THE UNIVERSITY OF ZAMBIA

School of Medicine

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FACTORS CONTRIBUTING TO THE LOW MEASLES IMMUNIZATION COVERAGE AMONG UNDER FIVE CHILDREN IN SESHEKE DISTRICT.

BY

CHEELO CHINYAMA

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LIST OF ABBREVIATIONS

BCG	Bacillus Calmette Guerin
BSc	Bachelor of Science
CDC	Centre for Disease Control
CIDA	Canadian International Development Agency
DHMT	District Health Management Team
DHO	District Health Office
DTP	Diphtheria-Tetanus-Pertusis
EPI	Expanded Programmes on Immunization
GAVI	Global Alliance for Vaccines and Immunization
GMP	Growth Monitoring and Promotion
IMCI	Integrated Management of Childhood Illnesses
OPV	Oral Polio Vaccine
PHC	Primary Health Care
RED	Reaching Every District
UCI	Universal Childhood Immunization
MoH	Ministry of Health
UNICEF	United Nations Children's Fund
WHO	World Health Organization
ZDHS	Zambia Demographic Health Survey

Declaration

I hereby declare that the work presented in this study for a Bachelor of Science in Nursing Degree has not been presented either wholly or in part for any other Degree and is not being submitted for any other degree.

SIGNED:..... DATE:14/06/2011

(Candidate)

SIGNED:..... DATE:14/06/2011

(Supervising Lecturer)

Statement

I hereby certify that this study is entirely the result of my own independent investigation. Various sources to which I am greatly indebted are clearly acknowledged in the context and in the reference.

SIGNED:.....

DATE: 14/06/2011

Dedication

I dedicate this work to my late dad and mum, through their hardworking when they were alive I was inspired to work hard too to attain high heights such as the Bachelor of Science in Nursing Degree programme. I wish they were still alive to see me graduate. May their souls rest in eternal peace.

My brothers, Mwiinga and Hachiwa and sisters, Malita and Dimuna for all your material, financial and moral support rendered to me.

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Abstract

Every child who comes to the health institution or is visited in the community for the purpose of receiving immunizations is entitled to safe and quality health care which should be provided by health care providers. With the current economic difficulties and competing priorities for health, the immunization programme has experienced several difficulties including lack of transportation (especially for conducting outreach services), lack of health worker training, broken cold chain equipment, inadequate supervision and shortage of staff. All these factors have led to low immunization coverage despite availability of effective vaccines. This study was conducted to determine the factors influencing low measles immunization coverage in Sesheke District and suggested ways of minimizing them.

The immunization status of the children was determined by interviewing mothers regarding their children's immunization histories. Each child's immunization card was subsequently reviewed for confirmation. The health workers were provided with a self administered questionnaire which they filled in. The mothers were selected using a systematic sampling method and the health workers were selected using a convenient sampling method. The pilot study was conducted at Yeta clinic within Sesheke before the data collection. Due to limited time and financial support available for the study the investigator had to select an accessible area and small sample size of fifty participants, forty mothers and ten health workers.

After data collection, quantitative data was grouped manually and qualitative data was analysed manually using data master sheets and scientific calculator. The presentation of data was done in frequency tables, pie charts, and graphs. Cross tabulation were used to determine the relationship between variables.The findings of the study were majority of the respondents 80 % reported that the measles immunization coverage was low, there was inadequate staff and immunization sessions at the health facility were done fortnightly. Long distance to the health facility and lack of community participation were also found to be contributing factors. The findings of the study support the first hypothesis which says, "distance to the health facility influences the immunization coverage, and not the second hypothesis which says "attitude of the staff can improve immunization coverage''

Based on the findings, the investigator recommends that the Ministry of Health and DHMT provide all required logistics to the health facility to support the effective implementation of immunization activities. The DHMTS should conduct refresher trainings for nurses in order to convey the new information about immunizations. The Ministry of Health should deploy staff to health facilities to improve the staffing levels.

In conclusion, the measles immunization coverage in Sesheke District was low. Provision of transport, adequate staff and increasing the number of immunization sessions at the health facility were identified as possible ways of improving the immunization coverage.

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND INFORMATION

The World Health Organization (WHO) initiated the Expanded Programmes on Immunization (EPI) in 1974 to provide countries with guidance and support in order to improve vaccine delivery and to help make vaccines available for all children (WHO 1974). Later in 1983, the World Health Organization launched the Universal Childhood Immunization (UCI) with a purpose to achieve maximum immunization of the world's children. Under the guidance of World Health Organization (WHO), all national political leaders, representing 158 nation states made a commitment to achieve 80% immunization coverage in their respective countries by the year 1990. Immunization personnel had to be trained, systems such as capacity to maintain vaccines at the right temperature (cold chain) and distribute them through the system in a timely manner (logistics) had to be established to deliver and monitor immunization efforts, and adequate international and national resources had to be put in place to support the massive undertaking. However, according to the Canadian International Development Agency (CIDA 1986), the effectiveness and impact of Universal Childhood Immunization on mortality levels remained undetermined and pervasively deficient in the major immunization programming.

In 1990 World Health Organization (WHO) set a new standard for the governments of the world, to intensify the goal of achieving 90% immunization coverage by the year 2000. The Expanded Programme on Immunization was re-established with an aim to build on the success of World Health Organization's (WHO) smallpox Eradication Programme and to assist national immunization programmes in developing countries. Armed with vaccines against six killer diseases Diphtheria-Tetanus-Pertusis (DTP), tuberculosis, polio, and measles, the Expanded Programme on Immunization (EPI) made remarkable strides toward achieving universal childhood immunization. By end of 1991 an estimated 80% of world's infants were reported to be vaccinated with Bacillus Calmette Guerin (BCG), Diphtheria, Pertusis, Tetanus (DPT), Polio and Measles vaccines. However, less than five per cent of the world's children were immunized during their first year of life and nearly 5 million children died each year from vaccine preventable diseases and a quarter of the world's children, about 26 million infants are not

immunized against six killer diseases ,polio, diphtheria, tuberculosis, pertusis (whooping cough), measles and tetanus(UNICEF 2009). According to the World Health Organization (WHO, 2009), measles is responsible for the majority of the estimated deaths. The main reason for the 2.9 million deaths from measles disease has been attributed to the failure to give at least one dose of measles vaccine to all babies.

In 1999, WHO, UNICEF, the World Bank, and bilateral donors joined the Bill & Melinda Gates and Rockefeller Foundations, the vaccine industry, and nongovernmental organizations to create Global Alliance for Vaccines and Immunization (GAVI) (http://www.vaccinealliance.org). This was to increase access to new and underused vaccines in the world's poorest countries, improve access to basic immunization services, and accelerate research and development pertaining to new vaccines and delivery technology. Global Alliance for Vaccines and Immunization (GAVI) was able to strengthen immunization systems, introduce new vaccines, and support safe injection practices.

In 2002, the Reaching Every District (RED) approach was introduced by World Health Organization (WHO), the United Nations Children's Emergency Fund (UNICEF) and other partners in the Global Alliance for Vaccines and Immunization (GAVI) to improve immunization systems in areas with low coverages. The Reaching Every District (RED) approach outlined five operational components that are specifically aimed at improving coverage in every district: re-establishment of regular outreach services, supportive supervision, on-site training, community links with service delivery, monitoring and use of data for action for better planning and management of human and financial resources. Since 2003, 53 developing counties started implementing Reaching Every District (RED) strategy through Expanded Programme on Immunization (EPI), which is one of the most cost-effective public health interventions available and can contribute substantially to achieving the Millennium Development Goal.

Measles vaccine is a live attenuated or weakened strain of measles virus. It is recommended to be given when the baby is 9months of age or by their first birthday, to protect against measles, mumps and rubella (German measles). Measles, which is easily spread through coughing and sneezing, can lead to contracting the disease and cause severe complications including pneumonia, diarrhea, encephalitis and death. The vaccine is given subcutaneously on the upper

outer portion of the arms, the dose of 0.5mls. To ensure protection from measles outbreaks, at least 80 percent of all children in each district and at national level need to be vaccinated through Expanded Programmes on Immunization. (WHO, 2005).

In the sub-Saharan region, which includes Zambia, approximately 871,000 deaths from measles worldwide, 61% occurred in sub-Saharan Africa (WHO, 2005). There has been measles resurgence which has affected more than 47,907 children in 14 countries, resulting in 731 deaths (WHO, 2005). In 2001, countries in the African Region began an accelerated measles-control program to reduce by half by 2005 the number of deaths that were caused by measles in 1999. The measles-control program was based on four strategies: improving routine vaccinations; providing a second opportunity for measles vaccination through routine immunization, 2-dose vaccination schedule or through supplementary immunization activities (SIAs); improving measles case management; and establishing case-based surveillance with laboratory confirmation for all suspected measles cases.

According to WHO and UNICEF reports, the coverage with 1 dose of measles vaccine in the African Region among children aged 12-23 months increased from 52% in 1999 to 67% in 2004. This demonstrates the significant effect that vaccination programs have had on the disease burden. The percentage also shows that vaccination programs have been less successful in reducing the disease burden in Sub-Saharan Africa, where coverage rates are lower. Zambia is among countries in the African region implementing the above mentioned activities through Expanded Programmes on Immunization.

Every child should receive one dose of BCG vaccine, administered at birth or after 12 weeks if there is no scar, four doses of oral polio vaccine (OPV), three doses of diphtheria, pertusis, tetanus/hepatitis B/ Hemophilus influenza type b, (DPT-HepB-Hib) and one dose of measles vaccine. OPV 0 is administered at birth or within 13days after birth, the second dose, OPV1 is administered at 6weeks of age and is given at the same time with DPT-HepB-Hib1. The interval between the first, second and third doses of OPV and DPT-HepB-Hib vaccines is at least four weeks. These subsequent doses of OPV and DPT-HepB-Hib are administered at the same time.OPV 4 is given at 9months if the child didn't receive OPV0 at birth. It is given at the same

time with measles vaccine. The vaccines are important to the health of the child as they protect against tuberculosis, (BCG), diphtheria, pertusis, tetanus/hepatitis B/ Hemophilus influenza type b, meningitis, pneumonia (DPT-HepB-Hib), polio and measles. The immunization schedule showing ages of administering the vaccine is shown in table 1 below;

Table 1: SCHEDULE FOR CHILDHOOD IMMUNIZATION

Age of Child	**Vaccine**
Birth or at first contact	BCG, repeat if no scar after 12 weeks
Birth to 13 days of age	OPV 0
6 weeks of age	OPV1,DPT-HepB-Hib1
10 weeks of age	OPV2,DPT-HepB-Hib2
14 weeks of age	OPV3,DPT-HepB-Hib3
At 9months	**Measles,OPV4-if OPV0 was missed**

Source: Ministry of Health 2007

Measles is still one of the major causes of childhood illnesses and leading cause of child death in many developing countries despite the fact that a safe vaccine has been available for many decades globally. An estimated 30 to 40 million cases of measles occurred in 2004 reporting 454,000 deaths, almost half of these deaths, 216,000 were in sub Saharan Africa. (WHO, 2005)
In Sesheke district the measles coverage has been constantly low, below the national target of 80% regardless of implementing Expanded Programme on Immunization activities at fixed and outreach service points and implementing the concept of Reaching Every District Strategy (RED), which aims at improving immunization coverages by re-establishment of regular outreach vaccination points and creating community links with service delivery. The strategy also assisted the district to use coverage data in order to analyze the distribution of unimmunized infants so that the areas with poor access and utilization of immunization could be of priority.

1.2 STATEMENT OF THE PROBLEM

Every child who comes to the health institution or is visited in the community for the purpose of receiving immunizations is entitled to safe and quality health care which should be provided by

health care providers. With the current economic difficulties and competing priorities for health, the immunization programme has experienced several difficulties including lack of transportation (especially for conducting outreach services), lack of health worker training, broken cold chain equipment, inadequate supervision and shortage of staff. All these factors have led to low immunization coverage. Despite rapid and tangible progress in vaccine coverage at national level, some districts still lag behind the national target.

