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Reasons for Missed Children during Lot Quality Assurance Sampling Survey in Birnin Kudu LGA of Jigawa State, Nigeria – Polio Immunization Campaigns 2014

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Abstract

***Background**: Lot Quality Assurance Survey Sampling (LQAS) is a survey use for estimation of Supplemental Immunization Activity (SIA) coverage (OPV percentage coverage). The survey is mostly conducted in high risk LGAs immediately after SIAs. This paper explored reasons why children were missed during LQAS after Polio Campaigns in Birnin Kudu LGA, Jigawa State of Nigeria in 2014. **Method**: This descriptive cross-sectional study was conducted between January – April, 2015. Twenty-eight (28) parents whose children were found to be missed during LQAS in Birnin Kudu LGA after 2014 Polio campaign were purposively sampled to participate in the survey but only 24 parents were reached. Survey data were collected by a questionnaire which was applied face to face to parents of 24 children. Data analysis was carried out using descriptive statistics, mean, median, proportions. **Findings:** the result of the study revealed that children were missed due to the following reasons: 75% due to "child was not at home", "child was too young for immunization" and "others" constitutes 8% each. "Child was sick" and "too many round" constitute (4%) each. Lowest were "religious belief", "child was scarred", "unhappy with the attitude of the vaccination team", "team didn't visit the house", "Political differences", "no pluses during the visit" and "unmet needs" having 0% each. The study concluded that the major reason why children were to be missed during 2014 LQAS in Birnin-Kudu LGA was as a result of "child not at home" which constitute 75%. **Recommendation**: Health Education: the government should put more effort in educating the populace about Polio vaccination; emphasize its importance, why it is frequently repeated, how polio hinders lifelong opportunities for their children. Immunization days should be uniform all over the nation so as to be able to capture those who travelled to another part of the country.*

***Keywords:** Poliomyelitis, missed child, reasons for missed children**,** Lot Quality Assurance Sampling Survey.*

Introduction

"Nigeria is the most populous country in Africa and the seventh most populous country in the world" (Food West Africa, 2015). It is situated in Sub- Saharan Africa with an area of 937, 587 sq. km and estimated total population of 164,036,151 per 2006 National census (Dawria & Ahmed, 2015). It has a very rich cultural heritage, with over 300 ethnic and linguistic groups. The major ethnic groups are Hausas, Yorubas and the Igbos. The most popular religions are Islam (mainly in the Northern Parts), Christianity (mainly in the southern parts), and traditional African religion, mainly freely practiced alongside other religions (Babalola & Aina, 2004).

Childhood immunization is designed to improve child health and reduce morbidity and mortality. Federal Ministry of Health, 1992 (as cited in Babalola and Aina, 2004) pointed out that Nigeria commenced immunization activities many years ago, focusing initially on the control of yellow fever and smallpox. It launched the Expanded Programme on Immunization (EPI) in 1979. This was due to global increased in mortality of children under the age of 2 years as a result of vaccine preventable diseases. The programme was successful at the beginning but declines in uptake of the services were quickly observed.

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Joint efforts of the Federal Government, State agencies and international organizations (UNICEF, WHO) led to Nigeria attaining Universal Childhood Immunization (UCI) in 1991.

Since the mid -1990s, Nigeria has continued to witness fluctuations in immunization coverage for all vaccine- preventable disease which resulted to bad consequences on children's health and survival. Data from the 2003 National Immunization Coverage Survey revealed that only 12.7 percent of the children aged 12- 23 months were fully immunized (World Health Organization [WHO] 2006a). At that time, Nigeria emerged the country with the highest number of Wild Polioviruses (WPV) in the world. Increased widespread transmission of WPV was reported in highly endemic State of northern Nigeria (Kano, Katsina, Jigawa, Kaduna and Bauchi) (Babalola & Aina, 2004).

Poliomyelitis (polio) is an infectious disease caused by a virus, which invades the nervous system, and can cause total paralysis (Centre for Disease Control [CDC], 2014a). The virus enters the body through the mouth and reproduces in the intestine. Initial symptoms are fever, fatigue, headache, vomiting, stiffness in the neck and pain in the limbs. One in 200 infections leads to irreversible paralysis (commonly in the legs). Among those paralyzed, 5–10 percent dies when their breathing muscles become immobilized. It mainly affects children under five years of age and there is no cure for it but it can be prevented WHO, 2006b).

