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APPRAISAL OF TREND AND PATTERN OF IMMUNIZATION IN LAPAI LOCAL GOVERNMENT AREA OF NIGER STATE

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Abstract

Childhood immunization is the initiation of immunity through application of vaccine world health organization. It is considered important for improving child survival. This is because more than 10 million children in developing countries die every year because they do not access effective interventions such as immunization that could fight common and preventable childhood illnesses. The study adopted a cross sectional survey design and applied multi stage sampling techniques to

sample 280 respondents in the study area. The first stage involved the splitting of the local government into wards. The second stage involves selecting streets, while the third stage was sampling households. In all, 6 wards were sampled for the study. The study utilized both primary and secondary sources of data. Two hundred and eighty (280) structured questionnaires were administered while twenty health personnel were interviewed. Descriptive statistics like tables, frequencies and percentages were employed in presenting and interpreting the data. Information from the qualitative data was transcribed and ordered in themes to ensure that outstanding points of the responses are noted. One of the strategies that has been adopted but must be strengthened is community engagement. The study concluded that there is under coverage of the local government area by health personnel in administering immunization vaccine. Most parents in rural areas denied seeing health workers in their community during immunization days. Parents out rightly denied health workers access to administer immunization vaccine on their children due to religious and cultural factors. Similarly, parents in the local government have negative perception on immunization vaccine. The study made the following recommendations; proper engagement of communities; the proper persons in the community is liaised with; proper incentives are provided and benefits are clearly explained; aggressive enlightenment by government and development partners to minimize misconception of immunization vaccine and increase acceptance.

Keywords: Immunization, vaccine, Survival, acceptability and Health

Introduction

Childhood immunization is the initiation of immunity through application of vaccine world health organization (WHO, 2008). It is considered important for improving child survival (Lee, 2005).

This is because more than 10 million children in developing countries die every year because they do not access effective interventions such as immunization that could fight common and preventable childhood illnesses (WHO, 2008). Although, about three quarters of the world's child population is reached with the required vaccines, only half of the children in Sub-Saharan Africa get access to basic immunization.

Further, in poorer remote areas of developing countries, only one in twenty children have access to vaccination (UNICEF, 2009). The expanded Programme on Immunization (EPI) was established in 1974 against six vaccine preventable diseases. These are diphtheria, polio, tuberculosis, measles, pertussis and tetanus. In 2003, DPT3 global coverage was 78 percent with about 27 million children not covered (WHO, 2002). South Asia and sub-Sahara African countries accounted for 9.9 million and 9.6 million, respectively of the children that were not covered. In most of these countries poor functioning health service delivery system impedes the efforts to meet immunization targets (WHO, 2002). Therefore, children living in remote location and border areas are vulnerable to diseases as a result of lack of immunization and health care centers (WHO, 2002).

One major way to reduce child morbidity and mortality from common Vaccine Preventable Diseases (VPDs) is immunization. VPDs have caused more than 20 per cent of death for children under five (Lee, 2005). From International comparative data, Nigerians immunization coverage rates are among the worst in the world (UNICEF, 2001).

According to the 2003 National Immunization Schedule, the percentage of fully immunized children to be targeted was less than 1% in Jigawa, 1.5% in Yobe, 1.6% in Zamfara and 8.3% in Katsina. It was also revealed recent percentage has shown that 23% of Nigerian children 12—23 months received all recommended vaccines as at 2008 that is one dose of BCG and measles and

three doses each of DPT and polio (NPC, 2008). The same survey showed that 38 per cent of children in Nigeria had not received any vaccinations (NPC, 2008). As a result, thousands of children are dying as highest incidence of poliovirus cases in the world. Routine immunization coverage against Polio and other VPDs were below targets at the national level (WHO, 2010). There are quite a lot of reasons for such low rates in Nigeria. Given the protective effect of immunization and the observed low immunization coverage in Nigeria, it is important to identify the factors influencing full child immunization among 12-23 months' children in Nigeria so that child mortality and morbidity could reduce (WHO, 2010). The study is aim at appraising the factor responsible low coverage of child immunization in Lapai Local Government of Niger state.

Literature review and theoretical framework

Immunization in Nigeria

Since they were first introduced in 1956, immunization activities in Nigeria have been characterized by intermittent successes and failures. The Expanded Programme on Immunization (EPI) introduced in 1979 with the aim of providing immunization services to children aged 0 – 23 months, experienced some initial success. However, a few years after the programme started, it became obvious that it was no longer achieving its stated objectives and had to be re-launched in 1984.

