

**FACTORS CONTRIBUTING TO LOW TETANUS  
TOXOID IMMUNIZATION COVERAGE AMONG  
WOMEN OF CHILD BEARING AGE IN  
LUANSHYA DISTRICT**

**BY**

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**UNZA**

**2011**

**THE UNIVERSITY OF ZAMBIA**  
**SCHOOL OF MEDICINE**  
**DEPARTMENT OF NURSING SCIENCES**

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**A RESEARCH STUDY SUBMITTED IN PARTIAL FULFILMENT OF THE  
REQUIREMENT FOR THE AWARD OF BACHELOR OF SCIENCE DEGREE IN  
NURSING AT THE UNIVERSITY OF ZAMBIA**

*SPR  
MED  
KAC  
2011*

## **ACKNOWLEDGMENT**

First and foremost I would like to thank the Almighty Father for the privilege of health and life and also for allowing me to continue pursuing a degree in nursing.

My appreciation and heartfelt gratitude goes to the following people for the generosity of giving me their time, knowledge and expertise to make my research study a success:

- Dr. Prudencia Mwemba; Research Course Coordinator
- Ms. C. Zulu; my Research Supervisor
- Mrs. P. Mukwato; incharge of DNS library
- The Medical Librarians

I am also indebted to the Ministry of health for sponsoring me to pursue a Bachelor of Science in Nursing and for the financial support that it has been rendering to me throughout my training. Also special thanks go to my fellow students for the encouragement that they gave to me to progress in my research study.

Lastly but not the least special thanks go to my husband Joseph Ng'ambi and my Children; Jessica, Kondwani, baby Lulenga. my two nieces Sharon and Diana whose patience and support are sources of encouragement.

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## **LIST OF ACRONYMS**

|               |                                                  |
|---------------|--------------------------------------------------|
| <b>ANC</b>    | <b>Antenatal Clinic</b>                          |
| <b>BD</b>     | <b>Biodefense</b>                                |
| <b>DTP</b>    | <b>diphtheria and pertussis</b>                  |
| <b>EPI</b>    | <b>Expanded Programme on Immunization</b>        |
| <b>KAP</b>    | <b>Knowledge Attitude and Practice</b>           |
| <b>MNT</b>    | <b>Maternal Neonatal Tetanus</b>                 |
| <b>MOH</b>    | <b>Ministry of Health</b>                        |
| <b>CSO</b>    | <b>Central Statistics Office</b>                 |
| <b>DMO</b>    | <b>District Medical Officer</b>                  |
| <b>DHMT</b>   | <b>District Health Management Team</b>           |
| <b>UNICEF</b> | <b>United Nations Children’s Fund</b>            |
| <b>UNFPA</b>  | <b>United Nations Population Fund</b>            |
| <b>NNT</b>    | <b>Neonatal Tetanus</b>                          |
| <b>UNZA</b>   | <b>University of Zambia</b>                      |
| <b>USAID</b>  | <b>U.S. Agency for International Development</b> |
| <b>TT</b>     | <b>Tetanus Toxoid</b>                            |
| <b>WHO</b>    | <b>World Health Organization</b>                 |

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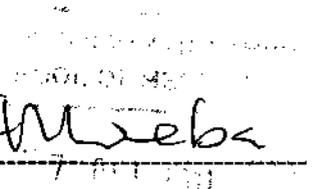
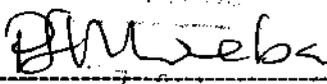
**DECLARATION**

I Juness Kachimba hereby declare that the work presented in this dissertation is my own, original work undertaken in partial fulfillment of Bachelor of Science degree in Nursing and has not been presented either wholly or in part, for any other degree and is not being currently submitted for any other degree.

Signed-----

Date-----01/06/2011

(Candidate)

  
Approved-----

Date-----08/06/2011

(Supervising Lecturer)

## **STATEMENT**

I hereby, certify that this study is entirely the result of my own independent investigations. The various sources to which I am indebted are clearly indicated in the text and references.

## **DEDICATION**

This research is dedicated to my husband Mr. J. Ng'ambi, lovely two sons Lulu, Kondwani, my daughter Jessica, my two nieces Diana and Sharon for the continuous support in my success.

## **ABSTRACT**

Tetanus Toxoid is provided to women of child bearing age through Mother and Child Health services to prevent the unborn child from developing neonatal tetanus. In Luanshya District Tetanus Toxoid (TT) immunization coverage has been constantly low and the trend for TT coverage has been 60% in 2005, 56% in 2006, 58 % in 2007, 52% in 2008 and 50% in 2009. The study was conducted in four health centres out of the sixteen health centres in Luanshya district. The study sites were Mikomfwa urban, Mikomfwa rural, Section 26 and Fisenge health centres.

The purpose of this study was to identify factors that contribute to low TT immunization coverage among women of child bearing age in Luanshya District. The major hypothesis for this study was that “there is a relationship among staff attitude, staffing levels, Community sensitization availability of vaccines, distance, beliefs/myths, and low TT immunization coverage among women of child bearing age”.

A descriptive, non interventional, cross sectional study design was used to determine the factors contributing to low TT immunization coverage among women of childbearing age (15- 49years). A total of fifty (50) respondents were interviewed of which 40 were women of childbearing age (15 – 49 years) and 10 were Nurses. Data was collected using a structured interview schedule and a self administered questionnaire from the first week of November, 2010 to first week of December, 2010. Data was analyzed using SPSS 16.0.

The study revealed that all the Nurses 10 (100%) indicated that staffing is not adequate to carry out TT immunization services. Further the findings show that 6 Nurses indicated that health education is not always given to the women on TT immunization due to lack of qualified staff. The district should find alternative ways of paying lunch allowance to outreach Nurses so that the sessions can be conducted in the morning and afternoon. This will increase on the number of hours spent at outreach posts to enable them capture more women. Nurses should supervise community volunteers when giving IEC to the women during outreach sessions to ensure delivery of proper and standardized information.

The findings suggest a strong relationship exists between staffing, and low TT immunization among women of childbearing age with a p- value of 0.02, therefore, the null hypothesis was rejected.

This study produced results which reported that Immunization Coverage is influenced by different factors such as knowledge, distance, belief and myths in the community. Therefore; to improve TT immunization coverage Luanshya DHMT needs to organize workshops on TT immunization services for the Nurses to update them with correct standard information and also to sensitize the women on TT immunization.

## **CHAPTER ONE**

### **1.0 INTRODUCTION**

#### **1.1 Background information**

Tetanus Toxoid (T.T) is an inactivated vaccine (antigen) that is given to women of childbearing age (15 years to 49 years) to protect the unborn child from neonatal tetanus. The vaccine was first produced in 1924 but became commercially available in 1938 and was successfully and extensively used during the Second World War. In the late 1940s, it was combined with diphtheria and pertussis (DPT) vaccines to produce the DPT triple vaccine used in many childhood immunization programmes.

The World Health Organization (WHO) sets the global public health agenda and in 1974 it created the Expanded Program on Immunization (EPI) to increase immunization of the world's children against six diseases which are; diphtheria, measles, pertussis, polio, tetanus, and tuberculosis. Within the 1970s Tetanus Toxoid (TT) vaccination of women within child bearing age (15 to 49 years) was included in the WHO's Expanded Program on Immunization to prevent tetanus in the new born babies, (Jamil et al, 1999). Neonatal tetanus is a leading cause of neonatal death in developing countries where a high proportion of deliveries are conducted at home or in places where hygienic conditions may be poor.

Tetanus is a vaccine-preventable disease that causes an annual total of 309 000 deaths and in the year 2000 it killed about 200 000 newborns, (Vandelaar et al 2002). Therefore; to reduce and prevent deaths due to maternal neonatal tetanus (MNT) Tetanus toxoid (TT) vaccines should be given to women of child bearing age.

Since 1974, the Expanded Programme on Immunization (EPI) has provided technical support for the immunization of the world's children and women of childbearing age. Today, the vast majority of vaccines administered to these groups are delivered through the immunization programmes that have been established in developing countries. As these national programmes share many characteristics, the global use of a new or improved vaccine could be largely dependent on its compatibility with the priorities, existing antigens and vaccine delivery system of this network. According to World Health Organization

(WHO) 5 interval doses of 0.5 ml of tetanus toxoid (TT) should be administered to all women of childbearing age into the deltoid muscle (Ministry of Health 2007). Therefore; Tetanus Toxoid immunization is now a standard practice worldwide and all the countries follow the standard schedule recommended by World Health Organization. Since 1990 the global target for TT has been 80 percent coverage and all the countries are suppose to reach the target in order to eliminate Maternal Neonatal Tetanus (MNT). The government of the Republic of Zambia in line with WHO implemented the schedule for TT immunization among women of child bearing age as shown in table 1 below:

**Table 1: TT IMMUNIZATION SCHEDULE**

| <b>For the woman who was previously vaccinated with DPT in childhood</b> | <b>TT dose (starting dose of TT)</b> | <b>Contact/Intervals</b>                                                             |
|--------------------------------------------------------------------------|--------------------------------------|--------------------------------------------------------------------------------------|
| History not known or received less than 3 doses of DPT.                  | TT1                                  | At first contact or as early as possible during pregnancy including first trimester. |
| Received 3DPT (Count it as having received TT2)                          | TT2                                  | At least 4 weeks after TT1.                                                          |
| TT2 during previous pregnancy                                            | TT3                                  | At least 6 months after TT2.                                                         |
| DPT3 + TT1 at school                                                     | TT4                                  | At least 1 year after TT 3 or during subsequent pregnancy.                           |

Source: **MOH, 2007**

The table above shows the schedule for vaccination of women of child bearing age in Zambia and it illustrates the interval at which the vaccines are administered to the women. If women are not vaccinated with TT their babies are at risk of developing neonatal tetanus.

The United Nations Children’s Fund (UNICEF) jointly with the World Health Organization (WHO) and the United Nations Population Fund (UNFPA) declared the goal of maternal neonatal Tetanus (MNT) elimination along with the establishment of a global fund for MNT elimination Tetanus

toxoid (TT) vaccines should be given to women of child bearing age to prevent neonatal tetanus. In order to achieve MNT elimination, the WHO, UNICEF and UNFPA recommended 3 key strategies which included; provision of at least 2 doses of tetanus Toxoid (TT2) to all pregnant women in high risk areas and 3 doses (TT3) to all women of childbearing age, promotion of clean delivery services to all pregnant women and ensuring effective surveillance for MNT. The World Health Organization estimates that immunization of women of childbearing age with at least two doses of tetanus toxoid reduces mortality from neonatal tetanus by 94%. Over the years, studies have shown that neonatal tetanus (NNT) is a major cause of neonatal morbidity and mortality in the developing world.

In the spring of 1998 in line with elimination of maternal neonatal tetanus (MNT), Bio-defense (BD) and UNICEF announced the creation of the Partnership for Maternal and Child Health (the "Partnership") a public-private partnership to advance the elimination of maternal and neonatal tetanus (MNT) worldwide. In the same year it was estimated that 215,000 newborns and 30,000 women died from MNT therefore; Partnership recognizes the need to invite additional partners to collaborate on the effort to fulfill its potential. In January, 2000, about 6 countries which are; China, Bangladesh, Indonesia, Vietnam, India, and Ethiopia implemented activities to further the goals of the Partnership through direct program activities (among them MNT vaccination campaigns and training) and strengthening surveillance systems to identify MNT cases regionally.

