

**FACTORS INFLUENCING CHILD IMMUNIZATION IN ISHAKA TOWN  
COUNCIL BUSHENYI DISTRICT UGANDA**

**BY**

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**A RESEARCH REPORT SUBMITTED TO THE FACULTY OF ALLIED HEALTH  
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INTERNATIONAL UNIVERSITY**

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## **DECLARATION**

I hereby declare that this report is my original work and has not been presented for any other award at Kampala International University or any other University whatsoever. I therefore submit it in partial fulfillment for the requirement of the award of Diploma of Clinical Medicine and Community Health

**SIGNATURE:.....DATE:...../...../.....**

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## **APPROVAL**

This report entitled; **“Factors influencing child immunization in Ishaka Town council, Bushenyi District Uganda,”** has been developed under my supervision and guidance. I therefore forward it to the faculty of Allied Health Sciences for further consideration

**SIGNATURE:.....DATE:...../...../.....**

**MR. TASHOBYA DANIEL KAMUGISHA**

## **DEDICATION**

I dedicate this work to my sponsor, Uncle Willim Oluka, my beloved twin sister Apio Phiona, my son Kenan and my husband Msearch for their support throughout the course for the three years, may God bless you abundantly.

## **ACKNOWLEDGEMENT**

I wish to acknowledge with profound gratitude the inestimable contribution of every one that gave me various materials and financial support especially my sponsor Uncle William Oluka and my beloved sister Apio Phiona.

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Finally and more substantially, Glory and Honor to God Almighty for the good health and guardianship ever since my conception.

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## **LIST OF ACRONYMS**

ANC	Antenatal Care
BASICS	Basic Support for Immunization Child Survival
BCG	Bacille Calmette Guerin
BDHDR	Bushenyi District Health Development Report
BDPSA	Bushenyi District Population Statistical Abstract
CDC	Centers for Disease Control
CI	Complete Immunization
DHS	Demographic and Health Surveys
DISH	Delivery of Improved Services for Health
DISHR	Delivery of Improved Services for Health – Report
DPT	Diphtheria Pertussis Tetanus
EPI	Extended Programme on Immunization
Hep B	Hepatitis B
Hib1	Hemophilus influenza type b 1
NI	Not Included
MOHDR	Ministry of Health Development Report
OPV	Oral Polio Vaccine
PAHO	Pan American Health Organization
PCV	Pneumococcal Vaccine
UNEPI	Uganda National Expanded Programme on Immunization
UNICEF	United Nations International Children’s Emergency Fund
UWC	University of Western Cape

## **ABSTRACT**

### **Introduction**

Complete child immunization by the age of 12 months in Western Uganda are far below the targeted average percentage of 80%. Withstanding the above, the factors influencing child immunization are still unknown

### **Objective**

To ascertain factors influencing child immunization in Ishaka Town Council, Bushenyi district.

### **Methodology**

A descriptive, cross-sectional research design was conducted to describe the child immunization level by the age of 12 months.

### **Results**

A total of 135 caregivers of children aged between 12-18 months were interviewed for the survey. The majority 101 (75%) were between the age of 20 and 34, 32 (24%) were 35 years and above and the remaining 2 (1%) were less than the age of 20 years with mean age of  $29.8 \pm 5.9$  (Table.1). The immediate caregivers of the children were mothers (94.5%), fathers (1.9%) and other family members (3.6%).

### **Conclusion**

There is low Vaccination coverage among children aged 12-18 months in Ishaka town compared to national and global target. The study showed factors that are significantly associated with vaccination incompleteness among children age 12-18 months were knowledge about benefit of vaccinating child and age to complete vaccination, Area of advice, ANC follow up and institutional delivery.

### **Recommendation**

The health office and health facilities in town should work on reasons provided by the caregivers for vaccination incompleteness such as Strengthen vaccine stock management at health facilities in town to avoid shortage of vaccines that may lead to incomplete vaccination

## **CHAPTER ONE**

### **BACKGROUND OF THE STUDY**

#### **1.0 Introduction**

This chapter consists of background to the study, statement of the problem, objectives of the study, study questions, scope of the study and justification of the study.

#### **1.1 Background to the study**

In 1974, The World Health Organization (WHO) launched the "Expanded Program on Immunization"(EPI) aiming at reducing the incidence and mortality due to vaccine preventable disease by promoting the expansion of immunization activities around the world. Immunization is an effective public health intervention to reduce morbidity and mortality among infants. It is an important means of controlling diseases, and has been considered the most cost-effective health intervention (Centers for Disease Control [CDC], 2009; Kongsvedt 2007; Melgaard 2011; Pan American Health Organization [PAHO], 2012; World Health Organization [WHO] 2015; WHO/United Nations International Children's Emergency Fund [UNICEF], 2011).

Based on WHO/UNICEF (2012) report, global immunization coverage continues to increase dramatically. Global data shows that infants less than one year of age immunized with DPT, (the three doses of the combined vaccine against diphtheria, pertussis and tetanus) increased from 20% in 2006 to 79% in 2010. The percentage of children immunized with three doses of polio vaccine in 2010 rose from 22% in 2006 to 80%. Global coverage for measles increased from 16% in 2006 to 80% in 2010. However, these increases are still falling short of the 2015 target of 90% set by WHO/UNICEF Global Immunization Vision and Strategy.

Although the current immunization coverage in Africa is 70%, the acceptable minimum coverage of 80% is yet to be reached. According to WHO (2012), some of the major contributing factors to poor coverage are social mobilization and insufficient community participation. Social mobilization, as defined by UNICEF (2013), is a broad scale movement to engage people's participation in achieving a specific development goal through self-reliant efforts. A substantial number of studies have documented cases of inadequate immunization coverage and challenges in

Sub-Saharan Africa (Bardenheier, Yusuf, Rosenthal, Santoli, Shefer, Cricket, et al., 2014; BASICS 11, 2013; Bates, Fitzgerald, Dittus & Wolinsky, 2014; Bhuiya, Bhuiy & Chowdhury, 2015; Borooah, 2013; Cheyne, 2014; Chhabra et al., 2007; Demographic and Health Survey Report [DHS], 2010; DHS Report, 2015; Kidane & Tekie, 2010; Rafiqul, Mahfuzar & Mosfequr, 2007; Singh & Yadav., 2011; WHO, 2009; 2011; 2012; WHO/UNICEF, 2014). Among the 29 sub-Saharan countries surveyed, full childhood immunization coverage varies widely from only 11% of children of ages 12 to 23 Months in Chad to 78% in Zambia. In some countries, missing the third dose of vaccine in the DPT and Polio series is the reason that complete immunization levels are low. In Uganda for example, fewer than half of the children received the third DPT and Polio vaccines, although over 70% received the first in the series (Uganda Bureau of Statistics [UBOS], 2011).

