

Perception of Childhood Immunization among Mothers of Under-Five Children in Onitsha, Anambra State.

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ABSTRACT:

Background: Immunization is a process of inducing immunity to infection through the administration or introduction of vaccines. However, its coverage is not optimum in most developing countries. The objective of this study is to determine the awareness, perception and coverage of immunization among mothers of under-fives accessing care at the St Charles Borromeo Hospital Onitsha.

Materials and Methods: This was a descriptive cross-sectional study involving 300 mothers of under-five children who access immunization services and antenatal care at St Charles Borromeo Hospital Onitsha, Anambra state. A pretested, semi-structured questionnaire was used to collect data. The questionnaire elicited information on the socio-demographic characteristics of the participants, perceptions, attitude and practice of childhood immunization. The participants were interviewed over 5 weeks. The data obtained were analyzed using Statistical Package for Social Sciences (SPSS) version 16 and displayed as percentages.

Result: The respondents had a mean age of 28.75 ± 4.44 years. One (0.33%) of the mothers was single while 299 (99.67%) were married and living in a monogamous family setting. All the respondents were Christians, with the majority having completed

secondary education 107(35.7%). Majority of the respondents 116(38.67%) were teachers, 94 (31.33%) were traders. The mean age of the children was 2.5±0.6 months. More than half (54.0 %) were females. All the children were delivered in the hospitals where their mothers went for antenatal care. All the mothers said immunization was meant for all children and also that vaccines do not contain contraceptives. Ninety-five percent (95%) of children had received BCG, the remaining 5% were newborns who were about to receive BCG on the day of interview. All the women reported that prevention of deadly vaccine-preventable diseases was the benefit of immunization.

Conclusions: Awareness of immunization by the respondents was very high. Majority had good attitude towards immunization. Despite a good uptake of immunization, there were some children who were partially immunized or not immunized at all.

Keywords: Immunization, vaccine, perception, under-five, childhood.

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INTRODUCTION

Immunization is the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine.¹ Vaccines stimulate the body's own immune system to protect the person against subsequent infection or disease. It is one of the most cost-effective health interventions; with proven strategies that make it accessible to even the most hard-to-reach and vulnerable populations.² Immunization is one of

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the components of the child survival strategies. It has clearly defined target groups; and can be delivered effectively through outreach activities; and vaccination does not require any major lifestyle change. It is believed that immunization is one of the highest achievements of the 20th century.³ Edward Jenner demonstrated the value of immunization in his work with smallpox in 1796 which led to the eradication of smallpox from the world.⁴ Due to the success of smallpox eradication, the WHO in 1974 initiated the Expanded Program on Immunization (EPI) with the objective of vaccinating children throughout the world.⁵ Through the 1980s, the United Nations Children's Fund (UNICEF) worked with the World Health Organization (WHO) to achieve universal childhood immunization of the six EPI vaccines (BCG (Bacillus Calmette-Guérin), Oral Polio Vaccine, diphtheria, tetanus, pertussis, and measles), with the aim of immunizing 80% of all children by 1990.

Progress has continued since then: by 2011, 107 million children were vaccinated with three doses of diphtheria-tetanus-pertussis (DTP3) vaccine and global immunization rates were at 83%. Increased knowledge of the immunologic factors of disease led to new vaccines being developed and added to the EPI's list of recommended vaccines: Hepatitis B (Hep B), yellow fever in countries endemic for the disease, meningitis and *Haemophilus influenzae* (Hib) conjugate vaccine in countries with high burden of disease.² The last 20 years have seen an explosion in the number of new vaccines. The GAVI Alliance (Global Alliance for Vaccines and Immunization), together with other multilateral organizations and national governments has been instrumental in funding these new vaccines in the poorest countries. Vaccines against Hepatitis B and *Haemophilus influenzae* type b (Hib) have been widely introduced. An increasing number of countries are now offering pneumococcal conjugate vaccine (PCV) and rotavirus vaccine (RV) in their immunization programs, thus offering protection

against some of the leading causes of child deaths, pneumonia and diarrhoea. Poliomyelitis is at the verge of eradication, while measles-associated deaths have been reduced by 74% between 2000 and 2010, and maternal and neonatal tetanus has almost been eliminated as a public health problem.²