In order to improve immunization coverage in Africa, the WHO Region for Central Africa in August, 2005 under the government of the Republic of Zambia organized training course for countries in the Eastern, Southern and Western epidemiological blocks to provide EPI managers with a clear framework for conducting their day to day managerial activities and resolving problems that arise in the implementation of their national EPI plans. There were 19 countries which participated in the training and these included Botswana, Eritrea, Ethiopia, Gambia, Ghana, Guinea Equatorial, Kenya, Liberia, Malawi, Mauritius, Namibia, Nigeria, Seychelles, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe. The aim of the course was to improve immunization and operations (WHO, 2009).

Despite the declaration of elimination of neonatal tetanus, deaths due to neonatal tetanus have continued to occur and most of it occurs in developing countries with low coverage of facility births and tetanus toxoid immunization. World Health Organization (1997) estimates that more than 277,000 children die each year from neonatal tetanus and this is because infants get infected by neonatal tetanus as a result of not receiving protective immunity against tetanus from their mothers

while in Utero and also due to unclean delivery practices/equipment, without improvements in delivery conditions. In 1999, Nigeria was listed as one of the three major countries in the whole world where NNT still constituted a major public health issue. This country reported the incidence of NNT which ranges between 14.6 and 20 per thousand live births (Fetuga et al, 2010).

World Health Organization (WHO) 2004 also shows that Neonatal tetanus was responsible for over half a million neonatal deaths globally in early 1980s and it estimates that about 130 000 babies died around the year 2004 from this very preventable disease.

## **1.2 STATEMENT OF THE PROBLEM**

Despite the WHO policy on TT immunization and other strategies which have been implemented, the Expanded Programme for Immunization (EPI) in Zambia has been facing problems related to decline in TT immunization coverage. This is supported by the Zambia Demographic Health Survey (CSO 2001-2002) data which shows that over the past 10 years, there has been a decrease countrywide in the proportion of women who received at least one tetanus toxoid injection during their most recent pregnancy, from 81 percent in 1992 and 85 percent in 1996 to the current level of 75 percent and this has been the trend even in the districts of the country. The trend for TT coverage in the 72 districts of Zambia has been 33% in 2005, 41% in 2006, 51% in 2007, 40% in 2008 and 53% in 2009.

In Luanshya Health District the action plan for 2009 shows that the percentage in the district for Tetanus toxoid immunization among women of child bearing age has been reducing. In 2005 the coverage was 60%, 56% in 2006, 58 % in 2007, 52% in 2008 and 50% in 2009. The trend shows that TT immunization coverage has been constantly low and this has a bearing of tetanus risk on women and their unborn babies. The consequences of not immunizing women of childbearing age (15 – 49 years) are that the unborn child will be at risk of developing neonatal tetanus which is fatal. The factors that may play a role in low TT immunization coverage need thorough investigation; hence this study.

### **1.3 FACTORS THAT MAY CONTRIBUTE TO LOW TETANUS TOXOID IMMUNIZATION COVERAGE**

Several factors may influence Tetanus Toxoid immunization coverage among women of child bearing age. The factors have been categorized into service related factors, economic factors, social cultural factors and psychological factors.

#### **1.3.1 Service related factors**

**1.3.1.1 Staffing:** Good planning of Expanded Programme for Immunization may be done at national, provincial and district levels but implementation of the activities fails to take place at grass root level due to shortage of manpower. The staff that is available may concentrate on providing direct physical care to the clients. In some health centres they entirely depend on untrained health workers who cannot perform immunization of tetanus toxoid to the women as it requires injecting the woman and untrained health workers are not suppose to do that.

The critical shortages and inequitable distribution of qualified health workers may adversely affect health delivery of services to the community and supervision (MoH, 2006) of immunization services countrywide. Therefore, problems with staffing pose a very big challenge to Zambia as most of the planned activities are not implemented and TT immunization is one of the activities which get affected.

**1.3.1.2 Availability of vaccines:** Erratic supply and non availability of tetanus toxoid vaccine may affect the delivery of health service to the community. If vaccines are not available at the time the women want to be immunized it demoralizes them so much that they fail to make follow- ups. This leads to missing out a lot of women who were suppose to be captured if the vaccines were available hence, may contribute to the low TT immunization coverage.

**1.3.1.3 Community Participation:** Good and effective communication between the health centre and the community is one of the strategies to eliminate MNT as it empowers the community with health knowledge about MNT hence; the community will be encouraged to participate fully in the immunization programmes. Poor communication is a challenge as it limits access to routine care, geographical barriers to reaching high risk women. Effective communication strategy will make more women and other people in the community aware of the benefits of immunization, by correcting beliefs, rumors, or concerns that prevent people from getting

immunized; and they will be informed where and when to get immunized. Communication efforts are more effective in creating and maintaining demand, they are part of an overall social mobilization program to reach, influence, and involve a broad range of groups in support of immunization. Serious advances can be made only when large numbers of people begin to know more therefore; communication is an essential part in the campaign of eliminating MNT worldwide. Without communication the community will be ignorant about the services and the advantages of being vaccinated leading to a low turnout.

**1.3.1.4 Record keeping:** Poor record keeping may affect tetanus toxoid immunization coverage among women of child bearing age. In cases where the staff has been performing immunizations and has not been recording the information at the time the exercise was being carried out it would lead to poor data collection at the end of the day. Sometimes the staff may not be conversant with reporting system making it difficult for him/her to document hence; some clients will be missed out on the tally sheet and yet they were immunized. This results in poor capturing of data of the immunized women hence; making the coverage to below.

**1.3.1.5 Availability of Transport:** Inadequate transport for health personnel to support the delivery of health services, such as outreach clinics poses a challenge to a midwife. The health personnel fail to carry out outreach activities if transport is not available hence; missing opportunities to immunize attending women of childbearing age who are supposed to be captured at that particular place. Sometimes the roads are in a bad state in some places especially during the rainy season due to pot holes and tall grass which further contributes to familiar to carry out outreach activities.

**1.3.1.6 Staff attitude:** Members of the community may fear to attend the immunization services because of the unwelcoming attitude of some members of staff. Staff may also just feel lazy to check if the women of childbearing age they are coming in contact with have their tetanus toxoid vaccinations and if they are up to date.

### **1.3.2 Social cultural factors**

**1.3.2.1 Beliefs:** There are some cultural barriers that may make it more difficult to immunize women of child bearing age. Even when vaccines are available to remote populations, local belief systems and cultural practices may prevent the women from asking for and receiving immunizations. Communities may have common incorrect ideas about tetanus toxoid vaccine making it difficult for them to see the importance of receiving the vaccine. In some communities they believe that convulsions are caused by witchcraft rather than from tetanus

caused by unclean cord care in a woman who did not receive the vaccine for protection, and others believe that T.T vaccination is a family planning or sterilization method hence they fear to let their women receive it as they think it may bring infertility in the women. These may be barriers to effective T.T immunization coverage in women of child bearing age (USAID October, 2003).

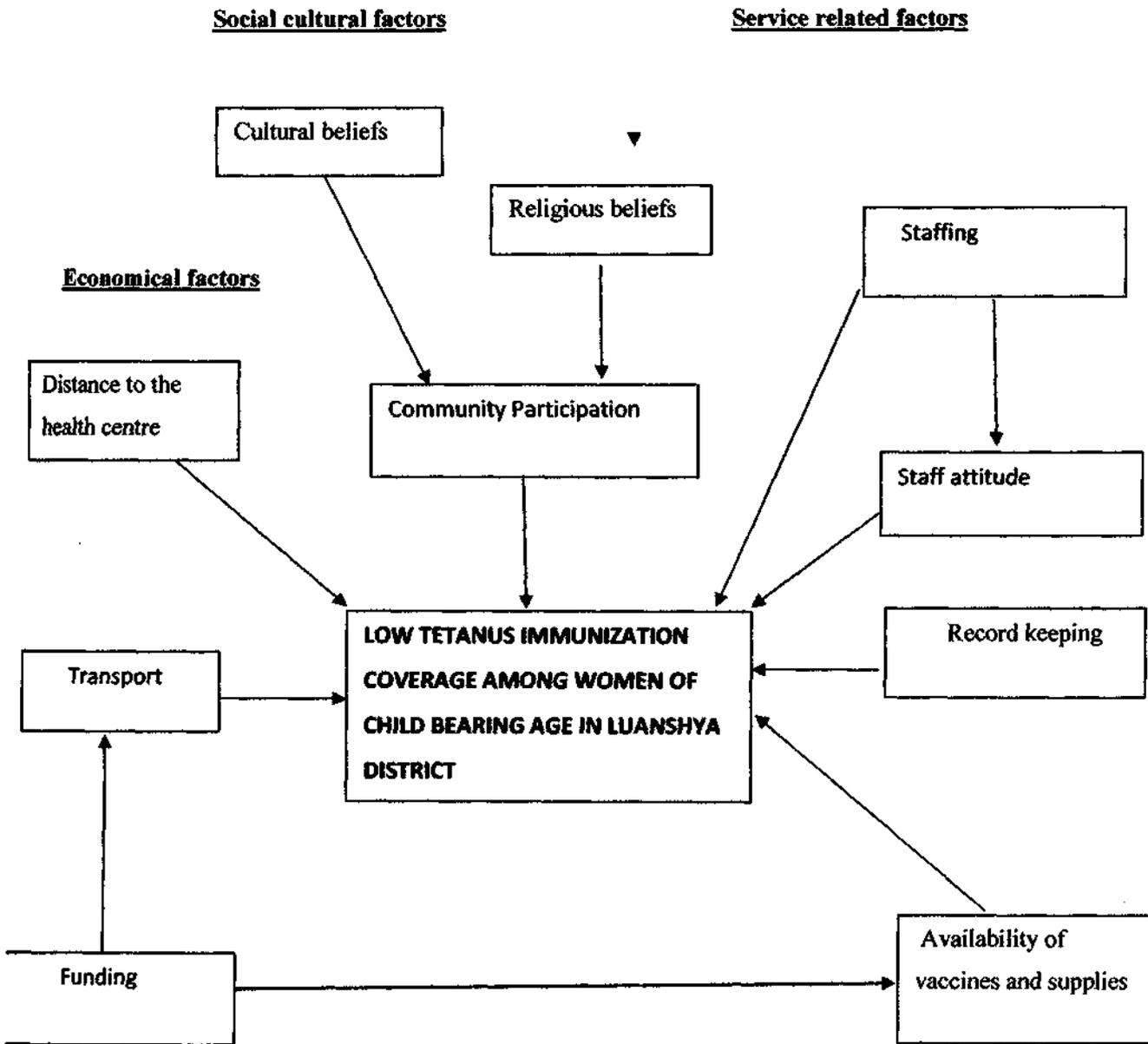
**1.3.2.2 Community sensitization:** Inadequate community sensitization may be due to staff shortages and this may lead to inadequate knowledge by the community resulting into myths and misconceptions about tetanus toxoid vaccination in the community among women of childbearing age. Hence the women will be shunning utilizing the service and this may contribute to low tetanus toxoid immunization coverage.

### **1.3.3 Economical factors**

**1.3.3.1 Funding:** The reduction in funding to the district health services by 40% may have contributed to low tetanus toxoid immunization coverage because of non availability of funds to pay lunch allowance to the staffs that have gone to provide the services. The time that staffs used to spend at outreach sessions have been reduced, instead of spending the whole day at outreach post the staff now conduct outreach half a day making it impossible to reach all the women.

**1.3.3.2 Distance:** Some places where the women stay are very far way of which they have to cover over 12 km to reach the health centres and the outreach posts. Therefore; long distances to the health facilities and to the points where immunizations are being offered may hinder the women from accessing immunization services. This is because they may be demoralized to walk for long distances just to go and get an injection and sometimes by the time they reach the outreach post they may find the health personnel have already left.