Poliovirus can travel from village to village or from country to country, through un-immunized children and one un-immunized child can leave tens or hundreds more paralysed for life. While polio exists anywhere, children everywhere are at risk and as most people infected with poliovirus have no signs of illness, they are never aware they have been infected. The virus is shed intermittently in faeces for several weeks after initial infection with the virus. During that time, the disease can spread rapidly through the community (WHO, 2005).

The only reservoir of poliovirus is humans (Hamborsky, Kroger, & Wolfe, 2015) and transmission is mainly through the faeco-oral route. Poor environmental conditions play a vital role in the transmission of the virus. Polio falls among the few diseases that can be eradicated as did to Smallpox (Kareff, 2013).

The Global Polio Eradication Initiative (GPEI) began in 1988 (Oberste & Lipton, 2014) and has the ideal of reaching every child. But the fact that polio has not yet been eradicated proves that missed children exist.

Polio cases in nigeria and globally

In 1988, the annual meeting of the ministers of health from all members of the World Health Organization, including Nigeria, in the World Health Assembly, voted to eradicate polio and launched the Global Polio eradication Initiative (GPEI). The goal was to eradicate polio globally as done to smallpox (WHO, 2005).

According to ReliefWeb (2012), Nigeria has recorded 27 cases of wild poliovirus in eight States as of 27 April 2012 compared to 11 cases in 4 States for the same period in 2011.

The global polio eradication is possible because:

1. The disease affects only man and man is the only reservoir for the virus.
2. The virus can survive only for short time in the environment.
3. The oral polio vaccine is very effective in the prevention of the disease.
4. Immunity is life-long.
5. According to WHO (2007) in order to stop poliovirus transmission and eradicate polio, the World Health Organization developed a four-prolonged strategy:
6. Routine immunization coverage with four doses of oral polio vaccine in the first year of life.
7. National Immunization Days which aim to administer supplementary doses of oral polio vaccine to all children under five years of age.
8. On-going surveillance for wild poliovirus through reporting and laboratory testing of all cases of acute flaccid paralysis (AFP) among children that are under fifteen years of age.
9. "Mop-up" campaigns.

In 2006, only four countries in the world remain endemic for the disease - the lowest number in history. The reduction is because of the global effort to eradicate the disease (WHO, 2006b). Despite these achievements, the Global Polio Eradication Initiative faces an increase in global polio cases in 2006, because of outbreak in northern Nigeria, and a new outbreak in western Uttar Pradesh, India (WHO, 2006b).

By 2013, Nigeria, Afghanistan and Pakistan remain the only countries with uninterrupted WPV in the world. In Nigeria from January 2013–September 30, 2014, only six WPV cases had been reported compared with 49 reported cases during the same period in 2013 (CDC, 2014b). The quality of pre-implementation, implementation and post implementation activities have improved significantly during this period. Despite this improvement, we continue to miss children during Supplemental Immunization Activities (SIAs) in Nigeria which is normally revealed during Lot Quality Assurance Sampling Survey (LQAS). The utilization of LQAS methodology, developed in industry for quality control, makes it possible to use small sample sizes when conducting surveys in small geographical or population-based areas (lots). LQAS is used for conducting health surveys to monitor health programmes in developing countries (Lanata & Black, 1991).

LQAS is a survey use for estimation of SIA coverage (OPV percentage coverage). Evidence of vaccination picked by LQAS survey is left little finger marked by vaccination team. Absence of the finger mark means the child is missed for vaccination (missed child). The survey is mostly conducted in high risk LGAs immediately after SIAs. In 2014, a total of nine LQAS were conducted in Jigawa State. LQAS result is presented using colour code system. LGA with 0-3 missed children is ≥ 90% coverage which is acceptable coverage (dark green), 4-9 missed children is 80-90% coverage (light green), 10-19 missed children is 60-80% coverage (yellow) and >20 missed children is < 60% coverage (red). Only ≥ 90% coverage is acceptable coverage.

