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NATIONAL PROGRAMME ON IMMUNIZATION STRATEGIES AND ITS EFFECTS ON THE HEALTH OF UNDER FIVE CHILDREN AMONG NIGERIAN AIRFORCE IN LAGOS STATE

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ABSTRACT

Immunization is one of the most beneficial and cost-effective disease prevention. The immunization has expanded and there are development and availability of many new vaccines targeting various age groups and populations and also more vaccine preventable diseases. Despite the implementation of a primary health care plan designed to help improve immunization rates in Nigeria, immunization coverage remains low. This study was conducted to assess National Programme on Immunization Strategies and Its Effects on the Health of under five Children among Nigerian Airforce in Lagos State. Two research questions and two hypotheses were stated. The methodology adopted is descriptive research designed and the studies consist of nursing mothers and children using Nigerian Airforce health services were selected through Simple random Sampling technique. A total of two hundred questionnaires were distributed and same copies were collected and analyzed. Data were analyzed with frequency count, percentage and inferential statistic of Chi-square test at 0.05 level of significance. The results revealed that the National programme on Immunization implementation strategies will have significant influence on the health of under-five children among Nigerian Airforce and Attitude of mothers towards disease prevention will have no significant Influence. In the implementation of National programme on Immunization strategies among Nigeria Airforce. It was concluded that National Programme on Immunization should be more adopted for diseases prevention in Nigerian Airforce. Awareness of disease prevention has promoted the attitude of nursing mothers utilizing health care services in Nigerian Airforce. Vaccines should be made available in all Health care services for Immunization and inoculation of children and their mothers against tetanus and childhood killer diseases.

Keywords: Childhood Diseases, National Programme on Immunization, Under five children.

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Introduction

Immunization is one of the key interventions to achieving the Millennium Development Goals (MDGs), especially the goal to reduce deaths among children under five years old (Kusuma, Kumari, Pandav and Gupta, 2010). Childhood vaccinations have been shown to be effective in protecting children against vaccine preventable diseases in low and middle income countries (Mihigo, Anya, Okeibunor, Poy and Nshimirimana, 2015). Vaccines prevent more than 2.5 million child deaths per year. Immunization is one of the most beneficial and cost-effective disease prevention measures (Global Vaccine Action Plan, 2013). Successes of immunization include worldwide eradication of smallpox, control of poliomyelitis with hopes of eradication, and elimination of indigenous measles and rubella in the United States (Okeibunor, Ota, Akanmori, Gumede, Shaba, Kouadio, Poy, Mihigo, Salla and Moeti, 2015). In the past immunization programmes focused on the infants using mainly a limited number of traditional vaccines. Today, the world of immunization has expanded and there are development and availability of many new vaccines targeting various age groups and populations and also more vaccine preventable diseases (Duclos, Okwo-Bele and Gacic-Dobo, 2009).

Global guidelines and Regional Strategic Plans were thus put in place to drive the process of reaching high universal and equitable coverage. The Global Vaccine Action Plan (GVAP) 2011-2020 was developed by WHO and UNICEF as a framework from strengthening national immunization programmes towards optimizing the benefits of immunization and achieving a vision of expanded access to vaccines and immunization in an equitable manner (Global Vaccine Action Plan, 2013). The World Health Organization (WHO, 2009) stated that immunization is one of the most important public health interventions and cost-effective strategies to reduce child mortality and morbidity associated with childhood infectious diseases. Immunization is also a good strategy to reach vulnerable populations. Immunization is reported to prevent an estimated 2 to 3 million deaths each year worldwide (WHO, 2009). The year 2014 marked the 40th anniversary of the WHO's National Program on Immunization (NPI), which was established to ensure equitable access to routine immunization services (CDC, 2015). Children and infants in North West Nigeria are more likely to die than children in any other region of Nigeria, based on neonatal, post neonatal, infant, childhood and under five mortality rates (National Population Commission Nigeria (NPCN & ICF Macro, 2013).