Uganda recognizes increased immunization coverage as an important step towards fulfilling the Millennium Development Goals of reducing childhood mortality (Ministry of Finance Planning and Economic Development [MFPED], 2013). The goal of immunizing children against the six childhood immunizable diseases responsible for child mortality and morbidity targeted by Uganda Expanded Programme on Immunization [UNEPI] is indeed a noble one. However, it is not an easy task to achieve. According to UNEPI (2015), immunization focuses on six common childhood diseases that can be prevented through immunization. These include; diphtheria, pertussis (whooping cough) and tetanus (DPT), Measles, poliomyelitis (polio) and tuberculosis (TB). Full immunization includes three doses of DPT Vaccine, four doses of oral Polio Vaccine, a Measles vaccination and a BCG vaccination. According to the Ministry of Health report on immunization promotion for leaders, the proportion of children who are fully immunized in Uganda has been dropping since 2006; from 47% in 2005 to only 37% in 2011, (MOH, 2012). “Fully immunized” is the term used to describe a child less than 12 months old who received one dose of BCG, one dose of Measles, and three doses of DPT/OPV before his/her first birthday. The report also states that most children (84%) received one dose of immunization and only 37% received all the five doses. The report further indicates that as many as 63% of mothers are not aware when their children need their next immunization doses in order to complete the immunization schedule. A

nationwide demographic and health survey conducted in 2006 showed that only 46% of the children (12 to 23 months) had received all the recommended vaccines (UBOS, 2007).

Routine immunization coverage for Polio, DPT and Measles in Bushenyi district for children of 12 to 18 months averages 53.3%. The district coverage for Bushenyi-Ishaka, Igara East and Igara West being 69.3%, 67.7% and 69.5% respectively for the year 2014 (MOHDR, 2015/6; BDHDR, 2015/6). These coverage rates are all below the target score of 80% as per UNEPI Standards and hypothetically attributed to many factors including lack of awareness about repeat visits to achieve complete immunization among parents, high levels of illiteracy and low socio-economic status(poverty level) of residents. In addition to hypothesized assumptions, parents with low socio-economic status are from low income households where per capita consumption on health boosting goods and services in children is low.

## **1.2 Statement of the problem**

Complete child immunization by the age of 12 months in Western Uganda for 2005, 2006 and 2007, respectively were: Polio:47.0%, 40.1% and 52.1%; DPT: 54.4%, 46.0% and 60.0%; and Measles: 50.0%, 56.0%,and 58.7% (Ministry Of Health Development Report [MOHDR], 2005-2007; Bushenyi District Health Development Report [BDHDR], 2005-2007). These are far below the targeted average percentage of 80% (WHO, 2012). In addition, the statistics regarding BCG immunization are not clearly documented, this setting an information gap difference of all immunization schedules by the age of one year. This not only influences the knowledge of its extent but also most importantly the community interventional needs as a measure by government in ameliorating poor outcomes related to failure to complete the immunization schedules.

Withstanding the above, the factors influencing child immunization are still unknown. Therefore, this study sought to find out the immunization level, assess the factors influencing child immunization and ascertain the effects of mothers' healthcare utilization on child immunization by the age of 12 month in Ishaka Town Council in Bushenyi District.

### **1.3 Objectives of the study**

#### **1.3.1 General objective**

The study was to ascertain factors influencing child immunization in Ishaka Town Council, Bushenyi district.

#### **1.3.2 Specific objectives**

- i. To find out the level of child immunization by the age of 12 months in Ishaka town council Bushenyi district.
- ii. To assess factors influencing child immunization by the age of 12 months in Ishaka town council Bushenyi district.

### **1.4 Study questions**

- i. What is the level of child immunization by the age of 12 months in Ishaka town council Bushenyi district?
- ii. What are the factors influencing child immunization by the age of 12 months in Ishaka town council Bushenyi district?

### **1.5 Scope of the study**

#### **1.5.1 Geographical scope**

This study was conducted in Ishaka, Bushenyi District. Which is bordered by Buhweju district to the North, Mbarara district to the East, Sheema District to the south and Rubirizi district to the west. The district is approximately 68km by road from Mbarara the biggest town of the region and approximately 350 km from Kampala the capital city of the country.

#### **1.5.2 Content scope**

This study is documented on the level, factors influencing and effects of mothers' health care utilization on child immunization by age of 12 months. In that regard, it showed the association that exists between turn up for the vaccines and factors influencing turn up.

#### **1.5.3 Time scope**

The study covered four (4) months of 2017 from March to June. This included from the time of conception of the idea to the time to submission of the findings to the faculty.

## **1.6 Justification of the study**

Despite the overall improvement in vaccination rates for children by the age of 12 months, it is still important to understand the factors that influence immunization status in minority populations (Mennito & Darden, 2010). Parental decision-making concerning childhood vaccinations remains controversial and it is progressively more important for researchers to understand the variables involved in those decisions (Harris, Hughbanks-Wheaton, Johnston, & Kubin, 2007).

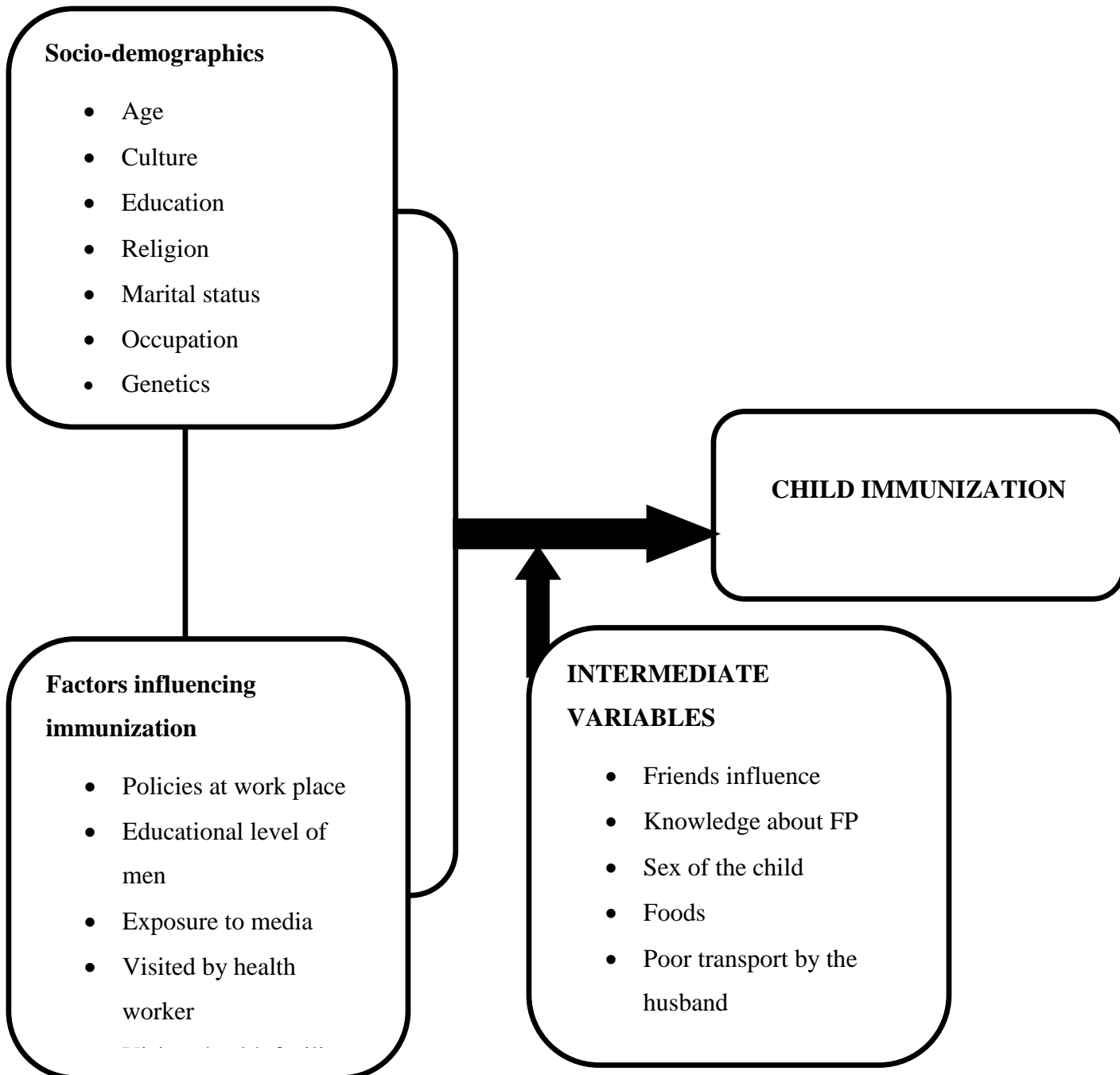
The information obtained from this study is expected to fill gaps seen in availability of study done on factors of vaccination incompleteness which may vary among communities. The result of the study will also help to inform program managers to consider the important contributing factors for incomplete vaccination while planning to improve vaccination program. The study will contribute for effective utilization of resources by coming up with relevant, evidence-based recommendations for addressing issues related with vaccination incompleteness rate. Findings from this study can guide program managers on how to reduce incomplete vaccination and consequently, reduce the incidence of vaccine preventable diseases in the study areas and probably other parts of the country with similar challenges.



