



Knowledge and Attitude of Antenatal Women Towards Maternal and Childhood Immunisations in Selected Primary Health Centres in Ekiti State

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Abstract

Background Maternal and childhood immunisation is an effective way to safeguard both mothers and their babies from infectious diseases. Studies found out that mothers' poor knowledge and negative attitudes have been responsible for the non-vaccination of children in Nigeria. However, there's a dearth in data for Ekiti State. Hence, the need to assess the level of knowledge and attitude of antenatal women towards maternal and childhood immunisation.

Methods The study adopted the descriptive; cross sectional research design. The study population were antenatal women attending antenatal services in two selected health centres. Multiple stage sampling technique was used to recruit 212 respondents from whom data was collected through a structured adapted questionnaire. The questionnaire consisted closed ended items requiring 'Yes. No options and a 5- point Likert scale. Data collection was done through the researcher administered questionnaire Descriptive statistics was employed in interpreting the data with the aid of Statistical Package for Social Sciences (SPSS) version 23

Results Mean age of respondents was 28.93 ± 6.13 with majority 164 (77.4%) having tertiary education. A very high percentage (90.1) of respondents had the knowledge of both maternal and childhood immunisations as well as the timing of the of vaccination while only few (16.5%) did not know that multi doses of vaccines were important for immunity. 87.2% agreed that compliance to immunisations is important for both mother and child. **Conclusion** The study showed good knowledge and attitude of mothers towards immunisation, a long queue and waiting time in the health facility insufficient information on immunisation, lengthy and tiring contacts of routine immunisations as factors influencing compliance to immunisations.

Keywords: *Knowledge, Attitude, Maternal/ Childhood Immunisations, Health Centres*

Introduction

Immunisation is the process of rendering an individual immune or resistant to an infectious disease, usually through the administration of vaccines into the person's body which will stimulate the person's body to develop its antigen that will invariably protect the person from such infection subsequently (WHO, 2019). Childhood immunisation guarantees

protection from many major diseases. It prevents 2 million deaths per year worldwide and is widely considered to be overwhelmingly good by the scientific community (Streefland, 2000; Nisar, Mirza & Qadri, 2015). The diseases preventable by vaccines include diphtheria, Hemophilus influenza serotype b infection, hepatitis B, measles, mumps, rubella, tetanus,

poliomyelitis, tuberculosis, meningitis and yellow fever. In the other way, maternal immunisation is an effective way to safeguard both mothers and their babies from infectious diseases (Amirthalingam, Andrews, Campbee, Riberio, Kara *et al* 2014; Nisar *et al.*, 2015) posited that maternal vaccination does not only protect the mother but has the potential to protect the baby also indirectly through the transfer of maternal immunoglobulin (Moyinoluwa & Olaleye, 2015). The two most widely used vaccines for pregnant women are the inactivated influenza and tetanus toxoid vaccines and both have shown to protect the newborn and are recommended by WHO and Centres for Disease Control and Prevention. Despite this evidence, the implementation of maternal immunisation program and uptake of the vaccine has recorded a limited success in developing countries. (Ahaeron & Gurman, 2011).

Studies conducted by Abbas and Agbede (2016), Nigeria Demographic and Health Survey 2013: Chris- Otubor, Dangiwa, Lor and Anikom (2015); Adeyemo, Abioye, Amieg men and Gbontaen (2016) all reported low immunisation coverage in Nigeria. Furthermore, studies have shown in Nigeria that mothers' knowledge regarding immunisation is low and this could be closely linked to the poor or low compliance with immunisation schedule (Kio, Agbede, & Mkpuruoma, 2016; Adebiyi & Ajani, 2017). Thus the study assessed the level of knowledge and attitude of antenatal women towards maternal and childhood immunisation. It was envisaged that the findings from this study will help to identify the knowledge gap regarding maternal and childhood immunisation. This will subsequently form a basis upon which midwives can plan health education programme for women.

The theoretical underpinning of the research is the Social Ecological Model (SEM) This model stressed the interactions between humans and their social and physical environment Ecological models are believed to provide comprehensive frameworks for understanding the multiple and interacting

determinants of health behaviours. McLeory, Bibeau, Steckler and Glanz, (1988) built on this model in describing human behaviour in relation to health and refashioned the model to five levels of impacts including individual, interpersonal, organisation, community, and social/ public policy (Winch, 2012). There is an evolving perspective that health issues and interventions are better approached by targeting each of the multilevel factors in the model (Winch, 2012).