The National Programme on Immunization (NPI), with recommended guidelines established by the World Health Organization, is a major international effort to increase the

proportion of children covered by basic immunizations against childhood diseases. Because of Africa's unusually high rates of child mortality from measles, the prevalence of tuberculosis, and in many places, substantial mortality due to neonatal tetanus, NPI plays a central role in the health strategy for Africa. In addition, the low levels of funding for health programs in Africa have forced many countries to focus their scarce resources on what are perceived as the most cost-effective interventions, which include NPI (World Health Organisation, 2014). In general, the vaccines that form the core of NPI programs are measles, diphtheria-pertussis-tetanus, poliomyelitis, bacille Calmette-Guérin (BCG) for tuberculosis, and tetanus for pregnant women or women of childbearing age. Each of these vaccines has been proven efficacious to varying degrees. However, vaccine efficacy does not necessarily imply that a program based on vaccinations is effective in reducing mortality (Moeti, 2016). Nigeria and four other countries India, Democratic Republic of Congo, Pakistan, and China which make up about one third of the world's population, accounted for half of the overall number of under-5 deaths worldwide in 2010 (WHO, 2015). In Nigeria, about 700,000 children died before their fifth birthday (Riedmann, 2010). Providing safe and effective vaccines reduces the high burden of communicable diseases in African countries and helps to meet the health-related millennium development goals. Vaccine-preventable diseases contribute significantly to morbidity and mortality; an estimated 4 million people die each year from diseases for which vaccines are available (WHO, 2015). Despite the implementation of a primary health care plan designed to help improve immunization rates in Nigeria, immunization coverage remains low (Ngowu, Larson and Min, 2008).

In Nigeria, the National Programme Immunization was developed based on the WHO's guidelines. A child is considered fully vaccinated if he or she has received bacille Calmette-Guerin (BCG) vaccination against Childhood diseases such as tuberculosIS; three doses of vaccine to prevent diphtheria, pertussis, and tetanus; at least three doses of polio vaccines; a dose of measles vaccine at nine months; and a yellow fever vaccine before the first birthday. This study therefore, examined the impact of National Programme on Immunization Strategies and Its Effects on the Health of under-five Children among Nigerian Airforce in Lagos State.

Research Questions:

The two research questions guided the study.

1. Will the National Programme on Immunization strategies and its effects on health of under-five children be implemented among Nigerian Air Force in Lagos State?

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2. Will the attitude of mothers towards, disease prevention influence the implementation of National Programme on Immunization strategies among Nigeria Air Force in Lagos State?

Null Hypotheses:

The two hypotheses were tested:

1. The National Programme on Immunization implementation strategies will not have significant influence on health of under-five children among Nigerian Airforce in Lagos State.

2. Attitude of mothers towards disease prevention will not have significant influence on implementation of National Programme on Immunization strategies among Nigerian Air Force Lagos State.

Research Method

The descriptive survey research design was adopted because of its capability to examine the relationship between variables under study, hypotheses testing and development of generalization. The population of this study consists of all Nursing mothers with under-five children using Nigerian Airforce health facilities in Lagos State. Simple Random Sampling Technique was used by the researcher in selecting the respondents for the study. Two hundred (200) participants who were nursing mothers registered with Nigerian Airforce health facilities were selected through simple random sampling techniques from Nigerian Airforce Health Facilities in Lagos State. The instrument of this study is National Programme on Immunization Strategies Questionnaire (NPISQ). The research instrument is a self-developed, structured and validated questionnaire of modified four point likert attitudinal scale with sections A and B. The section A was demographic data while B contain the questions, the response opinions include: Strongly agree (SA); Agree (A); Strongly Disagree (SD); Disagree (D) to enable respondents provide answers depending on their opinions. The face and content validity of the questionnaires was ascertained in the department of human kinetics, sport and health education. The test-retest method of reliability was adopted. The reliability of the instrument was tested using the cronbach's alpha technique of the SPSS. In this study the calculated cronbach's alpha coefficient was 0.86. The copies of the instrument were personally distributed with the help of two trained research assistants to the respondents. Two hundred copies of questionnaires was distributed and collected by the researcher at the spot and data collection lasted for seven weeks at health facilities in Nigerian Air Force Medical Services in Lagos State. Copies of the administered questionnaires were checked to

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ensure that they were well completed before living the clinic. The investigator monitored the process of data collection throughout. Daily review meetings were held at the beginning and end of each day with the research assistances. Data collected were analyzed using appropriate descriptive statistics of frequency counts and percentages for data presentation. While the inferential statistics of chi-squire was used to test all stated hypotheses at 0.05 alpha levels of significance. The statistical package for social science (SPSS) was used for analyzing the data collected.