In Sesheke district, the measles coverage trend ranges between 60-69%, which entails that the district has not achieved the 80% coverage of under five children immunized against measles. Measles vaccination coverage has increased from 60 % in 2005 to 67 % in 2009 but still falls below the target of 80 % recommended by World Health Organization (WHO), (WHO, 2005)

This is as shown in the table below.

Table 2: Percentages of Under five Children Immunized

Year	Total Population	Number Immunized	Percentage
2005	3,547	2,117	60
2006	3,646	2,220	61
2007	3,759	2,292	61
2008	3,862	2,626	69
2009	3,862	2,652	67

Sesheke Action Plan 2005- 2009

Measles is a highly contagious disease that can cause severe consequences, including blindness, deafness, pneumonia, diarrhea, encephalitis and even death, 216,000 deaths in sub Saharan Africa (WHO, 2005) At lower coverage levels, susceptible individuals will remain to create a pool within which the virus can spread. There is a likelihood of reoccurrence or resurgence of measles due to low immunization services especially to those children who might have missed the immunization sessions. This can be learnt from the April, 2010 outbreak which has been reported in Lusaka and other parts of the country, where about 7,333 cases and 127deaths were

recorded (MoH, 2010). Measles also alters the immune system of a child predisposing the child to various infections. Hence this research studies to establish the gaps in measles immunization.

1.3 FACTORS WHICH MAY CONTRIBUTE TO LOW MEASLES COVERAGE

There are several factors that may influence measles coverage which could be service, socio-cultural and economically related.

SERVICE RELATED FACTORS

1.3.1 Availability of measles vaccines

Constant supply of measles vaccine at the health facility is likely to encourage mothers or care takers to bring their children for vaccination because they are assured that the vaccine is available. In situations where there is erratic supply of the vaccine, the mother or caretakers will have a negative attitude towards the service because they cannot come back for another session after walking for a long distance to reach the health facility and only to be told that there is no vaccine. There cannot be vaccination without the antigen.

1.3.2 Vaccine Management

Vaccine management plays a vital role in measles immunizations coverages in that the way the vaccine is kept will determine the effectiveness and potency for it to prevent the disease once the child is vaccinated. Vaccine management involves the storage and maintenance of the right temperatures of the fridge so that the potency of the vaccine is maintained. The storage will be the state of the fridge where the vaccines are stored, that is if the fridge is working well and temperatures are monitored daily in order to ensure that the vaccine is safe to use. If the fridge or cold chain is not in good working condition, it will influence the measles coverage in that the health facility will not stock any vaccines for use either at the static or during outreach activities. For this reason most children will miss or they will not receive the doses of measles vaccine.

1.3.3 Staffing levels and Attitude

The staffing level in the district is quite low considering the number of health facilities and the growing population in the district. The staffing level does not meet the establishment causing shortfalls in care provision to the community. Currently the district has only 117 medical staff out of 371 required as per the establishment giving 32% below the required standard. The shortage of staff has been increasing because there are a few health workers who are willing to work from the rural areas as compared to the urban areas because of the geographical locations of the health facilities, which are hard to reach. For this reason, the few skilled staff that is available will only target a few mothers with under five children. This deprives the mothers and caretakers of the service. Due to low staffing levels and overwhelming workload the staff may forget to record the administered measles immunization in the registers which eventually may cause underestimations of figures.

The staff attitude also influences the immunization coverages in that if the health worker perceives the service to be important they will make a follow up to ensure there is constant supply of the vaccine in situations where there has been an erratic supply of vaccine. The reception given to the mothers and caretakers of the children when they bring their under five children for immunization also influences response to immunization coverage. If the mothers and caretakers are shouted at for missing the appointment date for the previous injection, this discourages the mothers and caretakers to seek for the service thereby reducing the numbers of vaccinated children.

1.3.4 Transport and Funding

Availability of transport at the health facility makes it easy for the health workers to take the service as close to the community as possible and also to plan appropriately on when it is possible to go for outreach. Transport will also enhance the vaccination programme in that the mothers or caretakers will not have to wait at the vaccination site for a long time before the health workers are transported to the site to give the services. These are such instances when the health facility does not have its own transport, for example a motor bike to carry on the activities but have to rely on the vehicle from the district health office. The transport situation will cause

most of the children to miss the vaccines as they will not be reached and some mothers and caretakers will give up and leave the vaccination post due to delayments.

The economic status of the district also has an influence in the implementation of immunization activities at various levels. If the district is not receiving enough funding for child health interventions, then it will be difficult to procure logistics such as gas or kerosene for the fridge to function so that they are able to stock measles vaccine, to pay allowances for the health workers and to also maintain the transport, eventually there is wear and tear of the vehicles. This compromises the quality of service to the community.

SOCIO-CULTURAL FACTORS

1.3.5 Community Participation

Community participation plays a role in improving the measles coverage in that when the community is given the knowledge about the importance of measles vaccine and the implications of not vaccinating their children against measles they become aware and actively participate. Communities consist of beliefs, misconceptions and cultural practices that discourage mothers to take their children for measles vaccination. These are beliefs such as "when the child is immunized against measles that's when the child will suffer from the disease". With such beliefs mothers would rather not take their children for measles vaccination. For this reason, there is need to empower the community with knowledge about measles vaccine and involve them in measles activities and to take part in making decisions about their own care. This will encourage the community acquire ownership of the measles programmes and contribute to improving the measles coverages through social mobilization during immunization sessions and bringing their children for measles immunizations.

ECONOMICAL FACTORS

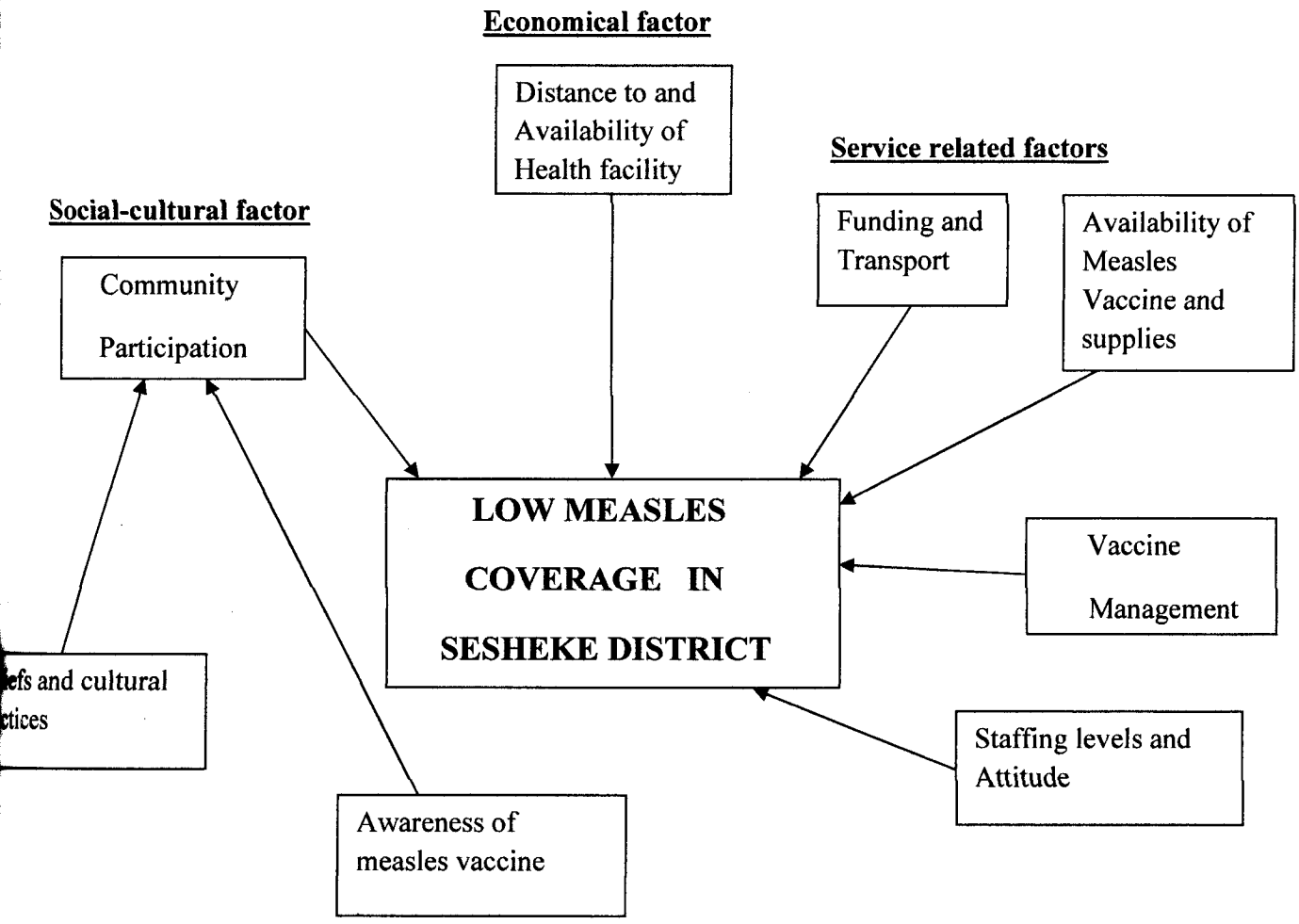
1.3.7 Distance to and availability of health facility

Long distance to the health facility will influence the coverage of measles because if the health facility is located far from the community it will be very difficult for the mothers or caretakers to bring their children for immunizations. There could be instances where the mother has more than

one child who is under five and she has to carry the two children for immunization to the health facility which is far from where they reside. Due to lack of assistance to carry the children the mother will opt to stay back and not take the children for immunization or she will leave the other older child at home because of the long distance. Therefore the child who is left at home misses the vaccination causing reductions in numbers of immunized children. Infrastructure also contributes to measles vaccine coverage in that where there is no infrastructure it will be difficult to offer the service because people will not have access to measles immunization services.

FIGURE 1

1.4 PROBLEM ANALYSIS DIAGRAM



1.5 JUSTIFICATION

The purpose of this study is to determine the factors that contribute to low measles coverage in under five children in Sesheke district. There have been research gap on the factors contributing to low measles coverage or in relation to immunizations in Sesheke district. Based on the findings from this study, recommendations will be made to Sesheke District Health Management Team (DHMT) and other relevant authorities who will use the findings in planning and

implementation of the measles vaccine activities in order to improve the measles vaccination coverage.

1.6 RESEARCH OBJECTIVES

1.6.1 GENERAL OBJECTIVES

To determine the factors that contributes to low measles coverage in under five children in Sesheke.

1.6.2 SPECIFIC OBJECTIVES

a. To determine service related factors influencing measles coverage among under five children.
b. To determine community participation in measles immunization
c. To identify economic factors contributing to low measles immunization coverage.

1.7 HYPOTHESIS

Hypothesis is a tentative prediction or explanation of the relationship between two or more variable. (Polit and Hungler, 1993)

i. Distance to the health facility influences the immunization coverage
ii. Attitude of health workers can improve the measles coverage.

1.7 CONCEPTUAL DEFINITIONS OF TERMS

1.7.1 Knowledge - Level of understanding or awareness of measles.

1.7.2 Immunization – the process of delivery of a vaccine and the immunity it generates in an individual or a child. (UNICEF, 2009)

1.8 VARIABLES AND CUT OFF POINTS

A variable is a characteristic of a person, or phenomenon that can take on different values. (Polit and Hungler, 1993)

Dependent variable – immunization coverage

Independent variables – service related factor - distance, availability of vaccine, staffing levels, staff attitude and community participation.

The study variables are immunization coverage, distance and community participation.