## 1.7 Conceptual frame work

### INDEPENDENT VARIABLES

### DEPENDENT



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This chapter reviews literature related to child immunization; on level, factors influencing and effects of maternal health care utilization on child immunization by the age 12 months. It also includes literature from text books, journals, periodicals and official reports, and has been reviewed following specific objectives.

#### **2.2 Child Immunization level**

Vaccine-preventable diseases are a challenge in most developing countries, especially in sub-Saharan Africa where it accounts for 25% of the deaths in infants (World Bank, 2012). Despite vigorous vaccination campaigns, immunization coverage remains low in many sub-Saharan countries such as Kenya and Zambia (American Red Cross, 2012; 2013; 2014). Uganda is no exception, as infant deaths from immunizable diseases are evident in many parts of the country in the districts of Karamoja, Bundibugyo, Nebbi, Yumbe, Katakwi, Moyo, Kiboga, Kamuli, Mubende, Kalangala, Kaberamaido, Bulisa and Kawempe division (MOHDR, 2008). Infant mortality rate deteriorated in Uganda from 88 deaths per 1,000 live births in 2000 to 90 deaths per 1,000 live births in 2005 (MFPED, 2007). The vast majority of deaths to children were caused by immunizable childhood diseases. Others were as a result of prenatal and early neonatal conditions, malaria, meningitis, pneumonia and HIV/AIDS (MFPED, 2007).

In a study by Chhabra, Nair, Gupta, Sandhir and Kannan (2007) that assessed the immunization coverage of BCG, DPT, OPV and Measles, and factors affecting the coverage in 693 children aged 24 to 47 Months in two urban villages of East Dehli, it was found that the immunization coverage was: 82.7% for BCG, 81.5% for DPT1/OPV1, 76.8% for DPT2/OPV2, 70.7% for DPT3/OPV3 and 65.3% for Measles vaccine. In a cross sectional study by Borus (2014) on missed opportunities and immunization coverage of 418 children under two years in the slum areas of Nairobi Kenya,

it was found that 80% of the children were immunized against Measles, 96.7% had received BCG, 85% against DPT and 75% against Polio. Overall 84% of the children were fully immunized.

In a cross-sectional survey to describe the immunization coverage in a rural part of north India with a sample of 747 children, it was found out that 94.8 % (708 of 747) eligible children were immunized and had received the required doses of the primary schedule vaccines (Singh 2007). The coverage was (BCG (94.8%), OPV/DPT (91.6%), and Measles (72.6%). Only 39 (5.2%) of the eligible children had not completed immunization schedule for BCG, DPT, Polio and Measles due to temporary or permanent migration of the children or family to the village or went back to the parents' home or divorce or the child was adopted by relative.

In a cohort study of childhood immunization on 760 newborns in rural Malawi, it was found that at 1 year of age, 91% were vaccinated against Polio, 90% against DPT and 64% against Measles (Vaahtera, Kulmala, Maleta, Cullinan, Salin & Ashorn, 2010). At 2 years of age, the corresponding vaccination coverages were 93%, 93% and 84%, respectively. (Kidane & Tekie, 2010). Furthermore, the study found that immunization coverage for DPT, Polio and Measles in these areas were 97.3% for DPT1/OPV1, 92.7% for DPT3/OPV3 and 75.5% respectively and the reason for this high coverage was that mothers were literate.

A prospective study by Anah, Etuk and Udo (2008) on eliminating a missed opportunity as one of the barriers to immunization in 919 children aged 5 years and below in Calabar South-Eastern Nigeria, showed that 60.9% of the children whose immunization status was ascertained were fully immunized, while 26.6% were partially immunized and 12.5% had no form of immunization. The study further revealed that immunization coverage for BCG was 65.7%, OPV0 65.7%, DPT1/OPV1 64.1%, DPT2/OPV2 62.7%, DPT3/OPV3 62.4% and 61.3% for Measles. In a study by Nuwaha, Mulindwa, Kabwongyera & Balenzi (2011) on attendance at National Immunization days and routine immunization involving 48 mothers and fathers in Kawempe division, Uganda, it was found that immunization coverage was 95% for BCG, 82% for DPT, 81% for Polio and 77% for Measles.

### **2.3 Factors influencing child immunization.**

A study carried out by Cheyne (2014) on immunization in urban areas in China revealed that poor uptake of immunization in urban areas was associated with lack of mother's awareness about repeat visits to achieve complete immunization rather than overall vaccine awareness. This led to failure by mothers to make repeat visits to complete immunization. The study suggested that the community's concerns about immunization should be addressed through involvement of decision-makers like fathers and mothers-in-law. Furthermore, anti-vaccine rumors such as pathogenicity of a vaccine and propaganda of vaccines weakening their children which were encountered in the community, affected immunization coverage attained. Most illiterate mothers as well as their husbands have negative attitudes towards vaccination and believe that vaccines have got side effects on the health of their children. Negative perceptions about vaccination and anti-vaccine rumors in some communities affect the level of immunization coverage.

In a related study, a representative sample of 221 respondents was used in investigating the reasons for non-vaccination and the effects of socio-demographic factors on vaccinations in a district of Istanbul, Turkey, (Sebahat & Nadi 2012). This study revealed that distance from the health Centre and internal migration from less developed parts to more developed parts of the country, were significantly related to the level of immunization coverage. The study also revealed that immunization coverage was associated with educational level of the father and the mother. Children whose mothers' education level was at least primary school were more likely to be fully immunized than those whose mothers had no education.

