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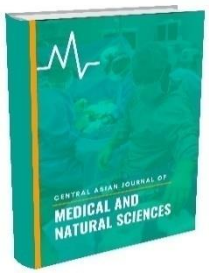

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Knowledge and Attitude of Nursing Mothers and their under Five Infants on Immunization Regimen in Makun Health Center, Ogun State

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Abstract: Immunization is the process whereby a person is offered protection from or is made resistant to an infectious disease, typically by the administration of a vaccine. Vaccines act by stimulating the body's immune system to protect the person against subsequent infections or diseases (WHO, 2018). Many parents have poor understanding of vaccine preventable diseases and believe in false propagations about the contents, side effects and effectiveness of vaccines. Parents lack realization that a vaccine preventable disease can do more harm than a vaccine. Some even believe childhood immunization as a covert method of sterilization. However, this study is aimed at determining knowledge and attitude of nursing mothers and their under-five infants on immunization regimen in Makun Health Center, Ogun state. The significance of this project work is to encourage nurses to improve on increasing the information transferred to patients during antenatal and postnatal visits regarding immunization as well as to improve the community mobilization into the communities to improve the knowledge and attitude of mothers of under-five to immunization.

Descriptive cross sectional study design was employed, a sample size of two hundred and ninety nine (299) questionnaires administered to respondents. Data obtained was analysed using the Statistical Package for Social Sciences version 16.0 (SPSS 16.0) in which descriptive and inferential statistics was used.

Key Word: Immunization, Knowledge, Attitude, Nursing Mothers, Under 5 infants.

The mean and standard deviation of the ages of the respondents were found to 35.3±7.1years respectively and more than sixty per cent of the respondents were fully aware that immunization is met for all children at specific age as well as the fact that immunization prevents and cure diseases. Religion was also found to be an important factor that hinders the mother from adhering to routine immunization for their infants. Majority of the respondents had good knowledge of routine immunization and also showed good attitude towards immunization prevents and cure diseases and also so inferential statistics also proved that the mother's level of education has effect impact on their adherence to routine immunization with p-value >0.05. It is however recommended that a lot of emphasis should be laid on educating head of homes, mothers and religious groups on the importance of routine immunization in the lives of children and mothers

Introduction

Immunization is the process whereby a person is offered protection from or is made resistant to an infectious disease, typically by the administration of a vaccine. Vaccines act by stimulating the body's immune system to protect the person against subsequent infections or diseases (WHO, 2018). Immunization is regarded as one of the most successful and cost-effective public health interventions which averts 3 million deaths annually and has the potential, if coverage improves, of saving the lives of an additional 1.5 million children annually (WHO, 2019). Vaccines has been protecting more children than other strategies. More than one-third of deaths among children under-five are preventable by vaccines (Verulava, Jaiani, Lordkipanidze, Jorbenadze, & Dangadze, 2019), yet every 20 seconds, a child dies from a vaccine-preventable disease (UNICEF, 2018).

Large-scale immunization programs have significantly reduced morbidity and mortality globally (WHO, 2018) and studies have shown that over 2.5 million infant/mothers are saved by vaccination against tuberculosis, poliomyelitis, diphtheria, tetanus and measles every year (WHO, 2018). In 2017, more than 85% of infants globally (116.2 million infants) received 3 doses of Diphtheria-Tetanus-Pertussis (DTP3) vaccine, this protects them against infectious diseases that can cause serious illness and disability and even death. As at 2017, 123 countries had reached at least 90% coverage of DTP3 vaccine (Adefolalu, Kanma-Okafor, & Balogun, 2019).

As part of the Child Survival Programs, the Expanded Program on Immunization (EPI) was created in 1974 by the WHO with UNICEF and Rotary International as partners. The EPI was created with the purpose of expanding immunization services beyond smallpox to the other six preventable diseases: diphtheria, measles, pertussis, poliomyelitis, tetanus, and tuberculosis (Adefolalu, Kanma-Okafor, & Balogun, 2019).

The Expanded Programme on Immunization (EPI) was introduced in Nigeria in 1979. The aim of EPI included reduction of vaccine-preventable diseases and improvement of primary health care delivery in different localities (Federal Ministry of Health Nigeria, 2017). In May 2012, Nigeria joined other member states of the World Health Assembly to endorse the Global Vaccine Action Plan; an agenda for universal access to immunization by 2020 (WHO, 2019).