Result Presentation

Table 1: PERSONAL DATA

Age (Years)	**Frequency**	**Percent**
18-25 years	39	19.5
26-35 years	100	50.0
36-45 years	43	21.5
46 years and above	18	9.0
MARITAL STATUS		
Single	23	11.5
Married	162	81.0
Widowed	5	2.5
Divorced	10	5.0
HIGHEST EDUCATIONAL QUALIFICATION		
First school leaving certificate	49	24.5
SSCE/WASC/GCE	65	32.5
B.SC/BA/HND	72	36.0
M.SC/MA	14	7.0
OCCUPATION		
Civil Servant	51	25.5
Business Woman	76	38.0
Full time house wife	42	21.0
Others	19	9.5

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The table above present's distribution of respondents according to age, marital status, highest educational qualification and occupation. 19.5% of the respondents were between the ages of 18-25yrs, 50.0% of the respondents were between 26-35years, 21.5% of the respondents were between 36.45% and above 9.0% of the respondents were widowed and 5.0% of the respondents were Divorced. 24.5% of the respondents were having First School Leaving Certificate, 32.5% of the respondents were having SSCE/WAEC/GCE, 36.0% of the respondents were B.Sc/B.A Holders, and 7.0% of the respondents were M.Sc holders, 25.5% of the respondents were civil servants, 38.0% of the respondents were Business woman, 21.0% of the respondents were full time house wife and 9.5% of the respondents were others.

Research Question One: Will the National programme on Immunization implementation strategies have significant influence on the health of under-five children among Nigerian Airforce in Lagos State?

Table 2: Tabulation of Responses to Research Question One

S/N	Variable: National programme on Immunization implementation strategies and health of under-five children.	SD	D	A	SA
1.	The turnout of people for immunization in your area increase yearly	18 (9.0%)	22 (11.0%)	77 (38.5%)	75 (37.5%)
2.	People allow their children to be given immunization by the health workers who go round the house for immunization	25 (12.5%)	26 (13.0%)	80 (40.0%)	65 (32.5%)
3.	There has been remarkable improvement in the immunization programme in your area	28 (14.0%)	15 (7.5%)	59 (29.5%)	92 (46.0%)
4.	The attitude of the health workers in your area, encourage people to take immunization for their children	37 (18.5%)	14 (7.0%)	59 (29.5%)	86 (43.0%)
5.	There is decrease in children epidemic such as polio, measles and yellow fever despite the immunization programme in your area	48 (24.0%)	24 (12.0%)	46 (23.0%)	80 (40.0%)
	Total	**136**	**101**	**321**	**396**

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The turnout of people for immunization in your area increase yearly response shows that 18(9.0%) of the respondents strongly disagreed, 22(11.0%) of the respondents disagreed, 77(38.5%) of the respondents agreed and 75 (37.5%) of the respondents strongly agreed. People allow their children to be given immunization by the health workers who go round the house for immunization 25(12.5%) of the respondents strongly disagreed, 26(13.0%) of the respondents disagreed, 80(40.0%) of the respondents agreed and 66 (32.5%) of the respondents strongly agreed. There has been remarkable improvement in the immunization programme in your area, 28(14.0%) of the respondents strongly disagreed, 15(7.5%) of the respondents disagreed, 59 (29.5%) of the respondents agreed and 92 (46.0%) of the respondents strongly agreed. The attitude of the health workers in your area, encourages people to take immunization for their children, 37(18.5%) of the respondents strongly disagreed, 14(7.0%) of the respondents disagreed, 59 (29.5%) of the respondents agreed and 86(43.0%) of the respondents strongly agreed. There is decrease in children epidemic such as polio, measles and yellow fever despite the immunization programme in your area, 48(24.0%) of the respondents strongly disagreed, 24(12.0%) of the respondents disagreed, 46(23.0%) of the respondents agreed and 80(40.0%) of the respondents strongly agreed.

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Research Question Two: Attitude of mothers towards disease prevention will have no significant influence on implementation of National programme on Immunization strategies among Nigeria Airforce in Lagos State"

Table 3: Tabulation of responses related to Research Question Two

S/N	Variable: Attitude of mothers towards disease prevention and implementation of National programme on Immunization strategies	SD	D	A	SA
6.	Your religion discourages the used of Immunization for disease prevention	88 (44.0%)	61 (30.5%)	20 (10.0%)	25 (12.5%)
7.	I attended all my antenatal clinic so as to protect my unborn from the six killer diseases	23 (11.5%)	26 (13.0%)	73 (36.5%)	72 (36.0%)
8.	Child immunization works only when complete dose	32 (16.0%)	31 (15.5%)	54 (27.0%)	75 (37.5%)
9.	Childhood diseases is better treated with traditional health care then orthodox health care	84 (42.0%)	62 (31.0%)	24 (12.0%)	24 (12.0%)
10.	The available health centers in your area are not well equipped	67 (33.5%)	55 (27.5%)	40 (20.0%)	30 (15.0%)
	Total	**294**	**235**	**219**	**226**