Materials And Methods

The study adopted the cross-sectional descriptive; non-experimental research design. Two selected primary health care centres were involved in the study. These were Okesa Comprehensive Health Centre and Odo-Ado Community Health Centre, Ado- Ekiti, Ekiti State. Both centres are public health facilities aimed at the reduction in maternal and child morbidity and mortality, especially through immunisations and other primary health care services. The Comprehensive Health centre (CHC) is situated in Ado urban in Ado-Local Government Area, Ekiti-State while Odo-Ado Health Centre is a community health centre located in a semi-urban area in Ado. Both facilities offer health care services including antenatal care, delivery, infant welfare clinic, postnatal care while CHC, Okesa offers family planning services in addition. According to records, antenatal clinic attendance in CHC Okesa was 300 per month while that of Odo- Ado health centre was 150 per month. The study populations were 212 antenatal women attending antenatal services in the selected health centres in Ado- Ekiti, Ekiti State. Taro Yamane 's formula was used to determine the sample size while sample selection was done using proportional sampling technique thus:

Sampling frame= 450

CHC: $300/450 \times 100 = 67\%$

BHC: $150/450 \times 100 = 33\%$

Sampling Size Determination

$$n = N / (1 + Ne^2)$$

Where : n= sample size required /sample size

N = number of people in the population / population size
 e = sampling error (0.05 acceptable error)

$$N=450$$
$$n= 450 / 1+450 (0.05)^2$$
$$n = 450 / 1+1.125$$
$$n= 450 / 2.125$$
$$n= 212$$

The sample size in each stratum was calculated as:

$$\text{CHC: } 67/100 \times 212 = 142$$

$$\text{BHC: } 33/100 \times 212 = 70$$

Participation was made voluntary. The research instrument was an adapted structured questionnaire from a previous study (Yousif, Albarraq & Elbur, 2013) that assessed parental knowledge and attitudes towards childhood immunisation. The questionnaire consisted of closed-ended questions requiring Yes or No options measuring knowledge and a 5-point Likert scale with strongly disagree (SD), Disagree (D), not sure (NS), agree (A) and strongly agree (SA) options. The levels are given a score of 1, 2, 3, 4 and 5 respectively to assess the attitude of the women.

The questionnaire was submitted to four experts including the study supervisor who confirmed the validity of the instrument. Trial run of the instrument was also conducted and ambiguous questions were either deleted or modified. The test re-test method was used to determine the reliability using the Pearson

correlation to be 0.72. Ethical approval to conduct the study was obtained from the Research Committee, Afe Babalola University, Ado-Ekiti. Permission to conduct the study was also gained from the heads of the research settings while informed consent was obtained verbally from the individual participant.

The two selected health centres; CHC and BHC, were visited by the researcher. After obtaining informed consent from the patients, a questionnaire was used as a method of data collection. The questionnaires were administered after meeting with the women on clinic days at the selected health care facilities. All questionnaires were thoroughly checked for completeness after collection, and a total number of 212 respondents participated in this study. Data was collected over four weeks by the researcher.

Data entry and analysis were performed with the aid of Statistical Package for Social Sciences (SPSS) version 25. Descriptive statistics such as; tables, frequency, charts and arithmetic mean were utilised for data analysis. The total attitude score for each respondent could range from 5 to 25. Overall mean attitude score was obtained by adding all the attitude scores for all the participants and the sum was divided by the number of the respondents. Attitude score below mean was categorised as unfavourable and above mean was categorised as favourable.

Table 1: Socio Demographic Characteristics of Respondent

Variable	Frequency N=212	Percentage 100%
Age (years)		
15 - 24	40	18.9
25- 34	140	66
35 – 44	32	15.1
Educational attainment		
Secondary	6	2.8
Undergraduate	34	16
Graduate	172	18.1
Parity		
None yet	63	30.7
1-5	147	69.3
Occupation:		
Skilled worker	80	32.8
Civil servant	32	14.9
Student	11	5.2
Self – employed	42	20
Unemployed	47	16
Total	212	100

Respondents were between the age range of 15 and 44. Majority 164 (77.4%) of respondents were graduates. , The majority (63.1%) of the respondents, had between 1-3

children, few were carrying their first pregnancy. The majority (32,8%) of the respondents were skilled workers,

Table 2. Knowledge of Antenatal Women on Maternal and Childhood Immunisations

Question/Variable	Yes	%	No	%
Have you ever heard of immunisations which are required for you and your expectant babies during your antenatal visit?	176	83	36	17
Immunisation is a process of giving vaccines to prevent diseases	187	88.2	25	11.8
Tetanus toxoid is a vaccine given to women during pregnancy	168	72.2	44	20.8
Five doses of tetanus toxoid are required to become immunised against tetanus	90	42.5	122	57.6
A single dose of Tetanus Toxoid (T.T) cannot give protection against Tetanus	143	67.5	69	33.5
Childhood immunisations begin at birth	150	70.8	62	29.2
Majority of the diseases against which children are vaccinated occur during the first year of life	100	47.1	112	52.9
Many doses of the same vaccine given at intervals are important for child immunity	126	59.4	86	40.6