As a result of concerted efforts of the Federal Ministry of Health, State agencies, and international organizations, Nigeria attained Universal Childhood Immunization (UCI) with 81.5 percent coverage for all antigens in 1990. But the success was not to last long and by 1996, immunization coverage had declined substantially to less than 30 percent for DPT3 and 21 percent for the three doses of oral poliovirus vaccine (OPV). The situation had become even worse since

then despite considerable inputs by donors and the Federal Government's efforts to improve the provision and promotion of immunization services. Today, coverage rates for the various childhood vaccines in Nigeria are among the lowest in the world. Nigeria is now considered the greatest threat to the global eradication of polio and there is an urgent need to address the problems facing immunization activities in the country and increase coverage.

A key component of disease preventive measures worldwide, infant immunization was designed to improve child health and reduce morbidity and mortality. Nigeria commenced immunization activities, focusing on the control of yellow fever and smallpox, about 50 years ago. Motivated by the concern and response of the World Health Organization (WHO), to the global increase in the mortality of children under the age of 2 years, Nigeria launched the Expanded Programme on Immunization (EPI) in 1979. The programme recorded initial significant successes but declines in uptake of the services were quickly observed. Concerted efforts of the Federal Government, State agencies and international organizations (United Nations Children Funds - UNICEF, WHO) between 1984 and 1990 led to Nigeria attaining Universal Childhood Immunization (UCI) in 1991(FMOH, I992).

Since the mid-1990s, Nigeria has continued to witness fluctuations in immunization coverage for all vaccine-preventable diseases and this has had grave consequences on children's health and survival. Data from the 2016 National Immunization Coverage Survey revealed a very gloomy picture with only 8.7 percent of children aged 12-23 months receiving full immunization service. Of great significance and concern was the emerging status of Nigeria as the country with the highest number of Wild Polioviruses (WPV) in the world.

Expanded programme on immunization (EPI) was put in place in 1974 by the World Health

Organization (WHO) with the mandate of full accessibility of the routine vaccines by all children to prevent target communicable diseases. Despite the successes recorded in the control of vaccine preventable diseases in the developed countries of the world, diseases such as measles and poliomyelitis still require better control particularly in developing countries with limited resources. Over 27 million children who live mainly in disadvantaged rural communities are not reached by routine immunization services and significant variations in coverage exist between and within regions and countries. In the rural communities of the developing countries, where good coverage has not been attained, reaching children not yet vaccinated has proved difficult due to several limiting factors leading to annual increase in death of children (UNICEF,
2012). Abdulkarim,Ibrahim, Fawi,Adebayo,Johnson,2011:Wonodi,Stokes-Prindle, Aina, Oni, Olukowi, Pate, Privor-Dumm & Levine, 2012).

The aforesaid difficulties are often due to geographical, economic and other socio-cultural inaccessibility. Hitherto, Nigeria accounted for the highest 785 prevalence of circulating wild polio virus in the world, though, it has been lately reported that polio incidence has drastically reduced and the World Health Organization gave the nation clean slate of health on polio eradication but barely few months after, there was reported cases of poliomyelitis infection in some rural communities of Nigeria. The Country is still among ten countries in the world with vaccine coverage below 50% (FBA, Health System Analysis, 2005., Antai, 2010: Itimi, Dienye & Ordinioha, 2012). It is also of interest that Nigerian's under five mortality rate is 124 per 1000 and currently ranking 9th according to recent United Nation Children's Fund (UNICEF) estimates (UNICEF, 2014). Religion is said to have influence on Immunization as (Babalola and Adewuyi, 2005: Obadare, 2005) reported in Oluwadare (2009), that North east and west of Ekiti state dominated by Moslem had low immunization coverage. Waisbord and Larson (2005) also

identified four key challenges facing active immunization uptake which includes: poor knowledge of the importance of vaccines, poor physical access to immunization service, lack of trust of the safety of the vaccine and non-availability of the vaccines.

Several studies have been conducted on immunization in Nigeria: Vaccination Coverage and its Determinants in Children Aged11-23 Months in an Urban District in Nigeria (Tagbo, Eke, Omotowo, Onwuasigwe, Onyeka, & Mildred, 2014);The Social Determinants of routine immunization in Ekiti State of Nigeria (Oluwadare,2009); Reasons for incomplete vaccination and factors for missed opportunities among rural Nigerian Children (Abdulraheem, Onajole, Jimoh and Oladipo, 2011);Routine Immunization in Nigeria: the role of Politics, Religion and Cultural Practices (Anyene,2014), Landscape Analysis of Routine Immunization in Nigeria (Wonodi et al, 2012).