1.4 FIGURE 1: DIAGRAM OF PROBLEM ANALYSIS: FACTORS LIKELY TO INFLUENCE TETANUS TOXOID IMMUNIZATION COVERAGE



## **1.4 STUDY JUSTIFICATION**

The purpose of this study was to identify factors that contribute to low TT immunization coverage among women of child bearing age in Luanshya District. Neonatal tetanus can be prevented through immunizing women of childbearing age with tetanus toxoid (TT) containing vaccines, either during pregnancy or outside of pregnancy.

There is knowledge gaps in factors contributing to low TT immunization coverage among women of child bearing age in Luanshya district such that the available information is not adequate to solve the problem. Therefore; the information that will be obtained from the study would be used to recommend the policy makers and stakeholders to come up with ways and means of improving immunization coverage in Luanshya district. Furthermore, the data collected will lay a foundation for further studies regarding to tetanus toxoid immunization among women of child bearing age. The nurses in the health centres will benefit from the results and findings of the research in that the Luanshya District Health Office will be guided in planning and budgeting for the health centres.

## **1.6 RESEARCH OBJECTIVES**

Study objectives summarise the intended accomplishment or contribution of the research.

### **1.6.1 General Objective**

The overall objective of this study is to determine factors contributing to low TT immunization coverage among women of childbearing age in Luanshya district.

### **1.6.2 Specific Objectives**

- 1.6.2.1** To assess staff knowledge towards TT immunization program.
- 1.6.2.2** To assess staff attitude towards TT immunization program.
- 1.6.2.3** To assess the level of knowledge among women of child bearing age on TT immunization.
- 1.6.2.4** To determine awareness of women about TT immunization.
- 1.6.2.6** To assess availability of TT immunization vaccine.
- 1.6.2.7** To determine accessibility of TT immunization in the district.

## 1.7 HYPOTHESIS

The working hypothesis for this study is stated in null or statistical terms in order that testing of the hypothesis may show if a relationship does exist between the study variables.

In this study the null hypothesis states that there is no relationship between beliefs, distance to the health centre, staff attitude, staffing levels and low TT immunization coverage among women of childbearing age in Luanshya district.

The alternative hypothesis for this study states that there is a relationship between beliefs, distance to the health centre, staff attitude, staffing levels and low TT immunization coverage among women of childbearing age in Luanshya district.

## 1.8 CONCEPTUAL DEFINITIONS

**Child bearing age:** The period in a woman's life between puberty and menopause (Biology on line)

**Knowledge:** This is information in mind, general awareness or possession of information, facts, ideas, truth, or principles. It is the fact or condition of being aware of something or the range of one's information or understanding (Microsoft, Encarta, 2008).

**Attitude:** It is a personal view of something: an opinion or general feeling about something a mental position with regard to a fact or state (Microsoft, Encarta, 2008).

## 1.9 VARIABLES AND CUT-OFF POINTS

A **variable** is an attribute characteristic that change or vary and can be manipulated, measured or controlled in research study (Burns and Grove, 2005).

There are two types of variables which are dependent and independent variable.

**Dependent variable:** is the response, behaviour, or outcome that the researcher wants to predict or explain (Burns and Grove, 2005).

**Independent variables:** is a stimulus or activity that is manipulated or varied by researcher to create an effect on the dependent variable (Burns and Grove, 2005).

**The dependent variable** for this study is low TT immunization coverage.

**The independent variables** include staff attitude, beliefs that child bearing women have about TT immunization, knowledge of women on TT immunization, distance to the health centre and availability of TT vaccine.

**Table 2: VARIABLES AND CUT-OFF POINT**

| <b>VARIABLES</b>                                                    | <b>INDICATORS</b>                 | <b>CUT-OFF POINTS</b>                                                                                              |
|---------------------------------------------------------------------|-----------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>Independent</b><br><b>Low TT immunization</b><br><b>coverage</b> | <b>High</b>                       | This is when the immunization coverage is at 80% and above.                                                        |
|                                                                     | <b>Low</b>                        | This is when the immunization coverage is below the expected target of 80%.                                        |
| <b>1. Staff attitude.</b>                                           | <b>Positive</b>                   | 6 out of 10 points                                                                                                 |
|                                                                     | <b>Negative</b>                   | 2 out of 10 points.                                                                                                |
| <b>2. Beliefs</b>                                                   | <b>Good</b>                       | Women are conscious and more sincere to accept TT immunization.                                                    |
|                                                                     | <b>Bad</b>                        | Women not conscious and sincere to accept TT immunization hence they refuse to be immunized.                       |
| <b>3. Staffing</b>                                                  | <b>Good</b>                       | Four and more nurses available per shift                                                                           |
|                                                                     | <b>Poor</b>                       | Three and less nurses available per shift                                                                          |
| <b>4. Knowledge</b>                                                 | <b>High</b>                       | Women of child bearing age know most (a score between 4 to 6 marks) of the important issues about TT immunization. |
|                                                                     | <b>Low</b>                        | Women of child bearing age know little (a score between 0 to 3 marks) of important issues about TT immunization.   |
| <b>5. Distance to the</b><br><b>health centre</b>                   | <b>Very far</b>                   | If the mother has to walk for more than 1 hour to reach the health facility.                                       |
|                                                                     | <b>Far</b>                        | If the mother has to walk 30 - 1hour to reach the health facility.                                                 |
|                                                                     | <b>Near</b>                       | If the mother has to walk less than 30 minutes to reach the health facility                                        |
| <b>Availability of TT</b><br><b>vaccine.</b>                        | <b>Availability</b>               | Vaccines are in stock at all times at the health centre                                                            |
|                                                                     | <b>Erratic supply of vaccines</b> | Vaccines are sometimes in stock and sometimes not in stock at the health centre                                    |
|                                                                     | <b>Non availability</b>           | Vaccines are not in stock at the health centre.                                                                    |

## **CHAPTER TWO**

### **2.0 LITERATURE REVIEW**

#### **2.1 Introduction**

The purpose of this literature review is to convey to the leader what is currently known regarding TT immunization coverage among women of child bearing age at national, regional and globally. This literature review will help the researcher to refine certain parts of the study.

Literature review is an organized written presentation of what has been published on a topic by scholars. Literature review is a key step in the research process. It is referred to as an extensive, exhaustive and systematic examination of publications relevant to the research project (Basavanthappa, 2007).

Literature review for this study focuses on what other researchers have studied and written about Tetanus Toxoid immunization among women of child bearing age. The literature review looks at dependent and independent variables, which include low TT immunization coverage and knowledge of women on TT immunization. It is represented and discussed from the works of previous scholars from around the globe.

##### **2.1.1 Low TT immunization coverage**

Several studies have been conducted globally, within African region and Zambia to investigate coverage for TT immunization among women of child bearing age. Most of the studies conducted in developing countries on TT immunization coverage have shown that factors like knowledge, education and place of residence, occupation, religion and ethnicity are significantly associated with low TT immunization coverage.

Immunization coverage studies have been conducted in Belgium, Bangladesh, Ethiopia, Thailand and Cambodia<sup>5-9</sup> and have found various factors associated with faulty coverage. Among these factors were; attitude of the physician, lack of identification of target age

groups, social problems, lack of women's knowledge about TT immunization, illiteracy, vaccine cost, low socioeconomic status and refusal due to cultural issues.

Furthermore the United Nations International Children's Education Fund (UNICEF) 2004 reported that TT Immunization Coverage is influenced by the following:

- Healthcare system (organization of vaccines, supplies etc.)
- Cost of immunization
- Inadequate financing for social mobilization
- Inability to provide feedback to media queries
- Belief and myths (HIV, anti-fertility drugs)
- People tired of National Immunization Days
- Poor sensitization
- Superstitions and suspicions
- Government politics
- Lack of trained vaccinators (parents question their skill)

Literature also show that a study was carried out by Gwatkin in 2001 who reported that immunization coverage is lowest in poor countries and among poor populations such as Africa and Asia. A similar study was conducted in peri-urban Karachi on Tetanus Toxoid (TT) immunization coverage among women of child bearing age (15-49 years) which revealed low TT coverage.

Similarly different studies have reported on TT immunization among pregnant women and their findings show that TT immunization coverage is low among pregnant women. One such a study was conducted by Siddiqi et al, 2007 in Pakistan which revealed that Tetanus Toxoid (TT) coverage of pregnant women is 56%-57% which is quite low with a prevalent of 10-11 Tetanus neonatorum mostly in the rural areas due to low TT coverage.

In addition, Shaikh, 2003 conducted a similar study in a different area of Pakistan which revealed that there was no or very slow improvement in the TT coverage among the pregnant women with the supplementary immunization activities despite considerable resources being invested into the routine IEPI programme. Little or no research has been done to analyse the causes of low TT coverage of pregnant women in Pakistan. The study which was carried therefore; focused on assessing the different causes of low vaccination coverage of TT2 in pregnant women in Lahore district in order to suggest ways of improving routine vaccination coverage towards helping to eliminate neonatal tetanus.

Similarly, Mansuri et al conducted a study on TT immunization on pregnant women which revealed low coverage and it has been reported that this was as a result of lack of ante-natal care, fear of side effects, lack of local and especially female vaccinators, social problems, and poor record keeping by the recipients. Another study was conducted in a different area by Afridi et al in Peshawar which reported TT coverage of 65% among women of reproductive age 21. The reasons for not getting TT vaccination in this study were similar to those reported by Mansuri et al.

In line with low TT immunization coverage other studies have shown that there is a variation in TT immunization coverage among women of child bearing age in relation to those residing in rural and those in urban areas. This is evident in the study carried in Peshawar district of North West Frontier Province of Pakistan which showed that 65% of women in urban areas were vaccinated, while in rural areas it showed that 60% women were vaccinated. Thus, this revealed that there are variations in TT immunization coverage across the provinces of Pakistan.

Many studies have reported that immunization coverage in urban areas is higher than in rural areas. This was explained by the easy access to information on TT immunization and immunization services in urban areas.

From the studies it has been shown that rural and urban areas have influences on the coverage of TT immunization among women of child bearing age.

The fact that TT immunization coverage has been low there has been different views from different researchers on the reasons for the low TT immunization coverage.

One of the views is what was found in a study which was conducted in Lahole district on the reasons of low tetanus toxoid vaccination (TT) coverage. The study revealed that a good number of respondents said that TT immunization coverage is low due to lack of awareness about TT among women of child bearing age, others said it was due to misconception, underreporting/lack of documentation by health providers, shortage of trained staff at some facilities, poor attitude and lack of commitment by health care workers, low literacy in the community and others said it was due to the side effects of TT vaccination.

Another different view about the reasons for the low TT immunization coverage was reported in the Demographic and Health Surveys 1986–1992. The survey revealed data from 38 countries of which 86% was in Africa, 79% in Asia and 60% in Latin America and the Caribbean. The survey concluded that in many countries the number of pregnant women immunized against tetanus is lower than the number of women attending prenatal care, suggesting that prenatal services are missing opportunities to immunize attending women which contributes to the low TT immunization coverage.

Similar studies have been conducted locally concerning low TT immunization coverage. One such a study was conducted by Maimbolwa et-al in 2004 on views about social support in Zambia maternity facilities. The study revealed that more women in the adolescent group received incomplete TT immunization coverage when compared to older women. It also revealed that generally there was incomplete coverage of Tetanus Toxoid immunization among women of child bearing age but the study did not reveal the contributing factors to the low TT immunization coverage.