Immunization can be routine or supplemental (taking the form of immunization campaigns). Routine immunization refers to the nationally scheduled regular administration of vaccine dosages to infants at specified ages. Children are usually taken to the health facility by their parents or caregivers to receive age-appropriate doses of antigens. In most developing countries, immunization is carried out on specific days of the week to reduce vaccine wastage since the vaccines are supplied in multi-dose vials to reduce cost. The main aim of routine immunization is to deliver a complete scheduled number of doses of potent vaccines in a timely, safe and effective way to all children and women, ultimately inducing immunity against the targeted diseases (Adefolalu, Kanma-Okafor, & Balogun, 2019).

Many parents have poor understanding of vaccine preventable diseases and believe in false propagations about the contents, side effects and effectiveness of vaccines. Parents lack realization that a vaccine preventable disease can do more harm than a vaccine. Some even believe childhood immunization as a covert method of sterilization. Certain religious myths have been circulating among some communities against the need for immunisation. It is very sad that many still they think that these diseases are just an unfortunate event of life. Good knowledge and positive attitude about childhood immunization are necessary to reduce the incidence of vaccine preventable diseases. Cultural receptivity and trust on the health care professionals play an equally important role in immunization coverage. The spread of inaccurate and irresponsible information by the antivaccination movement has made huge impact (Ahmed, Lee, Bukhsh, Al-Worafi, Sarker, Ming, & Khan, 2018).

Nigeria like many other countries in Africa is making efforts to strengthen its health system so as to achieve adequate routine immunization to reduce the burden of VPDs. Factors, such as lack of political will, lack of motivation, poor level of education and awareness and poor infrastructure, have been contributed to the low level of immunization coverage in Nigeria. This study therefore aimed to access the knowledge and attitude of nursing mothers and their under-five infants on immunization regimen in Makun Health Center, Ogun State.

Objectives

The main objective of this study is to determine the knowledge and attitude of nursing mothers and their under-five infants on immunization regimen in Makun Health Center, Ogun State.

Specific objectives are to:

1. Determine the knowledge of nursing mothers and their under-five infants on immunization regimen in Makun Health Center, Ogun State.
2. Determine the attitude of nursing mothers and their under-five infants on immunization regimen in Makun Health Center, Ogun State.
3. Access those determinants contributing to adequate uptake of immunization among nursing mothers and their infants in Makun Health Center, Ogun State.

Research hypothesis

1. There is no significant relationship between respondents' level of knowledge of nursing mothers & their under-five infants and attitude of mothers and their under-five infants on immunization regimen in Makun Health Center, Ogun State.
2. There is no significant relationship between the level of knowledge of nursing mothers & their under-five infants and level of education of nursing mothers and their under-five infants on immunization regimen in Makun Health Center, Ogun State

RESEARCH METHODOLOGY

The study is conducted in Makun Health Center in Ogun State. Makun Health Center is at Sagamu Local Government Area. Sagamu local government area (SLGA) Ogun state is located in Ogun State, South Western part of Nigeria. Sagamu local government area is one of the 20 local government area in Ogun state. It was carved out of the former Ijebu Remo local government in 1991 and has a total land area of 68.03km^2. It is bounded on the west by the Obafemi Owode local government area, on the east by both Ikenne and Odogbolu local government area and also shares a boundary with Ikorodu local government area of Lagos state in the south. The hospital offers services including medical, surgical, gynaecological and midwifery services. The postnatal clinics hold three four days of the week and one day for nutrition education.

A cross-sectional descriptive study designed to assess the knowledge and attitude of nursing mothers and their under-five infants on immunization regimen in Makun Health Center, Ogun State. The target population are women attending the postnatal clinic at Makun Health Center, Sagamu, Ogun State. A convenience sampling technique will be used, all women met will be would be selected to participate in the study based on their availability and where they are met. pre-tested semi-structured administered questionnaire which would contain 3 sections. The sections include section A with the sociodemographic data, section B on the knowledge of immunization and section C on the attitude towards immunization.