Table 2 shows that (90.1) of respondents knew both maternal and childhood immunisations. (72.9%) of respondents were aware that TT vaccine is given during pregnancy, only 42.5% knew five doses of TT are required to become fully immunised against tetanus.70.8% of respondents knew that childhood immunisation begins at birth, few respondents (16.5%) did not know that

multi doses of vaccine were important for immunity while only 47.1% of respondents knew that majority of diseases children were immunised against occur during the first year of life. A larger percentage (59.4%) of respondents also knew that many doses of the same vaccine given at intervals are important for child immunity.

Table 3: Showing Respondents Attitude towards Maternal and Childhood Immunisation

Variable	SA	A	N.S	D	SD	\bar{X}
Going for immunisation is a good practice	3	14	15	162	18	30
I need the permission of my husband to take immunisation during pregnancy and after my child is born	17	84	16	80	15	41
Immunisation is more beneficial than harmful	44	142	10	9	7	58
Compliance to Immunisation schedule during pregnancy and after my child is birthed is important	43	145	16	5	3	57
Tetanus toxoid (T T) the vaccine is important for my health and that of my expectant baby	64	117	23	6	2	58

Table 3 shows the attitude of antenatal women towards maternal and childhood immunisation. While 20.8% strongly agreed and 66.55 agreed that immunisation is beneficial, the

majority of the respondents strongly agreed and agreed respectively that compliance to immunisation schedule is important in pregnancy, childbirth for mother and baby.

Factors Affecting Antenatal Women towards Compliance with Maternal and Childhood Immunisations

Table 4: Shows Factors Affecting Antenatal Women towards Compliance of Maternal And Childhood Immunisations

Variable	Yes	%	No	%
There is usually a long queue and waiting time	128	69.4	83	39.6
I am too busy at work	84	39.6	128	60.4
Health workers' behaviour discourage me	56	26.4	156	73.6
Immunisation requires a lengthy contact period, therefore it gets tiring	95	44.8	117	52.2
My home is too far from the health centre	90	42.5	122	57.5
I don't understand health talks given on immunisation during my antenatal visits	77	36.3	135	63.7
Vaccines are usually not available	27	12.7	185	87.3

A higher per cent (60.4%) agreed there is usually a long queue and waiting time, and the lowest per cent agreed that vaccines are usually not available while 36.3% did not understand health talks given during antenatal visits, 42.5% have their homes too far from the health centre. Ninety (95%) agreed to lengthy immunisation contacts, 56% to the discouraging behaviours of health workers while 86% claimed they are too busy.

Discussion

Socio-Demographic Characteristics of the Respondents

The majority of respondents were between 25-34 years of age. A vast per cent of respondents were married Christians and came from the Yoruba ethnic group. The respondents' educational attainment was mainly tertiary education, with very few of them having a secondary school leaving certificate. This finding was corroborated by the finding of Olugbenga-Bello, Jimoh, Oke and Oladejo (2017) that mother's education has a significant association with child's immunisation status as women with high educational status are more likely to appreciate the importance of immunisation. The majority of respondents, were skilled workers with 2 or 3 children contrary to a previous study of Antai (2009) in which the majority of respondents were full housewives.

Knowledge of Antenatal Women towards Maternal and Childhood Immunisations.

The study revealed that majority of respondents have of both maternal and childhood vaccination similar to the high level of knowledge about immunisation that was observed in previous studies (Abdulraheem, Onajole, Jimoh, 2011; Etana, Deressa, 2012) This finding is similar to the finding in Chris-Otubor *et al.*'s (2015) study in which there was a high level (89.6%) of knowledge on vaccination among the respondents. The finding could also be expected as the influence of the respondents' level of education as it is believed that individuals with high educational level would relatively have a higher ability to process information. Only less than half of the respondents knew the number of doses required to provide lifelong protection from tetanus.

A high per cent, however, knew that a single dose cannot give protection against tetanus which is contrary to a previous study conducted in Nigeria (Adefolalu, Kanma-Okafor & Balogun, 2019) in which 75.5% did not know the recommended dose. Also, majority of respondents heard of childhood immunisations needed for their expectant children during their antenatal visit, this agreed with other studies in which study participants stated that their primary source of information was from the health facility

(Ethana, 2012) It, however, disagreed with Rachna & Sheetal (2010) who found that mothers got their information about immunisation mainly from the television and internet.

