever at 9 months.¹¹

Previous studies have shown that uptake of vaccination services is dependent not only on provision of these services but also on other factors including knowledge and attitude of mothers⁸, density of health workers⁷, accessibility to vaccination clinics, availability of safe needles and syringes and the opportunity costs (such as lost earnings or time) incurred by parents (mothers & caregivers). Parents' beliefs about immunization risks and benefits may be the most common reason for partial vaccination⁷. The current coverage rates for the various childhood vaccines in Nigeria are among the lowest in the world¹³. The poor immunization coverage in Nigeria is multifactorial and related to a complex interplay of several socio-economical, religious, cultural and traditional factors characterizing the Nigerian society. Religion and family are two powerful institutions in the Nigerian society and they play critical roles in the health behaviour and practices of the citizens^{8,12,16}.

The fundamental question is whether or not resources should be invested in improving parents' knowledge of and attitudes towards vaccination. Although the evidence is unclear, it is commonly believed,²⁰ though some disagree¹⁵ that strengthening advocacy, communication and social mobilization will enhance informed and willing participation in vaccination programme and that vaccination strategies are likely to be more successful if they are based on an understanding of socio cultural behaviour^{20,21}. The objective of the study was to determine knowledge, attitudes and uptake of Childhood Immunization in Nigeria. The result from this study might contribute to local policy formulation on immunization and improve the support for immunization which is an important means of achieving target 3b of the Sustainable Developmental Goals 3.

METHODOLOGY

The research was a descriptive cross-sectional study of caregivers who have at least a child less than 5 years in Lagos Island Local Government Area (LGA) of Lagos state, Nigeria. Lagos Island LGA has an estimated population of 209,437 in an area of 8.7km². The LGA has many health facilities which offer immunization services. These facilities include two (2) secondary hospitals, eight (8) primary health centres and eight (8) health posts. A multistage sampling technique was used to select 216 caregivers for the study using the formula $n = (z^2 \cdot p \cdot q) \div D^2$

Where, n is the minimum sample size as determined by the formula

Z is the standard normal deviation at 95% confidence interval and it is = 1.96

P is the prevalence rate. P was taken as 0.85 for this study which was adapted from a study similar to this.²¹

A pretest semi-structured questionnaire was used to collect quantitative data on socio-demographic variables, knowledge, attitude and uptake of childhood immunization among caregivers which were adapted from relevant similar studies. The aim of the pretest was to test the clarity of the study tools. It helped in making necessary changes in the tools to detect data collection problems or difficulties. Four (4) research assistants were employed and trained to assist with the collection of data. The principle of informed consent and right to privacy were observed. A verbal consent was obtained from respondents after they had been fully counseled about the study via a written consent. Data was collected using interviewer-administered questionnaire to the respondents which were written in English and translated to Yoruba to some of the participants. A total 100 percent response rate was obtained from the respondents. Data collected using a questionnaire was entered and analyzed using a computer statistical tool- EPI INFO 7. The analysed data was presented as tables and analysed as descriptive frequencies and percentages. P value<0.05 was considered statistically significant.

RESULTS

Two hundred and sixteen caregivers residing in Lagos Island LGA were selected for the study. The 216 caregivers who responded were 173(80.1%) females and 43(19.9%) males; 193(89.4%) of the respondents were married, 178(82.8%) were Muslims, 90(42.7%) belonged to social class II and 178(82.8%) were Yoruba speaking.

Two hundred and fifteen (99.5%) of respondents were aware of childhood immunization. Antenatal clinic was found to be the major source of information (47.2%) and social network was the least source of information (0.5%) to the caregivers. Regarding knowledge of Vaccine Preventable Diseases (VPD), knowledge of measles was highest as 200(92.6%) of respondents could tell that it is a VPD and 150(69.4%) knew fever as a side effect of immunization (Table 1). Knowledge of respondents regarding diphtheria was lowest 94(43.5%). Also knowledge of individual vaccines was highest in measles and yellow fever 209(96.8%) and 199 (92.1%) respectively. One hundred and seventy nine (82.9%) of respondents said all children should be immunized and 15(6.9%) of respondents agreed that immunization was against their culture.

The results showed that 212(98.15%) of the respondents had positive attitude towards childhood immunization.

Regarding uptake of childhood immunization, 209(96.8%) of caregivers had immunized their child, of which 131(61.4%) never missed any immunization appointment and were fully immunized, 81(38.6%) were partially immunized. Out of the partly immunized 36(16.7%) reported long waiting queues at the health facility and 27(12.5%) adduced non-availability of the vaccines as the major reasons for missed opportunities. More than half of the respondents(129(59.7%)) got their children vaccinated at the Primary Health Centres (Table 2). Among the immunized children whether fully or partly, there was 90.3% uptake of BCG, OPV 0 and HBV 0; 158(73.2%) / 159(73.6%) of OPV 1/ PENTA 1; 155(71.8%)/

155(71.8%) of OPV 2/ PENTA 2; **157(72.7%)/ 155(71.8%)** of OPV 3/ PENTA 3; **161(74.5%)**uptake of measles and **162(75%)**uptake of yellow fever.