Descriptive and inferential statistics will be used for analysis of data. The data collected from questionnaire will be manually sorted out and coded. It will thereafter be imputed into the computer for analysis using for social sciences (Statistical package SPSS version 23) software. Frequency and percentage tables will be generated for demographic characteristics of the respondents. Statistical significance for association would be tested using chi square with p-value less than 0.05 considered statistically significant.

Ethical considerations

Permission to conduct this study would be obtained from the Makun Health Center, after which an ethical approval would be gotten from the Babcock University Health Research Committee. Participants would be informed of the study verbally and in writing through an information statement from which clearly explained the aim of the study as well as the benefits to the participants. They would also be assured of confidentiality of all information obtained. They would be requested not to indicate their names or any identifying marks on the survey forms to ensure anonymity for the quantitative data.

Result

Demographic Variables of Respondents

Table 1

Age as at last birthday	Frequency	Percentage
16-25	62	20.7
26-35	190	63.5
36-45	47	15.7
Total	299	100.0

Table 1 above show the result of the age of the respondents in which quite a number of the respondents 190(63.5%) falls within the age range of 26-35years while 62(20.7%) of the respondents are within the age range of 16-25yeasr and the remaining 47(15.7%) falls within the range of 36-45. The mean and standard deviation of the ages of the respondents were found to be 35.3years and 7.1years respectively

Table 2

What is your marital status	Frequency	Percentage
Married	200	66.9
Single	13	4.3
Divorced	40	13.4
Widowed	46	15.4
Total	299	100.0

From table 2 above, it can be seen that majority of the respondents are married 200(66.9%) while 46(15.4%) of them are widowed,40(13.4%) were divorced, only 4.3% of them are single

Table 3

level of education	Frequency	Percentage
No formal education	10	3.7
Primary	22	7.4
Secondary	77	26.2
Tertiary	190	64.5
Total	297	100.0

Result from the table above indicated that more than half of the respondents 190(64.5%) have had up to tertiary education while 26.2% of them have up to secondary education, followed by 7.4% of them who have had up to primary education and the remaining 3.7% had no formal education

Table 4

Religion	Frequency	Percentage
Christain	218	72.7
Islam	81	27.3
Total	299	100.0

Table 2 above shows that majority of the respondents 299(72.7%) practiced Christianity as their main religion while 81(27.3%) of them practiced Islam as their main religion

Table 5

Ethnic group	Frequency	Percentage
Yoruba	262	87.5
Igbo	28	9.4
Hausa	9	3.0
Total	299	100.0

From table 4 above, a larger fraction of the respondents were from the Yoruba ethnic group 262(87.5%) and just a few of the respondents 9.4% and 3.0% were from the Igbo and Hausa ethnic groups respectively

Table 6

Occupation	Frequency	Percentage
Housewife	100	33.4
Self-employed	49	6.4
Civil Servant	150	50.2
Total	299	100.0

Result from table 6 above showed that more than half of the respondents mother are civil servants 150(50.2%) followed by 100(33.4%) of them who are housewives and the remaining 49(6.4%) of the respondents mother were self employed

Table 7

Number of children	Frequency	Percentage
1	92	30.7
2	49	6.4
3	151	50.2
Above 4	7	2.34
Total	`299	100.0

From the above table, it can be seen that 151(50.2%) of the respondents is blessed with three children, 92(30.7%) was blessed with only one child followed by 49(6.4%) of them who are blessed with two children and the remaining 7(2.34%) has more than four children

Respondents Knowledge of Routine Immunization Regimen

Table 8

Do you know that immunization is met for all children at specific age?	Frequency	Percentage
Yes, I know	202	67.3
No I don't know	76	25.6
I will inquire	8	2.7
I cannot recollect	13	4.2
Total	299	100.0

From table 8 above, it was revealed that 67.3% of the respondents were fully aware that immunization is met for all children at specific age, while 25.6% of them stated their non awareness and 4.2% of them couldn't recollect and lastly only 2.7% of them stated that they will make enquiry

Table 9

.Do you know that immunization prevents and cure diseases	Frequency	Percentage
Yes I know	210	70.2
No I don't know	81	27.1
I will enquire	8	2.1
Total	297	100.0