In another study on child immunization coverage in 700 households in the slum areas of Rajshahi City Corporation Bangladesh, it was found that full immunization was higher(92.3%) in the higher ages (24+ months) than the age 12-23 months (89.5%) (Rafiqul, Mahfuzar & Mosfequr, 2007). The high coverage in the higher ages of 24+ months was attributed to demographic and socio-economic factors such as mother's education, husband occupation and family's monthly income. The study found that the place of delivery and exposure to mass media had highly significant effects on child immunization. In other words, the mothers who were exposed to any mass media were more likely to have their children immunized compared to the mothers who were not exposed to any mass media. Furthermore, mothers who delivered at health institutions such as hospitals

and clinics were more likely to have their children given the Polio 0vaccine on delivery than those who delivered at home.

In a study by Nath et al. (2007) on determinants of immunization coverage in 510 children aged 12-23 months in urban slums of Luck now district, India, it was reported that only 44% of the children were fully immunized. Incomplete immunization and unimmunized status of the children were associated with low socio-economic status which constrained the poor parents to take their children for repeated visits to complete immunization schedules, higher birth orders which are associated with low child care with a mentality that high numbers act as insurance for those that may die, home delivery and Muslim religion which limit access to immunization centers.

In another study by Singh and Yadav (2001) on childhood immunization of 6300 children in urban slums of India, it was found that slum dwellers did not demand immunization services. Demand immunization services require acceptability, clear understanding of the benefits, no fear of vaccines, specific knowledge of the vaccine doses, motivation to avail services and overcoming barriers for seeking immunization. The authors argue that slum dwellers were unable to demand for services owing to weak community organization and low collective confidence, which is known to increase utilization of health services in public institutions. This is possibly related to the observed low utilization of health services including immunization services. In a study on health infrastructure and immunization coverage of 43,416 children aged 2-35 months residing in rural India, it was found that the availability of health infrastructure significantly improved immunization coverage for non-Polio vaccines (Datar, Mukherji, & Sood, 2015).

In Uganda, a cross-sectional descriptive study by Odiit and Amuge (2013) on comparison of vaccination status of children born in health units and those born at home of 486 children under five years in Jinja town, Eastern Uganda, it was found that 68% of the children were up to-date with their vaccines. The study revealed that a child born in a health unit was more likely to be up to-date with their vaccination compared to a child born at home. Being born at home was found to be a risk factor for incomplete or non-vaccination. Continuation of vaccination was similarly observed to be poor in children born at home and those born in health centers.

In a cross-sectional survey on factors influencing immunization coverage among 410 children under five years of age in Khartoum State Sudan, Ibnouf, Van den Borne and Maarse (2007) found that children in urban and rural areas differed significantly in their reported vaccination coverage and their receipt of each vaccine. In urban areas, accessibility to immunization centers is high compared to rural areas where amidst the few centers immunization is schedule based. The study also confirmed that vaccination coverage increased with an increase in the age of the children and the education level of the mother. Furthermore, the study found that the mothers' knowledge and attitude to vaccination showed a strong relationship with the vaccination status of their children. This study used a similar method as applied by Chabra et al. (2007).

In Kenya, a cluster survey with sample size of 204 children aged 9-23 months was carried out by Ndiritu et al. (2014). This study investigated immunization coverage and risk factors for failure to immunize children below one year for DPT. The study revealed that immunization coverage declined with increasing distance from the vaccination clinics. The study also showed that immunization coverage was more strongly associated with annual patterns of rainfall.

In a cross-sectional descriptive study of 408 care takers with children aged 12-23 months by Tugumisirize, Tumwine and Mworozza (2012) on missed opportunities and caretaker constraints to childhood vaccination in Kiyeyi, a rural area in Eastern Uganda, it was established that complete vaccination coverage was 44.6%. Reasons for non-completion of vaccination were: caretaker not being bothered, being busy or ill, and feared health workers. Other reasons were: not knowing immunization schedule, low level of formal education, fear of vaccine side effects and perceived contraindications to vaccinations. (MFPED, 2013). A participatory study of 114 participants to assess the impact of decentralization of health services in Ntungamo District in Western Uganda by Baluka (2003) revealed that routine immunization coverage in infants below one year for Polio, DPT, Measles and BCG was high, averaging 80% since 2000. The study found that the community members hailed the decentralization of services as instrumental in improving accessibility to health services.

## **CHAPTER THREE**

### **STUDY METHODOLOGY**

#### **3.0 Introduction**

This chapter describes the study design, study area, study population, sample size and sampling procedure, inclusion and exclusion criteria, definition of variables, research instruments, data collection procedures, data management and quality control, data processing and analysis, ethical considerations, limitations and dissemination of findings.

#### **3.1 Research design**

This was a descriptive cross sectional study, which included both qualitative and quantitative Methodologies. A descriptive, cross-sectional research design was conducted to describe the child immunization level by the age of 12 months. The descriptive design was preferred because it provided further insights into the research problem by unfolding the variables of interest, estimating, predicting and examining associative relationships. (Jan H, 2013).

#### **3.2 Study population**

The study population comprised of (1,202) Ishaka Town council households in Bushenyi District, Uganda. (BDPSA, 2010). It is estimated that about 11% (96) of households had children in the age group of 12-18 months (BDPSA, 2010).

#### **3.3 Sample size determination**

A sample of from 1202 households was calculated using Epi Info Statcalc and applying the following parameters: a 95% level of confidence (5% margin of error); and prevalence of 53% according to UNEPI (2010). Based on the scope of the study, the investigator is targeting a total of 204 households. To cater for non-responses to some of the questions, a 7.5% over-sampling was applied to give the stated value of 96 households with expected response rate of 99.2%. Sloven formula below is used to calculate the sample size.

#### **Equation 1: Sloven Formula**

$$n = \frac{N}{1 + N(e)^2}$$

Where n= sample size

e= margin of error

N= considered total target Population of the study population

N= 204, e= 0.05

$$n = \frac{204}{1 + 204(0.05^2)}$$

Therefore: n= 135.09 respondents

### **3.4 Sampling procedure**

In an effort to minimize data collection costs and to ensure precision, the study used a multi-stage sampling technique. At the first stage cluster sampling technique was applied to obtain the enumeration unit. At the second stage, simple random sampling was used to select five (5) administrative units of the town council. From each of the five (5) selected administrative units [parishes], the study finally used systematic sampling to select households from the five (5) selected units. The research team established the number of households that have children aged 12-18 months. At the household level, the mother was selected as the respondent. The father or caretaker was used only if the mother was unavailable

### **3.5 Inclusion and Exclusion criteria**

#### **3.5.1 Inclusion criteria**

All households in Ishaka Town Council with a child aged 12-18 months and whose immunization statuses are known/ available were included in the study.

#### **3.5.2 Exclusion criteria**

Those whose children were aged below 12 months or above 18 months, those with children with unknown immunization status were excluded.

### **3.6 Data collection**

Data was collected using interviewer-administered questionnaires developed according to the research question and the objectives of the study. The thoroughly trained Research Assistants administered the questionnaire in approximately 40 minutes each. Child vaccination status was determined through inspection of the child's immunization card by the study interview.



Information on demographic and socio-economic factors were obtained from self-identified and reported by the mother and caretaker.

### **3.7 Data analysis**

Data was analyzed using statistical package for social scientists version 20 in a univariate format. Frequency tables, charts, graphs and descriptive statistics were constructed. Statistical significance of the association between the dependent variable and the independent variable were interpreted.