Some people generally did not see polio as a priority disease amongst the many others affecting their children (Elisha, 2010). Unfortunately, only few research projects were conducted to find out reasons why children were missed during LQAS after Polio campaigns. Consequently, the need to investigate reasons why children were found to be missed during LQAS has become even more compelling as there are other reasons that are unknown. Finding these reasons would help in overcoming the problem.

Research objective

The objective of this study is to explore reasons why children were found to be missed during LQAS in Birnin Kudu LGA of Jigawa State, Nigeria after Polio campaigns in 2014.

Specific objectives

- To determine reasons why children were missed after Polio campaigns in 2014
- To determine whether parents are aware of the campaigns prior to their implementations.
- Make some recommendations using the research findings for the improvement of the scheme.

Literature review

Nigeria continued to experience a surge of polio cases, following a dramatic reduction of cases in 2010 (more than 95%), a total of 14 cases. However, by the end of year 2011, 43 cases of WPV were recorded out of which the states of Borno, Kano, Jigawa and Kebbi account for 85% of all cases nationally (United Nation Children Emergency Funds [UNICEF], 2011).

The major reason was continued community resistance. Care-giver refusals or non-compliance comprises a significant portion (25%) of the total number of missed children during OPV campaigns. Whereas, “child absent” constituted 68% of all the missed children. Another reason was low immunization coverage nationally (less than 80%) especially with the northern states having sub-optimal performance (UNICEF, 2011).

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In the same vein, in 2011, authorities in Kano State place a jail or fine threat on parents or care-givers that are refusing polio vaccine as that was found to be the leading cause of missed children during the campaigns.

Mohammed et al., (2011) conducted a case-control study to evaluate the reasons for polio vaccine refusal among 121 heads of households (both compliant and non-compliant) in Sokoto State. They found that 73% of the household heads believe polio vaccine is "not safe" for their children (OR= 22, 95%CI, 7.1 – 76), lack access to functional radio (OR = 44, 95% CI, 1.4 – 15) and television (OR = 9.4, 95% CI, 1.9 – 63) and get information about IPDs only from town criers (OR =3.9, 95% CI, 1.3 – 12).

Micheal et al., (2014) study on an evaluation of community perspectives and contributing factors to missed children during an Oral Polio Vaccination Campaign – Katsina State, Nigeria revealed that 61% of the children were not vaccinated because of poor vaccination team performance: either the teams did not visit the homes (25%) or the children were reported absent and not revisited (36%).

In August 2012, Lagos State in Nigeria, conducted a study to ferrate out the reasons for the increase in number of missed children during immunization exercises in the state which proved to be a major hindrance to polio eradication in Nigeria (This day Live, 2012).

Torun & Bakirci (2006) conducted a study on vaccination coverage and reasons for non-vaccination in a district of Istanbul. Result of the study revealed that the study population had a vaccination coverage of 84.5% and 3.2% of all children were totally non-vaccinated. Reasons for non-vaccination include: being in the village and couldn't reach to health care services; having no knowledge about vaccination; the father of child didn't allow vaccination; intercurrent illness of child during vaccination time; missed opportunities like not to shave off a vial for only one child.

The result of the presidential task force committee on polio eradication stated that the reasons found include "child absent", lack of monitoring from the local government task force, poor quality of micro plans and insecurity in some areas in high risk states. They concluded to review all micro plans, ensure training activities are initiated early, revise current supervisory methods in the field and closer engagement of traditional leaders (This day Live, 2012).

According to Independent Monitoring Board of the Global Polio Eradication [IMBGPEI], (2012) there was an estimate of 2.7 million missed children globally spread over the 6 persistently affected countries. Nigeria alone accounted for 610,000 children out of the total. Sanctuaries were in Borno, Sokoto and Zamfara states. Reasons found include insecurity in the case of Borno state where even cold stores were destroyed. Non-compliance due to refusal of vaccine was the major reason in other states. Other reasons found in Kano include refusals due to lack of felt need, or due to parental concerns about vaccine safety; lack of accountability at local government levels; poor microplans; insecurity; under- engagement of traditional leaders; inadequate number of vaccination teams and vaccine stock- outs.