DISCUSSION

This study assessed the knowledge, attitude and uptake of childhood immunization among caregivers in Lagos Island LGA of Lagos State, Nigeria. Overall it was found that majority (**99.5%**) of the caregivers were having more awareness regarding immunization. Also, their knowledge about the individual vaccines was also improving as majority of them (**85.1%, 89.8%, 71.1%, 96.8%**and **92.1%**) knew of BCG, OPV, PENTA, Measles and Yellow Fever vaccination respectively which was similar to the study in Kosofe Local Government Area of Lagos State², in which almost all **98%** of the respondents were aware of immunization. Also, the respondents' knowledge about the different kinds of immunization was (**89.5%, 85.5%, 78.5%, 71%**and **73.5%**) of BCG, OPV, DPT, Yellow Fever and Measles vaccination respectively.²

Regarding knowledge of VPD, majority (**96.8%**) knew of measles which is similar to studies done in Lagos University Teaching Hospital, where **93%** knew of measles as a VPD¹⁰. Also majority (**69.4%**) knew of fever as a side effect which is slightly similar to a study where **71.9%**¹⁸ and **85%**²² knew of fever. This may help in the treatment for children who come down with fever with a history of recent immunization.

Most (**52.1%**) of the caregivers had fair knowledge of immunization which is less than that shown in a study done in Southwest Nigeria (**77.8%**)³, Jos (**89.6 %**)⁶, where had correct understanding of the meaning of immunization. This shows that there's a decline in correct knowledge of immunization. The implication is that such caregivers will not fully utilize the NPI, which might lead to decline in the health status of the child.

In the study carried out, it was observed that most (**98.15%**) of the respondents had positive attitude while **1.85%** of the respondents had negative attitude towards childhood immunization, in contrast to a study carried out in which **36.5%** showed positive attitude towards Childhood Immunization, **47.7%** negative attitude and **15.8%** were not sure.¹⁷

It was observed that **3.2%** of the caregivers didn't immunize their children in contrast to the study done in Kollam Kerala India in which no unimmunized children were observed.⁹

It was shown that **91.7%** of the respondents had at least secondary education which indicated that population studied was literate. This probably explains why majority (**96.8%**) had immunized their children before which is comparable to the study done in Enugu where up to **90%** were literate and **95.2%** had immunized their children.¹⁹

The proportion of children fully vaccinated was **61.4%** with most (**90.3%**) of the children taken

BCG vaccine. This can be compared to the study done in Rural communities in Nigeria where the proportion of fully vaccinated children was just over 60% and there was 100% uptake of BCG vaccine.⁴

In this study, the most common reason 36(16.7%) for incomplete or partly immunization was long waiting time at the health facility. This is comparable to the study done in Rural Nigeria on **Reasons for incomplete vaccination and factors for missed opportunities**, where most common reasons (15.2%) for incomplete or partly immunization was long waiting time at the health facility.⁷

From the study, most 129(59.0%) respondents received immunization of their children at the Primary Health Care Centres. This is slightly similar to the study done in Australia; most 37% of vaccine was received at Maternity hospitals.¹⁴

CONCLUSION

Based on the scoring system used, fair knowledge of the childhood immunization (52.1%) was shown in this study.

This study identified the reasons for partial immunization in children in Lagos Island local government area. Despite that, more than half (61.4%) of caregivers had fully immunized their children. There was high patronage of health facilities to receive immunization as the PHC received the highest (59.7%).

Despite efforts, the immunization programme has not only failed in achieving its target, but it is lagging behind the coverage mark. Although a vast majority had positive attitude towards immunization and recognized its importance. We conclude that the **knowledge and uptake** of childhood immunization among caregivers is not adequate and this **has reflected on the immunization status** of the children.

This therefore, would require appropriate dissemination of information, **aggressive campaigning** and family involvement as crucial to the success of the programme.

WHAT IS ALREADY KNOWN ON THIS TOPIC.

1. Awareness about childhood immunization was high
2. There was high positive attitude towards immunization as more people are willing to embrace the campaign and follow the schedule.

WHAT THIS STUDY ADDS

1. The knowledge of immunization was fair which shows that frequent and informative campaign should be carried out.
2. Although, 61.4% had fully immunized, this was still just above the average in a densely populated area, which shows that a large number of children were still

unimmunized or partially immunized.

3. This study observed factors that affected the partly immunized and non-immunized children.

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CONFLICTING INTEREST: None

AUTHORS' CONTRIBUTION

The study was carried out by all authors. The data was collected and analyzed by Abiola Ameenah. Data interpretation was done by Ayankogbe OO. Manuscript was written by Abiola Ameenah and was reviewed by Abiola AO.

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TABLES**Table : Knowledge of Respondents Regarding Childhood Immunization**

S/No Variable	Frequency	Percent (%)
n = 216		
*1. Knowledge of Respondents Regarding Individual Vaccines		
Bacille Calmette Guerin (BCG)	183	85.1
Oral polio	194	89.8
Diphtheria	135	63.4
Pertussis	127	59.9
Hemophilus influenza	136	63.6
Hepatitis B	179	82.9
Tetanus	183	85.5
Measles	209	96.8
Yellow fever	199	92.1
*2. Knowledge of Respondents Regarding Side Effects of Immunization		
Fever	150	69.4
Rash	141	65.3
Redness	140	64.8
Swellings	142	65.7
Sore around injection site	142	65.7
Seizure	138	63.9
Deformity	141	65.3

*Multiple choices were made

Table : Uptake of Childhood Immunization

S/No Variable	Frequency	Percent (%)
	n = 216	
*1. Place of Immunization		
Home	17	7.9
Primary health centers	129	59.7
Traditional birth attendants place	3	1.4
General hospital	79	36.6
Missionary hospitals	2	0.9
Private hospitals	27	12.5
Home	17	7.9
*2. Reasons for not immunizing/partly immunizing your child		
Distance from the house	17	7.9
Long waiting queues at the health facility	36	16.7
Non availability of the vaccines	27	12.5
Poor attitude of health workers	10	4.6
Child was sick	9	4.2
Occupation of the caregiver	35	16.2
Lack of funds	5	2.3
3. Possession of immunization cards n= 209		
No	29	13.9
Yes	180	86.1

*Multiple choices were made