### **3.8 Quality Control**

A pre-visit was done and the research instruments were pre-tested. They were then fully developed before the actual study was undertaken.

### **3.9 Limitations and delimitations of the study**

Limitations to this study included language barrier since Ishaka town council is a developing urban Centre with a collection of different tribes and nationalities. To solve this problem, questionnaires were translated into the language most understandable to the respondents.

The questionnaires were administered between 0800hrs and 1600hrs and most of the respondents may be very busy by the time the researcher reached them and some would have already gone for work. However it's for the same reason the study was given adequate time for data collection to ensure that high chances given to each household to participate

### **3.10 Procedures and Ethical considerations**

In conducting this study, the researcher Took care not to infringe on ethical and legal issues. Institutional approval was obtained from the faculty of allied health sciences.

The respondents were adequately informed using the participant's information sheet about all the relevant aspects of the study, including its aim, interview procedures, anticipated benefits and potential hazards before the main data collecting team arrived. The interviewers were outline scope of the interviews and its approximate length prior to the start of the interviews. The respondents were informed that participation in the study was entirely voluntary. They were also informed that they had the right to do the interview, to abstain from participation and to terminate their participation at any time, whenever they wanted. The consent forms were signed by the

respondents who agreed to participate in the study with no pressure or inducements of any kind being applied to encourage them to become subjects of the study.

Caution was maintained to ensure that the identity of respondents from whom the information was obtained would be kept strictly confidential and was to be referred to their words, pseudonyms or invented names which they had chosen.

## CHAPTER FOUR

### STUDY FINDINGS AND INTERPRETATIONS

#### 4.0 Introduction

This chapter presents the study findings which have been analyzed and presented following the objectives of the study.

#### 4.1 Socio-demographics

A total of 135 caregivers of children aged between 12-18 months were interviewed for the survey. The majority 101 (75%) were between the age of 20 and 34, 32 (24%) were 35 years and above and the remaining 2 (1%) were less than the age of 20 years with mean age of  $29.8 \pm 5.9$  (Table.1). The immediate caregivers of the children were mothers (94.5%), fathers (1.9%) and other family members (3.6%). Concerning marital status, 84% of the caregivers were currently married followed by 6% single and the rest 10% were divorced or widowed. With regard to religion 79 (59%) were Protestant while 32 (24%) were orthodox Christians. The majority 86 (64%) belong to the Banyankole tribal group. Among the interviewed caregivers 27% have primary education, 16% have secondary education, 18% were with higher education and the rest 39% were with no education. By occupation 73 (54.3%) were housewives and 30 (22.2%) were government employees. With regard to the income of respondents, 38 (28%) were with monthly income less than 500,000/= and 86 (64%) were with monthly income greater than 500,000/=

**Table 1: Socio-demographics of the study population**

VARIABLE	FREQUENCY	PERCENTAGE
<b>Age</b>		
<20	01	1
20-34	101	75
35 And above	32	24
<b>Education level</b>		
No education	53	39

Primary	36	27
Secondary	22	16
Higher	24	18

#### **Marital status**

Married	115	85
Single	7	5
Widowed	5	4
Divorced	8	6

#### **Occupation**

House wife	74	55
Farmer	09	7
Government employee	30	22
Merchant	09	7
Daily laborer	08	6
Others	04	3

#### **Religion**

Orthodox	31	23
Muslim	12	9
Protestant	79	59
Catholic	05	4
Other Christian	07	5

#### **Tribe**

Munyakole	86	64
Muganda	14	10

Mutoro	08	6
Mukiga	04	3
Musoga	04	3
Langi	05	4
Others	14	10
<b>Monthly wages</b>		
<500,000/=	38	28
>500,000/=	86	64

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## 4.2 Level of child immunization by the age of 12 months

Information on child vaccination was obtained from 135 children aged 12- 18 months, of whom 66 (48.8%) had vaccination cards. it was found that 105 (77.8%) of children had completed the recommended vaccination by history and vaccination card. Whereas 27 (20%) and 3(2.5%) of the children were partially immunized and never vaccinated respectively. The vaccination coverage varied among series of vaccines. The BCG vaccination coverage was 87.5% and measles vaccination rate was 79% by history and vaccination card. Similarly DPT-HepB-Hib3 and polio three vaccination coverage was 81% and 82% respectively by history and vaccination card. The DPT-HepB-Hib1-measles dropout rate for children was 18% and DPT-HepB-Hib1- DPT-HepB-Hib3 dropout was 15%.

## 4.3 Factors influencing child immunization by the age of 12 months

### 4.3.1 Socio-demographic characteristics of care takers

For further analysis, the dependent variable vaccination status was dichotomized into “No/Partial” and “Complete” vaccination. From children of whom their caregivers attend higher education only 1.7% of them didn’t complete vaccination which is 81% less likely to incomplete vaccination than those children who have caregivers with no education. From 27.5% children of caregivers who attended primary school, 21.8% were fully vaccinated, whereas 5.7% were not fully vaccinated

which is 51% less likely to incomplete vaccination than caregiver children with no education. Regarding Caregivers occupation, from children of government employee 2.3 % of their children were not fully vaccinated which is 65 % less likely to incomplete vaccination than those children of housewife caregivers. But being children from daily laborer, farmer and merchant caregiver have no significant difference with those of housewife caregiver during bivariate analysis. The study also showed child from orthodox caregiver is 66 % less likely to incomplete vaccination than protestant caregivers. But, marital status and age of primary caregiver did not show any significant association with the whether the child is vaccinated or not on bivariate analyses. When we compare vaccination status children from family which has less than 500,000/= monthly income and more than 500,000/= monthly income those from former household are 1.94 times more likely to incomplete vaccination than the later one.

#### **4.3.2 Family size and characteristics.**

Among the respondents 22 (16%) had one child, 78 (57.5%) had 2 or 3 children, 30 (22.4%) had 4 or 5 children, 5 (4%) had greater than 6 children. child death was experienced by 8% of the caregivers. The average family size of the study population was 5.15 ranging from 2 to 11, in which most families had less than 5 members (37%). The mean age of the children was 14 months (range 12–18) and 65 (48%) were of the female gender.

#### **4.3.3 Knowledge**

Knowledge and attitude of mothers about vaccination and vaccine preventable disease its association with completion of vaccination was also assessed in this study. Bivariate analysis showed hearing information about vaccination relate with child incompletion of vaccination. Children of mothers who didn't hear about vaccination were 3.6 times more likely to incomplete child vaccination than those heard. Mothers that think the benefit of vaccination is for child health were 2.3 times more likely to incomplete their children vaccination than those mentioned the benefit is to prevent disease. Regarding the number of vaccine preventable disease, from 15.2% children of those mothers who know 3 and 4 vaccine preventable diseases 1.7% of their children were not fully vaccinated which is 62% less likely to incomplete vaccination than those who know 2 and less vaccine preventable diseases.

#### 4.3.4 Access of vaccination service

The presence and accessibility of vaccination service was assessed by presence of nearby health facility and by average walking time to reach to the health facility. Its association with child vaccination incompleteness was checked but, none of these factors show any significant association by bivariate analyses.