Table 3 Variables and Cut off Points

VARIABLE	INDICATOR	CUT OFF POINT
Immunization Coverage	Percentage	High - 80 percent
		Low – less than 80 percent
Distance	Kilometre radius	Very far- > 20 kilometre radius.
		Far - < 10 kilometre radius or two hours of walking
		Near - < 5 kilometre radius
Community participation	Full participation	Yes – score of 7out of 10
	No participation	No – score of 3out of 10
Availability of measles vaccine antigen	Available	In stock at all times.
	Erratic supply	Sometimes available and sometimes not available.
	Not available all the time	Out of stock
Staff levels	Numbers of available staff	3- adequate staffing
		2– average staffing
		1-Inadequate staffing
Staff attitude	Good attitude	Yes – score of 7 out 10
	Bad attitude	No – score of 3 out of 10

CHAPTER TWO

2.0 Literature Review

2.1 Introduction

Literature review is a critical summary of research on a topic of interest, generally prepared to put a research problem in context or to identify gaps and weaknesses in prior studies so as to justify a new investigation (Polit and Hungler 1993). Literature review helped the investigator to avoid duplication of work that has been done by other people before. Literature review also helped the investigator to have a theoretical basis for carrying out the study and by knowing different research methodologies used before, that could be useful during this study. The literature review focused on published studies, therefore the investigator looked at the findings according to the variables under study.

2.2 Overview of Measles

Measles is an infection of the respiratory system caused by a virus. Measles is an extremely contagious infection, transmitted through droplets from an infected person or through aerosol transmission. The infection has an average incubation period of 14 days and the most contagious time period is the 2-4 days prior to onset of the rash. The first signs of measles infection are fever, cough, extremely runny nose, red, runny eyes. A few days later, a rash appears particularly on the mucous membrane which lines the cheeks. This rash consists of tiny white dots (like grains of salt or sand) on a reddish bump. These are called Koplik's spots and are unique to measles infection. The throat becomes red, swollen and sore.

A couple of days after appearance of the Koplik's spots the measles rash begins. It appears in a characteristic progression from the head, face and neck, to the trunk and then abdomen and then along the legs and arms. The rash starts out as flat, red patches but eventually develops some bumps. The rash may be itchy. The diagnosis is based on its characteristic symptoms including Koplik's spots and a rash which spreads from central body structures out towards the arms and legs. If there is any doubt then a specimen of mucus or urine can be collected.

There is no treatment available for measles infection. Treatment is primarily aimed at helping the patient to be as comfortable as possible. If there is a bacterial infection, antibiotics are given,

fever and discomfort can be treated with acetaminophen. The patient should also be given a lot of liquids, in order to avoid dehydration from fever. Measles is a highly preventable infection with an effective vaccine which is available. Measles vaccine is an immunization injection against measles, mumps and rubella. It was developed by Maurice Hilleman in the late 1960s. The vaccine is a mixture of three live attenuated viruses, administered via injection.

The injection is generally administered to children around the age of one year, with a second dose before starting school. The second dose is not a booster, it is a dose to produce immunity in the small number of persons who fail to develop measles immunity after the first dose. The vaccine was licensed in 1971 in the United States and the second dose was introduced in 1989. Since introduction the vaccine has been used worldwide and over 500 million doses have been used in over 60 countries. The benefit of measles vaccination in preventing illness, disability and death has been observed. The first 20 years of licensed measles vaccination in the United States prevented 52 million cases of the disease, 17,400 cases of mental retardation and 5,200 deaths (CDC, 2009). During 1999-2004, a strategy led by world health organization and UNICEF led to improvement in measles vaccination coverage that averted an estimated 1.4 million deaths worldwide.

While effective childhood immunization programmes have been an integral part of public health services ,ongoing political commitment is required to maintain and improve the existing immunization infrastructure, strong immunization systems include equitable distribution of immunization services ,high immunization coverage rates for measles vaccine, use of high quality vaccine given in a safe manner, robust surveillance for vaccine preventable diseases, including the essential laboratory networks to confirm disease and support outbreak investigations, and the introduction of new vaccine to prevent additional disease burden and further improve health.

2.3 Immunization Coverage

A study was conducted by Takayo Matsumura (2005) in Japan on low measles immunization coverage and it was found that the coverages were lowest among the children whose mothers

were concerned about the adverse events of the vaccine without proper knowledge of measles and its vaccination.

This study indicates that lack of knowledge by mothers on measles vaccine and the adverse events of measles contribute to low immunization. Therefore mothers need to be educated on the action and side effects of measles vaccine.

According to a study done in Nigeria by AN Onyiriuka (2005) on low measles immunization coverages, the finding was that most of the children were defaulting. The commonest reason for defaulting on child's immunization was due to child's illness, whereas mother's forgetfulness was also the commonest reported reason. The mothers did not bring their children for immunization after they had recovered from the illness, thus suggesting that they may have had the misconception that minor illness is absolute contraindication to vaccination.

Looking at this study, mothers have misconceptions that lead to them not taking their children for measles immunization. The misconceptions may be due to lack of information, education and communication on contraindications to measles immunization. Educating mothers that minor ailments such as mild fever, cough, upper respiratory tract infection, diarrhea etc, are not contraindications to vaccination will correct the misconception and the mothers will bring their children for measles immunizations hence contributing to high coverage.

In Mozambique, J. Mavimbe (2002) carried out a study which focused on measles immunization coverages. The study involved interviews that were conducted to the District Health Directors in a remote province of Mozambique (Niassa) to ascertain the construction of immunization coverage and how they implement the desired program strategies in order to improve the health status of the region. It was found that most managers regarded the immunization coverage as data and thus high coverage as an end in itself, rather than as a reflection of the reality. It was further found that the innovative distinction between the views proposed on the immunization coverage, provided the researchers with an insight of the different challenges that district health directors face as leaders of the district health management team in Niassa.

In this study, it is indicated that data should be analyzed in order to know the distribution of unimmunized children in relation to the target population so that the areas with poor access and utilization of immunization could be of priority.

Another study was conducted in Cameroon by Hugh R. Waters (2004) to quantify the association between household-level and provider-level determinants and childhood immunization rates in Cameroon. The 1998 survey found that nationally 37% of children were fully immunized; the 2000 survey found that nationally 34% were fully immunized. These results are strongly correlated with both the mother's level of education and the household's economic status. Multilevel logistic regression shows that maternal education level is a stronger predictor of positive immunization status than is relative economic status. Children of mothers with secondary education or higher education were 3 times more likely to be fully vaccinated than children whose mothers had not completed primary education. At the health-facility level, both having an immunization plan and regular supervisory visits are strongly positively associated with immunization rates.

At national level, in Zambia, there are few studies that have been done though most of the studies are old. There is no current information that has been found for the respective variable. However, in 1994, a study was conducted to examine the process of immunization and explore the socio demographic determinants, thus the effect they had on immunization coverage. The findings were that increased educational levels of mothers increased the chances of immunization.

The two studies indicate that high levels of maternal education have a great impact on immunization. Mothers who are educated have understanding on immunization and will ensure their children are immunized compared to mothers who are not educated. An immunization plan put in place and supervisory visits by management to health facilities also contribute to increased immunizations.

Another study was done in Zambia (1999), by S.Makono on immunization coverage, it was found that most of the health centre staff knows how to measure the immunization coverage for each antigen based on the target population and number of children immunized each month.

Usually such information is presented in a graph that is displayed on the wall. Unfortunately, such information is used for reporting only and is never used as an assessment and motivation tool to stimulate actions towards improving immunization coverage.

According to this study, there is need to use information on coverages to make an assessment on the health centre performance on immunization coverages. This provides more insight on what is on the ground and action can be put in place and implemented in order to improve or maintain the high coverage.

2.4 Distance

A study was conducted in Nigeria, by Ekunwe E and it was found that access to immunization services was improved by increasing the number of locations offering immunizations and adding mobile clinics in the evenings. The area in which this intervention was conducted saw an increase in fully vaccinated children from 5% to 43% over a two-year period.

This study indicates that increased numbers of locations for immunization can contribute to increased coverages.

In Papua New Guinea, Van Zwanenberg (1987) found that in places where health post staff were trained in administering immunizations to permit vaccines to be given closer to rural communities, measles coverage increased from 4% to 75% in the intervention district.

Looking at this study, measles immunization coverages will increase when they are taken close to where the mothers and children reside or are found. Such strategies also reduce long distances which mothers have to walk to reach the vaccination point.

Another study conducted in Sudan compared two methods to reduce missed opportunities for vaccination by moving the immunization location close to the consultation room in the health facility to provide immediate immunizations to children who had recently been seen in

consultation. The other method was having the physician write a prescription for immunizations during curative visits.

According to this study, provision of under five comprehensive services under the same building or department help to reduce missed opportunities for vaccination.

There has been no studies that have been found from global and national perspective pertaining to distance. However literature review will continue in order to look for information that might be published thereafter.

2.5 Community Participation

In India, Tove K Ryman, documented how the involvement of community members can improve immunization utilization. For example, strengthening demand for immunization services was part of the Integrated Child Development Services Program in India. In this program one village woman for every 1000 population was selected to provide health information to village residents, maintain lists of children who needed immunizations, and motivate families to bring children for immunizations. After more than five years of implementation, the proportion of vaccinated children was higher ranging from a 35% to a 43%.

Another study was conducted in Bangladesh by Hughart N, (1988), where tools were developed to assist community workers in tracking defaulters using a color-coded tracking system, to refer the children to services and accompany mothers to immunization clinics. During the 13-month intervention, 87% percent of children referred by these volunteers completed the recommended immunization series. A similar program in South Africa (1988), evaluated giving record cards to Village Health Workers (VHWs) to record home visits over a one-year period in an intervention district. Village Health Workers (VHWs) used the cards to identify children to visit, document visit frequency, and track health interventions including immunizations, the coverage with measles vaccine by 10 months of age among children aged 13 to 24 months was higher.

Hughart N (1995) conducted another study in Bangladesh, the findings were that an increase in immunization coverage was linked to the use of inter-personal communication among mothers participating in a non-government organization (NGO) credit program that encouraged child immunization without providing additional immunization services. Increased coverage of several antigens was reported among the children of women who participated in the NGO program relative to the children of women who did not participate in the NGO program. For example, measles coverage was 68% among children of participants compared with 59% in children of non-participants.

According to Calderón-Ortiz R, he conducted a study on trained community member's contribution to measles vaccination coverages in Mexico (1994). It was found that trained community members were used to conduct home visits during which immunization education was provided along with needed vaccines. This intervention increased the percentage of fully vaccinated children less than one year of age from 21% to 77% in five months.

In Ghana (1992), a study by Kevany J.P found that non-health workers conducted door-to-door visits and referred all children less than five years of age to routine immunization clinics. In addition, a health worker conducted home visits for children who failed to finish their immunization series. Over a six-month period, the percentage of fully vaccinated children increased from 60% to 85%.

In Bolivia (1994), Perry H revealed that high-risk populations in selected communities were visited biannually. Members of these populations assisted in identifying their priority health problems. Among these targeted populations, 78% percent of children aged 12 to 23 months were fully vaccinated in established programs.

The studies show that involvement of community members can contribute to increased immunization coverage. When community members are incorporated in immunization activities they can come up with various strategies of tracking the defaulters and encouraging the mothers to attend immunization sessions. The community members have time to visit each household and

give education on immunization to respective individuals. Such kinds of strategies contribute to high immunization coverages.

In Kenya, a study was done where school buildings were utilized as immunization centers, with an educational component provided by school children who circulated immunization information within their communities. Furthermore, mobile teams were used to increase access. Coverage outcomes varied according to population density. In high population density areas the percentage of fully vaccinated children increased from 54% to 82% and in low density areas it increased from 25% to 57% over an unspecified period. Coverage at follow-up in comparison high density areas was 69% compared to the 82% and in low population density areas 27% compared to the 57%.

This study indicates that incorporating immunization activities with schools or school programmes and utilizing the school going children by imparting them with knowledge on immunization can contribute to increased immunization coverages.

In Zambia, there has been no published study found pertaining to community participation.