In table 9 above, majority of the respondents 210(70.2%) affirm that they knew that immunization prevents and cure diseases followed by 81(27.1%) who do not know and the remaining 8(2.1%) stated that they will enquire

Table 10

Do you know that immunization provides lifelong protection for infant and nursing mothers	Frequency	Percentage
Yes I know	259	86.5
No I don't know	35	11.9
I will enquire	5	1.68
Total	297	100.0

Majority of the respondents 259(86.5%) stated that they know that know that immunization provides lifelong protection for infant and nursing mothers followed by 11.9% of them who stated that they do not know and only 1.7% of them stated that they will make enquiries

Table 11

Do you know that immunization reduces disease severity	Frequency	Percentage
Yes I know	210	70.2
No I don't know	80	26.5
I will enquire	9	3.1
Total	299	100.0

Majority of the respondents 210(70.2%) is aware that that immunization reduces disease severity,26.5% of them stated that they do not know and the remaining 13.1 % of them will make enquiries

Table 12

Do you know that immunization are safely preserved in special fridge under specific temperature	Frequency	Percentage
Yes, I know	202	67.3
No I don't know	76	25.6
I will inquire	8	2.7
I cannot recollect	13	4.2
Total	299	100.0

Result from the table above shows that quite a number of the respondents 202(67.3%) stated that they knew that immunization are safely preserved in special fridge under specific temperature 25.6% of them said they do not know and 4.2% of them couldn't recollect and lastly only 2.7% of them stated that they will make enquiry

Table 13

.Do you know that immunization are routinely administered according to infants age and health condition	Frequency	Percentage
Yes,I know	199	65.0
No,I don't know	75	24.9
I will inquire	22	7.4
I cant recollect	3	2.7
Total	299	100.0

199(65%) of the respondents stated that they know that immunization are routinely administered according to infants age and health condition, followed by 24.9% of them that stated that they do not know while 7.4% of the respondents will inquire and the remaining 2.7% could not recollect

Respondents perception on routine immunization regimen

Table 14

.Do you perceive that regular immunization uptake by you and your child will enable you to live long	Frequency	Percentage
Yes I do	159	53.2
No I don't	91	30.3
I will enquire	49	16.5
Total	299	100.0

Table 14 above shows that more than half of the respondents (53.2%) percieved regular immunization uptake by you and your child will enable you to live long followed by 30.3% of the respondents that do not know and the remaining 16.5% of the respondents stated that they will enquire

Table 15

Do you perceive that regular attendant on clinic days will promote adherence to all immunization regimen	Frequency	Percentage
Yes I do	250	83.6
No I don't	40	13.4
I will enquire	8	2.7
Total	299	100.0

Result from the table above shows that majority of the respondents 250(83.6%) perceive that regular attendant on clinic days will promote adherence to all immunization regimen,13.4% of them stated that they do not know, and the remaining 2.7% will enquire

Table 16

Do you perceive that regular supply of free immunization materials will promote adherence to uptake of immunization regimen	Frequency	Percentage
Yes I do	181	60.6
No, I don't	88	29.6
I will inquire	21	6.7
I cannot recollect	9	3.0
Total	299	100.0

Table 16 above shows that 181(60.6%) of the respondents believed that regular supply of free immunization materials will promote adherence to uptake of immunization regimen followed by 29.6% of them who stated that they are not aware,6.7% of them will inquire and lastly, 3.0% of the respondents could not recollect

Table 17

Do you perceive that regular immunization prevents untimely death	Frequency	Percentage
Yes I do	289	96.6
No, I don't	8	2.7
I will inquire	1	0.33
I cannot recollect	1	0.33
Total	299	100.0

Almost all of the respondents 289(96.6%) perceived that regular immunization prevents untimely death followed by 2.7% of them who stated that they are not aware that regular immunization prevents untimely death while 0.33% of them stated that they will inquire and they couldn't recollect

Table 18

Do you perceive that if immunization is recommended for people in your community mobility and mortality among infants would be minimized	Frequency	Percentage
Yes I do	200	67.3
No, I don't	72	23.6
I will inquire	29	9.8
Total	297	100.0