#### 4.3.5 Quality vaccination services

Regarding quality of vaccination service some of the factors included in bivariate analyses showed significant association. Primary caregivers who are advised about vaccination are 64% less likely to incomplete vaccination than those who are advised and those face long waiting line are 2.7 times more likely to incomplete vaccination than those who didn't encounter long waiting line

#### 4.3.6 Reasons for defaulting

To determine reasons why caregivers failed to complete their child vaccination, the 26 survey asked the specific reason. The findings of the survey showed that 18 % of caregivers reported that the reason for not completing child vaccination was not knowing whether to come back for second and third vaccination, 18% Absenteeism of vaccinators or no vaccine, 13% mother was sick/busy/traveled, 11% vaccination time not inconvenient, 10% child was sick, 6% fear of side effect and the remaining 15% of them give different other reasons. There were 12 children who never vaccinated and different reasons were given by mothers and the reason given by more than half of for not vaccinating their children was lack of awareness on importance of vaccination and the remaining respondents answered fear of side effect and child was sick as a reason.

**Table 2: Factors influencing child immunization by the age of 12 months**

<b>Variable</b>	<b>Frequency</b>	<b>Percent</b>
<b>Sex of child</b>		
Male	70	52
Female	65	48
<b>Number family size</b>		
≤4	50	37

$\geq 5$	85	63
<b>Children from mother</b>		
1	22	16.1
2 - 3	77	57.5
4 - 5	30	22.4
$\geq 6$	05	4
<b>Child death</b>		
Yes	10	8
No	124	92

Heard or seen about Vaccination	Vaccination status	
	Incomplete	Complete
Yes	81(17.1%)	338(71.5%)
No	25(5.3%)	29(6.1%)
Message related with completion	43(10.2%)	207(48.9%)
Message not related with completion	39(9.2%)	134(31.7%)
To prevent the disease	45(9.5%)	191(40.4%)
For specific disease	7(1.5%)	72(15.2%)
For child health	44(9.3%)	80(16.9%)
I don't know	10(2.1%)	24(5.1%)
$\leq 2$	81(17.1%)	262(55.4%)
3 and 4	8(1.7%)	64(13.5%)
$\geq 5$	2(0.4%)	23(4.9%)
I don't know	12(2.5%)	21(4.4%)
Yes	32(6.8%)	25(5.3%)
No	74(15.6%)	342(72.3%)



Availability of health facility with vaccination service	Vaccination status	
	Incomplete	Complete
Yes	83(17.5)	297(62.8%)
No	23(4.9%)	70(14.8%)
Walk	82(17.3%)	300(63.4%)
By any transport	24(5.1%)	67(14.2%)
Less than 15 minutes	37(7.8%)	156(33%)
15-30 minutes	62(13.1%)	177(37.4%)
30-1hour minute	7(1.5%)	34(7.2%)

Health worker advice	Vaccination status	
	Incomplete	Complete
Yes	41(8.7%)	235(49.7%)
No	65(13.7%)	132(27.9%)
advice not related with completion	8(2.8%)	94(33.5%)
advice related with completion	34(12.1%)	145(51.6%)
Yes	44(9.3%)	76(16.1%)
No	62(13.1%)	291(61.5%)
Good	59(12.6%)	228(48.7%)
Medium	37(7.9%)	115(24.6%)
Bad	10(2.1%)	19(4.1%)

Reasons for incomplection of vaccination	Frequency	Percent
Vaccination site is far-away	7	7.2
Vaccination time is inconvenient	11	11.4
Absenteeism of vaccinators or no vaccine/supplies	17	17.7

Lack of awareness on the importance of vaccination	5	5.2
Not knowing whether to come back for second and third vaccination	17	17.7
Fear of side effects	6	6.2
child was sick	10	9.6
mother was sick/busy/travel	12	12.5
Other	11	11.4

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## **CHAPTER FIVE**

### **DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.0 Introduction**

The chapter presents a discussion of results, Conclusions and Recommendations of the study findings. The discussions are arranged in themes for easy follow up and how the issues were being raised and presented in the chapter above.

#### **5.1 Discussion**

This study was conducted in urban community in Ishaka, from total children included in the study 20% of them didn't complete their vaccination according to schedule for routine vaccination. From the total interviewed households, 243(52.5%) were able to show the vaccination card which is higher than study done in Wongoworeda, South Ethiopia (American Red Cross 2014). Significant level of children (20%) didn't complete the recommended vaccination schedule which is consistent to other similar studies finding on the area (Amin, A.A. 2015; Demographic and Health Surveys Report 2015).vaccination incompleteness rate in this study was lower as compared to Ethiopia EPI cluster survey result of 2012 which was 50.1% and a study conducted in Wongoworeda South Ethiopia which was 42%. This can be explained by high incompleteness rate of vaccination in different parts of the country that are included in the cluster survey that lowered the nation figure. Vaccination incompleteness rate of this study was higher than the figure on 2013 administrative report of the town. This may be due to data quality issues which affect validity of administrative reports. The DPT-HepB-Hib1 coverage, seen as an indicator of access to vaccination services while the DPT-HepB-Hib3 coverage, seen as an indicator of utilization.

The DPT-HepB-Hib1 and DPT-HepB-Hib3 coverage is 97% and 82% consecutively by maternal history and vaccination card. Coverage of other vaccines such as PCV and OPV given at the same time with DPT-HepB-Hib was the same with slight difference. The measles coverage was 79% which was lower than other vaccines and similar finding with other similar studies on the area (Grenfell, B.T. & Anderson R.M. 2009). Dropout rate for DPT-HepB-Hib1- DPT-HepB-Hib3 on this study was 20%. This figure was higher compared to other study done Inambo woreda which

was 16.9%.Ethiopia cluster survey of 2012 showed SNNPR region DPT-HepB-Hib1- DPT-HepB-Hib3 dropout rate from all source was 21.7% which was lower than the national figure and similar with figure from this study.

Measles vaccine was the most frequently defaulted routine vaccine in this study. Other studies including EPI cluster survey of 2012 have reported a similar finding. This finding may be explained by the relatively long time interval (35.5 weeks) in clinic appointment between the third dose of penta1 (at 14 weeks) and when the child is due for measles vaccine at the age of nine months. This may have made mothers to forget vaccination clinic appointment dates. Health workers were seen to be a potential source for disseminating information relating to the vaccination program in this community a comparable finding with that of the Nigeria study .This emphasized their position as role models in the community. Knowledge of respondents assessed about age child should begin vaccination and 63% of them respond correct answer.

Above the half of respondents 82(61%) knew that the vaccination program should be finished at the age of nine months. This finding is consistence with the study in Mozambique and Ambo woreda,Oromia region(Howe, K, 2010; Ibnouf, A.H.*etal* 2007).. In this study the dependent variable vaccination status was dichotomized into “incomplete” and “Complete” vaccination. An odd of having incomplete vaccination was compared among potential factors. Bivariate and multivariate analysis was computed to identify associated factors with vaccination incomplection. Regarding socio demographic characteristics of the respondents, the study showed religion of caregivers have significant association with child vaccination incomplection which is consistence with others studies finding on the area (Kongstvedt, P.R. 2007; Langsten. 2008). Some religious bodies are known to discourage their members from accepting vaccination (Ministry of Health, 2012). Belonging to a religious denomination or expressing religious affiliation was found to be associated with vaccination incomplection in Nigeria study (Waisbord, S.2014) in contrary study in Mozambique showed insignificant association of religion with vaccination incomplection. Differences in results obtained by different investigators who looked at the influence of religion on vaccination may be due to differences in socio-cultural antecedents and theological persuasions between populations involved in the studies.