CHAPTER THREE

3.0 Research Methodology

The purpose of the study was to determine the factors that contribute to low measles coverage in under five children in Sesheke District in Zambia. This chapter describes the research methodology that was used in the study.

3. 1 Research Design

Research design is the overall plan, structure and strategy of investigations of answering the research question or is the overall plan or blue print the researchers select to carry their study. (Basavanthappa, 2006).

The design that was used in this study was a quantitative non-interventional descriptive research design. The study was non interventional in that no intervention was administered to the study subjects. It was descriptive in that the investigator systematically observed and collected data about the subject without affecting their normal behavior, and presented the data giving a clear picture of the situation.

3.2 Research Setting

Polit et al (2001) define research setting as the physical location and conditions in which data collection takes place in a study.

The setting for the research project was conducted in Sesheke District which has a population of 101,699 with a growth rate of 2.6%. The population of under five children is 16,373 and women of child bearing age is 22,374. The district has 16 health centres and five health posts. The study was done in five selected health centres (Kalobolelwa, Lusu, Neongelo, Mwandi and Masese). The health centres were chosen for the study so that there was a good representation of the sample because a lot of people go to seek for the services that are offered at these health centres. The setting was a natural setting for the study subjects (health care providers and mothers) because they were normally found in the health centre settings. Other reasons were that the health centres were convenient and easily accessible(on the same stretch) to the investigator taking into consideration, inadequate time, financial resources and other logistics and they also recorded low measles vaccination coverages.

The services provided include basic health care services i.e. Curative, Promotive, and Preventive Care to adults and children in outpatients department, maternal and child health, antiretroviral and prevention of mother to child transmission of HIV services and laboratory services.

3.3 Study Population

This is the entire set of individuals (or objects) having some common characteristics (Polit et al, 2001).

The study population comprised of health care providers and all mothers with under five children attending under five clinics at the health centres in maternal and child health (MCH) department. The women were aged between 15 to 49years because they were in their reproductive age with children under five years.

3.4 Sample Selection

Sampling is the process of selecting a representative part of the whole population (Treece and Treece, 1986).

The study sample was selected using systematic sampling. The target population was selected after dividing the size of the population by the desired sample to obtain the sampling interval width. This method obtains same results in a more convenient and efficient manner. For the health workers a convenient sampling method was used because the 10 nurses were the only convenient available subjects in the study.

3.5 Sample Size

A sample is the number of study participants in a sample (Polit, Beck and Hungler, 2001).

The sample size for this study was 50, that is 10 health care providers and 40 mothers. The reason for selecting this sample was that it becomes feasible in terms of time and available

resources. The sample size has an effect on the representativeness for the study and therefore the generalization of research findings to the target population.

3.6 Operational Definitions of Terms

3.6.1 Immunization

The process of delivery of a vaccine and the immunity it generates in an individual or a child. (UNICEF, 2009)

3.6.2 Measles

An infection of the respiratory system caused by a virus. (Wikipedia, 2010)

3.6.3 Vaccine

A special form of a disease-causing agent (e.g. virus or bacteria) that has been developed to protect against that disease. (UNICEF, 2009)

3.6.4 Coverage

The extent or degree to which something is observed, analyzed and reported. (Wikipedia, 2009)

3.6.5 Mother

A woman who has given birth to a child a female parent (Wikipedia, 2009)

3.6.6 Under five Children

Is generally a human or a person younger than the age of five years (Wikipedia 2009)

3.7 Data Collection Tool

A data collection tool is a measuring device used in the gathering of information needed to address a research problem (Polit et al, 2001).

A structured interview schedule was used which sought to provide desired information. Translations were done for mothers to understand since the questions were in English, while maintaining the meaning. Mothers were interviewed in most appropriate language. An interview was considered appropriate for the study because it was including mothers who were not literate, amount of incompleteness was minimized because researcher ensured all questions were

answered and it allowed probing where answers were not clear. The limitation was that the interview was time consuming.

A questionnaire is a self-administered tool that the respondents will fill in themselves. The questions were in English and comprised of both open ended and closed ended questions. This tool was appropriate for this study because the subjects were literate and professionals. This instrument was chosen because information was obtained quickly and no anonymity as the researcher did not use names. The disadvantage was that the subject could have omitted some items and may not complete the questionnaire but the researcher made sure that all questions on the questionnaire were answered before collection of the questionnaires. Observations were carried out by the researcher to the health workers in order to collect data which could not be collected by the above mentioned tools.

3.8 Data Collection Technique

Data collection technique is the actual method on how the data is going to be collected (Polit and Hungler, 2001).

To facilitate data collection, a structured interview schedule for mothers and a self administered questionnaire for health workers was used. Data was collected in a private place where confidentiality was provided. In this type of interview complete sets of well defined questions were used and the researcher read out the question to the mothers. The researcher interviewed 10 mothers everyday and the interview would take ten minutes. Confidence and courtesy was provided to the respondents and they were welcomed to the interview room.

The questionnaires were self administered after obtaining informed consent and assuring the respondents of anonymity and confidentiality. The researcher also read through the instructions with the subjects and made appropriate clarifications. The respondents were given an hour in which to complete the questionnaire then the researcher collected them back. In order not to disturb their work, the health workers answered the questionnaires at the end of their shift. The researcher also observed the health worker's activities during under five immunization sessions.

3.9 Pilot Study

A pilot study is the study carried out at the end of the planning phase of research, in order to explore and test the research elements. (Basavanthappa 2006)

The purpose of the pilot study was to assess the practicability of the instrument for improving the project or assessing its feasibility. It helped to correct the data collection tool. The pilot study was carried out at Yeta clinic. Five questionnaires were given to health workers after the necessary permission was obtained from the overall in charge of the clinic and from the in charge of maternal and child health department.

3.10 Ethical and Cultural Consideration

Ethics are a system of moral values that is concerned with the degree to which research procedures adhere to professional, legal, and social obligations to study participants (Polit, Beck and Hungler, 2001).

When humans are used as subjects in investigations, great care must be exercised in ensuring that their rights are protected. The researcher got permission from the District Medical Officer of Sesheke District Health Management Team, to collect data from the health workers and mothers. A full explanation of the study was made before the health workers were required to answer the questionnaire. Informed consent was obtained from each respondent without coercion. Confidentiality and anonymity was upheld because no names were entered onto the questionnaires, instead serial numbers were used. This was important as it facilitated cooperation from authorities and respondents for smooth data collection.

CHAPTER FOUR

4.0 DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 Data Analysis

Data analysis is the systematic organization and synthesis of research data, and the testing of research hypothesis using the data (Polit et al, 2001).

Data were collected using a structured interview and a self administered questionnaire. A total of 40 respondents were interviewed and 10 health workers completed the self administered questionnaire and there was a 100% response rate. All the questionnaires were edited for accuracy, completeness, uniformity and consistency. The responses from closed ended questions were entered on the data master sheet for easy manual analysis of data, while responses from open-ended records were categorized in different groups and then coded. Data was analyzed manually using single counting and a scientific calculator.

4.1.1 Quantitative Data

Following data collection, the structured interview schedules were sorted and edited for internal consistence, completeness, legibility and accuracy. Closed ended questions were assigned numerical codes for easy entry and analysis, then entered onto the data master sheet and analyzed manually with aid of a calculator. Question numbers 1-10 and 12- 19, (Appendix V) were closed ended.

4.1.2 Qualitative Data

Qualitative data, which was derived from open ended questions, were analyzed using content analysis. Content analysis involves an analysis of the content narrative data to identify prominent themes and patterns among the themes (Polit et al 2001). Each response was transcribed, read and re-read to get the concept in the responses. Using the participant's own words, the key statements were listed, including concepts which were derived from the characteristics of the responses, and then developed into themes that were used to categorize the content into meaningful groupings. Open ended questions like questions number 11 and 20(refer to appendix

V) were analyzed by reading through the data in its entirety to identify and group answers that belong together. This process is known as categorization (Polit et al 2001).

4.2 Presentation of Findings

The findings from this study were presented according to the sequence and sections in the questionnaires. The question for the interview schedule followed the following sequence, demographic data, knowledge of measles vaccine, health education, service utilization , distance and attitude of health workers and the sequence for the self administered questionnaire was demographic data, staff levels, immunization coverage, distance, availability of measles antigen and community participation. The findings were presented in frequency tables, pie charts, bar graphs and cross tabulations tables. The frequency tables summarised the results of the study to ensure that the readers understand the findings of the research study easily (Polit et al 2001). Cross tabulations of the variables helped to show clearly the relationship between variables (Polit et al 2001). The use of pie charts and graphs in the presentation of findings makes the work neat, presentable and easy to read by the reader (Polit.et al 2001). Presentations of data obtained from mothers are presented in part A, data from health workers in part B. All the respondents were females.

Section A

Table 4.1 Socio-demographic characteristic of the sample

AGE	Frequency	Percentage
20 -30	26	65
31 - 40	13	33
41 - 50	1	2
Total	**40**	**100**

Table 4.1 shows that the majority of the respondents (65%) were aged between 20 and 30 years, while 33 percent were aged between 31 – 40 years. Only two percent were aged between 41 and

50 years. Therefore this shows that most of the respondents fell within the 20 and 30 years age group and this shows the heterogeneity of the study sample.

Table 4. 2 Marital status

MARITAL STATUS	Frequency	Percentage
Never Married	4	10
Married	33	83
Divorced	3	7
Widowed	0	0
Separated	0	0
Total	**40**	**100**

Table 4.2 above shows that 83 percent of the respondents were married, while 10 percent were not married. Only seven percent were divorced. There were no women who reported being widowed or separated. This shows that most of the women interviewed who brought children for immunization were in a relationship. The fact that most of the women were married may be considered beneficial because it may be regarded supportive in caring for and taking children to under five clinics..

Table 4. 3 No. of children

NO. OF CHILDREN	Frequency	Percentage
1 – 4	35	88
5 - 6	5	12
Total	**40**	**100**

The table above, 4. 3 shows that three quarters of the respondents 35(88%) had between one and four children while 12 percent had between 5 and 6 children. This indicates that majority of the women had only the last child to bring for immunization which was easier instead of carrying a number of children.

Table 4. 4 Age of last child

AGE OF LAST CHILD	Frequency	Percentage
3 – 9 months	13	32
10 – 16 months	9	23
11 – 23 months	11	27
24 months and above	7	18
Total	**40**	**100**

Table 4. 4 above shows that 13 (32%) of the respondents had their last child aged between 3 – 9 months while 11 (27%) of the respondents had their last child aged between 11 – 23 months. 23 percent of the respondents had children aged 10 – 16 months and 7(18%) of the respondents had their children aged 24 months and above. Therefore this shows that majority of the children were within the age range for measles immunization.

Table 4. 5 Religious denomination

RELIGIOUS DENOMINATION	Frequency	Percentage
Roman Catholic	1	2
Seventh Day Adventist	21	53
Jehovah's Witness	0	0
New Apostle	18	45
Total	**40**	**100**

According to table 4. 5, fifty three percent of respondents were Seventh Day Adventist, while (45 %) were New Apostolic and (2 %) were Roman Catholic. There were no respondents belonging to Jehovah's Witness. This reveals a variety of the denominations were within Christianity but most whom were in the Seventh Day Adventist.

Table 4. 6 Education level

EDUCATION	Frequency	Percentage
Primary	23	58
Secondary	12	30
College	0	0
University	0	0
Never gone to school	5	12
Total	**40**	**100**

The table 4. 6 shows that majority of respondents (58 %) in the sample had attained primary level of education while 30 percent attained secondary level of education. Only 12percent of the respondents had never been to school. On the other hand there was no respondent who attained college or university level of education. This reflects that more than half of the women had been to school or had attained some level of education for them to understand the importance of measles vaccinations during IEC sessions and they are able to read so they may not miss the immunization schedules.