The latest UNICEF data analysis in Nigeria stated that Kano state has the most number of missed children (9.8%), followed by Kebbi state (9.7%) and Jigawa state (8.5%). "Child absent" remains the main reason for missed children accounting for over 66% of the total missed children. Non-compliance is also high in some parts of Nigeria particularly the north. Nationally, care-givers' refusals to vaccinate their children accounts for 24%, while states like Borno (41%), Yobe (38%) and Katsina (24%) still has very high proportions of unresolved non-compliance. Reasons for non-compliance comprise: "no felt need" (27%), "no reason" (26%), "no care-giver consent" (14%), "too many rounds" (8%) and "OPV safety" (7%). Hundreds of thousands of children continue to be missed during polio immunization campaigns in Nigeria. (UNICEF, 2012).

In September 2014, WHO initiated the Directly Observed Polio Vaccination (DOPV) which is essentially the administration of OPV to eligible children and distribution of appropriate attractive pluses such as milk sachets, soap, candies, free treatment, under the watchful eyes of senior supervisors. The recourse to the DOPV showed that ''child absent'' accounted for 70% of the children missed during IPDs, while non-compliance accounted for 12%. Although the proportion of missed children due to non-compliance is relatively low, there was evidence of concealment of the extent of non-compliance by

teams who fingermark children without vaccinating them. Furthermore, children from non-compliance households were easily reached on the streets with the offer of attractive pluses. This eliminated the issue of haggling with parents/caregivers in order to vaccinate their children/wards (WHO, 2015).

Okeibunor et al. (2014) looked into the trend in proportions of missed children during polio supplementary immunization activities (SIAs) in the African region using evidence from independent monitoring data from 2010 to 2012 in the 3 sub- regional blocks of WHO in Africa. They discovered that generally, the percentage of missed children has reduced from 7.94% in 2010 to 5.95% in 2012, where the decrease was found to be in the central and West African blocks. The east and southern block had up to 25% missed children. So, at country levels, the reasons for the missed children were mainly due to failures in monitoring and implementation.

The study will help decision makers to find out reasons why children were found to be missed during LQAS after Polio campaigns. The study will provide solution to the problem based on the parents' suggestions and advice.

Research methodology

This study used a descriptive cross-sectional study to find out reasons why children were found to be missed during LQAS in Birnin Kudu LGA of Jigawa State, Nigeria after Polio campaigns in 2014.

Study setting

The study was conducted in Birnin Kudu LGA which is one of the 27 LGAs in Jigawa State. It is situated at southern part of the state about 50 km from the state capital Dutse. The LGA has a border with Dutse & Kiyawa LGA in the north, Bauchi State in the south, Kano State in the west and Gwaram LGA in the East. The LGA has a total population of 393,900; 15,756 under one; 78,780 under five and 19,695 women of child bearing age. It has a total of 11 wards, 38 health facilities and 12 Surveillance focal sites. The inhabitants of the LGA are mostly Muslims with few Christians.

It is one of the LGAs where children were found to be missed during LQAS after polio campaigns in 2014. In 2014, a total of nine IPDs and LQAS were conducted in the LGA and during which a total of twenty-eight (28) children were found to be missed during LQAs.