Delivering immunization also offers an opportunity to deliver other preventive services, for example vitamin A supplements, de-worming medications and insecticide-treated mosquito nets. Despite these successes, immunization is an unfinished agenda. An estimated 19.3 million children were not reached with three doses of DTP vaccine in 2010. Those that were not immunized were mostly among the poorest and the most vulnerable. Cold Chain and Logistics systems are aging and often insufficient to accommodate the new vaccines. UNICEF, through its work with governments and other stakeholders has been instrumental in increasing demand for immunization, establishment of better cold chain and supply logistic systems and promoting national ownership for immunization⁶ Despite all these, the immunization coverage has not been too wonderful in developing countries. This study is aimed at determining the awareness and perception of immunization among mothers of under-five children in Onitsha, Anambra state. The findings of our study will help to increase immunization uptake through creation of awareness.

METHODOLOGY

This was a descriptive cross-sectional, questionnaire based study involving 300 mothers of under-five attending antenatal and child welfare clinics in St Charles Borromeo Hospital Onitsha, Anambra state. The sample size for the study was calculated using Fisher formula; where the prevalence of 73% was used based on the National Polio 3 coverage.⁷ The semi-structured questionnaire used for data collection was pretested and validated before the

study. The questionnaire elicited information on the socio-demographic characteristics of the participants, perceptions, attitude and practice of childhood immunization. Data were collected over a period of 5 weeks. The data obtained were analyzed using Statistical Package for Social Sciences (SPSS) version 16.0 and displayed in frequencies. Ethical clearance was obtained from the management of St Charles Borromeo Hospital and informed consent from the participants.

RESULTS:

A total of 300 mothers were interviewed with a mean age of 28.75 ± 4.4 years. One (0.33%) of the mothers was single, while 299 (99.67%) were married into monogamous family settings. All 300 (100%) the respondents were Christians had received some level of formal education. Majority of the respondents 116(38.67%) were teachers, 94 (31.33%) were traders; while unemployed respondents constituted 40 (13.33%) of those interviewed. The mean age of the children was

2.5 ± 0.6 months, with more than half 162 (54 %) being females. All the children 300 (100%) were delivered in the hospitals where their mothers received antenatal care (Table 1)

Majority 285 (95.0%) of mothers had vaccinated their children against tuberculosis (received BCG), the remaining 5% were mothers of newborns who were about to receive BCG on the day of interview. More than 90% of mothers of those that received BCG said that their children had BCG scar. The uptake of immunization decreased gradually with increasing age of the child, fewer mothers reported immunizing their children against measles and yellow fever than polio, tuberculosis, diphtheria, pertussis and tetanus. (Table II).

All the mothers 300 (100%) were aware of immunization and they all got informed about immunization during their antenatal clinic visits. All the mothers were of the opinion that immunization was for all children, irrespective of sex, birth order, feeding status and health status.

Table Ia: Socio-demographic characteristics of respondents and children

Variable	Frequency (N=300)	Percentage %
Sex of child		
Male	138	46.0
Female	162	54.0
Marital status of mother		
Single	1	0.3
married	299	99.7
Separated / divorced	0	0
Type of family		
Monogamous	299	100.0
Polygamous	0	0
Religion		
Christianity	300	100
Islam	0	0
Traditional	0	0