Section B

Table 4. 7 Knowledge

	Frequency	**Percentage**
Definition of measles vaccine		
a) a vaccine that protects against polio and measles	3	8
b) a vaccine protecting against measles	37	92
c) a vaccine protecting against T.B	0	0
d) a vaccine protecting against polio	0	0
TOTAL	**40**	**100**

Table 4.2.7 shows that majority of the respondents 37 (92%) were knowledgeable about which disease the measles vaccine protects against, while three (8%) were not knowledgeable. This shows that most of the respondents who took their children to under five clinics had knowledge about measles.

Table 4. 8 Knowledge of Age of measles vaccination

	Frequency	**Percentage**
At what age is measles vaccine given in children		
1. 7months	3	7
2. 8months	6	15
3. 9months	31	78
TOTAL	**40**	**100**

From table 4.2.8 above, it is shown that 78 percent of respondents got the right response of age at which a child should receive measles vaccine, while 15 percent and seven percent got the response wrong. This shows that the majorities 78 percent knew at what age measles vaccine is supposed to be given.

Table 4. 9 Identification of measles

	Frequency	**Percentage**
How can you identify measles infection		
1. fever, cough, runny nose, red eyes, maculopapular	23	58
2. crying, diarrhea, rash	13	32
3. restlessness, crying, fever	4	10
TOTAL	**40**	**100**

Table 4. 9 shows majority of the respondents (58 %) got the signs and symptoms of measles correct while 32 percent of participants 's response were not correct and four (10%) didn't score the answer. This reflects that awareness of the signs and symptoms may facilitate early seeking of medical intervention.

Figure 1

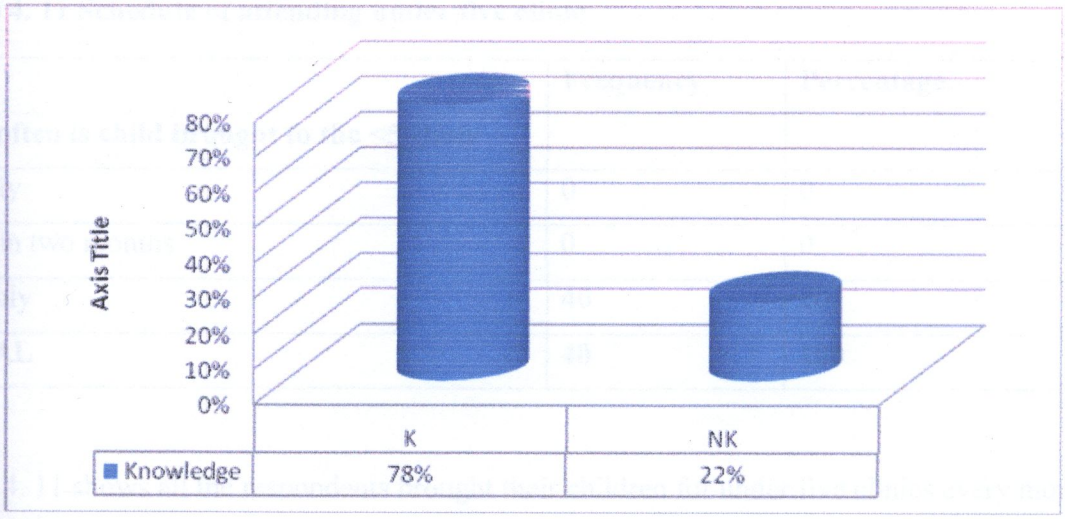


Figure 1 above provides a summary of the total percentages of respondents who were knowledgeable about measles vaccine. Majority of the respondents (78%) were knowledgeable while the minority 22 percent was not knowledgeable.

Section C

Table 4.10 Health education

	Frequency	**Percentage**
Are you given IEC on measles immunization		
Yes	32	80
No	8	20
TOTAL	**40**	**100**

According to table 4.2.10 above, three quarters of the respondents (80%) reported having received IEC on measles immunization while 20 percent reported having not received I.E.C. This shows that health workers provided I.E.C on measles vaccinations to the mothers during under five clinic.

SECTION D

Table 4. 11 Schedule of attending under five clinic

How often is child brought to the <5 clinic	Frequency	Percentage
Weekly	0	0
Once in two months	0	0
Monthly	40	40
TOTAL	**40**	**100**

Table 4. 11 shows all the respondents brought their children for under five clinics every month. This shows that the mothers observed or followed the immunization schedule and understood the importance and of measles immunization.

Section E

Table 4. 12 Distance

Distance	Frequency	Percentage
How far is home from health centre		
2hours and above	0	0
30minutes – 1hour	21	53
0- 30minutes	19	48
TOTAL	**40**	**100**

Table 4.2.12 above shows that about half of the respondents (53%) took between 30minutes – one hour to reach the clinic while 48 percent of the respondents took between 0 and 30minutes to walk to the health centre. No respondent reported a walking distance of more than 2 hours. This shows that most of the respondents lived within the vicinity of the health centre.

Table 4. 13 **Road passable throughout**

	Frequency	**Percentage**
Is the road passable throughout year		
Yes	40	100
No	0	0
TOTAL	**40**	**100**

Table 4. 13 above shows that all the respondents 100 percent reported that the road to the clinic was passable throughout the year. This indicates that the immunization services were accessible throughout the year.

Table 4. 14 Accessibility

	Frequency	**Percentage**
Mode of accessing the clinic		
Public transport	0	0
Ox-cart	1	2
Bicycle	7	18
Walking	32	80
TOTAL	**40**	**100**

According to table 4. 14 majority (80%) of the respondents said they walked to the clinic. Eighteen percent used bicycles and two percent used ox - carts. This reflects walking was the most used mode of accessing the clinic to attend the under five clinic by most women.

Table 4. 15 Amount payed for public transport

	Frequency	Percentage
How much they pay if use public transport		
>10 thousand kwacha	0	0
10 thousand kwacha	23	58
5 thousand kwacha	17	42
TOTAL	**40**	**100**

Table 4. 15 above shows that 23(58%) of the respondents paid K 10,000 if they used public transport to access the clinic, while 42 percent paid K5,000. This shows that there were other modes of accessing the clinic other than walking alone.

Section F

Table 4. 16 Attitude of Staff

Attitude	Frequency	Percentage
Staff reception at the health facility		
Encouraging	40	100%
Discouraging	0	0
TOTAL	**40**	**100%**

Table 4. 16 above shows that all the respondents indicated that the staff reception at the clinic was encouraging. This shows that it might be a motivating factor for mothers to bring their children for under five clinics.

Table 4. 17 Waiting time

Time spent at health facility before being attended to	Frequency	Percentage
< 0 – 30minutes	18	45
30minutes – 1hour	22	55
>1 hour	0	0
TOTAL	**40**	**100%**

According to table 4. 17 majority of respondents 22 (55%) reported that they spent between 30 minutes to one hour at the clinic before being attended to, while 45 percent spent less than 30 minutes. This shows that nurses attended to the mothers promptly.

Table 4. 18 Kind of Services offered

	Frequency	Percentage
Opinion on services offered		
Very Good	35	85
Good	5	5
Poor	0	0
TOTAL	**40**	**100**

From the table 4. 18 above, it shows that majority of the respondents (85%) percent reported that the services that were offered at the clinic were very good while 5 percent said they were good. There was no respondent who reported poor service. From the above information it shows that respondents appreciate the service that nurses were providing.

B.

Section C

Table 4. 19 Immunization coverage of measles vaccine

Immunization Coverage	Frequency	Percentage
How is percentage of measles immunized children		
High	2	20%
Low	8	80%
TOTAL	**10**	**100%**

Table 4. 19 above shows majority of the respondents 8 (80%) reported that the measles immunization coverage was low (below 80% national coverage), while two percent reported that the measles coverage was high. This shows that the clinic is below the required target percentage in immunizations or it shows that less than 80 percent of the children are immunized.

Table 4.20 Session of immunizations at clinic

	Frequency	Percentage
Frequency of conducting immunization sessions at the clinic		
Once per month	1	10
Twice per month	9	90
Quarterly		
TOTAL	**10**	**100%**

According to table 4. 20 three quarters of the respondents reported that immunization sessions at the clinic were conducted twice in a month and a quarter reported that they conducted

immunization sessions once in a month. This reflects that most of the children who were eligible for immunizations were not immunized once they missed the fortnightly in a month schedule.

Table 4..21 Staffing levels at immunization site

	Frequency	**Percentage**
Number of health workers conducting immunization sessions at the clinic		
1 – 3	8	80
4 – 6	2	20
>6	0	0
TOTAL	**10**	**100%**

Table 4. 21 above shows that majority of the respondents 8 (80%) said between 1-3 health workers were present during immunization sessions, twenty percent said between 4 and 6 health workers were present during immunization sessions. No one reported more than six health workers. This shows that the health centre had few health workers who would only target a few mothers with under five children.

Table 4.22 Adequacy of health workers

	Frequency	**Percentage**
Is number of health workers adequate during immunization sessions		
Yes	4	40
No	6	60
TOTAL	**10**	**100%**

Table 4. 22 above shows that majority of the health workers 6 (60%) responded that the number of health workers was not adequate during immunization sessions while 40 percent indicated that it was adequate. This means there was work overload which might lead to poor recording of immunized children or this shows that the health workers were not adequate to conduct the immunization services

Figure 2

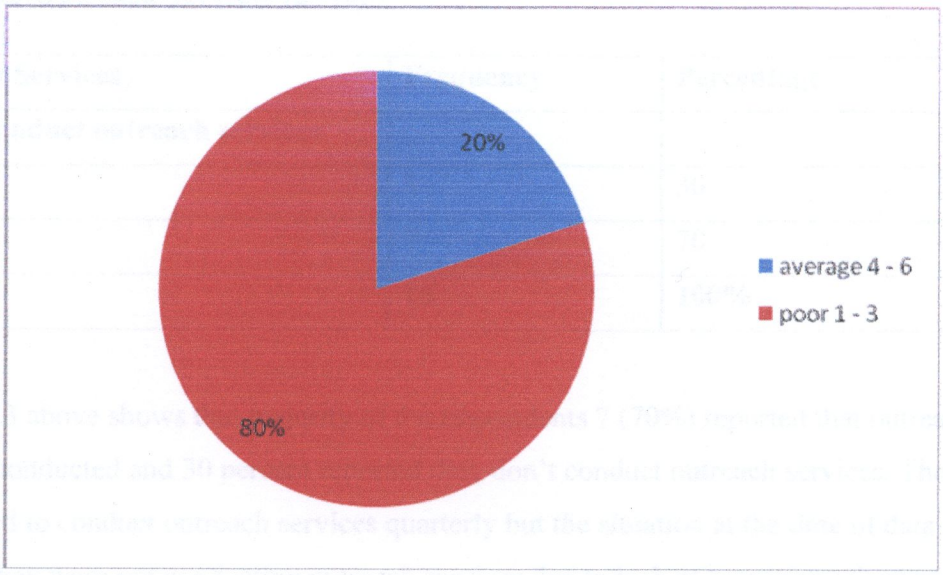


Figure 2 above gives a summary of the staffing levels at the clinic and the level is poor showing that the staff nurses available are not enough for the services.

Section D

Table 4. 23 Outreach Services (n=10)

Outreach Services	Frequency	Percentage
Do you conduct outreach services		
Yes	3	30
No	7	70
TOTAL	**10**	**100%**

Table 4. 23 above shows that majority of the respondents 7 (70%) reported that outreach services were not conducted and 30 percent reported they don't conduct outreach services. The health centre used to conduct outreach services quarterly but the situation at the time of data collection was that they were not conducting outreach services due to lack of provision of transport from the DHMT. It shows that those who cannot reach the clinic cannot be reached for immunization.