Table 23 above revealed that more than half of the respondents 67.3% perceive that if immunization is recommended for people in their community mobility and mortality among infants would be minimized and even death,23.6% of them do not know and the remaining 9.8% will inquire

Table 19

Do you perceive that appropriate discard of used syringes and needles will prevent spread of infection from one client to the other?	Frequency	Percentage
Yes I do	182	60.6
No, I don't	88	29.6
I will inquire	20	6.7
I cannot recollect	9	3.0
Total	297	100

Table 19 above shows that 182(60.6%) of the respondents perceive that appropriate discard of used syringes and needles will prevent spread of infection from one client to the other followed by 29.6% of them who stated that theydo not perceive that appropriate discard of used syringes and needles will prevent spread of infection from one client to the other, 6.7% of them will inquire and lastly, 3.0% of the respondents could not recollect

DETERMINANTS CONTRIBUTING TO NURSING MOTHERS ADHERENCE TO ROUTINE IMMUNIZATION REGIMEN

Table 20

Sociodemographic determinant Do you think your age will affect the adherence of your child routine immunization	Frequency	Percentage
Yes I do	198	66.7
No, I don't	89	29.6
I will inquire	9	3.0
I cannot recollect	3	0.7
Total	299	100

From table 20 above, more than half of the respondents 198(66.7%) stated that they think their age will affect the adherence of their childs routine immunization followed by 29.6% of them who stated that they do not think their age will affect the adherence of their childs routine immunization while 3% will inquire and the remaining 0.7% of the respondents could not recollect

Table 21

Sociodemographic determinant Do you think your religion is not in support of your adherence to routine immunization regimen	Frequency	Percentage
Yes I do	162	53.9
No, I don't	100	33.7
I will inquire	20	6.7
I cannot recollect	17	5.7
Total	299	100

From table 21 above, more than half of the respondents 160(53.9%) thinks their religion is not in support of their adherence to routine immunization regimen followed by 33.7% of them who think otherwise, while 6.7% will inquire and the remaining 5.7% of the respondents could not recollect

Table 22

Sociodemographic determinant Do you think your educational status will promote your adherence to routine immunization regimen?	Frequency	Percentage
Yes I do	214	71.7
No, I don't	77	25.6
I will inquire	8	2.7
Total	299	100

From the table above, 214(71.7%) of the respondents believed that their educational status will promote their adherence to routine immunization regimen while 25.6% do not believe their educational status will promote their adherence to routine immunization regimen and only 2.7% of the respondents stated that they will inquire

Table 23

Inadequate public transportation determinant Do you think inadequate transportation will affect your adherence to routine immunization regimen?	Frequency	Percentage
Yes I do	201	67.3
No, I don't	89	30
I will inquire	9	2.7
Total	299	100

From table 28 above, 67.3% of the respondents thinks inadequate transportation will affect their adherence to routine immunization regimen followed by 30% of them who stated that they do not think so and the remaining 2.7% will inquire

Table 24

Attitude of health service provider determinant Do you think that negative attitude of health service providers will affect your adherence to routine immunization regimen	Frequency	Percentage
Yes I do	160	53.9
No, I don't	100	33.7
I will inquire	22	6.7
I cannot recollect	17	5.7
Total	299	100

More than half of the respondents 160(53.9%) stated that they think that negative attitude of health service providers will affect their adherence to routine immunization regimen,33.7% of them stated that they do not think so, 6.7% of them will inquire and the remaining 5.7% stated that they couldn't recollect

Table 25

Reaction to side effect determinants: Do you think fear of immunization reaction would discourage your attendance in immunization clinic for immunization regimen	Frequency	Percentage
Yes I do	160	53.9
No, I don't	102	33.7
I will inquire	20	6.7

I cannot recollect	17	5.7
Total	299	100

More than half of the respondents 160(53.9%) stated that the fear of immunization reaction would discourage their attendance in immunization clinic for immunization regimen, 33.7% of them stated that they do not think the fear of immunization reaction would discourage their attendance in immunization clinic for immunization regimen, 6.7% of them will inquire and the remaining 5.7% stated that they couldn't recollect