Cross-sectional study done Mozambique revealed factors such as mothers' age and marital status showed no significant differences with respect to children with complete and incomplete vaccination status which was the same finding on this study. In contrary to this study finding study done by analyzing Ethiopia DHS data of 2005 revealed no association between care takers educational level and vaccination incompleteness.

Another study from Malaysia showed maternal age is predictor of vaccination incompleteness which is not consistent with this study finding. There was no evidence to support that number of children from mother had any impact on child vaccination incompleteness in our study area. EPI survey conducted on 2012 showed Children of low parity households in Ethiopia were also more likely to be complete than those in high parity families (Kidane, T. & Tekie, M. (2010)). Studies from Jamaica showed that, family size is the important factor for child vaccination status but, in this study there is no significant difference in vaccination status of children among those who have large and small family size. It is well documented that larger family size is associated with dilution of resources and hence children are not availed of the necessary health care including access to vaccination services. This study showed no significant difference between both sexes on completion of Vaccination similar to Nigeria study. In some societies with cultural discrimination against female children, boys have a greater chance to be vaccinated (Fairbrother, G., 2009).

As many studies had shown, our study identified that maternal knowledge regarding vaccination was important to vaccination status of the children (Bardenheier B., *et al* 2014; Bates, *et al.*, 2014). Knowledge regarding the benefit of vaccinating a child and the age to complete vaccination were significantly associated with child vaccination completion which is consistent with Wongworeda South Ethiopia study. The Health Belief Model is a theory that attempts to explain health-seeking behavior by examining how people perceive disease severity, their likelihood of contracting that disease, the benefits of taking preventive action, and the costs of taking preventive. This theoretical framework is useful in helping to explain these findings. In contrary to this study in Mozambique revealed understanding the importance of vaccination has no significant association

with child vaccination completion. Perception of mothers about vaccination was not related with vaccination completion in this study comparable finding with that of Wongoworeda study in south Ethiopia. Regarding access and quality of vaccination service, Accessibility as a function of distance and need for using transport were not significantly associated with vaccination incompleteness similar to study done in Nigeria (CDC., 2015). Ethiopia 2006 nation EPI survey had uncovered those with longer than one hour walk from a vaccination site had lower vaccination rates (Borus, P.K. (2014). There are fewer health facilities in rural settings than urban settings necessitating longer commutes for families during this survey period which is different from our situation where there are health facilities that provide vaccination service close to the community.

Various reasons were adduced by the mothers for incomplete vaccination of their children. These include Not knowing whether to come back for second and third vaccination (17%), Absenteeism of vaccinators or no vaccine/supplies (17%), mother was sick/busy/travel (12%), Vaccination time is inconvenient (11%), child ill-health at the time of vaccination (10%), long distance walking (7%), fear of side effect (6%) Lack of awareness on the importance of vaccination (5%), and other miscellaneous reasons (12%). Most of reasons given by the care givers has similarity with the reasons provided by other caregivers on other similar studies (Chhabra, P., 2007; Datar, A., 2015).

## **5.2 Conclusion**

There is low Vaccination coverage among children aged 12-18 months in Ishaka town compared to national and global target.

The study showed factors that are significantly associated with vaccination incompleteness among children age 12-18 months were knowledge about benefit of vaccinating child and age to complete vaccination, Area of advice, ANC follow up and institutional delivery.

Factors related with Vaccination Service access and quality such as time it take to reach nearby health facility, maternal perception of health institution service and waiting line during vaccination sessions showed no significant association

Reasons for incompleteness are mostly because of lack of information on subsequent doses and Absenteeism of vaccinators or no vaccine/supplies.

### **5.3 Recommendation**

Based on the research findings, the following recommendations can be made.

Ishaka town health office and health facilities in town should work to Increase community awareness through Intensive health education activities about the benefit and need to complete the entire schedule of vaccination.

The health office and health facilities in town should work on reasons provided by the caregivers for vaccination incompleteness such as Strengthen vaccine stock management at health facilities in town to avoid shortage of vaccines that may lead to incomplete vaccination

Ensure all health facilities providing vaccination in town educate mothers about the importance of childhood vaccination completion.

Further analysis on the health seeking behavior of the parents and caregivers in this area can illuminate best methods of vaccination promotion.

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## APPENDICES

### APPENDIX I: INFORMED CONSENT FORM

I .....helping Adong Rachael a student of Kampala International University pursuing a Diploma in Clinical medicine and community health. She is conducting a research study that is to find out the level, factors influencing and effects of maternal health care utilization on child immunization turn-up in Ishaka Town Council Bushenyi district. I am going to give you a brief outline of what the study involves before you decide whether to participate or not. Please stop me at any time if you have any questions.

In this study, I will be asking you to tell me about your child's immunization status. Information that you will provide shall be handled in confidence. No names or any identification information shall be requested from you. Participation in this study will take about 30 minutes. Some of the questions you will be asked will require you to provide information that might make you feel bad. Should you feel uncomfortable in giving any information you are free not to do so.

Information you will provide will however help Adong Rachael in fulfilling her Diploma in Clinical Medicine and Community Health. She will also present the findings to the university or with an opportunity to the Ministry of Health so that they can be of benefit to other people.

You do not have to take part in this research study if you do not feel like. If you decide to not participate; you can stop the interview at any time. If you have any questions, you are free to ask them now. If you have questions later, you may contact Adong Rachael on the telephone number provided on this Information sheet that I am giving you.

Are you interested in participating in this study? Yes No

Participant's Signature ..... Date Signed ...../...../.....

Signature of person giving consent ..... Date Signed ...../...../.....

Contact person: Adong Rachael

Cell No: 0774604305

## APPENDIX II: SEMI-STRUCTURED QUESTIONNAIRE

**Target: mothers or care givers selected from households**

**In Ishaka Town Council division**

Dear Respondent;

Good day. My name is Adong Rachael, a student of the Kampala International University Western Campus, Faculty of Allied Health Sciences. I am studying factors influencing child immunization in Ishaka Town Council Bushenyi district, for children aged 12 months. I would like to ask you a few questions and discuss with you issues pertaining to immunization and you are free to ask for clarity of questions asked. The study is purely academic, thus all information collected will be used to design interventions to improve immunization coverage. All the information you give will be kept confidential and used for the purpose of this study and will not in any way affect the services you get from your health facilities or the relationship with health workers. The questionnaire will be interviewer-administered and the interview will take approximately 30 minutes. Please this is not a test but I am trying to get information that will assist Bushenyi District Authorities to improve immunization coverage for your community.

This is voluntary participation and you can decide to participate without any consequences of any kind. This questionnaire has also been translated to local language.

Kindly indicate if we can proceed with the interview.

Thank you very much.