A lot of studies have been conducted on low TT immunization coverage in different countries and looking at these studies it is evident enough that coverage for TT immunization is affected by different factors, but most of the studies have not stipulated the factors contributing to low TT immunization coverage. In most of the studies various approaches have been applied to understand immunization coverage problems, however,

there are still acknowledge deficiencies in these approaches and this has given rise to research efforts for alternative solutions including the need to adopt new technologies to address the imbalance between immunization demand and coverage.

### **2.1.2 Knowledge**

Maternal education has been reported in many studies as a determinant of TT immunization among women of child bearing age. This is shown in some surveys and research studies conducted in different countries.

One such a survey was undertaken in India to estimate tetanus immunization coverage of adolescent girls in a selected rural community of Haryana and to ascertain the knowledge of these girls and their mothers about tetanus. The study population covered 30448 respondents and they were surveyed for knowledge, attitude and practice. The study revealed that coverage was better among school going girls which was 35% as compared to non-school going girls which was 13%. During the study respondents were asked about immunization schedule of pregnant women and 7.5% respondents told the correct schedule and none of them told the correct immunization schedule for children. About 81% of the respondents said that death was the main danger from tetanus.

Coverage was good among school going girls may be because the girls were able to understand the importance of being vaccinated than the non-school going girls who might have not received any knowledge about TT immunization.

Another study was conducted by Tanjida e tal, 2009 from a public university in Dhaka to assess the level of knowledge about tetanus toxoid immunization of a group of students. The survey was carried out on 113 female students and the results from the survey showed that the respondents showed lack of knowledge about the target group for TT vaccination. None of them mentioned about the necessity of TT immunization before the start of reproductive life. Regarding number of dose for complete vaccination 60% respondents mentioned 'five', 10.9% 'three' and 4.9% 'two'. Twenty two percent (22.1%) of the respondents did not know the number of vaccines that one woman is suppose to receive in her life.

The same study showed that respondents source of knowledge about TT immunization was 35% from TV followed by health workers 24%, newspaper 16%, radio and other sources 25%. The study concluded that more than two-thirds of the respondents had knowledge about tetanus toxoid immunization before the start of their reproductive life but only half of them were completely vaccinated. It was also found that mass media was the main source of information. So planners and policy-makers should utilize mass medium and gear up the activities of health workers to convey the correct messages regarding tetanus toxoid immunization to its clients.

Other studies which have been conducted concerning knowledge show variations in terms of source of knowledge by women on TT immunization. One such a study was done in Chittagong city in 1992 on the source of knowledge among women of child bearing age about TT immunization revealed that TV was the prime source of information and health workers were the next leading source. The same study revealed that about 90% of the study subjects knew about tetanus but substantial proportion were unsure about the target group and dose of vaccination and necessity for immunization before the reproductive life. The study showed how important the source of knowledge to the women was for them to have proper information about TT immunization.

Another survey of EPI coverage was conducted in 1993 by CARE Bangladesh which demonstrated that 70% of the failure of coverage is due to lack of information and 30% due to various obstacles.

In Ethiopia a survey was conducted in 2006 which revealed that mothers who were able to read and write had higher TT2 coverage by card plus history than those who could not read or write. In the same study it was noted that mothers in the urban areas had higher TT2 coverage than their rural counterparts. The survey concluded that lack of knowledge is the main reason for poor service utilization effective Behavioral change communication. The survey also concluded that the regions with low TT immunization coverage can improve access and utilization of immunization services and increase the immunization coverage in the country.

There are no significant studies that have been conducted in Zambia on knowledge as one of the factors contributing to low TT immunization coverage among women of child bearing age, but similar studies have been conducted. One such a study was done by Maimbolwa and et al, 2001 which looked at Safe Motherhood Perspectives and Social Support for Primigravidae Women and the study was carried out in the city of Lusaka. The study recommended that, every pregnant woman should receive three doses of Tetanus Toxoid immunization. The study revealed that more women in the adolescent group received incomplete TT immunization coverage when compared to groups of older women.

### **2.1.3 Distance to Health Centres.**

Distance to static health facilities is a more important factor in TT immunization acceptance in some regions than others.

In 1993-1994 the Bangladesh Demographic and Health Survey was done which identified programmatic and non-programmatic factors that influence the coverage of Tetanus Toxoid (TT) immunization among women of child bearing age. The logistic regression results show that the coverage of TT immunization was significantly associated with proximity to outreach clinics and the presence of a health worker in the community. The survey showed that those women who lived in areas where health centres were available within twelve Kilometers had at least 35% higher chance of receiving TT immunization than those who lived further away.

A similar study was carried in Sierra Leone by Samai and Sengeh in 1997 on access to health facilities. The study revealed that access to health facilities is greatly limited by long distances between communities and health facilities as well as long travel times; the time required to reach a hospital can range from a minimum of three hours if a vehicle is ready to depart to over twenty-four hours if the vehicle has already left for the day.

Furthermore, Stekelenburg et al. 2004 carried a similar study on pregnant women in Zambia where they were asked to choose where they would prefer to deliver from either home or health centre. The study revealed that although 96 percent of respondents would have preferred to deliver in a clinic, only 54 percent actually did so. A key contributing factor was

long distance, with 50 percent of the women having to walk for two hours or more to reach a clinic and only 35 percent of those living more than two hours away delivering at a health institution compared with 71 percent of those living within two hours walking distance. This may be applied to the women of child bearing age who may choose to stay home rather than go for TT immunization where they have to walk for 2 hours to reach the points where the services are being offered.

Other similar studies were carried in Zambia by Chisembele 2001; Bale et al. 2003 which reported that location and poor transport often impose important opportunity costs in terms of time on both patients and relatives, particularly during peak periods of economic activity such as harvest time.

Other similar studies carried by Ahluwalia et al. 2003 have shown that Community-based transport can be effective in providing access to maternal and child care. Furthermore, the study went on to report that in addition to being a successful approach to establishing funding mechanisms, community mobilization can be a critical element in developing and maintaining a transport system that links communities to functioning health facilities.

Also Ensor and Cooper 2004 in their studies have shown that Community interventions offer the advantage of responding to the various supply and demand constraints facing transport systems, including cultural reluctance by women and/or men to seek health outside their home, making obstetric health an emergency priority for transport systems, and establishing funding mechanisms for emergency transport.

Furthermore, the Reaching Out 2002 reports that bringing services directly to poor people has also proven to be an effective intervention to mitigate isolation and reduce lost work-time. It also gives a report that Mobile clinics have been used to provide antenatal, postnatal, family-planning, and child health services.

Likewise, community involvement can also be a key condition for success as transport interventions better reflect population needs and constraints; in the Iganga district of Uganda, concerns raised at the community level led to the replacement of inappropriate

tricycles with small four-wheel drives that could better navigate on poor roads (IK Notes 2002).

There was no much literature found locally, regionally and globally which discussed exactly on distance as a factor contributing factor to low TT immunization coverage among women of child bearing age. Immunization coverage significantly associated with distance to outreach clinics, the greater the distance to the clinics, the less the likelihood of immunization.

## 2.2 CONCLUSION

The literature outlined above gives evidence that a lot of studies have been done on TT immunization. Several studies have shown that low TT immunization coverage is common in poor and developing countries and some studies have concluded that education of women play a significant role her TT immunization coverage. The woman's TT coverage status significantly reflects the health seeking behavior of a more conscious woman making good health choices for herself. In some studies women were unable to adhere to the TT schedule because they lacked knowledge.

However, a study done in Lusaka, Zambian showed experience gained in the adaptation of the RED strategy that resulted in improvement in immunization coverage. The study results showed that improved immunization coverage of 15% to 35%, reduction in number of un-immunized women, improved linkages between staff and communities and promoted integration of other activities in the RED strategy.

Various approaches have been applied to understand immunization coverage problems, however, there are still acknowledge deficiencies in these approaches and this has given rise to research efforts for alternative solutions including the need to adopt new technologies to address the imbalance between immunization demand and coverage.

From the studies that have been reviewed it has been shown that the approaches applied could not attain the coverage as expected, because large number of women of child bearing age were not aware of the benefit of immunization and complete protection against tetanus.

Even the educated females of child-bearing age do not seem to have the knowledge of complete immunization against tetanus. It has also been reported that even where knowledge was adequate, practice did not correspond with knowledge which suggested additional factors might have been preventing translation of knowledge into one's practice. It has also been shown that females in the urban area where access was not a problem had more knowledge with higher coverage regarding TT vaccination than females in the rural areas.

The studies also showed that awareness is a useful tool to address any public health problem and this makes assessment of status of knowledge and practice regarding complete immunization against tetanus easy. Therefore, the researcher would want to undertake the study out whether the above factors have an influence on low TT immunization coverage among women of child bearing age. In Zambia, only a few literatures were reviewed concerning low TT immunization coverage among women of child bearing age therefore; making it difficult for the researcher to make any references about the Zambian situation. However, no study has been done in Luanshya district to identify factors contributing to low TT immunization coverage among women of child bearing age.

## **CHAPTER THREE**

### **3.0 RESEARCH METHODOLOGY**

#### **3.1 RESEARCH DESIGN**

A research design is a plan, structure and strategy of investigations of answering the research question that the researcher selects to carry out their study (Basavanhappa, 2007). The two basic purposes of the research design are; to provide answers to research questions and to control variance. In this study, the researcher used a descriptive, quantitative and cross sectional survey. A descriptive design is a non-experimental research designed to discover new meaning and to provide new knowledge when very little is known about a phenomenon of interest and involves a systematic collection and presentation of data to give a clear picture of a particular situation (Dempsey and Dempsey, 2000). Quantitative research is a formal, objective systematic process to describe, test relationships, and examine cause and effect interaction among variables (Basavanhappa, 2007). It is based on the measurement of quantity or amount and it is applicable to phenomenon that can be exposed in terms of quantity. On the other hand, cross sectional survey is a design which is aimed at quantifying the distribution of certain variables in a study population at one point in time (Sweeney and Olivieri, 1999).

The descriptive design was chosen because this was a descriptive study that described the factors which contribute to low TT immunization coverage among women of child bearing age in Luanshya district. The quantitative design was also used because the subject's responses was quantified and objectively measured. In addition to that a cross sectional design was used because data from subjects was collected at one point in time and there was no need to go back to the same subjects or study setting to get the same data. This type of design was appropriate because it was less expensive as respondents remained in their natural environment and it was also less time consuming considering the limited time in which the study was carried out.

### **3.3 RESEARCH SETTING**

Research setting is a place or area where the research study will be conducted (Basavanthappa, 2007). The research was conducted in 4 health centres within Luanshya District which is situated in Copper belt Province of Zambia. The district covers an area of about 935 square kilometers.

There are 25,536 households (2007 IRS Geo-coding Assessment) with an average population of 6 per household. The growth rate has now increased to 3.0% in 2000, from 0.2% in 1999 (CSO 2000) which may be attributed to improved economic activities due to newly opened up mines and agriculture developments resulting in immigration. There are 398,061 women of child bearing age in Luanshya district.

Luanshya district has got sixteen (16) health centres in Luanshya with one district hospital and one mine hospital. This research setting is comprised of four health centres of which four (4) are urban health centres while one (1) is rural health centre. These centres include; Chibolya, Mikomfwa urban, Mikomfwa rural, Section 26 clinic and Fisenge health centres. These centres were chosen purposefully because they offer maternal and child health services in addition to other curative, promotive and preventive health services therefore; it was easy for the researcher to involve women of child bearing age coming to access different health services.

### **3.4 STUDY POPULATION**

The study population is the total group of individual people or things meeting the designated interest to the researcher (Basavanthappa, 2007). The study population for this study is women of child bearing age and these were selected because are vulnerable to Maternal Neonatal Tetanus (MNT). Mothers who were less than 15 years were excluded because they have not reached consenting age hence they will need somebody to sign consent for them. The women were selected by simple random sampling from four chosen centres within Luanshya district.