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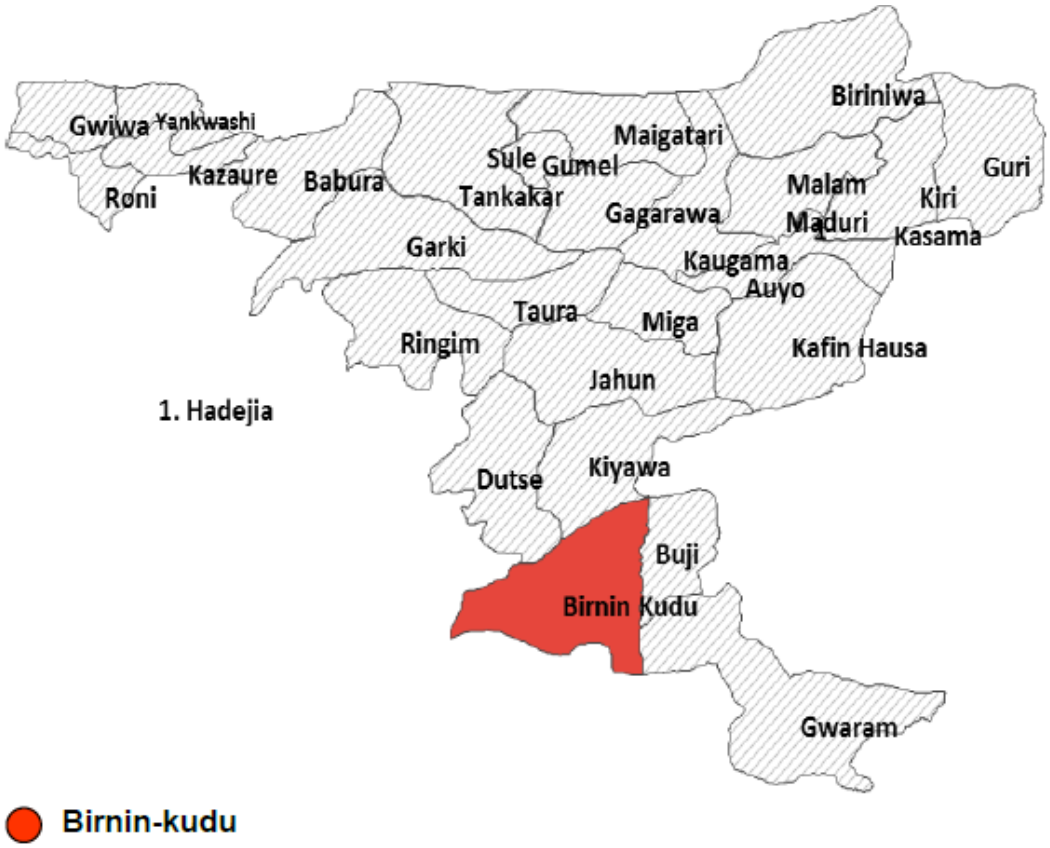

Figure. 1. Map of Jigawa State showing the 27 LGAs.

Table 1&2 below show the wards, settlements and number of children missed in each ward during LQAs in 2014.

Table 1. Number of children missed by LQAS by ward in 2014

SN	WARD	NO. OF CHILDREN MISSED
1	WURNO	10
2	SUNDIMINA	3
3	KANTOGA	5
4	LAFIYA	3
5	B/KUDU	1
6	KANGIRE	2
7	KWANGWARA	3
8	KIYAKO	1
	TOTAL	**28**

Source: WHO 2014.

Table 2. Number of children missed by LQAS in 2014 by month of IPDs, ward and settlements

Month/Year	Name of ward	Name of settlement	Number of children missed by LQAS in the month
January 2014	Wurno	Nasaru	5
	Sundimina	Barkaji	1
	Kantoga	Kafin Gana Yamma	1
March 2014	Wurno	Giwa	2
April 2014	Lafiya	Duhuwa	3
	Wurno	Unguwar Yalli	1
	B/Kudu	Kofai Bai	1
	Kantoga	Unguwar Gede	2
	Kangire	Waza Yamma	1
May 2014	Kangire	Maigwadayi	1
June 2014	Kantoga	Bulunkuce	2
August 2014	Sundimina	Nafara Arewa B	2
	Wurno	Funtua	1
	Kwangwara	Kuja Arewa	1
September 2014	Wurno	Kagadama	1
	Kwangwara	Kwangwara	2
November 2014	Kiyako	Gwarji	1
TOTAL			**28**

Source: WHO 2014.

Study population

The study intended to interview parents of all the 28 children that were found to be missed during LQAS in 2014 in Birnin Kudu LGA through purposive sampling but only 24 out of the 28 children were reached. Four children were nowhere to be found. This is due to migration (1 child in Wurno and 1 in Kantoga) and the other two (1 in Lafiya and 1 in Kangire) were not recognised by the in habitat of the settlements.

Study size

The sample size of the study was 24 children found to be missed by LQAS.

Study frame

The list of the children missed during LQAS in the LGA was used as a sampling frame.

Sampling procedure

This study used a purposive sampling method to identify samples that participated in the study. Purposive sampling is a sampling method in which the researcher handpicks subjects to participate in the study based on identified variables under consideration. This type of sampling is used when the population for study is highly unique (Northern Arizona University, 1997).

Twenty-four parents were recruited using the following criteria:

1. General public.
2. Birnin Kudu LGA indigene.

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3. Those whose children were missed during LQAS after 2014 Polio campaigns.