**INSTRUCTIONS:** (For all Parts One to Three please circle or write the appropriate response).

<b>Part one socio-demographic assessment</b>			
<b>S/N</b>	<b>QUESTION</b>	<b>RESPONSE</b>	<b>CODE</b>
01	Child date of birth	1=____ day____ month____ year____ 2=Don't know[if recorded on vaccination card, replace "don't know" response with date indicated on the card) _____	
02	Age of child in months (if less than 12 month)	_____months	
03	Sex of the child	1= male 2= female	

04	Family size	male_____female_____	
05	Number of children ever born by the mother		
06	Number of children alive		
07	Mother's marital status	1= single 2= married 3= separated 4= divorced 5= widowed	
08	Who is the primary caretaker of the child?	1=Mother 2=Father 3=Other(SPECIFY)_____	
09	Is the primary care taker responding? (Don't ask, just record...)	1= Yes 2=No	
10	What is the age of primary care taker?	1=-----years 99=No response 88=I don't know	
11	What is educational status of caretaker?	1=illiterate 2=read and write 3= grade 1-8 4= grade 9-12 5=college/university	
12	What is the occupation of the primary caretaker?	1= House wife 2=farmer 3=government employee 4=merchant 5= daily laborer 7=others specify_____	
13	What is the religion of the primary caretaker?	1=Orthodox 2=Muslim 3=Protestant 4=Catholic 5=Non Religion 6=Other Christians .7=Other _____	
14	What is the Ethnicity of the primary caretaker?	1=munyankole 2=Muganda 3= mutooro 4= mukiga 5=musoga6=lungi others..... No response..... i don't know	
15	What is your monthly income (in shs)?	1= <200,000_____ >500,000_____ Unknown_____	
<b>Part two: Questions on vaccination knowledge</b>			
16	Do you heard or seen about vaccination and vaccine preventable disease?	1=Yes 2= No	
17	If yes to above question, from where do you heard about the vaccination and vaccine preventable disease?? (Multiple response possible)	1. Community members 2. Health workers at health facility 3. Health extension workers 4. Radio 5. TV 6.newspaper 7. Ishaka administrator paper 8.other government official 9. others (specify) _____9=No response 10=I don't know	
18	What messages have you heard about vaccinations? (Multiple response possible)	1= about campaigns (e.g. dates, target group) 2=. Importance of routine vaccination 4. Where to get routine vaccination 3. Age to get routine vaccination 5. Return for the next doses of the	

		routine vaccination 6. About new vaccines (pneumococcal/rotavirus vaccines) 7. Other, specify _____ 8=No response 9=I don't know	
19	Do you mention the benefit of vaccinating a child?? (Multiple response possible)	1=to prevent the disease 2=for specific disease 3=for child health 4=other, specify _____ 8=No response 9=I don't know	
20	What vaccine preventable diseases do you know?	1. Measles 2. Diphtheria 3. Polio 4. Tetanus 5. Pertussis 6.Hepatitis b 7. Homophiles influenza b 8.pneumonia 9. diarrhea 10.Tuberculosis 8=No response 9=I don't know	
21	Do you tell me the age at which the child begins vaccination?	1= just after birth 2= four weeks after a birth 3=six weeks after a birth 4=other specify _____ 5=No response 6=I don't know	
22	How many vaccination sessions are needed for a child to be fully protected?	1=one 4= four 2= two 3= three 5=five 6=No response 7=I don't know	
23	At what age the child should complete vaccination? _____	_____	
24	Do you think vaccination may cause health problem to the child?	1= Yes 2=No 3= don't know	
25	Have you ever decided not to take your child to get a Vaccination?	1= Yes 2=No	
<b>Part three: - maternal health care utilization</b>			
26	Did the mother of the baby attended antenatal care during her last pregnancy?	1= Yes 2=No	
27	If yes, how many times did you/she attend? _____	_____	
28	Where did the mother deliver her last child?	1. Home 2 Relative/Neighbor's home 3Health Post 4. Health Center/Hospital 5.Private or NGO Facility 6.Other specify _____ 1.	

29	Where do u take the child if he is sick?	1Health Post 2. Health Center/Hospital 3.Private or NGO Facility 4.religious or traditional places 5.self-treatment at home 6.pharmacy 7.Other specify_____			
30	Did the mother of the child use any modern method of contraceptive ever?	1=yes 2=no			
<b>Part four: - access and quality of vaccination service</b>					
31	Does your child take any vaccination?	1=Yes 2=No			
32	IF yes to above question Do you have a card where vaccinations are written down, if no go to question number 607?	1= Yes 2= No			
33	41. Copy the vaccination data from the card (or from health facility register if the mother doesn't remember)	<b>vaccine taken</b>	<b>Day</b>	<b>Month</b>	<b>Year</b>
		BCG			
		OPV 0			
		OPV 1			
		OPV 2			
		OPV 3			
		Pentavalent 1			
		Pentavalent 2			
		Pentavalent 3			
		Measles			
		PCV1			
		PCV 2			
		PCV 3			
		ROTA 1			
ROTA 2					
34	Has a child had any vaccinations that are not recorded on this card? Including vaccinations given in a national vaccination day campaign?	1=Yes 2= No 3=No response 4=I don't know			
35	If answer to above question is yes, what is the type of vaccines?	1= vaccine given to prevent the child from measles in mass campaign 2=vaccine given to prevent the child from			

		polio in mass campaign 3= routine vaccine 4=others specify_____	
		5=No response 6=I don't know	
36	What are the reasons for defaulting? If child is a defaulter) (Multiple response possible)	1= Vaccination site is far-away 2= Vaccination time is inconvenient 3= Absenteeism of vaccinators 4=Lack of awareness on the importance of vaccination 5= Not knowing vaccination time and site 6= Not knowing whether to come back for second and third vaccination 7= fear of side effects 8= lack of transportation 9=Others	
37	Please tell me if the child had any of the following vaccinations		
38	a. A BCG vaccination against tuberculosis, that is, an injection in the arm or shoulder that usually causes a scar	1=Yes____ 2=No_____ 99=No response 88=I don't know	
39	b. Polio vaccine, that is, drops in the mouth?	1=Yes_____ 2=No_____ 3=No response 4=I don't know	
40	Was the first polio vaccine given in the first two weeks after birth or later?	1=Yes_____ 2=No_____ 3=No response 4=I don't know	
41	How many times was the polio vaccine given	_____ 2=No response 3=I don't know	
42	A pentavalent vaccination, that is, an injection given in the right thigh?	1 Yes_____ 2 No_____ 3=No response 4=I don't know	
43	How many times Pentavalent vaccination is given?	1_____ 2=No response 3=I don't know	
44	A PCV vaccination, that is, an injection given in the right thigh?	1 Yes_____ 2 No_____ 3=No response 4=I don't know	
45	How many times PCV vaccination is given?	5=No response 6=I don't know	

46	Was the Rota vaccine given as a drop the same day the second round polio drop is given?	1=No response 2=I don't know	
47	How many times was the Rota vaccine given	1 _____ 2=No response 3=I don't know	
48	A measles injection that is, a shot in the arm at the age of 9 months or older – to prevent him/her from getting measles?	1=Yes _____ 2= No _____ 3=No response 4=I don't know	

**To be filled by the interviewer**

Code of the questionnaire----- Name of the interviewer-----

Signature of the interviewer----- Date of the interview-----

**To be filled by the supervisor**

Name of the supervisor----- Questionnaire Complete----- Incomplete-

----- Incorrect parts ----- Corrections to be made-----

**This is the end of the questionnaire. Thank you for taking time to answer these questions.**

**We appreciate your help.**



### APPENDIX III: MAP OF BUSHENYI



ISHAKA TOWN COUNCIL

[illegible]