### **3.4.1 TARGET POPULATION**

The target population is the entire population in which the researcher is interested in and to which he /she would like to generalize the results of the study (Polit and Hungler, 2007). The target population for this study consisted of women of child bearing age ranging from 15-49 years and health workers.

### **3.4.2 ACCESSIBLE POPULATION**

The accessible population is the population of people available for a particular study, often a random subset of the target population (Polit & Hungler, 2007). The accessible population was women of child bearing age (15- 49 years) in four (4) health centers in Luanshya district who were coming to the health centres for different services.

### **3.5 SAMPLE SELECTION**

Sample selection is the process of obtaining information about an entire population by examining only a part of it (Basavanthappa, 2007).

In this study, the researcher used a probability sampling method called simple random sampling using the lottery technique to select women of child bearing age to avoid bias and give an equal chance of selection to all women in the four chosen health centres in Luanshya district. Simple random sampling is a probability sampling in which the required number of sampling units is selected at random from the population in such a manner that each population element has an equal chance of being selected for the sample (Basavanthappa, 2007).

The researcher drew two different types of samples; the first sample was comprised of women of child bearing age and the second sample comprised of health workers.

**Sample (a):** This sample comprised of women of child bearing age coming to the selected health centres. In each centre ten (10) women were selected by simple random sampling method using the lottery technique. The researcher made a numbered list of all the women who had visited the health centre for other services and all those who come for antenatal clinic then each woman was given a number (1- the total number of women who visited the

centre on that particular day) . These numbers were written on small pieces of papers and put in a box after which the box was shaken vigorously to ensure randomization. Then, four papers were picked at random from the box to allow chance for every member to participate in the study and the numbers were recorded. In each clinic, at least 5 women were selected on each antenatal clinic (ANC) day and a total of ten (10) mothers were selected in two separate days per clinic. The women whose numbers were picked were included in the study population.

The purpose of picking 40 women of child bearing age was to establish their knowledge, social belief and practices about TT immunization and also to find out the perception of service being offered during immunization sessions.

**Sample (b):** This was the second sample and it was comprised of Nurses. Convenience sampling method was used to select health workers because they were few in numbers therefore; those who were available were included to participate in the study. The other reason for using convenience sampling method was that it less time consuming and it ensured reaching the accessible population bearing in mind the shortage of staff in most centres. Convenient sampling method consists of taking all cases on hand until the sample reaches the desired number. In two health centres two nurses from each centre were selected and in the other two centres three nurses each were selected bringing the total of 10 nurses participating in the study. This sample addressed the issues of staffing, staff attitude, and availability of vaccine as well as nurses knowledge on TT immunization. Therefore; the purpose of this sample was to obtain information on health worker's knowledge, attitude and practices about TT immunization.

### **3.6 SAMPLE SIZE**

Sample size is a small part of the population selected in such a way that the individuals in the sample represent as near as possible the characteristics of the population (Dempsey and Dempsey, 2000). In this study, a sample size of 50 participants was considered of which 40 were women of child bearing age and 10 were health workers. The main reason for this size was due to the limited resources and time (4 weeks) in which the

study was conducted and submitted to the Department of Nursing Sciences since a larger sample would have required more time and funds.

### **3.6 OPERATIONAL DEFINITION OF TERMS**

**3.7.1 Attitude:** The respondent's way of perceiving TT immunization.

**3.7.2 Knowledge:** Level of understanding of TT immunization.

**3.7.3 Beliefs:** Specific statements that people define to be true about TT immunization.

**3.7.4 Tetanus Toxoid:** It is a vaccine that is given to the women of child bearing age to prevent neonatal tetanus.

**3.7.5 Staffing:** This is the number of health workers available for a task of TT immunization.

**3.7.6 Women of Child bearing age:** These are women who are ranging between 15 and 49 years of age.

### **3.7 DATA COLLECTION TOOL**

A data collection tool is an instrument that is used to measure variables and gather information. It is the formal written document used to collect and record information, such as a questionnaire (Polit and Hungler, 2007).

A self administered questionnaire was used for nurses and an interview schedule was used for women of child bearing age. An interview schedule is an instrument of gathering self-report information, which is formally written (Polit and Hungler, 2007). The interview schedule consisted of questions in which the wording of both the questions and response alternatives was predetermined. The interview schedule contained questions on all the variables under study.

This data collection tool was chosen because of the following advantages:

- (i) It was used on both the literate and illiterate.
- (ii) Responses were obtained from a wide range of subjects

- (iii) Non-verbal behavior and mannerisms were observed
- (iv) Questions were clarified if misunderstood
- (v) In-depth responses were obtained.

Disadvantages to the method include:

- (i) Training programmes are needed for interviewers
- (ii) Interviews were time consuming and expensive
- (iii) Arrangements for interviews was difficult to make
- (iv) Subjects provided socially acceptable responses

### **3.9 VALIDITY**

Validity is the ability of data gathering instrument to measure what it intended to measure (Dempsey and Dempsey, 2000). In this study, the researcher ensured validity by employing strategies that dealt with threats to validity like appropriate selection of study design, convenient selection of study participants, and use of a pilot study to pre-test the research instruments. In addition to that, same questions were clearly constructed to avoid ambiguity which was asked to each respondent in the same sequence.

### **3.9 RELIABILITY**

Reliability refers to the degree of consistency, stability, or dependability with which an instrument measures an attribute (Polit and Beck, 2008).

Reliability was upheld through making questions simple, concise and the subjects was only exposed to the tool once. The interview schedule was used to collect the same set of information on factors contributing low TT immunization coverage among women of child bearing age in Luanshya district.

### **3.10 DATA COLLECTION TECHNIQUE**

Data collection Techniques is the process of gathering needed information to address a research problem (Polit and Hungler, 2007). To gather the needed information from health workers, the researcher got permission from Luanshya District Medical Officer (DMO), the health centre in charges in the four selected health centres. The researcher introduced himself to the selected respondents and the purpose of the study was explained carefully to the respondents. The respondents were assured of confidentiality by explaining to them that codes will be used on the interview schedule instead of names and that all the filled in interview schedules will be properly secured by the interviewer. Verbal consents were obtained from them. In the private room, the interviewer repeated to the respondent the introduction, purpose of the study and verbal consent. Instructions were read and so were the questions of which the respondents were asked to answer truthfully. After the questions were answered, the interviewer thanked the respondent for the participation and another participant was called until all the participants were interviewed in four respective selected health centres.

### **3.11 PILOT STUDY**

A pilot study is a small-scale dress rehearsal that proceeds as if it were the actual study except for the fact, that subjects who will participate in the actual study are not used (Basavanthappa, 2007). The primary objective of the pilot study was to test as many elements of the research proposal as possible in order to correct any part that does not work properly. The study tested validity and reliability of the instrument in order to detect and solve any detected problem. The researcher conducted a pilot study at Chibolya clinic one of the health centres in Luanshya district which offers maternal and child health services in addition to other curative, promotive and preventive health services. The researcher chose Chibolya clinic because of its central location and it caters for a bigger population hence; it can be a true representative of the population of women of child bearing age in Luanshya District. A sample size of 5 respondents was selected by convenient sampling and this comprised of 4 women and one nurse. The four (4) respondents selected represented 10% of the 40 respondents which was the sample size of the actual study for women and one

respondent (Nurse) represented 10% of the 10 respondents which was the sample size of the actual study for the nurses.

### **3.12 ETHICAL 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 the study participants. As before conducting the study the researcher requested for permission from supervisor to get ethical clearance. After that, permission was sought from the Provincial director, District Director, in-charges of the 4 health centres that were part of the researchers study setting and other key leaders like the area counselor and the chairman where the study was conducted from. After that, permission was sought from all participants by means of verbal consent. The completed interview schedules were also kept under strict security to avoid unauthorized access to the information gathered. The researcher ensured anonymity and confidentiality during the interview by ensuring that codes were used instead of names and that each respondent was interviewed separately from others in a private room

## **CHAPTER 4**

### **4.0 DATA ANALYSIS AND PRESENTATION OF FINDINGS**

#### **4.1 DATA ANALYSIS**

Data analysis is the systematic organization, synthesis of research data and testing of research hypothesis using those data, (Basavanthappa, 2009). The purpose of data analysis, regardless of the type or underlying research tradition, is to organize, provide structure, and elicit meaning from the research data (Polit, 2001).

Analysis of data in this study was done concurrently with data collection. Since the researcher had two categories of respondents, after data collection the questionnaires for both categories of respondents were sorted out accordingly; responses were verified, coded, categorized and entered in the computer using statistical package for Social Sciences (SPSS) version 16.0 soft ware. The study comprised both qualitative and quantitative data hence; each one of these data was analyzed according to the guiding principles.

For open ended questions responses were transcribed and all the similar ideas and impressions were written down according to themes. Later these were coded.

##### **4.2.1 Quantitative Data**

In this study demographic data, some questions on some variable such as knowledge, Distance and staffing were quantitative in nature for both categories of respondents. Each of these variables was broken down into sub-categories and results displayed in frequency tables accordingly.

##### **4.2.2 Qualitative Data**

Qualitative data were categorized before being entered on the data master sheet to avoid misplacement or loss of data. These were presented in form of cross tabulation, figures and were summarized using frequencies and percentages and these were done according to the sequence of the questionnaire.

### **4.3 Presentation of Findings**

For easy understanding and following of the results, frequency tables and pie charts have been used to summarize the results. Cross tabulations and numerical descriptions have been prepared to show the relationships between variables. Data has been presented in two parts of which the first part is data for the women within child bearing age and the second part is data for the health staff.

In this study data has been presented according to sections. In the first part there is Section A which shows demographic data of the respondents, Section B shows frequency tables on respondents Knowledge on TT immunization, Section C shows frequency tables on Distance and distribution of service related factors and Section D shows frequency tables for staff attitude. The researcher also had frequency tables for part two of which Section A shows demographic data of health personnel, Section B shows staffing levels, Section C shows availability of vaccines and Section D shows knowledge of respondents.

#### **4.3.1 SECTION A: DEMOGRAPHIC DATA FOR WOMEN**

The data on table 4.1 gives a picture of the age group which was mostly involved in the study. Data on table 4.1 also indicates the women's educational level which shows the level of literacy which may have a bearing on TT immunization coverage.

**Table 4.1: Socio-demographic characteristics of the sample (N=40)**

| <b>AGE</b>                | <b>Frequency</b> | <b>Percentage</b> |
|---------------------------|------------------|-------------------|
| 15-19                     | 13               | 32.5              |
| 20-24                     | 12               | 30                |
| 25-29                     | 4                | 10                |
| 30-34                     | 6                | 15                |
| 35-39                     | 3                | 7.5               |
| 40-44                     | 1                | 2.5               |
| 45-49                     | 1                | 2.5               |
| <b>Total</b>              | <b>40</b>        | <b>100</b>        |
| <b>MARITALSTATUS:</b>     |                  |                   |
| Single                    | 11               | 27.5              |
| Married                   | 28               | 70.0              |
| Widowed                   | 1                | 2.5               |
| <b>Total</b>              | <b>40</b>        | <b>100</b>        |
| <b>EDUCATION:</b>         |                  |                   |
| Primary                   | 14               | 35                |
| Secondary                 | 25               | 62.5              |
| Never been to school      | 1                | 2.5               |
| <b>Total</b>              | <b>40</b>        | <b>100</b>        |
| <b>OCCUPATION:</b>        |                  |                   |
| Self employed             | 9                | 22.5              |
| Farmer                    | 3                | 7.5               |
| House-wife                | 22               | 55.0              |
| Student                   | 6                | 15.0              |
| <b>Total</b>              | <b>40</b>        | <b>100.0</b>      |
| <b>NO of pregnancies:</b> |                  |                   |
| None                      | 1                | 2.5               |
| 1                         | 18               | 45.0              |
| 2-5                       | 17               | 42.5              |
| 6 and above               | 4                | 10.0              |
| <b>Total</b>              | <b>40</b>        | <b>100.0</b>      |
| <b>NO of injections:</b>  |                  |                   |
| One                       | 18               | 45.0              |
| Two                       | 18               | 45.0              |
| Three to Five             | 4                | 10.0              |
| <b>Total</b>              | <b>40</b>        | <b>100.0</b>      |

Majority of the respondents (32.5%) were aged 15-19 years old. Majority of the respondents (70%) were married. More than half of the respondents (62.5%) reached secondary level of education.