Your religion discourages the used of Immunization for disease prevention shows that 88(44.0%) of the respondents strongly disagreed, 61(30.5%) of the respondents disagreed, 20(10.0%) of the respondents agreed and 25(12.5%) of the respondents strongly agreed. I attended all my antenatal clinic so as to protect my unborn from the six killer diseases, 23(11.5%) of the respondents strongly disagreed, 26(13.0%) of the respondents disagreed, 73(36.5%) of the respondents agreed and 72(36.0%) of the respondents strongly agreed. Child immunization works only when complete dose, 32(16.0%) of the respondents strongly disagreed, 31(15.5%) of the respondents disagreed, 54 (27.0%) of the respondents agreed and 75(37.5%) of the respondents strongly agreed. Childhood diseases is better treated with traditional health care then orthodox health care, 84(42.0%) of the respondents strongly disagreed, 62(31.0%) of

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the respondents disagreed, 24(12.0%) of the respondents agreed and 24(12.0%) of the respondents strongly agreed. The available health centers in your area are not well equipped, 67(33.5%) of the respondents strongly disagreed, 55(27.5%) of the respondents disagreed, 40(20.0%) of the respondents agreed and 30(15.0%) of the respondents strongly agreed.

Hypothesis One: The National programme on Immunization implementation strategies will not have significant influence on the health of under-five children among Nigerian Airforce in Lagos State. In testing this hypothesis, the Chi-square statistical test was used at 0.05 level of significant. The results are shown in the table below.

Table 4: **Table showing influence between National Programme on Immunization Strategies and the health of under-five children among Nigerian Airforce**.

	Value (X^2)	Df	Asymp. Sig (2-sided)
Pearson Chi-Square	59.218a	9	.000
Likelihood Ratio	52.242	9	.000
Linear by linear Association	13.655	1	.000
N of valid cases	191		

The tables above show that critical value of Chi-square is 59.218a which is significant at 0.05 alphal level, this means that the National programme on Immunization implementation strategies will have significant influence on the health of under-five children among Nigerian Airforce. The stated hypothesis is therefore not accepted.

Hypothesis Two: Attitude of mothers towards disease prevention will have no significant influence on implementation of National programme on Immunization strategies among Nigeria Airforce in Lagos State. In testing this hypothesis, the Chi-square statistical test was used at 0.05 level of significance. The result shown in the table below.

Table 5: Table showing Attitude of mothers toward disease prevention and implementation of National programme on Immunization strategies among Nigeria Airforce.

	Value (X^2)	df	Asymp. Sig (2-sided)
Pearson Chi-Square	9.786a	9	.368
Likelihood Ratio	10.037	9	.347
Linear by linear Association	2.293	1	.130
N of valid cases	190		

The table above shows that Critical value of Chi-square is 9.786a which is significant at 0.05 Alpha levels, this means that "Attitude of mothers towards disease prevention will have no significant Influence in the implementation of National programme on Immunization strategies among Nigeria Airforce. The stated hypothesis is therefore accepted.

Discussion of Findings

Hypothesis one stated that the National Programme on Immunization (NPI) implementation strategies will have significant influence on the health of under-five children among Nigerian Airforce. The study observed that the National Programme on Immunization (NPI) implementation strategies will significantly influence the health of under-five children and Health Programme for diseases prevention among Nigerian Airforce. The result revealed that Critical Chi-square value is 59.218 which is less than 0.05 Level of significance. The stated hypothesis is therefore not accepted. The result is supported by WHO (2014) stated, that Immunization remains the most cost effective tool to reducing childhood mortality and morbidity occurring from vaccine preventable diseases. WHO, (2009) opined that immunization is one of the most important public health interventions and cost-effective strategies to reduce child mortality and morbidity associated with childhood infectious diseases. This might be the explanation for the funding of the study. When respondent were asked the attitude of the health workers in your area, encourages people to take immunization for their children, only 25.5% of the respondents said No, while 72.5% of the respondents said Yes, which show that health workers encourage mothers to take Immunization for their children.