Data collection and analysis

Survey data were collected by a questionnaire which was applied face to face to parents of the 24 children. The questionnaire was developed using Open and close ended questions. Data analysis was carried out using descriptive statistics, mean, median, proportions.

Validity is degree to which a research instrument captures what it is supposed to capture as proposed. Effort has been made by the researcher to construct the questionnaire in such a way that the questions are simple to understand and geared towards capturing what is intended directly, the language used are simple and straight forward. In most cases close ended questions were provided so that respondents can choose from the options, by and large in some cases respondents were given the leverage to express their responses in an open-ended question. These are all in order to accurately assess what the researcher want to know. The questionnaires were distributed in such a way as to capture the responses of respondents in every ward in the study area using purposive sampling technique.

Reliability entails consistency of the research instrument in terms of assessing and capturing what it is intended. The use of descriptive analysis is intended to guarantee the reliability of the instruments used where by percentages and proportions were computed for in respect of the variables for consistency.

Results

Questionnaires were administered to 24 parents of the missed children as shown in the table below:

Table 3. Number of parents by ward that participated in the study

SN	NAME OF WARD	NO. OF CHILDREN MISSED (Percentage)
1	WURNO	9 (38%)
2	SUNDIMINA	3 (13%)
3	KANTOGA	4 (17%)
4	LAFIYA	2 (8%)
5	B/KUDU	1 (4%)
6	KANGIRE	1 (4%)
7	KWANGWARA	3 (13%)
8	KIYAKO	1 (4%)
	TOTAL	**24 (100%)**

Source: WHO 2014

It can be seen from the table above that majority of the children that were missed were from Wurno ward constituting 38% and less number from Birnin Kudu, Kangire and Kiyako (constituting 4% each).

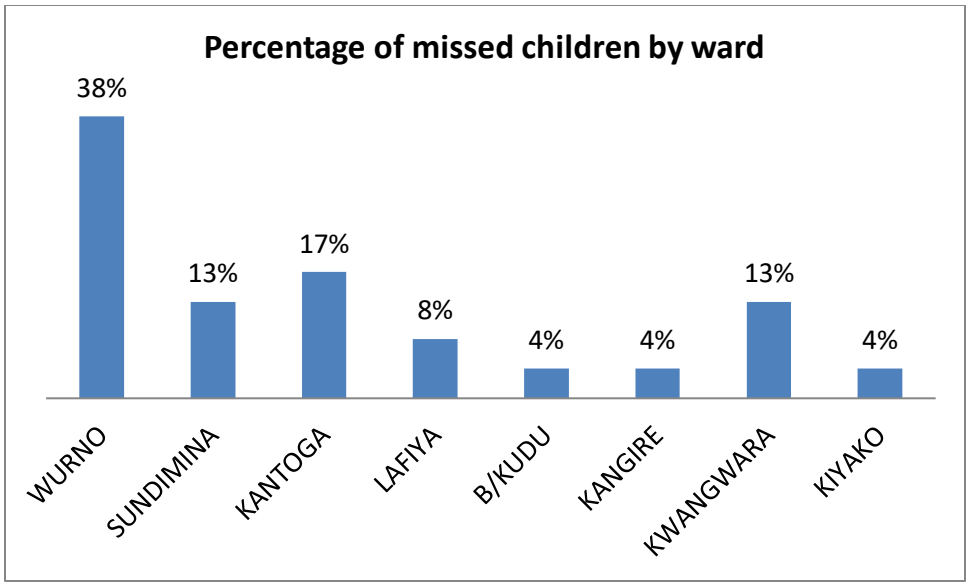

Figure 2. Percentage of missed children by ward

Source: Researcher's computation using percentage

Demographics

The demography of the missed children is given the table below:

Table 4. Demographic characteristics of the children missed during LQAS in Birnin Kudu LGA in 2014

Variables	**Subcategory**	**Proportion n=24(%)**
Sex of the child	Male Female	8 (33%) 16 (67%)
Median age of the children in months		31 months
Religion of the child	Islam Christianity	24 (100%) 0 (0%)
Type of the settlement	Urban Rural Scattered	0 (0%) 17 (71%) 7 (29%)
Level of education of the father	Primary school Secondary school Higher education Qur'anic education None	6 (25%) 0 (0%) 3(13%) 14(58%) 1(4%)
Level of education of the mother	Primary school Secondary school Higher education Qur'anic education None	5(21%) 0(0%) 5 (21%) 7 (29%) 7(29%)

Source: Researcher's computation using percentage

It can be seen from the table that majority of the children missed were female which constituted 67% of the total children. All the children missed were Muslims and no single Christian was missed. Majority of the children missed were in the rural area which constituted 71% of the total children. Majority of the

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parents had either Qur'anic school education or none. This was followed by primary education (25%) in the case of fathers while in the case of mothers it was followed by none education (29%).