The Attitude of Antenatal Women towards Maternal and Childhood Immunisations

The overall attitude mean score was 48.8. Mean below and above or equal 48.8 were categorised as unfavourable and favourable respectively. The unfavourable attitude of the respondents in which they did not see the practice as good (Likert item 1) was consistent with the study of Abdurraheem *et al.* (2014) which found that mothers were discouraged as they did not understand nor appreciate the benefits of immunisation thus they were not willing to undertake any stress to go for any immunisation. Furthermore, respondents stated they needed the permission of their husbands before going for immunisation which was in agreement with a previous study which found out that women required the permission of the husbands and families to access health care services (Mc Arthur-Lloyd, McKenzie, Sally, Findley, Green & Adamu, 2016).

The favourable attitude of respondents in this study is comparable with the study Abubaker, Yousif,, Albarraq, & Abdallah (2014) of which 55.4% of respondents strongly agreed that immunisation is more beneficial than harmful. Respondents also showed favourable attitude in compliance with immunisation schedule during pregnancy and childbirth as well as to the importance of tetanus toxoid to both maternal and expectant baby's health with a mean score of 57 and 58 respectively. These findings are similar to a previous study conducted by Heba and Soliman (2016) which shows a high per cent (90. 2%) had good attitude. The findings were however contrary to the findings of Chris-Otubor. .Dangiwa. Lor and Anukam (2015; Sulaiman & Olalekan, 2019) in which it was found out that 62% of mothers do not usually deliver in the health facility thus do not appreciate the importance of immunisation and do not usually turn out for immunisation

until they begin to suspect illness in their children which could be attributed to maternal level of education in that setting

Factors Affecting Antenatal Women towards Compliance of Maternal and Childhood Immunisation

A high per cent of respondents (60.4%) admitted that there is usually a long queue and waiting time in the health facility. This is similar to Konwea . David, Ogunsile (2018) study whereby the majority of respondents stated they spend long hours in the clinic. 36.3% didn't 't understand the health talks given on immunisations. 42.5% have their homes too far from the health centre. Similar to Malande *et al.* (2019), the study that highlighted distance as a barrier to immunisation uptake. 95% agreed to lengthy immunisation contacts which were consistent with previous research conducted by Adebisi (2014) of which 78.1% of respondents admitted having more than one contact in the health facility often influence their immunisation uptake, 44.8% of respondents stated immunisation gets tiring due to its lengthy contact. 56% to the discouraging behaviours of health workers similar to the finding of Malande *et al* (2019). while 86% claimed they are too busy

Implications to Nursing Practise

Immunisations being one of the major public health concerns, nurses have a big influence in health promotion and prevention; therefore, nurses should take it as a burden to ensure the promotion of health through the eradication of VDPs in Nigeria. More nurses should be made available to work in primary health facilities to enable competent running of these facilities. Public health nurses must have a better knowledge of dealing with client politely and with dignity to promote immunisation turn out in the health facility.

Education

Increasing knowledge and enhancing the attitudes of antenatal women depends on certain factors such as good and adequate communication during antenatal visits. Health

talks on immunisation schedules should be reinforced and myths regarding immunisation debunked. Antenatal women, when given the right information and motivation regarding immunizations and its benefits, have a higher tendency of complying with immunisation schedules. In a previous study conducted by Ombugadu (2016) in Kano State reflects that 88.6% of respondents accept immunisation because they have been advised concerning it. The findings from this study show antenatal women have a foundational knowledge (though poor overall) on immunisation schedule which will bring about a better attitude towards immunisation. Health education must be utilised to promote health protection through vaccination in order to prevent these VPDs.

Research

Further research should be carried out on antenatal women regarding T.T vaccination and immunisation schedule of their infants. Broader samples should be recruited in the general population in order to generalise findings. Public health nurses should also find a correlation between the health education of women before their babies are delivered and the uptake or compliance of immunisation schedule since health education can bring about a positive attitude towards immunisation uptake.

Conclusion

In conclusion, contrary to previous studies mothers in Ekiti State have good knowledge of both maternal and childhood immunisations, their attitude towards the attitude of antenatal women towards maternal and childhood immunizations are also favourable. Factors affecting antenatal women's compliance to maternal and childhood immunization included a long queue and waiting time in the health facility, distance, lengthy immunisation contacts and lack of time as they claimed to be too busy. Therefore strengthening all the building blocks of the PHC system is essential to continue improving knowledge, coverage and attitude of women towards the uptake of routine immunisation as well as advising

parents on immunisation and encouraging women during antenatal periods about the importance of immunisations.

Competing Interest: The authors hereby declare that there was no competing interest

Acknowledgements: The authors expressed gratitude towards all those that granted the permissions to conduct the study and to the study participants.

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