Hypothesis Two stated that Attitude of mothers towards disease prevention will have no significant influence on implementation of National programme on Immunization strategies among Nigeria Airforce in Lagos State. The result revealed that Critical Chi-square value is 9.786 which is greater than 0.05 level of significance. The stated hypothesis is therefore accepted. The result is supported by Rahman and Obaida-Nasrin, (2010) stated that changing behaviours which would read to maximizing health and functioning. This study found that there were four critical health practice which, if followed, resulted in longer life. Eating three meals per day at regular times, being physically active for 20 minutes three times per week, Getting 6-8 hours of sleep per night, maintaining weight at that desirable for height. To buttress this point when respondents were asked whether childhood diseases is better treated with traditional health care than orthodox health care, only 24.0% of the respondents said Yes while 73.0% of the respondents said that childhood diseases is not better treated with

traditional health care that orthodox health care.

Conclusion and Recommendation

Based on the findings of this study. It was concluded that:

National Programme on Immunization implementation strategies should be more adopted for diseases prevention in Nigerian Airforce.

Awareness of disease prevention programme has promoted the attitude of nursing mothers utilizing health care services in Nigerian Airforce.

Based on the finding, the following recommendations were suggested:

1. More vaccines should be made available in all Health care services for Immunization and inoculation of children and their mothers against tetanus and childhood killer diseases should be prevented at all time.
2. Government should create more health Facilities to meet the need of Primary Health Care Services within the country.
3. Personal hygiene of mothers should be stress during immunization
4. Mothers should have adequate knowledge of diseases preventions through lecture during antenatal and child welfare clinic
5. The Federal Government should introduce health insurance scheme to all the Nigerian Airforce hospitals and health centers in the country for easy accessibility of health services.

References

Centers for Disease Control and Prevention. (2015). Global routine vaccination coverage: Morbidity and mortality weekly report (MMWR). Retrieved from https://www.cdc.gov/mmwr/index.html

Duclos, P., Okwo-Bele, J.M., Gacic-Dobo, M and Cherian, T., (2009). Global immunization: status, progress, challenges and future. BMC international health and human rights. 9(S1):52.

Global Vaccine Action Plan, (2013). Decade of vaccine collaboration. Vaccine; 31 (Suppl 2):B5- 31.

Kusuma, Y., Kumari, R., Pandav, C and Gupta, S., (2010). Migration and immunization: determinants of childhood immunization uptake among socioeconomically disadvantaged migrants in Delhi, India. Trop Med Int Health. 15:1326–3

Mihigo, R.M,, Okeibunor, J,C,, O'Malley, H,, Masresha, B,, Mkanda, P and Zawaira, F., (2016). Investing in life saving vaccines to guarantee life of future generations in Africa. Vaccine. 34(48): 5827-5832.

Mihigo, R., Anya, B., Okeibunor, J., Poy, A and Nshimirimana, D., (2015). Routine immunization in the WHO African Region: progress, challenges and way forward. African Health Monitor. 19:2-4.

Moeti, M., (2016). Winning the battle against the scourge of poliomyelitis in the African Region. Vaccine. 34:S5142-5143.

National Population Commission Nigeria and ICF Macro, (2014). Nigeria demographic and health survey 2013. Abuja, Nigeria: Author. Retrieved from ttps://dhsprogram.com/pubs/pdf/fr293/fr293.pdf

Okeibunor, J.C., Ota, M.C., Akanmori, B.D., Gumede, N., Shaba, K., Kouadio, K.I., Poy, A., Mihigo, R., Salla, M and Moeti, M., (2015). Polio eradication in the African Region on course despite public health emergencies. Vaccine. 35 (9):1202-1206.

Rahman, M and Obaida-Nasrin, S., (2010). Factors affecting acceptance of complete immune ization coverage of children under five years in rural Bangladesh. Salud Publica de Mexico, 52(2), 134-140. http://doi.org/10.1590/S0036-36342010000200005

Riedmann, E. M., (2010). Report: State of the world's vaccines and immunization. Human Vaccines, 6(2), 157-163. http://doi.org/10.4161/hv.6.2.11326

WHO, (2014). Regional Strategic Plan on Immunization. WHO/AFRO, Brazzaville, Congo.

World Health Organization, (2009). State of world's vaccines and immunization (3rd ed.). Geneva, Switzerland: Author.

World Health Organization. (2015). National immunization coverage scorecards estimates for 2014. http://www.who.int/immunization/global_vaccine_action_plan/WHA_Scorecards