Parent awareness about the campaigns

75% of the parents were aware of the campaign before the implementation, while 21% said that they were not aware about the campaign. 4% didn't answer the question as shown in the table below.

Table 5. Parent awareness about the campaign

Variable	Subcategory	Number (proportion)
Parents awareness about the campaign	Aware	18(75%)
	Not aware	5(21%)
	No answer given	1(4%)

Source: Researcher's computation using percentage

Table 6. Parent awareness about the campaign by ward

Name of ward	Parents' are aware of the campaign	
	Yes	No
Wurno	4 (17%)	5 (21%)
Sundimina	3 (13%)	0 (0%)
Kantoga	4 (17%)	0 (0%)
Lafiya	2 (8%)	0 (0%)
Birnin kudu	1 (4%)	0 (0%)
Kangire	1 (4%)	0 (0%)
Kwangwara	3 (13%)	0 (0%)
Kiyako	1 (4%)	0 (0%)

Source: Researcher's computation using percentage

Reasons why child was missed

From the table and bar chart below it can be seen that 75% of the children missed were due to the reason "child was not at home", "child was too young for immunization" & "others" 8% each. Child was sick and too many campaign (4%) each and the rest (0%) each.

Table 7. Reasons why child was missed

Variable	Subcategory	Number (proportion)
Reason why child was missed	Child was not at home	18 (75%)
	Vaccine not safe	0(0%)
	Child was sick	1(4%)
	Child was too young for immunization	2(8%)
	Don't believe on immunization	0(0%)
	Too many campaigns	1(4%)
	Religious belief	0(0%)
	Child was scarred	0(0%)
	Unhappy with the attitude of the vaccination team	0(0%)
	Team didn't visit the house	0(0%)
	Political differences	0(0%)
	No pluses during the visit	0(0%)
	Unmet needs ( ) such as	2(8%)