Almost half (45%) of the respondents had received 1 TT injection and only 4(10%) had 3 and above injections.

#### 4.3.2 SECTION B: KNOWLEDGE OF WOMEN ON TT

Table 4.2 Response on Knowledge questions on TT immunization (N=40)

| Definition of TT Vaccine                                 | Frequency | Percentage   |
|----------------------------------------------------------|-----------|--------------|
| A Vaccine given to women of child bearing age            | 31        | 77.5         |
| Family planning given to women                           | 9         | 22.5         |
| <b>Total</b>                                             | <b>40</b> | <b>100.0</b> |
| <b>Who is supposed to receive TT immunization?</b>       |           |              |
| All women including school girls 15 yrs and above        | 39        | 97.5         |
| Only children                                            | 01        | 2.5          |
| <b>Total</b>                                             | <b>40</b> | <b>100</b>   |
| <b>2<sup>nd</sup> dose of TT is supposed to be given</b> |           |              |
| After 1 week                                             | 1         | 2.5          |
| After 4 weeks                                            | 33        | 82.5         |
| After 6 months                                           | 4         | 10.0         |
| After one year                                           | 2         | 5.0          |
| <b>Total</b>                                             | <b>40</b> | <b>100.0</b> |
| <b>NO of TT injections a woman is to receive.</b>        |           |              |
| Five injections                                          | 29        | 72.5         |
| Gave wrong answer                                        | 11        | 27.5         |
| <b>Total</b>                                             | <b>40</b> | <b>100</b>   |
| <b>Do you understand why TT should be given to you</b>   |           |              |
| Yes                                                      | 34        | 85.0         |
| No                                                       | 6         | 15.0         |
| <b>Total</b>                                             | <b>40</b> | <b>100.0</b> |
| <b>TT injection gives protection against...</b>          |           |              |
| Tetanus                                                  | 10        | 25           |
| Gave wrong answers                                       | 30        | 75           |
| <b>Total</b>                                             | <b>40</b> | <b>100</b>   |

Table 4.2 shows that majority of the respondents (77.5%) had knowledge on what TT is and most of them (72.5%) were aware when it is supposed to be given to them although 27.5% did not know the number of vaccines that one woman is suppose to receive in her life. The table also shows that majority of the respondents (75%) did not know the disease they were being immunized against.

#### 4.3.4 SECTION C: DISTANCE TO THE HEALTH CENTRE

**Table 4.3: Distribution of Service Related Factors (N = 40)**

| <b>VARIABLE</b>                                                | <b>Frequency</b> | <b>Percentage</b> |
|----------------------------------------------------------------|------------------|-------------------|
| <b>How long it takes to reach health facility</b>              |                  |                   |
| Less than 30 minutes                                           | 17               | 42.5              |
| 30 minutes to 1 hour                                           | 17               | 42.5              |
| More than 1 hour                                               | 6                | 15                |
| <b>TOTAL</b>                                                   | <b>40</b>        | <b>100</b>        |
| <b>Time spent at health facility before being attended to:</b> |                  |                   |
| 0-10 minutes                                                   | 13               | 32.5              |
| 11 - 30 minutes                                                | 13               | 32.5              |
| 31 minutes and longer                                          | 14               | 35                |
| <b>TOTAL</b>                                                   | <b>40</b>        | <b>100</b>        |
| <b>Staff reception at the health facility</b>                  |                  |                   |
| Fair                                                           | 11               | 27.5              |
| Good                                                           | 29               | 72.5              |
| <b>TOTAL</b>                                                   | <b>40</b>        | <b>100</b>        |

Table 4.3 shows that most of the respondents (42.5%) took between 11-30 minutes to reach the clinic. Majority (72.2%) of the respondents indicated that staff reception at the clinic was good, although most of respondents (35%) said they spent 31 minutes and above at the clinic before being attended to.

#### 4.3.4 SECTION D: BELIEFS/MYTHS

Figure 4.1: Beliefs and Myths in the community about TT Vaccine

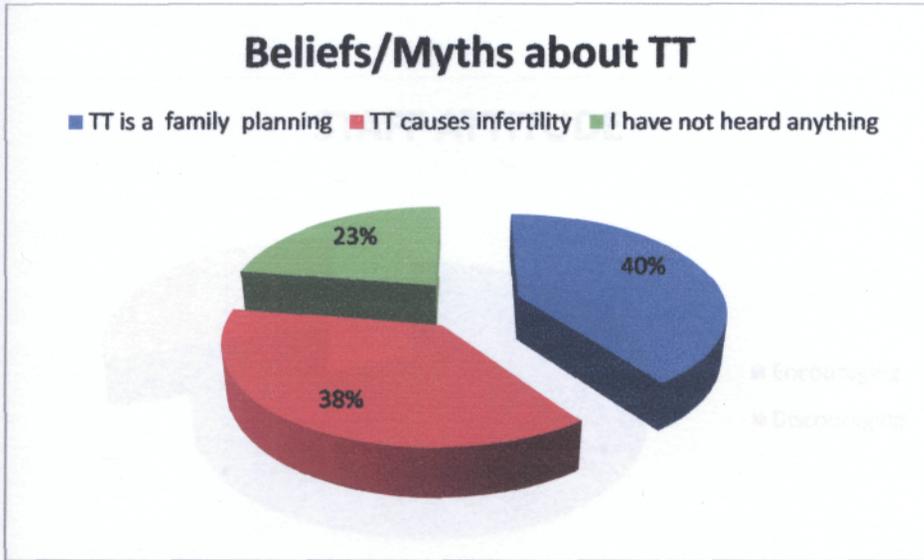
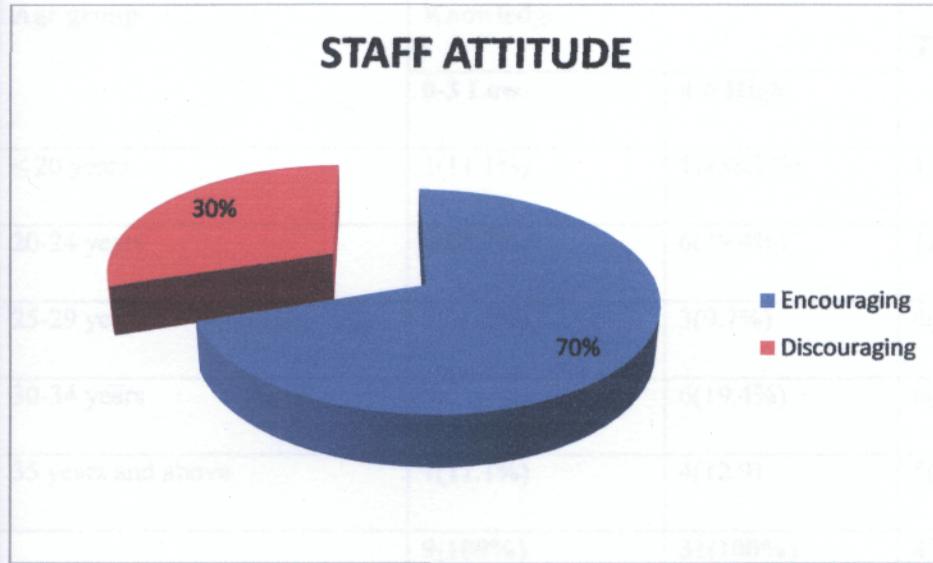


Figure 4.1 shows that majority (40%) of the respondents indicated that there is a belief that TT immunization is a family planning and about 37.5% indicated that there is a myth that TT causes infertility and about 23% indicated that they have not heard any of any beliefs/myths about TT in the community. These findings could mean that through community interactions women share the misconception and may be influenced by their friends with the false information on TT immunization. The women may fear to utilize the service due to the misconceptions in the community hence; it may contribute to low TT immunization coverage.

### 4.3.5 SECTION E: Staff Attitude

Figure 4.2: Respondents on Staff Attitude (of the sample (N=40))



All the respondents (100%) indicated that they were greeted by a staff when they visited the centre although some respondents (30%) indicated that the behaviour of some health personnel is discouraging showing that not all the health personnel relate well with clients.

### 4.3.6 RELATIONSHIP AMONG VARIABLES CROSS TABULATIONS ON VARIABLES

**Table 4.4: Age group in relation to knowledge (N=40)**

| Age group          | Knowledge      |                 | TOTAL           |
|--------------------|----------------|-----------------|-----------------|
|                    | 0-3 Low        | 4-6 High        |                 |
| < 20 years         | 1(11.1%)       | 12(38.7%)       | 13(32.5%)       |
| 20-24 years        | 6(66.7%)       | 6(19.4%)        | 12(30%)         |
| 25-29 years        | 1(11.1%)       | 3(9.7%)         | 4(10%)          |
| 30-34 years        | 0              | 6(19.4%)        | 6(15%)          |
| 35 years and above | 1(11.1%)       | 4(12.9)         | 5(12.5%)        |
| <b>TOTAL</b>       | <b>9(100%)</b> | <b>31(100%)</b> | <b>40 (100)</b> |

Table 4.4 shows that 12 (96.2 %) respondents aged less than 20 years had high knowledge on TT immunization. While all the women aged 30-34 (19.4%) had high knowledge. These findings could mean that as women progressed with age the level of knowledge on TT immunization increases. This is strongly supported by statistical test of chi-square of 8.750 and the p-value of 0.002 which is less than the normal p- value of 0.05 suggesting that there is a strong relationship between age and the level of knowledge on TT.

**Table 4.5: Knowledge in Relation to No of TT injections received (N=40)**

| Level of Knowledge | NO of TT injections received by respondents |                 |                 | TOTAL           |
|--------------------|---------------------------------------------|-----------------|-----------------|-----------------|
|                    | 1 injection                                 | 2 injections    | 3-5 injections  |                 |
| 0-3 Low knowledge  | 5(27.8%)                                    | 4(22.2%)        | 0(100%)         | 9(22.5%)        |
| 4-6 High knowledge | 13(72.2%)                                   | 14(77.8%)       | 4(100%)         | 31(77.5%)       |
| <b>TOTAL</b>       | <b>18(100%)</b>                             | <b>18(100%)</b> | <b>4 (100%)</b> | <b>40 (100)</b> |

Table 4.5 shows that out of 31(77.5%) respondents with high knowledge, majority of them 14 (77.8%) had already received at least two TT injections each. While none of the respondents who had low knowledge had received 3-5 injections of TT and only 22.2% had received 2 injections while, 27.8% had received 1 injection. This clearly demonstrates the importance that knowledge plays in encouraging child bearing women to have their full vaccinations of TT.

These findings were supported by a statistical test of p- value 0.02 indicating a stronger positive association between level of knowledge and the number of TT injections received by the woman.