Ajzen and Fishbein formulated in 1980 the Theory of Planned Behaviour (TPB). The theory of planned behaviour is a theory which predicts deliberate behaviour, because behaviour can be deliberative and planned. The TPB states that behavioural achievement depends on both motivation (intention) and ability (behavioural control). It distinguishes between three types of beliefs-behavioural, normative, and control. The TPB is composed of six constructs that collectively represent a person's actual control over the behaviour.

- Attitude - This refers to the degree to which a person has a favourable or unfavourable evaluation of the behaviour of interest. It entails a consideration of the outcomes of performing the behaviour.

- Behavioural intention - This refers to the motivational factors that influence a given behaviour where the stronger the intention to perform the behaviour, the more likely the behaviour will be performed.

- Subjective norms - These refer to the beliefs about whether most people approve or disapprove of the behaviour. It relates to a person's beliefs about whether peers and people of importance to the person think he or she should engage in the behaviour.
- Social norms - These refer to the customary codes of behaviour in a group or people or larger cultural context. Social norms are considered normative, or standard, in a group of people.
- Perceived power - This refers to the perceived presence of factors that may facilitate or impede performance of behaviour. Perceived power contributes to a person's perceived behavioural control over each of those factors.
- Perceived behavioural control - This refers to a person's perception of the ease or difficulty of performing the behaviour of interest. Perceived behavioural control varies across situations and actions, which result in a person having varying perceptions of behavioural control depending on the situation. This construct of the theory was added later, and created the shift from the Theory of Reasoned Action to the Theory of Planned Behaviour.

This theory is also used in evaluation studies. Other usages of the model include: voting behaviour, disease prevention behaviour, birth control behaviour (Jaccard and Davidson, 1972). Theory of Planned Behaviour (TPB) explains the perception of women of productive age currently married in Lapai Local Government Area in the administration of immunization vaccine on their children. The women perception either favourable or unfavourable in

administration of immunization is function of outcomes of performing the behaviour; motivational factors influencing the behaviour; the belief about whether people approve or disapprove of the behaviour especially husband and other family members who takes decision concern the child health.

Methodology

The study a cross sectional survey design in nature and it adopted quantitative and qualitative methods to collect data. Multi-stage sampling techniques were used to sample the respondents for the study. The population of the study was women age 15 – 49 years married at the time of the study. Two hundred and eighty (280) questionnaires were administered and Nine IDI sessions with the heads of health facilities were conducted. The first stage involved the splitting of the local government into wards. The second stage was sampling streets in each of the sample wards, while the third stage was selecting the households from the sample streets. The major survey instrument was questionnaire, complemented by IDI.

DATA PRESENTATION

Table 1: Percentage Distribution of Respondents by Age

Age	Frequency	Percentage%
15-25	112	40
26-35	45	16
36-45	123	44
Total	280	100

Source: Field Survey, 2018

Table 1 above shows the age distribution of respondents, 40% of the respondents are between the ages of 15 – 25 years, 16% of them are between the ages brackets of 26 – 35 years, while 44% of the respondents are between the ages of 36 – 45. The statistics shows that majority of the respondents are between the age brackets of 15- 35 years accounting for 56 percent.

Table 2: Percentage Distribution of Respondents by Religion

Religion	Frequency	Percentage %
Islam	196	70
Christian	78	28
Traditional	6	2
Total	280	100

Source: Field Survey, 2018

In the above table 2 which reveals the religious affiliation of the respondents, 70% of the respondents are Muslim, 28% of the respondents are Christian while 2% of the respondents are traditionalist. The results reveals that majority of the respondents are Muslim, which is not surprising being a community located in northern Nigeria where Muslim faith predominate.

Table 3: Percentage Distribution of Respondents by Occupation

Occupation	Frequency	Percentage %
Politicians	25	9
Farmer	154	55
Civil Servant	65	23
Artisan	36	13
Total	280	100

Source: Field Survey, 2018

In the above table 3, the percentage distribution of respondents by occupation shows that, 9% of the respondents are politicians, 55% of the respondents are farmers, while 23% of the respondents are civil servants, and 3% of the respondents are artisans. From the above results majority of the respondents are farmers which are an indicator that Lapai local government is predominately rural.