Table 4. 24 Schedule of outreach services (n=10)

	Frequency	Percentage
How often are the outreach services conducted		
Weekly	0	0
Monthly	4	40
Quarterly	6	60
TOTAL	**10**	**100%**

Table 4. 24 above shows that the outreach services were conducted on quarterly basis as reported by 60 percent of the respondents while 40 percent said they conducted outreach services on monthly basis and no respondent reported that immunizations were conducted on weekly basis. According to the health centre, they drew up a plan or schedule for outreach services which they were supposed to follow to conduct outreach immunization services on a quarterly basis but their

plan was not being implemented due to transport problems. This meant that the health centre had not immunized the children in the outreach stations.

Table 4. 25 No. of health workers for outreach (n=10)

	Frequency	Percentage
Number of health workers that go for outreach services		
1	2	20
2	7	70
3	1	10
TOTAL	**10**	**100%**

According to table 4. 25 two thirds of the respondents (70%) reported that two health workers go out for outreach services, 20 percent reported that one health worker go out and 10 percent indicated that three health workers go out for outreach services. It means only the available staff goes out for outreach.

Table 4. 26 Team composition

	Frequency	Percentage
Composition of health worker team that conduct outreach		
Nurse and CO	8	80
EHT and CO	0	0
Nurse, EHT and CO	0	0
Nurse only	2	20
TOTAL	**10**	**100%**

Table 4. 26 shows that the team for outreach services composed of a nurse and a clinical officer according to the 80 percent of respondents, 20 percent of respondents reported only the nurse goes out for outreach programmes. There were no respondents who reported on the composition

of a nurse and environmental health technician and on the composition of a nurse, EHT and CO. In normal situations when the health centre conducts outreach services, the team should comprise of a nurse, EHT and clinical officer. This shows that the nurse is the one who most of the times go out for outreach services.

Section E

Table 4. 27 Availability of measles vaccine

Availability of Measles Vaccine	**Frequency**	**Percentage**
State of stocks of measles vaccine		
Available all the time	0	0
Available sometimes	8	80
Not available all the time	2	20
TOTAL	**0**	**100%**

Table 4. 27 above shows that majority 80 percent of respondents, of respondents reported that the measles vaccine was available sometimes, 20 percent reported that the measles vaccine was not available all the time. There was no respondent who reported that measles vaccine was available all the time. This shows that there was no erratic supply of vaccines.

Table 4. 28 Times of measles vaccine orders

	Frequency	**Percentage**
How often are orders for the antigen made		
Weekly	0	0
Monthly	4	40
Quarterly	6	60
TOTAL	**0**	**100%**

Table 4. 28 shows that majority of respondents 60 percent responded that orders for the antigen from the DHMT were done on quarterly basis, while 40 percent reported that orders were done

monthly. There was no respondent who reported that the health centre orders measles vaccine weekly. This means the clinic had could use vaccines ordered within a quarter.

Table 4. 29 Delivery mode of measles vaccine

	Frequency	**Percentage**
By what means does the measles antigen reach the health centre		
District distributions	0	0
Collection by health centre	10	100
TOTAL	**10**	**100%**

Table 4. 29 shows that all the respondents reported that the health centre collected the vaccine from the district. No respondent reported distribution of vaccines by the district. Therefore it appears that the health centre bear the responsibility of collecting vaccines from the district.

Table 4. 30 State of fridge

	Frequency	**Percentage**
Is a functional fridge available		
Yes	10	10
No	0	0
TOTAL	**10**	**100%**

Table 4. 30 shows that all the respondents reported that the fridge was functional while no respondent reported that the fridge was not functioning. This indicates that the fridge is always functional for safe storage of vaccines.

Table 4..31 Type of fridge

	Frequency	Percentage
The type of fridge available		
Electrical	8	80
Gas	1	10
Paraffin	1	10
TOTAL	**10**	**100**

According to table 4. 31 80 percent of respondents reported availability of an electrical fridge for measles vaccine storage, while 10 percent reported availability of a gas fridge and on the other hand 10 percent reported that they had a paraffin fridge. Therefore this shows availability of a variety of fridges so that in case power of failure the health centre can use the gas or paraffin fridge.

Table 4..32 Storage temperature

	Frequency	Percentage
Temperature of storage of measles vaccine		
0°celcius - ¯8°celsius	7	70
1°celsius	0	0
2-8°celsius	3	30
TOTAL	**10**	**100**

Table 4..32 above shows that two thirds of the respondents 70 percent reported the correct storage temperature for the vaccine while 30 percent could not get it right. This shows that most of health workers were aware of the right storage temperature for the vaccine.

Table 4. 33 Type of Syringes used

	Frequency	Percentage
Type of syringes needles used		
Auto destructive type	10	10
Reusable type,	0	0
Disposable type	0	0
TOTAL	**10**	**100**

Table 4.2.33 above shows that all the respondents indicated that they use auto destructive syringe for immunization. There were no respondents who reported that they used reusable or disposable syringe. This shows that the health workers were aware of the type of syringe used during immunizations.

Section F

4. 34 Community participation (n=10)

Community Participation	Frequency	Percentage
What activities are the community involved in.		
Social mobilization	3	30
Bring children for <5clinic	7	70
Giving IEC on measles immunization	0	0
TOTAL	**10**	**100**

According to table 4. 34 majority of the respondents 70 percent reported that the community's involvement was in bringing under five children to the clinic for immunization, while 30 percent reported that the community participated regarding social mobilization. There were no

respondents on community participating related to IEC on measles immunization. Therefore this shows that mothers were the ones who mostly participated in immunization activities.

CROSS TABULATIONS

Table 4.3 Knowledge in relation to age

KNOWLEDGE	AGE RANGE IN YEARS			TOTAL
	20 – 30	31 - 40	41 - 50	
Knowledgeable	20(76.9%)	11(84.6%)	0	31(77.5%)
Not knowledgeable	6(23%)	2(15.3%)	1(100%)	9(22.5%)
TOTAL	26(65%)	13(32.5%)	1(2.5%)	40(100%)

Table 4.3 above shows that of all the participants who were knowledgeable, 84 percent were aged between 31 and 40 years while most of the participants who were not knowledgeable were aged between 20 and 30 years. This shows that there is a relationship between knowledge and age in that the older the client the more knowledgeable they are.

Table 4.3.1 Knowledge in relation to education level

KNOWLEDGE ON MEASLES VACCINE	EDUCATION LEVEL					TOTAL
	None	Primary	Secondary	College	University	
Knowledgeable	3(60%)	18(78.2%)	10(83.3%)	0	0	31(77.5%)
Not Knowledgeable	2(40%)	5(21.7%)	2(16.6%)	0	0	9(22.5%)
TOTAL	5(12.5%)	23(57.5%)	12(30%)	0	0	40 (100%)

Table 4.3.1 above shows that majority of the respondents 18 (78.2%) who had attained primary education were knowledgeable on measles vaccine, while 40 percent of the respondents who had never been to school were not knowledgeable. The more educated the respondent the higher the possibility that they will be knowledgeable about measles therefore there is a relationship between educational level and knowledge about measles vaccine.

Table 4.3.2 Knowledge in relation to distance from health centre

KNOWLEDGE ON MEASLES VACCINE	WALKING TIME BEFORE REACHING THE HEALTH CENTRE			TOTAL
	Within 30 minutes walking	1 hour walking	More 2 hours' walking	
Knowledgeable	8(72.7%)	22(75.8%)	0	30(75%)
Not knowledgeable	3 (7.5%)	7 (24.1%)	0	10(25%)
TOTAL	11 (27.5%)	29(72.5%)	0	40(100%)

Table 4.3.3 shows that majority of the respondents 75.8 percent who reached the health centre within 30 minutes of walking had high knowledge on measles. The more distant the mother was from a health facility the more chances of not attending the under five clinics therefore there is a relationship between distance and attendance to the under five clinic.

Table 4.3.3. Health education in relation to age range

HEALTH EDUCATION	AGE RANGE OF RESPONDENTS			TOTAL
	20 – 30	31 - 40	41 - 50	
Yes	21(80.7%)	10(25%)	1(100%)	32(80%)
No	5(12.5%)	3(23%)	0	8(20%)
TOTAL	26(65%)	13(32.5%)	1(2.5%)	40(100%)

According to table 4.3.4 majority of the respondents 80.7 percent in the age range of 20 to 30 years reported that they received health education during measles immunizations. The younger the age the more likely they are able to attend health education sessions. Therefore there is a relationship between health education and age.

CHAPTER FIVE

5.0 Discussions of findings

This study sought to identify the factors that may contribute to low measles coverage in under five children. It looks at the demographic characteristics of the respondents, immunization coverage, distance and community participation as factors that contribute to low measles immunization.

5.1 Characteristics of the sample

The sample for data analysis consisted of 40 mothers and 10 health workers. In the sample of mothers, the age group of the respondents ranged between 20 years and 42 years with the mean age being 28. About three quarters of the respondents were married which could be attributed to the fact that marriage was a norm in Zambia (CSO, 2007). However, most of those who were not married 10 percent were below the age of 30 years since may be they got pregnant while in school. Majority of the respondents had between one to four children and the majority had their last child aged between 3 – 9 months. This was the age group for immunizations. Majority of the respondents had attained primary level of education. Christianity is the main religion in Zambia, and all the respondents (100%) were Christians.

The age group of the nurses ranged between 26 and 50 years, 70 percent of respondents were females. The respondents represented various categories of nursing qualifications with the Enrolled Nurses in the majority at 60 percent. This confirms to the distribution of nurses in Zambia where most of the Enrolled nurses are found in the rural areas than the Registered nurses. This is because there are few Registered nurses who are willing to work from the rural areas as compared to the urban areas because of the geographical locations of the health facilities, which are hard to reach (Sesheke Action Plan, 2009). Most of the respondents had served for longer than 9 years, with few of them having served for 2 years and less. This reflects the trend where young nurses do not want to work in the rural areas and they leave the old ones. The majority of the respondents worked in the maternal and child health department.

5.2 Immunization coverage

The national target for measles immunization coverage in Zambia is 80 percent. At least 80 percent of all children in each district and at national level need to be vaccinated through Expanded Programmes on Immunization (MoH,2007). An immunization coverage that reaches 80 percent and above entails that most of the children in that area or country have been immunized. If the immunization coverage is below 80 percent, and the children are not immunized, then they will be susceptible to measles infection. The immunization coverage at the health facility where the study was conducted is below 80 percent as revealed during the study.

The study revealed that most of the respondents indicated that the coverage for measles vaccine was low. The reasons that were reported as contributing to the low measles coverage were that the clinic conducted immunization sessions at the clinic twice in a month as reported by most of the respondents in the present study, the number of health workers that conduct immunization are low, distance from the health facility is far for the mothers to attend immunization sessions. The health centre also did not conduct outreach services where they could capture more children and improve coverage. The outreach services were not conducted because the health centre was not provided with transport from the District health Office.

This result is in correlation with a study done in Cameroon which revealed that immunization coverage was low. 37 percent of children were fully immunized and this is attributed to mother's level of education and the household's economic status. Children of mothers with secondary education or higher education are more likely to be fully vaccinated than children whose mothers had not completed primary education. (Waters, 2004). This result is also in line with the findings of a study that was conducted in Mozambique. The study was to ascertain the structure of immunization coverage and how they implement the desired program strategies and it was revealed that the innovative distinction between the views proposed on the immunization coverage, provided an insight of the different challenges that health workers and district health directors face as leaders of the district health management team in conducting immunization services (Mavimbe, 2002)

Contrary to the findings, another study was done in Zambia on immunization coverage. The study found that most of the health centre staff knows how to measure the immunization coverage for each antigen based on the target population and number of children immunized each month. Usually such information is presented in a graph that is displayed on the wall. Unfortunately, such information is used for reporting only and is never used as an assessment and motivation tool to stimulate actions towards improving immunization coverage (Makono, 1999).

The similarities may be attributed to that the studies were done in the same region and these are developing countries which experience similar experiences under Expanded Immunization Programmes. The studies are also similar in that they reveal low results because of social economic status which is distance. From the above findings of the study there is need for further research on measles immunization coverage in Zambia. The studies should address the reason why the registered nurses are not found in rural areas to offer services in rural areas and how the enrolled nurses manage to offer services in rural areas in order to improve on staffing thereby improving coverage.