**Table 4.6: Educational level in Relation to knowledge on TT (N=40)**

| Educational level    | Knowledge of respondents |                    | TOTAL           |
|----------------------|--------------------------|--------------------|-----------------|
|                      | 0-3 Low knowledge        | 4-6 High knowledge |                 |
| Primary              | 3 (33.3%)                | 11 (35.5%)         | 14 (35%)        |
| Secondary            | 5 (55.6%)                | 20 (64.5%)         | 25 (62.5%)      |
| Never been to school | 1(11.1%)                 | 0                  | 1 (2.5%)        |
| <b>TOTAL</b>         | <b>9 (100%)</b>          | <b>31 (100%)</b>   | <b>40 (100)</b> |

Table 4.6 shows that, out of the 25 (62.5%) who had reached secondary education majority of them 20 (64.5%) had high knowledge on TT immunization. While 1 (11.1%) who had not been to school had also low knowledge. This demonstrates that the level of education influences the level of knowledge as demonstrated by women who were able to understand the importance of being vaccinated than women who had never been to school and might have not received information about TT immunization.

**Table 4.7: Distance in relation to the NO of TT injections received (N=40)**

| Distance     | NO of TT received by respondents |                 |                | TOTAL            |
|--------------|----------------------------------|-----------------|----------------|------------------|
|              | 1 injection                      | 2 injection     | 3-5 injection  |                  |
| Near         | 8(44.4%)                         | 7(38.9%)        | 2(50%)         | 17(45%)          |
| Far          | 7(38.9%)                         | 8(44.4%)        | 2(50%)         | 17(45%)          |
| Very Far     | 3(16.7%)                         | 3(16.7%)        | 0(0%)          | 6(10%)           |
| <b>TOTAL</b> | <b>18(100%)</b>                  | <b>17(100%)</b> | <b>4(100%)</b> | <b>40 (100%)</b> |

Among the 4 respondents who indicated that they had received three to five TT injections half (2) indicated that they stay near the health centre and another half (2) indicated that they stay far while all the respondents who indicated that they stay very far none had received three to five TT injections. The findings demonstrate that women who lived in areas near the health Centre had higher chance of receiving TT immunization than those that lived further way. The statistical findings show that there was stronger positive relationship association between distance and the number of TT injections received by the woman. This is strongly supported by statistical test of chi-square of 6.050 and the p-value of 0.049 which is less than the normal p-value (0.05) hence the results are not in support of the null hypothesis.

## PART TWO

### 4.3.7 SECTION A: DEMOGRAPHIC DATA FOR STAFF

**Table 4.8: Socio-demographic characteristics of the sample (N=10)**

| <b>Profession of respondents</b>  | <b>Frequency</b> | <b>Percentage</b> |
|-----------------------------------|------------------|-------------------|
| Enrolled Nurse                    | 4                | 40                |
| Enrolled m/wife                   | 5                | 50                |
| Registered Nurse                  | 1                | 10                |
| <b>Total</b>                      | <b>10</b>        | <b>100</b>        |
| <b>Number of years in service</b> |                  |                   |
| 2-5 years                         | 1                | 10                |
| 6-10 years                        | 3                | 30                |
| 11-19 years                       | 2                | 20                |
| 20 years and above                | 4                | 40                |
| <b>Total</b>                      | <b>10</b>        | <b>100</b>        |

The study findings show that half 5 of the Nurses were Enrolled M/wives; while 4 were enrolled Nurses and 1 was a Registered Nurse. The study has demonstrated that most of the respondents 6 had been in service for less than 20 years and about 4 have been in service for 20 years and above.

#### 4.3.8 SECTION B: STAFFING

Table 4.9: Respondents on staffing levels (N = 10).

| How is staffing at your health centre                           | Frequency | Percentage |
|-----------------------------------------------------------------|-----------|------------|
| 7 and above                                                     | 10        | 100        |
| <b>Total</b>                                                    | <b>10</b> | <b>100</b> |
| <b>How many staff participates in TT immunization</b>           |           |            |
| 2 or less                                                       | 9         | 90         |
| 3 health workers                                                | 1         | 10         |
| <b>Total</b>                                                    | <b>10</b> | <b>100</b> |
| <b>Is staff adequate to carry out TT immunization</b>           |           |            |
| No                                                              | 10        | 100        |
| <b>Total</b>                                                    | <b>10</b> | <b>100</b> |
| <b>Is IEC always given to women on TT?</b>                      |           |            |
| Yes                                                             | 4         | 40         |
| NO                                                              | 6         | 60         |
| <b>Total</b>                                                    | <b>10</b> | <b>100</b> |
| <b>Reason why health education is not always given</b>          |           |            |
| Understaffed                                                    | 6         | 100        |
| <b>Total</b>                                                    | <b>6</b>  | <b>100</b> |
| <b>Suggested No of staff to participate in TT immunization:</b> |           |            |
| Three (3)                                                       | 10        | 100        |
| <b>Total</b>                                                    | <b>10</b> | <b>100</b> |

The above table shows that all (10) respondents indicated that staffing is 7 and above while majority 9 of the respondents indicated that 2 or less staff participates in TT immunization. All the respondents (10) indicated that staffing is not adequate to carry out TT immunization. More than half (6) of the respondents indicated that health education is not always given to the women on TT immunization due to lack of qualified staff and this may cause low level of knowledge of women on TT immunization and its coverage.

#### 4.3.9 SECTION C: TT IMMUNIZATION COVERAGE

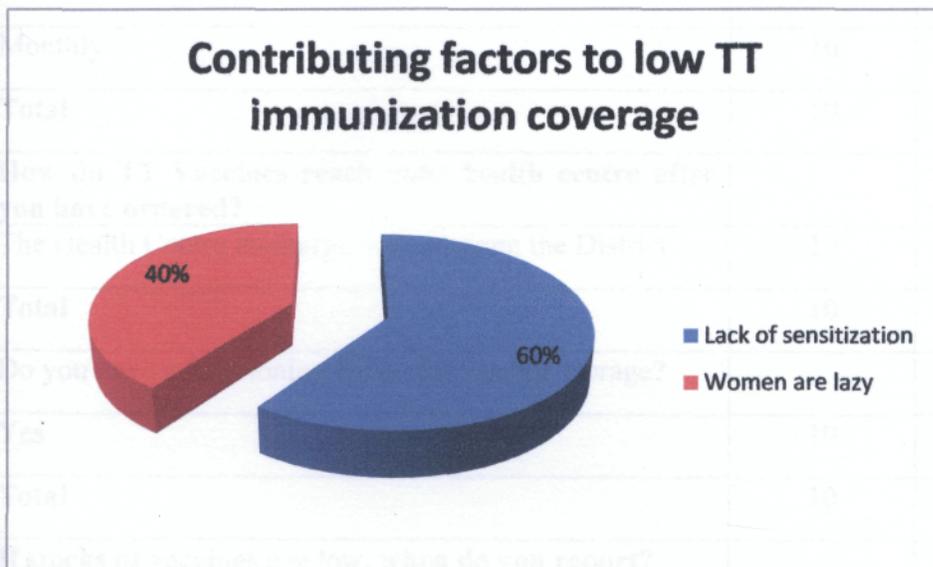
**Table 4.10: Respondents on TT coverage**

| How is your coverage for TT immunization?                                                             | Frequency | Percentage |
|-------------------------------------------------------------------------------------------------------|-----------|------------|
| Low (64.5%)                                                                                           | 10        | 100        |
| <b>Total</b>                                                                                          | <b>10</b> | <b>100</b> |
| <b>Does your Centre participate in outreach activities?</b>                                           |           |            |
| Yes                                                                                                   | 10        | 100        |
| <b>Total</b>                                                                                          | <b>10</b> | <b>100</b> |
| <b>How often outreach activities are carried:</b>                                                     |           |            |
| Monthly                                                                                               | 10        | 100        |
| <b>Total</b>                                                                                          | <b>10</b> | <b>100</b> |
| <b>Do you have outreach activity plan in place?</b>                                                   |           |            |
| Yes                                                                                                   | 10        | 100        |
| <b>Total</b>                                                                                          | <b>10</b> | <b>100</b> |
| <b>NO of Nurses participates in outreach activities</b>                                               |           |            |
| 1                                                                                                     | 8         | 80         |
| 2                                                                                                     | 2         | 20         |
| <b>Total</b>                                                                                          | <b>10</b> | <b>100</b> |
| <b>How do you carry outreach activities</b>                                                           |           |            |
| Always start with health talks and then proceed with other activities                                 | 1         | 10         |
| We find community health workers have given health talks so we just go straight into other activities | 9         | 90         |
| <b>Total</b>                                                                                          | <b>10</b> | <b>100</b> |
| <b>How long is an outreach activity</b>                                                               |           |            |
| Morning sessions only                                                                                 | 10        | 100        |
| <b>Total</b>                                                                                          | <b>10</b> | <b>100</b> |
| <b>Reasons for carrying outreach sessions morning only</b>                                            |           |            |
| Lack of funds to pay lunch allowance                                                                  | 10        | 100        |
| <b>Total</b>                                                                                          | <b>10</b> | <b>100</b> |

The above table shows that all 10 (100%) the respondents indicated that TT coverage is low (64.5%) in Luanshya Health District. All 10(100%) of the respondents indicated that the centre participates in outreach activities. While 9(90%) of the respondents indicated that

community health workers usually give health talks before the staff arrives at the site of an outreach session. This demonstrates that knowledge that women are receiving is not coming from qualified staff neither is it monitored to ensure that important and correct information is delivered to the women of child bearing age.

**Figure 4.3 Respondents responses to contributing factors to low TT immunization coverage**



The figure above shows that majority of the respondents (6) indicated that lack of proper sensitization of the women on TT immunization due to understaffed contributes to low TT immunization coverage, while 4 of the respondents indicated that women are lazy to come to the centre to get the injection for TT. These may reduce TT coverage at the centre and the whole district.

## D: AVAILABILITY OF VACCINES

Table 4.11: Respondents' response on the availability of vaccines (N=10)

| <b>Do you have enough vaccines?</b>                                        | <b>Frequency</b> | <b>Percentage (%)</b> |
|----------------------------------------------------------------------------|------------------|-----------------------|
| Yes                                                                        | 10               | 100                   |
| <b>Total</b>                                                               | <b>10</b>        | <b>100</b>            |
| <b>How often do you order TT Vaccine?</b>                                  |                  |                       |
| Monthly                                                                    | 10               | 100                   |
| <b>Total</b>                                                               | <b>10</b>        | <b>100</b>            |
| <b>How do TT Vaccines reach your health centre after you have ordered?</b> |                  |                       |
| The Health Centre in-charge collects from the District                     | 10               | 100                   |
| <b>Total</b>                                                               | <b>10</b>        | <b>100</b>            |
| <b>Do you have a functioning fridge for vaccine storage?</b>               |                  |                       |
| Yes                                                                        | 10               | 100                   |
| <b>Total</b>                                                               | <b>10</b>        | <b>100</b>            |
| <b>If stocks of vaccines are low, when do you report?</b>                  |                  |                       |
| Immediately                                                                | 10               | 100                   |
| <b>Total</b>                                                               | <b>10</b>        | <b>100</b>            |
| <b>What kind of fridge do you have for vaccines</b>                        |                  |                       |
| Electrical                                                                 | 10               | 100                   |
| <b>Total</b>                                                               | <b>10</b>        | <b>100</b>            |

All the Nurses (10) indicated that TT Vaccines are available at the health centre and they all indicated that if stock of Vaccines reduces the centres report immediately to the District. This shows that TT Vaccines are available all the time in the health centres. The table also shows that all the respondents indicated that the centres have working electrical Vaccine fridges hence; making it easier to keep Vaccines for longer use as cold chain is maintained.