	Others	

Source: Researcher's computation using percentage

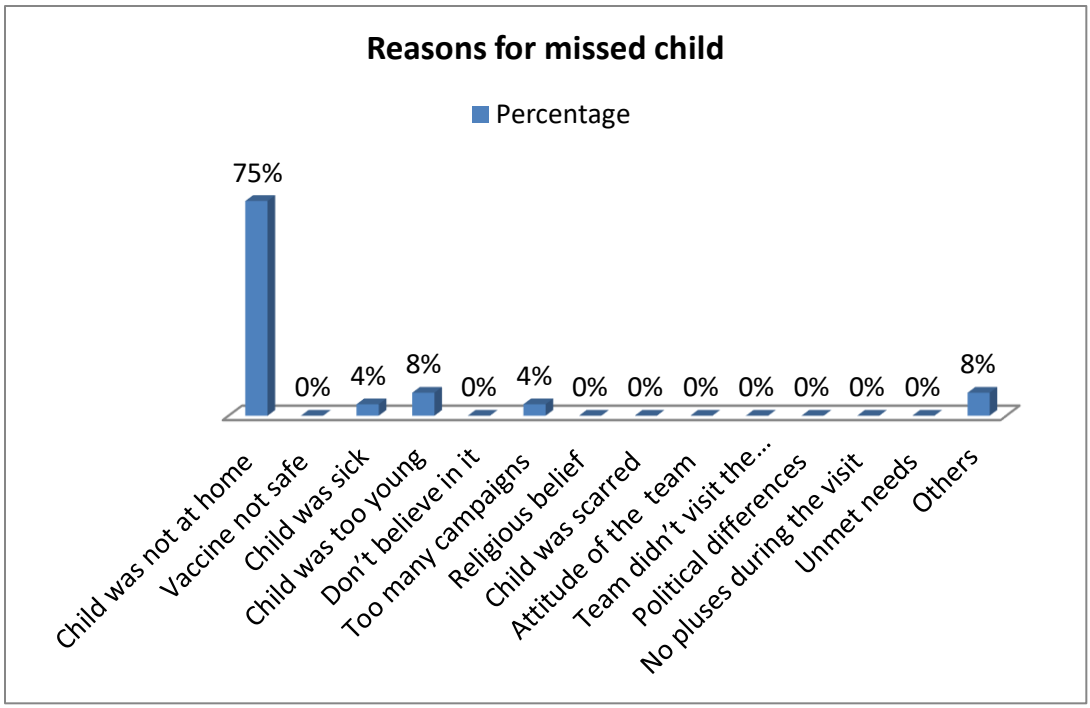

Figure 3: Reasons for missed children

Discussion

Seventy five percent (75%) of the children missed were as a result of 'child was not at home'. This may be either due to the fact that the vaccination team did not start work early or because the child left home before their arrival or the child slept somewhere or travelled to somewhere during the vaccination campaign.

Next reason was 'child was too young for immunization' (8%). Some parents think that new born babies are too young to be immunized despite all social mobilization and dialog been conducted before campaigns. Other parents are non-compliance parents but hid behind the same reason.

'Child was sick' and 'too many round' were on the next level (4%) each. This is another reason behind which non-compliance parent used to hide. These parents do not want to come out directly to say they do not want the immunization but will say 'child is sick' or 'too many round'. Even if the children were truly ill, it should have been the health worker who should suggest not giving the vaccine and not the parents.

Other reasons (aside from those listed) constitute 8%. Other reasons means when parent did not give any reason or said I do not know or do not remember. None of the parents give any one of the following as a reason for missed child: 'religious belief' , 'child was scared', 'unhappy with the attitude of the vaccination team' , 'team didn't visit the house', 'Political differences' , 'no pluses during the visit' or 'unmet needs'.

The study also showed that the highest proportion of the children missed was in Wurno ward followed by Kantoga, then Sundimina and Kwagwara; and lowest on the list is Birnin-Kudu, Kangire & Kiyako wards. The number of missed children in Wurno ward is more than double to the number of children missed in Kantoga which is the second ward in terms of number of missed children. This higher number of missed children in Wurno ward can also have a connection with the fact that parents are not aware of the campaigns thereby leaving their children to go outside to play before the arrival of the vaccination

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teams. This will lead to miss children even though there are transit (special) teams that supposed vaccinate children on the street, playground, water point, school etc.

High proportion of the missed children were female and Muslims. No Christian was found unimmunized but this is not surprising due to the fact that there are few Christians in the LGA and majority of them are living in Birnin- Kudu ward.

Seventy one percent of the children missed were from rural settlements and only twenty nine percent of the children were from the scatted settlements. No child was missed in an urban area because Birnin-kudu is considered as rural settlement and not urban.

In terms of level of education of the fathers, high proportion of the fathers had Qur'anic education. This doubled the number of fathers with primary education. There are few with higher education and few parents with no education at all. In case of mothers' education, number and percentage of mother with Qur'anic education and those with none are higher and same. This is followed by those with primary and higher education. No father or mother with the highest level of education as secondary level.

High percentage of the parents were aware of the campaign prior to implementation while 21% (which is not a small number) were not aware of the campaign prior to its implementation and this can be avoided by early announcement through media, newspapers, town announcement, mosque and church announcements etc.

Conclusion

In this study descriptive cross-sectional study was used to find out reasons why children were missed during LQAS after IPDs campaigns in Birnin Kudu LGA in 2014. From the study it can be concluded that 75% of the children missed were due to the reason "child not at home". Other reasons were "child was too young for immunization" and "others" which contributed 8% each. Least among the reasons were "Child was sick" and "too many campaigns" and each of them contributing 4%.

Recommendations

1. Health Education: the government should put more effort in educating the populace about Polio vaccination; emphasize its importance, why it is frequently repeated, how polio hinders lifelong opportunities for their children. This will help create better awareness and dispel some misconceptions about the vaccine. When parents understand the issue better, they will be more willing to make their children available for vaccination.
2. Immunization days should be uniform all over the nation so as to be able to capture those who travelled to another part of the country.

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