Table 4: Percentage Distribution of Respondents by Educational Level

Educational level	Frequency	Percentage %

Qur'anic Edu. Only	92	33
Primary Edu. Only	17	6
Secondary Education	123	44
Tertiary Education	48	17
Total	280	100

Source: Field Survey, 2018

The table 4 above shows the respondents educational level, which indicate that 33% of the respondents had Qur'anic literacy, 6% of the respondents are primary school leavers, 44% are secondary school leavers, while 17% of the respondents educational qualification are tertiary level. The statistics shows a low level of educational attainment among people of Lapai Local Government.

Table 5: Percentage Distribution of Respondents on Appearance of Health Workers in their Community

Responses	Frequency	Percentage %
No	157	56
Don't Know	22	8
Yes	101	36
Total	280	100

Source: Field Survey, 2018

Table 5 above shows that 56% of the respondents said health workers don't come to immunize their children, 8% of the respondents don't know while 36% of the respondents agreed that health workers do come to immunize their children. The result indicated that there is under coverage of immunization in Lapai Local Government Area.

Table 6: Percentage Distribution of Respondents on Administration of Immunization

Religion	Frequency	Percentage %
No	148	53
Don't know	36	13
Yes	96	34
Total	280	100

Source: Field Survey, 2018

Table 6 above shows that 53% of the respondents don't allow their children or siblings to be immunize and 13% of the respondents can't express their view while 34% of the respondents allow their children and siblings to be immunized. The result reveals that parent still denied health workers access to immunize their children in Lapai local Government Area.

The IDI session held with health workers also conform to the above result that parents denied health workers access to their children for immunization. One of the health workers had this to say:

> '… in this community most parents don't allow us to immunize their children.'

Table 7: Percentage Distribution of Respondents on Factors that Discourage Child Immunization

Reponses	Frequency	Percentage %
Traditional Factors	104	37
Religious Factors	148	53
Suspicious	28	10
Total	280	100

Source: Field Survey 2018

Table 7 above shows that 37% of the respondents says traditional factors discourage parents from immunizing their children, 53% were of the opinion that religious factors was responsible for parents not allowing their children to be immunize while 10% says suspicious of the health implications of the vaccine discourage parent from immunizing their children

During the IDI sessions held with health worker, majority of them attributed the parent denial to immunize their children to religion and suspicious or lack of trust. Some of the health workers had this to say:

> 'In this community parent are suspicious of the content of vaccine that it reduces reproductive ability of their children at adulthood. Because of this suspicious we are denied access to immunize children.'

Similarly, another participant had this to say:

> 'Here parent don't allow health workers to immunize their children because of their religious believes. The often said that their religion prohibited immunization of kinds.'

Table 8: Percentage Distribution of Respondents on the Negative Effect of Immunization on Children's Health

Responses	Frequency	Percentage %
Strongly Disagree	25	9
Disagree	36	13
Can't Say	20	7
Agree	109	39
Strongly Agree	90	32
Total	280	100

Source: Field Survey, 2018

Table 8 above shows that 9% of the respondents strongly disagree that immunization has negative impact to children's health, 13% disagree the claim, 7% can't express their view on the matter, 39% among the respondents agree with the claim that immunization has negative impact on children's health while 32% among the respondents strongly agree with the claim. The statistics show that most parents are of the believed that immunization vaccine has negative consequences on the health of children.

Table 9: Percentage Distribution of Respondents on negative effect of Immunization on Children Health

Responses	Frequency	Percentage
Short life circle	92	33
Low mental capacity	11	4
Low reproductive ability	177	63

Total	280	100

Source: field survey, 2018

Table 9 above shows that 33% of the respondents believe that immunization shortens the life circle of an individual, 4% of the respondents believes that immunization brings about low mental capacity while 63% of the respondents believes that immunization leads to low reproduction ability in individual. The result indicated that majority of the people perceived immunization vaccine as having one form of negative health consequence on children.

Table 10: Percentage Distribution of Respondents on Sensitization on the Benefits of Immunization by Health workers

Reponses	Frequency	Percentage %
No	143	51
Can't Remember	78	28
Yes	59	21
Total	280	100

Source: Field Survey, 2018

Table 10 above shows that 51% of the respondents said they have never been sensitized or informed about the benefits of child immunization, 28% of the respondents can't remember while just 21% of the respondents claim that they have been sensitized and informed about the benefits of child immunization. It shows that there is low level of awareness on benefits of immunization in the life of children.

The IDI sessions held with health workers reveals that majority of the participants said they are underfunded in aspect campaign budget to create awareness on the benefits of immunization to the health of children.

One of the participants had this to say;

> 'The budget we received for awareness and enlightenment on benefits of immunization from local government is too small for us to cover the entire village especially those living remote areas.'