5.3 Distance

Distance is how far or near is the health facility from the community (wikipedia, 2009). Long distance to the health facility influences the coverage of measles because if the health facility is located far from the community it will be difficult for the mothers or caretakers to bring their children for immunizations (MoH, 2007). The studies revealed that above most of the respondent's homes were far away from the clinic. This is supported by the study done in Zambia which revealed that mothers of children who were not fully vaccinated was because of problems with access to vaccination (facilities too far away) (Mutambo, 2009)

The study also reveal that three quarters of respondents said they walked to the clinic .This correlates with the findings in Ghana that the lower likelihood of vaccination coverage was because walking is the most common mode of transport to health care clinics. About two-thirds

of the population walks to clinics and of those who walk (65%) have to travel one hour or more to reach the nearest clinic (Tanser, 2006).

Contrary to the above, , in Zambia a study showed that access distances were not an impediment to immunization coverage once the outreach services were introduced (Nkowane, 2010). The study shows that the homes were far which is similar to the other studies which have also shown the facilities to be too far away. Suggestions are that further studies need to be done. The researchers have to conduct studies on what strategies can be used so that the distance to the health centre is accessible or near.

5.4 Community participation

Community participation refers to involving the community in activities. These activities could be taking place either at the health facility or in the community. When there is community participation it means the community has accepted the programme or activity and they will give input and work with the health workers. Sometimes this is not so because the community may not have been informed about the activity. The community may also not have been empowered with knowledge on importance of the respective activity. In such instances the community does not participate (Basavanthappa, 2006).

The present study results showed that the community was involved in bringing children to the clinic. This finding is supported by the study done in Cambodia, which revealed that when the community committees or groups found in the community, such as the local traditional leaders ,neighborhood health committee chairpersons, community health workers ,traditional birth attendants and other community based health providers are involved in implementing measles immunization activities, this may contribute to increase the measles coverage. This is so because the local leaders can influence rules for all mothers to ensure their children are vaccinated and the others in mobilization of mothers and assisting during immunization sessions. Ensuring there is adequate staff and provision of transport for outreach services strengthens the capacity of the health centre in maternal and child health service delivery. This could also increase the measles coverage (Baer, 2007).

However, contrary to the above findings, a study conducted in Bangladesh, revealed that an increase in immunization coverage was linked to the use of inter-personal communication among mothers participating in a non-government organization (NGO) credit program that encouraged child immunization without providing additional immunization services (Hughart, 1995). According to these studies the observed similarity is that both the conducted and supporting study talks about involving various groups based in the community in measles immunization implementation in order to improve the measles coverage.

Therefore research should be conducted to come up with ways or strategies of ensuring that community committees continue participating in the measles immunization activities.

5.5 Implications to the health care system

Nursing practice

Universal Child Immunization (UCI) is a valuable service that protects children from common killer diseases. It is for this reason that health workers involved in Universal Child Immunization (UCI) activities should have adequate knowledge and training to enable them perform according to the required standards. This will provide confidence to the mothers which will in turn encourage the mothers to take their children for immunizations thereby increasing immunizations coverage.

Nursing Administration

The nurse administrators have a big influence on nursing practice in the health system of any country. Whatever change is made to the nursing practice should start with administrators. When administrators have a positive attitude the change will take place effectively. It is for this reason that nurse administrators should have adequate knowledge on immunizations.

The administrators should provide logistics to the health facility in time so that the health facility is able to carry out the immunization services. Logistics such as the vaccines, fridge in good working conditions and transport tally sheets and reporting tools. There is also need for adequate

supervision of nurses in the clinic to ensure that activities are done in the right way. The health facility needs to increase the number of days immunizations are carried out. The management also needs to provide more nursing staff to the health facility to reduce the shortage. More staff will reduce the workload and improve the recording and efficiency of the immunization services.

Nursing Education

The nurses need to be provided with knowledge on immunizations during their training. The curriculum for nursing and other health programmes should be regularly reviewed to accommodate new information and technology on immunizations. The need for retraining workers through seminars and workshops therefore cannot be over emphasized. This is to keep the nurses abreast with new information on immunizations.

Nursing Research

We live in an ever changing environment emanating from medical and technological advancements and innovations and require constant research to foster improvement in the improvement of immunizations. More studies are needed as there are not many studies that have been done on immunizations especially in Zambia. Globally, several have been done and results published. In Zambia it could be the results are not published that's why there are just a few studies. There is need to carry out more studies in order to address the immunization problems.

5.6 Recommendations

a) The Ministry of Health

The Ministry of Health through collaborating partners should provide enough logistics to cover the population of the children eligible for immunizations. These logistics should be delivered in time in order to ensure continuity of service. In addition, more nurses and other health workers should be posted to the rural areas for them to effectively provide the quality immunization services.

b) Sesheke DHMT

The DHMT should be providing transport for the health centre to conduct outreach services so that they improve coverage. They should also ensure the fridge's are in good working condition all the time. They should constantly provide measles vaccine in required amounts and provide all types of stationary and reporting tools. The DHMT also need to put up a deliberate strategy of sending staff nurses from other health facilities to assist during days of immunizations. An arrangement should be made where nurses who are off duty in other health facilities offer assistance during those days the health facility is conducting immunizations to increase number of staff.

c) Health Centre

There is need for the health centre to increase on the number of immunization sessions at the clinic in order capture more children and improve coverage. They should send their schedule or plan of outreach activities to the DHO so that DHO is aware of the health facility's outreach dates. The health facility should remind DHO a week or a few days before about the dates for the outreach activities to be conducted so that transport is organized in advance.

There is need for the health centre to increase number of locations for immunizations under the guidelines of Reaching Every District (RED) Strategy in order to reduce distance for the mothers and for all mothers to be able to access the service nearby. This strategy enables the health facility reach every child through increasing the number of immunization locations within accessible distance by the community.

5.7 Limitations of the study

The study sample was small, therefore the findings could not be generalised to the entire Sesheke district.

Funding was limited such that the researcher could not conduct a study on a large scale for generalising the findings in the district.

The interview schedule is a self report instrument which could have led to under reporting as it was difficult to translate meanings of questions on the questionnaire so that the respondents understands, thus findings can be inaccurate.

The research results might be limited by the fact that the sample size was relatively small. (n=50).

5.8 Dissemination of findings

The findings of the study will be disseminated through meetings which are held by senior management weekly at the District Health Management Team (DHMT). Copies of the research project will also be submitted to the Department of Nursing Sciences, University of Zambia, Medical Library, Sesheke DHMT and to relevant authorities for example Ministry of Education. The written copy offers permanence and potential for reaching a wider audience.

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APPENDIX I

THE UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE

DEPARTMENT OF NURSING SCIENCES

SELF ADMINISTERED QUESTIONIRE FOR HEALTH WORKERS

QUESTIONNAIRE NUMBER ☐

TOPIC:

A STUDY TO DETERMINE THE FACTORS CONTRIBUTING TO LOW MEASLES IMMUNIZATION COVERAGE.

District: ----------

Health Centre: ----------

Date of Interview: ----------

INSTRUCTIONS

1. Do not write your name on the questionnaire
2. Answer all questions.
3. For questions provided with alternatives, indicate the letter bearing the response by ticking the appropriate box provided against it.
4. For questions without alternatives, write down the response in the space provided.
5. All information will be held in confidence.

SECTION A: DEMOGRAPHIC DATA

Official use

1. How old were you on your last birthday?

a) 15 – 24 years
b) 25 - 34 years
c) 35 – 44 years
d) 45 – 49 years

2. Sex

a) male
b) female

3. What is your marital status?

a) Never married
b) Married
c) Divorced
d) Widowed
e) Separated

4. What is your religious denomination?

a) Jehovah's Witness
b) Catholic
c) Seventh Day Adventist
d) None
e) Other (specify) _____

SECTION B: STAFF LEVELS

5. Professional qualification

a) Clinical officer

b) Registered nurse

c) Registered midwife

d) Enrolled nurse

e) Enrolled midwife

f) Environmental health technician

g) Other, specify----------

OFFICIAL USE ONLY

6. When did you qualify as health professional?

Year/month/date

				/			/		

7. How long have you been working at the health centre?

a) less than 2years

b) 2-5years

c) 6-10 years

d) > 10years

8. Which department of the clinic do you work?

a) Curative department

b) Maternal and child health

SECTION C: IMMUNIZATION COVERAGE

9. How is your percentage of measles immunized children?
   a) High
   b) Low

10. If it is low, give reasons.

.....

.....

.....

.....

.....

.....

SECTION D: DISTANCE

11. Do you go for outreach activities?

a) Yes

b) No

12. How often do you go for outreach activities?

a) weekly

b) monthly

c) quarterly

13. Do you have an outreach plan in place?

a) Yes

b) No

14. How many health workers go out for outreach activities?

a) 1 ☐

b) 2 ☐

c) 3 ☐

15. What is the composition of the outreach team?

a) Nurse, EHT, Clinical officer ☐

b) EHT, clinical officer ☐

c) Nurse, EHT, CDE ☐

d) Other, specify----------

SECTION E: AVAILABILITY OF MEASLES ANTIGEN

16. Do you have measles antigen?

a) All the time ☐

b) Sometimes ☐

c) out of stock all the time ☐

17. How often do you order the measles antigen?

a) Weekly ☐

b) Monthly ☐

c) Quarterly ☐

18. How does the measles antigen reach the health centre after orders?

a. District distributes
b. Health centre collects
c. Other, specify_____

19. Do you have a functioning fridge for storage?

a) Yes
b) No

20. If yes, to question 17, what kind of fridge do you have?

a. Electrical
b. Gas
c. Paraffin

21. If no, to question 17, what measures do you take to ensure availability of measles antigen during under five clinics?

_____

_____

22. At what temperature do you store the measles vaccine?

a) At 60°C
b) Between 0°C to +8°C
c) 0°C

d) Do not know

23. Do you have any expired measles vaccines?

a) Yes

b) No

24. What type of needles and syringes do you use?

a) Self destructive type

b) Reusable type (steel)

c) Disposable type

25. How many health workers usually conduct immunization session at a time

a) 1- 3

b) 3 – 4

c) More than 4

26. In your opinion, is the number of health workers adequate to conduct the immunization clinic effectively and efficiently?

a) Yes

b) No

27. How long do mothers wait before their children are vaccinated?

a) less than 30minutes

b) 30minutes to 1 hour

c) More than 1 hour

28. How many times in a week do you conduct immunizations at your Health centre?

a) Everyday
b) Twice a week
c) Three times per week.

SECTION F: COMMUNITY PARTICIPATION

29. In what activities does the community participate towards measles immunization in your area?

a) Social mobilization
b) Bringing children for measles immunization
c) Giving information, education and communication on measles immunization.
d) Others, specify.....

.....

.....

.....

.....

e) None

30. If not participating, what measures have you taken to encourage community participation?

_____

_____

_____

32. What are your recommendations towards measles immunizations?

THANK YOU FOR ANSWERING THE QUESTIONS.

APPENDIX II

THE UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE

DEPARTMENT OF NURSING SCIENCES

INTERVIEW SCHEDULE FOR MOTHERS

TOPIC:

A STUDY TO DETERMINE THE FACTORS CONTRIBUTING TO LOW MEASLES IMMUNIZATION COVERAGE.

District: ----------

Health Centre: ----------

Date of Interview: ----------

INSTRUCTIONS

1. Do not write your name on the questionnaire
2. Answer all questions.
3. For questions provided with alternatives, indicate the letter bearing the response by ticking the appropriate box provided against it.
4. For questions without alternatives, write down the response in the space provided.
5. All information will be held in confidence.