Table Ib: Socio-demographic characteristics of respondents and children

Variable	Frequency (N=300)	Percentage %
Sex of child		
No formal	0	0
Some primary	4	1.33
Completed primary	7	2.33
Some secondary	86	28.67
Completed secondary	107	35.67
Tertiary	96	32
Mother's occupation		
Teaching	116	38.67
Trading	94	31.33
Banking	6	2
Hairdressing	26	8.67
Seamstress	14	4.67
Paramilitary	4	1.33
Unemployed	40	13.33
Place of Delivery		
Home	0	0
Health centre	0	0
Hospital	300	100
Church	0	0

Table II . Uptake of Immunization according to specific vaccines

Type of vaccine	Frequency (N=300)	Percentage
BCG	285	95.0
<i>BCG scar present</i>	260	91.2
OPV0	285	95.0
OPV1	273	91.0
OPV2	268	89.3
OPV3	260	86.7
Pentavalent 1	253	84.3
Pentavalent 2	245	81.7
Pentavalent 3	238	79.3
Measles	222	74.0
Yellow fever	200	66.7

DISCUSSION:

All the mothers interviewed (100 %) got their awareness of immunization at the antenatal clinics. Some others had churches and media as additional sources of information. This can be attributed to attainment of some level of formal education by all the mothers. This result was similar to that of a survey done in Edo State by Olumuyiwa et al⁸ to assess vaccination coverage and its determinants which found significantly higher level of knowledge amongst mothers with secondary and higher level of education.

In our study, all the mothers believed that immunization was to stop children from getting the deadly preventable diseases and none of them believed that vaccines contained contraceptives. This is unlike the study done in Ora⁸ in which was found that misconception about the recipients of immunization still abound, as 70.9% of their respondents felt that a sick child was not entitled, 25.3% held the opinion that healthy babies could be exempted from immunization, 43.9% of their women felt

that a poorly-breast fed baby should be excluded, while 33.5% held the same opinion for well breast fed babies. About 2% of their respondents also viewed eligibility for immunization with a bias to the baby's gender. This may be due to the differences in the study areas, as this study was carried out in an urban setting, and among mothers receiving care for themselves and their children in a hospital.

For the same reason, our study findings was dissimilar to that of Adeyinka et al⁹ in their study aimed at determining the awareness, attitude of mothers of under-five towards immunization and proportion of children fully immunized in the 12-28 months of age, where 2% of the mothers

volunteered that immunization could cause infertility.

In Nepal, Jha et al¹⁰ observed that awareness of immunization among mothers in Nepal was high and that mothers reported benefits of immunizing children as a major reason for their children's immunization. Hadler et al¹¹ evaluated immunization coverage in Guinea, and their findings showed that delivery in a hospital affected when the child began immunization. This was not the finding in this study, as there was no significant correlation between immunization status and the place of delivery. This could be due to the fact that majority of the women were aware of immunization whether or not they gave birth in the hospital. Studies^{12,13} on the factors influencing immunization uptake showed a rise in the uptake with socio-economic status and formal education. This is at variance with this study that showed no significant association between the immunization status and the occupation of the parents or educational status. This may be due to the fact that intense health education has made immunization appear customary irrespective of social class.

The hospital-based nature of this study was a limitation of the study. The fact that some women were not willing to participate and many of them did not know the names of the vaccine were also limitations to the study. These latter limitations were averted by explaining the importance of the study and describing the route of administration of the vaccines.

CONCLUSIONS:

Awareness and perception of immunization among mothers of under-five was very good. Majority have good attitude towards immunization. Despite a good uptake in immunization, there were some children who were partially immunized or not immunized at all. There is room for improvement and sustenance of the gains already achieved.

RECOMMENDATIONS

The role of antenatal clinic as a source of awareness should further be strengthened by training more health care workers since majority of the respondents got informed about immunization in the antenatal clinic. There is a need for further effort at strengthening the uptake of all the routine vaccines, especially those received when the child is older, such as measles and yellow fever. Options such as reminder text messages to caregivers can be explored as well as conducting periodic vaccination campaigns to reach the unvaccinated children.

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