Table 26

Insufficient health care determinant Do you think insufficient health care providers would lead to time wasting during immunization clinic days	Frequency	Percentage
Yes I do	198	66.7
No, I don't	88	29.6
I will inquire	9	3.0
I cannot recollect	4	0.7
Total	299	100

From table 26 above, it was revealed that 198(66.7%) of the respondents thinks think insufficient health care providers would lead to time wasting during immunization clinic days followed by 29.6% of them who thinks otherwise and 3.0% of the respondents stated they will inquire and the remaining 0.7% of the respondents couldn't recollect

Table 26

Attitude score	Frequency	Percentage
Poor attitude	89	29.8
Good attitude	210	70.2
Total	299	100.0

Table 26 above shows that on a general scale,a high number of the respondents 210(70.2%)showed a good attitude towards adherence to routine immunization and 89(29.8%) exhibited poor attitude towards adherence to routine immunization

Table 27

Knowledge score	Frequency	Percentage
0-5, poor knowledge	99	16.4
6-10, good knowledge	250	83.6
Total	299	100.0

On general knowledge score, table 27 above revealed that majority of the respondents 83.6% has good knowledge of routine immunization and adherence while the remaining 16.4% has poor knowledge of adherence to routine immunization

BIVARIATE RELATIONSHIP

First Hypothesis: There is no significant relationship between respondents' level of knowledge of nursing mothers & their under-five infants and attitude of mothers and their under-five infants on immunization regimen in Makun Health Center, Ogun State

Table 28

Knowledge	Attitude of mothers and their under-five infants on immunization regimen					
	Poor attitude	Good attitude	Total	CHI SQUARE	DF	P-VALUE
0-5, poor knowledge	14(25.0%)	42(75.0%)	56(100.0%)	25.917	2	0.007
6-10, good knowledge	120(58.8%)	84(41.2%)	204(100.0%)			
Total	144(48.5%)	155(51.5%)	297(100.0%)			

There is a statistically significant relationship between the level of knowledge of nursing mothers & their under-five infants and attitude of mothers and their under-five infants on immunization regimen. (chi -square =25.917, p-value >0.05) decision: since the calculated value is more than the tabulated value, we therefore reject the null hypothesis and conclude that the that respondent knowledge on immunization regimen is contributing immensely towards their attitude to adherence of routine immunization regimen

Second Hypothesis: There is no significant relationship between the level of knowledge of nursing mothers & their under-five infants and level of education of nursing mothers and their under-five infants on immunization regimen

Table 29

knowlede	Level of education						
	Primary	Secondary	Tertiary	Total	CHI SQUARE	DF	P-VALUE
0-5, poor knowledge	20(45.1%)	17(40.1%)	3(15.5%)	40(100%)	29.917	2	0.000
6-10, good knowledge	20(17.9%)	39(19.1%)	200(63.8%)	259(100%)			
Total	40(48.5%)	56(51.5%)	203(100.0%)	299(100%)			

Table 29 above also revealed that level of education is found to be statistically significant with the level of knowledge of nursing mothers & their under-five infants on routine immunization regimen (chi -square =29.917, p-value >0.05) decision: since the calculated value is more than the tabulated value, we therefore reject the null hypothesis and conclude that the that respondent level of education has a positive influence on their knowledge on immunization regimen which reflect how exposed they are

CONCLUSION AND RECOMMENDATIONS

CONCLUSION

Findings from this study reflected that mother had wide knowledge regarding immunization. All the respondents had a positive attitude and are well knowledgeable on immunization of under-five children irrespective of age, marital status, occupation, level of education. Quite a number of the respondents in this study stated that their religion is one of the main factors that may hinder them from adhering to routine immunization regimen. Furthermore, the knowledge of under-five immunization was found to be associated with the mothers' age, level of education,

RECOMMENDATIONS

Based on the result of the study, the following recommendations were made:

1. Health education and talks at immunization centres on the benefit of each vaccine should be intensified in order to improve mothers' knowledge about childhood immunization.
2. Healthcare workers should play a leading role in bringing awareness about knowledge of vaccines in rural areas by conducting awareness campaigns, by distributing leaflets which depicts importance of immunization.
3. More emphasis should be laid on educating head of homes and religious groups on the importance of routine immunization in the lives of children and mothers

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