SECTION A: DEMOGRAPHIC DATA

Official use only

1. How old were you on your last birthday?

   a. 15 – 24 years
   b. 25 - 34 years
   c. 35 – 44 years
   d. 45 – 49 years

2. What is your marital status?

   a. Never married
   b. Married
   c. Divorced
   d. Widowed
   e. Separated

3. How many children do you have?

   a) 1- 2
   b) 3 – 4
   c) 5- 6
   d) More than 6

4. How old is your last child?

   a) 1 – 4 months
   b) 5 – 8months
   c) 9 -12months
   d) 13 – 18months

5. What is your religious denomination?

   a. None
   b. Catholic

c. Seventh day Adventist

d. Jehovah's Witness

e. Other (specify) _____

6. Educational level attained

a) Primary School
b) Secondary school
c) College
d) University

SECTION B: SOCIAL-CULTURAL FACTORS

7. Are you aware of the measles vaccine?

a) Yes
b) No

8. At what age is measles vaccine given?

a) 7months
b) 8months
c) 9months
d) Do not know

9. Has your child suffered from measles even after receiving measles vaccine?

a) Yes
b) No

10.If yes, what do you think was the cause of measles?

a) the vaccine does not protect the child

b) inadequate dose

c) Do not know

SECTION C: SERVICE RELATED FACTORS

11. Are you given health talks on issues concerning measles immunizations?

a) Yes

b) No

c) Sometimes

12. If yes, what type of information are you given?

---

13. Do you think measles immunizations are good for your child?

a) Yes

b) No

Give reasons_____

_____.

14. How often do you bring your child to the under five clinic?

a. Monthly

b. Once in two months

c. Other (specify) _____

15. What do you think about the measles service offered?

a) Very good

b) Good

c) Poor

d) Do not know

16. How long do you wait to get your child immunized when you come to the health centre?

a) Less than 30 minutes

b) 30 – 1hour

c) More than 30minutes

SECTION D: DISTANCE

17. How far is your home from the health centre

a) Very far > 20 kilometres radius

b) far - less than 10 kilometres or two hours walking

c) Near – less than 5kilometres

SECTION E: ATTITUDE OF HEALTH WORKERS

18. What is your opinion on the attitude of health workers who conduct the immunization session?

a) Encouraging ☐

b) Discouraging ☐

c) Some are discouraging ☐

☐

19. What are your recommendations towards the measles immunizations?

THANK YOU FOR ANSWERING THE QUESTION

APPENDIX III

CONSENT FORM

I am Cheelo Chinyama, a 4TH year student at the University of Zambia, School of Medicine in the Department of Nursing Sciences pursuing a Bachelor of Science in Nursing.

I am required to undertake a research study as partial fulfillment of this program and I am researching on the factors contributing to low measles immunization coverage among under five children in Sesheke District.

You have been selected conveniently to participate in this study. Since your participation in the study is voluntary, you are free to refuse to participate or withdraw from the study at any point without suffering any denial of care. During the study you will be asked questions about the factors that you think contribute to low measles immunization coverage. Your name will not be written on the interview schedule and the information you will give will be treated as confidential.

Your participation in the study will not benefit you in terms of financial and material gains. However, the information that you will give will help in the implementation of measures to reduce the factors contributing to low measles immunization coverage in Sesheke.

I.....
.....understand the essence of this study and I am ready to participate in the study.

Signature/thumbprint of participant.....

Signature of interviewer.....

APPENDIX IV

WORK SCHEDULE

ACTIVITY	TIME FRAME		RESPONSIBLE PERSON
	DATES	DURATION	
Literature review	Continuous		Researcher
Finalize Research Proposal	07/06/10 – 13/08/10	35 Days	Researcher/Supervisor
Data Collection Tool	14/08/10 – 24/08/10	10 Days	Researcher
Submit first draft copy of Proposal to Supervisor	25/08/10 – 07/09/10	12 Days	Researcher/Supervisor
Clearance from relevant Authority	08/09/10 – 10/09/10	2 Days	Researcher
Orientation of Research Assistant	05/10/10	1 Day	Researcher
Pilot Study	06/10/10	1 Day	Researcher
Collection Tool Amendments	07/10/10 – 08/10/10	2 Days	Researcher
Data Collection	11/10/10 – 19/11/10	30 Days	Researcher/ Assistants
Data Analysis	24/11/10 – 01/02/11	50 Days	Researcher
Report Writing	02/02/11 – 22/02/11	15 Days	Researcher
Submission of draft copy of Research Report to Supervisor	23/02/11 – 15/03/11	14 Days	Researcher / Supervisor
Finalize research Report and binding	15/03/11 – 29/03/11	10 Days	Researcher
Deposition of final research	30/03/11 – 06/04/11	5 Days	Researcher

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ionitoring and evaluation	Continuous		Researcher

GHANT CHART

Task to be performed	Responsible Person	JUN 2010	JUL 2010	AUG 2010	SEP 2010	OCT 2010	NOV 2010	DEC 2010	JAN 2011	FEB 2011	MAR2011	ARP2011
Literature review	Researcher	←	—	—	—	—	—	—	—	—	—	→
Finalize Research Proposal	Researcher / Supervisor	←	—	→								
Data Collection Tool	Researcher			↔								
Submit first draft copy of proposal to Supervisor	Researcher / Supervisor				↔							
Clearance from relevant Authority	Researcher				↔							

Orientation of Research Assistant	Researcher					◆						
Pilot Study	Researcher					↔						
Collection Tool Amendments	Researcher					↔						
Data Collection	Researcher / Assistant					↔	↔					
Data Analysis	Researcher						↔		↔			
Report Writing	Researcher									↔		
Submission of draft copy of research Report to Supervisor	Researcher / Supervisor									↔	↔	
Finalize research Report and binding	Researcher										↔	

Deposition of final research report	Researcher										↔	
Monitoring and evaluation	Researcher	←										→

APPENDIX V

BUDGET

Budget category	**Unit price (K)**	*Quantity*	**Total (K)**
A. Stationery			
Typing paper	33, 000.00	4 reams	132,000.00
Note book	10, 000.00	1	10,000.00
Diskettes	5, 000.00	2	10,000.00
Pencils	6, 000.00	1 packet	6, 000.00
Pens	20, 000.00	1 packet	20,000.00
Tippex corrective fluid	5, 000.00	3	15,000.00
Stapler	30, 000.00	1	30,000.00
Staples	8, 000.00	1 packet	8, 000.00
Markers	7, 000.00	6	42,000.00
Calculator	100, 000.00	1	100,000.00
Eraser	20 ,000.00	1 packet	20,000.00
Flip chart	45, 000.00	2	90,000.00
Ruler	5, 000.00	1	5, 000.00
Cello-tape	9, 000.00	1	9,000.00
Folder	25, 000.00	1	25,000.00
Spirals	300.00	3	600.00
Transparencies	500.00	2	1,000.00
Manila paper	1,000.00	4	4,000.00
Subtotal			**517,600.00**

B. Secretarial Services			
Typing research proposal	5,000.00	40 pages	200,000.00
Typing Questionnaires	5,000.00	10 pages	50 ,000.00
Photocopying Questionnaires	300.00	500	150,000.00
Binding research proposal	50, 000.00	1 copy	50, 000.00
Typing report and photocopying	5,300.00	100 pages	530, 000.00
Binding final report	70, 000.00	4copies	2,800, 000.00
Subtotal			**2,898,000.00**
C. Personnel			
Transport to & from Sesheke			1,400, 000.00
Total personnel/Assistant cost			500, 000.00
Subtotal			**1,900,000.00**
TOTAL			**5,315,600.00**
10% contingence			**531,560.00**
GRAND TOTAL			**5,847,160.00**

JUSTIFICATION OF THE BUDGET

Stationery

The reams of paper will be used for writing, that is drafting the research proposal, questionnaires, draft research reports and printing the final reports. The notebook will be used when taking notes during fieldwork.

The diskettes will be used for storage of research data. The pens and pencils will be used for writing while the correction fluid and eraser will be used for erasing any mistakes and make corrections. The stapler and staples for putting the work in an orderly manner. The calculator is needed for calculations. The spirals, manila paper and transparencies will be used for binding the research proposal and the draft research report. The flip chart will be used for drawing up the data master sheets as well as dissemination of information and the ruler for drawing the data master sheet. The folder will be for filling references, the questionnaires and any other important documents.

Secretarial Services

Secretarial services will be used for typing, printing and photocopying the research proposal and the research report with the appendices. Binding of the research proposal and research report will be done.

Field Expenses

Lunch allowance will be paid to the investigator while collecting the data. Transport allowance will be required because the investigator will be far from the health centres. Ten percent (10%) of the total budget is for the unseen circumstances and for possible inflation.

Table 4. 13 Road passable throughout

	Frequency	Percentage
Is the road passable throughout year		
Yes	40	100
No	0	0
TOTAL	**40**	**100**

Table 4. 13 above shows that all the respondents 100 percent reported that the road to the clinic was passable throughout the year. This indicates that the immunization services were accessible throughout the year.

Table 4. 14 Accessibility

	Frequency	Percentage
Mode of accessing the clinic		
Public transport	0	0
Ox-cart	1	2
Bicycle	7	18
Walking	32	80
TOTAL	**40**	**100**

According to table 4. 14 majority (80%) of the respondents said they walked to the clinic. Eighteen percent used bicycles and two percent used ox - carts. This reflects walking was the most used mode of accessing the clinic to attend the under five clinic by most women.

SECTION D

Table 4. 11 Schedule of attending under five clinic

	Frequency	Percentage
How often is child brought to the <5 clinic		
Weekly	0	0
Once in two months	0	0
Monthly	40	40
TOTAL	**40**	**100**

Table 4. 11 shows all the respondents brought their children for under five clinics every month. This shows that the mothers observed or followed the immunization schedule and understood the importance and of measles immunization.

Section E

Table 4. 12 Distance

Distance	Frequency	Percentage
How far is home from health centre		
2hours and above	0	0
30minutes – 1hour	21	53
0- 30minutes	19	48
TOTAL	**40**	**100**

Table 4.2.12 above shows that about half of the respondents (53%) took between 30minutes – one hour to reach the clinic while 48 percent of the respondents took between 0 and 30minutes to walk to the health centre. No respondent reported a walking distance of more than 2 hours. This shows that most of the respondents lived within the vicinity of the health centre.

THE UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE

DEPARTMENT OF NURSING SCIENCES

Telephone: 252641
Telegrams:UNZA,LUSAKA
Telex:UNZALU ZA 44370
Fax: +260-1-250753
E – mail:pbn@coppernet.zm

P. O. Box 50110
Lusaka
Zambia

REPUBLIC OF ZAMBIA
MINISTRY OF HEALTH
SESHEKE DISTRICT MEDICAL OFFICE
OCT 2010
CARE OFFICER
BOX 29, SESHEKE

30th September, 2010

The District Medical Officer,
Sesheke District Health Management Team,
P. O Box 29,
Sesheke

CCO
or DMO
18/10/10

UFS: The Head of Department
University of Zambia
School of Medicine
Department of Nursing Sciences
P. O. Box 50110
LUSAKA

Dear Madam,

RE: REQUEST FOR PERMISSION TO CARRY OUT RESEARCH IN SESHEKE DISTRICT

I am a fourth (4th) year Bachelor of Science in Nursing student in the Department of Nursing Sciences, School of Medicine at the University of Zambia.

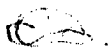
In partial fulfillment of the BSc Nursing Degree Programme, I am required to conduct a research project and contribute to the body of knowledge in any topic or field under

study. My topic is "**Factors contributing to low measles immunization coverage in Sesheke district**". The aim of the study is to identify factors that may contribute to low measles immunization coverage. The data will assist in strengthening the measles immunization activities within the District.

Therefore, iam asking for your permission to carry out this research in Sesheke District.

Your positive response will be highly appreciated.

Yours faithfully,



Cheelo Chinyama

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Telephone: 252641
Telegrams:UNZA,LUSAKA
Telex:UNZALU ZA 44370
Fax: +260-1-250753
E – mail:pbn@coppernet.zm

P. O. Box 50110
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