Similarly, another participant comment further;

> 'When we go out for public enlightenment on the benefits of immunization parents are reluctant to come out to listen to our message. The always complained of being busy with home or business activities'

Table 12: Percentage Distribution of Respondents on Substitute/alternative to Immunization

Responses	Frequency	Percentage %
Herbs	81	29
Islamic Medicine	106	38
Native Doctors	70	25
Spiritual Homes	22	8
Total	280	100

Source: Field Survey, 2018

Table 12 above shows that 29% of the respondents said parents used herbs to prevent their children from getting infected by diseases, 38% of the respondents are of the opinion that parents use Islamic medicine to prevent their children from getting infected, 25% of the respondents visit native doctors while 8% visit spiritual homes to prevent their children from getting infected from diseases.

Table 13: Percentage Distribution of Respondents on awareness of the consequence of not immunizing children

Responses	Frequency	Percentage %
Strongly Disagree	50	18

Disagree	64	23
Can't Say	104	37
Agree	45	16
Strongly Agree	17	6
Total	280	100

Source: Field Survey, 2018

Table above shows that 18% of the respondents strongly disagree that absence of immunization leads to diseases like polio, 23% of the respondents disagree that absence of immunization leads to diseases, 37% of the respondents can't say if absence of immunization leads to diseases, 16% of the respondents agree that absences of immunization leads to diseases, while only 6% of the respondents strongly agree that absence of immunization leads to diseases like polio. The statistics reveals that parents perceived that non administration immunization vaccine has no health implications on their children.

Conclusion and Recommendation

The study concluded that there is under coverage of the local government area by health personnel in administering immunization vaccine. Most parents in rural areas of Lapai Local Government denied seeing health workers in their community during immunization days. It was also discovered that parents out rightly denied health workers access to administer immunization vaccine on their children due to religious and cultural factors.

Similarly, the study revealed that parents in the local government have negative perception on immunization vaccine. Some of the perceived negative consequences of immunization vaccine held by parents include short life circle, low mental capacity and reproductive ability at adulthood. There is low sensitization and enlightenment of parents on the benefits of routine immunization to

their children due to low budgetary allocation. It was also revealed that parents sought alternative or substitute to immunization vaccine such as herbal, Islamic medicine and spiritual home.

These are some of the recommendation made below

a) Community Engagement: One of the strategies that has been adopted but must be strengthened is community engagement. Some studies have shown that when the community is properly engaged with, the proper persons in the community are liaised with, proper incentives are provided and benefits are clearly explained, the uptake of routine immunization increases significantly, even when that community is a rural community and as compared to an urban community. Dissemination of information should therefore be tailored to community members' needs, cultural understandings, and must address the benefits of immunization in a way that is clear to the community. Respect and dignity must be accorded them as the most important stakeholders in improving the uptake of immunization.

b) Engaging Political Leaders: Advocates, donors, technocrats involved in health care delivery, think-tank organizations such as the National Academy of Science need to engage political leaders and governments at all levels. It is insufficient to have these discussions at levels where there is little political power such as meeting of health commissioners. Engagement needs to target those within and outside government who have the most power to make and influence political decisions. The first step may require having a clear understanding of the structures, institutions and agents in the political economy of the environment. Also, immunization campaign programs should be inclusive, working with community and religious leaders.

c) Make Routine Immunization a Priority: As described above, many feel that routine immunization has taken a back seat to the polio campaign and that this has been to the detriment

of children in Nigeria. It is time to take back polio to routine immunization where it belongs and devote attention to complete routine immunization through adequate funding, problem identification and solving. Incentives for polio campaigns should be leveraged to champion routine immunization strengthening. Indeed, the whole incentive structure for immunization campaigns must be revisited with a view to making positive changes that have positive impact on routine immunization uptake. Civil society groups and change agents must be adequately engaged to lead advocacy for routine immunization and bring it back to the front burner just like HIV and polio. This will put the leaders under pressure to pay attention and prioritize routine immunization.

d) Improve Primary Health Care and Access: Strengthening the primary health care system is a well proven strategy for sustainable improvement of immunization coverage. This will also benefit other people outside the immunization box and improve health in the country generally. Logistics, vaccine security, and infrastructural issues must be addressed by the political bodies responsible – roads, electricity, construction of storage facilities etc. Addressing issues such as increasing outreach services, community – based health services, developing more functional and effective primary health centers in the areas where there are none, developing maps of catchment areas to be used for strategic planning of routine immunization efforts and not only for polio campaigns, developing capacity at state and local levels to conduct strategic planning for immunization efforts amongst other things, would be value adding.

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