### 4.3.11 SECTION E: NURSES KNOWLEDGE ON TT IMMUNIZATION

**Table 4.12: Respondents knowledge on TT immunization**

| Type of vaccine TT is                                                                                                                                                           | Frequency | Percentage |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|
| An inactivated vaccine                                                                                                                                                          | 8         | 80         |
| An activated vaccine                                                                                                                                                            | 2         | 20         |
| <b>Total</b>                                                                                                                                                                    | <b>10</b> | <b>100</b> |
| <b>How TT vaccine is administered:</b>                                                                                                                                          |           |            |
| Intramuscularly on the upper arm                                                                                                                                                | 10        | 100        |
| <b>Total</b>                                                                                                                                                                    | <b>10</b> | <b>100</b> |
| <b>Dose for TT vaccine:</b>                                                                                                                                                     |           |            |
| 0.5ml                                                                                                                                                                           | 9         | 90         |
| 1ml                                                                                                                                                                             | 1         | 10         |
| <b>Total</b>                                                                                                                                                                    | <b>10</b> | <b>100</b> |
| <b>NO of injections the woman is supposed to receive.</b>                                                                                                                       |           |            |
| Five injections                                                                                                                                                                 | 10        | 100        |
| <b>Total</b>                                                                                                                                                                    | <b>10</b> | <b>100</b> |
| <b>Schedule for TT Immunization:</b>                                                                                                                                            |           |            |
| Wrong answer                                                                                                                                                                    | 4         | 40         |
| 1 <sup>st</sup> dose on sport, 2 <sup>nd</sup> dose after 4 weeks, 3 <sup>rd</sup> dose after 6 months, 4 <sup>th</sup> dose after 1 year and 5 <sup>th</sup> dose after 1 year | 6         | 60         |
| <b>Total</b>                                                                                                                                                                    | <b>10</b> | <b>100</b> |
| <b>Before giving TT what are you supposed to do?</b>                                                                                                                            |           |            |
| Check expiry date and shake the vaccine to ensure it is not frozen                                                                                                              | 5         | 50         |
| Check expiry date and shake the vaccine to ensure it is frozen                                                                                                                  | 5         | 50         |
| <b>Total</b>                                                                                                                                                                    | <b>10</b> | <b>100</b> |
| <b>Storage temperature for TT vaccine:</b>                                                                                                                                      |           |            |
| 0- 8°c                                                                                                                                                                          | 5         | 50         |
| Below 0° c                                                                                                                                                                      | 5         | 50         |
| <b>Total</b>                                                                                                                                                                    | <b>10</b> | <b>100</b> |
| <b>What happens to TT vaccine if it has been frozen</b>                                                                                                                         |           |            |
| It looks smooth and cloudy immediately after shaking it                                                                                                                         | 5         | 50         |
| It shows glandular particles                                                                                                                                                    | 5         | 50         |
| <b>Total</b>                                                                                                                                                                    | <b>10</b> | <b>100</b> |

Table 4.12 shows that majority of the Nurses 8(80%) knew the type of vaccine TT is. Although all the respondents 10(100%) knew how the vaccine is administered but about 10% of the respondents did not know the correct dose for TT vaccine. About 4(40%) of the

respondents had no knowledge on the correct schedule for TT immunization. Half of the Nurses did not have knowledge on the temperature at which TT vaccine is to be stored. This demonstrates that not all the Nurses have correct knowledge on TT immunization services.

### 4.3.11 CROSS TABULATION

**Table 4.13: Profession in relation to knowledge on the type of Vaccine TT is (N=10)**

| TYPE OF VACCINE TT IS | PROFESSION     |                 |                  | TOTAL    |
|-----------------------|----------------|-----------------|------------------|----------|
|                       | Enrolled Nurse | Enrolled M/Wife | Registered Nurse |          |
| Inactivated Vaccine   | 2(50%)         | 5(100%)         | 1(100%)          | 8(80%)   |
| Activated Vaccine     | 2(50%)         | 0(0%)           | 0(0%)            | 2(20%)   |
| Total                 | 4(100%)        | 5(100%)         | 1(100%)          | 10(100%) |

Table 4.14 above shows that all 5(100%) enrolled midwives were knowledgeable on the type of vaccine TT is while 2 (50%) enrolled Nurses were not sure of the type of vaccine TT is. This may mean that not all the nurses know the type of vaccine that TT is hence; this may affect the level of the nurses' participation in providing the service in fear of making mistakes since they do not have correct information about the service

**Table 4.14: Staffing in relation to TT coverage (N=10)**

| STAFFING     | TT COVERAGE    |              | TOTAL           |
|--------------|----------------|--------------|-----------------|
|              | Low            | High         |                 |
| Adequate     | 0(0%)          | 0(0%)        | 0(0%)           |
| Not adequate | 10(0%)         | 0(0%)        | 10(100%)        |
| <b>Total</b> | <b>10(100)</b> | <b>0(0%)</b> | <b>10(100%)</b> |

The above table shows that all 10 (100%) the respondents indicated that staff is not adequate and they all indicated that TT immunization coverage is low.

**Table 4.15: Contributing factors to TT coverage in relation to TT coverage (N=10)**

| CONTRIBUTING FACTORS TO LOW TT COVERAGE | % FOR TT COVERAGE |              | TOTAL            |
|-----------------------------------------|-------------------|--------------|------------------|
|                                         | Low               | High         |                  |
| Community not properly sensitized       | 6(60%)            | 0(0%)        | 6(60%)           |
| Women are lazy                          | 4(40%)            | 0(0%)        | 4(40%)           |
| <b>TOTAL</b>                            | <b>10(100%)</b>   | <b>0(0%)</b> | <b>10 (100%)</b> |

Among the 10 respondents who indicated that TT immunization coverage is low 6 indicated that community is not properly sensitized, while 4 of the respondents indicated that women are lazy to come to the health centre for TT immunization.

## CHAPTER 5

### 5.0 DISCUSSION OF FINDINGS AND IMPLICATIONS FOR THE HEALTH CARE SYSTEM.

#### 5.1 Characteristics of the sample

The study sample consisted of fifty respondents of which ten (10) were Nurses and forty (40) were women within childbearing age from Luanshya District. The sample was divided into two parts. Part one was the women within childbearing age (15-49 years) who came for different health services while part two consisted of health workers (Nurses) who were found on duty. The demographic characteristics for the sample in part one included age, marital status, educational level, occupation, number of pregnancies, number of children, Religion and number of TT injections a woman has received. For part two demographic characteristics included age, Religion, profession, number of years in-service and the department in which respondent is currently working.

The findings of the study revealed that majority 25(62.5%) of the respondents in part one of the sample were aged between 15-24 years (Table 4.1). In this study the mean age was 24.6 and the mode age was 22 years. These study results were consistent with Central Statistics Office (CSO) 2007 report that revealed that the overall median age at first birth for women aged 25-40 in Zambia is 18.7 years. The study further revealed that majority 28 (70%) of the respondents were married with 11 (27.5%) respondents not married. The study also revealed that majority of the respondents were aged between 15-19 years (Table 1) and majority of the respondents had started giving birth already. These study findings were in consistent with CSO (2007) report which revealed that marriage relatively occurs early in Zambia. A possible explanation for this might be that early marriages are likely to have occurred in this study population. This study produced results which corroborate the findings of CSO (2007) report which revealed that teenage pregnancy is high in Zambia. Further, CSO reports that about three in ten young women age 15-19 have begun childbearing, that is, they have given birth already or are currently pregnant with their first child.

According to CSO (2007) age at which a woman gets married is important because it affects the length of time a woman is exposed to the risk of pregnancy during her childbearing age. Therefore; early marriage tends to lead to early childbearing and a greater number of births overall. It also leads to shorter intervals between generations and thus higher fertility. This was revealed in the current study as majority of the women 25(62.5%) had had at least a pregnancy. This finding is in support

with CSO (2007) report which states that marriage is closely associated with fertility because it is closely linked to the probability of conception.

The current study also indicated that majority of the women 25 (62.5%) had attained secondary education, while 14 (35%) attained primary education and only 1 (2.5%) did not attain any education. This is supported by CSO (2007) report which states that the value to read and write is an important personal asset allowing women increased opportunity in life. Despite education levels slightly more than half of the women 22 (55%) were house wives, 9 (22.5%) self employed, 6 (15%) students and 3 (7.5%) were farmers (Table 4.1). These findings were consistency with CSO report that revealed that the major obstacle to unemployment levels among women were inequality in respect to access to education, discrimination in employment and occupation which leads to categorization of jobs according to gender and low level of women participation in decision making.

## **5.2 DISCUSSION OF VARIABLES**

### **5.2.1 Knowledge**

The results of this study in table 4.5 show that majority 31 (77%) of the women had high knowledge on TT immunization and out of them 20 had reached secondary education and 11 of them had reached primary education and none of them who had never been to school had high knowledge on TT immunization. Another important finding was that 9 respondents had low knowledge on TT immunization out of them half 5 had reached secondary school, 3 had reached primary education and 1 had not been to school. A possible explanation for this could be that women who had been to school might have received the information on TT immunization while at school unlike those who had not been to school who might have not received any knowledge about TT immunization at all. The other possible explanation to this is that women may not see the necessity of receiving the vaccine as long as they remain ignorant in some areas and this may contribute to low TT immunization coverage. Therefore; this demonstrates how important education is as it influences the level of knowledge that the women would have on reproductive health including TT immunization services.

These findings of the current study are in consistence with those of the Indian survey that was undertaken to estimate tetanus immunization coverage of adolescent girls in a selected rural community of Haryana and to ascertain the knowledge of these girls and their mothers about tetanus.

The study revealed that coverage was better among school going girls which was 35% as compared to non-school going girls which was 13%. The survey concluded that coverage was good among school going girls may be because the girls were able to understand the importance of being vaccinated than the non-school going girls who might have not received any knowledge about TT immunization.

### **5.2.2 Distance**

Table 4.3 in the current study found that 17 women took less than 30 minutes to reach the clinic. Another surprising finding was that among the 17 respondents who stay near the health centre most of them (8) had one TT injection only while out of 6 respondents who indicated that they stay very far from the health centre none of them indicated that they had received three (3) to five (5) TT injections. The possible explanation to these findings could mean that women may be discouraged from going to the health centre for immunization in fear of walking for a long distance ( two (2) hours or more) to reach the points where the services are being offered therefore; they would rather choose to stay home looking after their families.

Another important finding in this study is that majority 29 of the respondents indicated that staff reception at the clinic was good, although most of the women 14 indicated that they spent 31 minutes and above at the clinic before being attended to. The possible explanation to these findings could mean that women may be discouraged from going to the health centre for immunization in fear of spending most of their time at the health centre due to long waiting time before being attended to by the nurses.

These study findings can be compared to the findings found by Samai and Sengeh (1997) in Sierra Leone who found that access to health facilities is greatly limited by long distances between communities and health facilities as well as long travel times.

The findings of this study is further supported by the Bangladesh Demographic and Health Survey report of 1993-1994 which identified programmatic and non-programmatic factors that influence the coverage of Tetanus Toxoid (TT) immunization among women of child bearing age. The logistic regression results showed that the coverage of TT immunization

was significantly associated with proximity to outreach clinics and the presence of a health worker in the community. The survey further showed that those women who lived in areas where health centres were available within twelve Kilometers had at least 35% higher chance of receiving TT immunization than those who lived further away.

These study findings correlate with what was found in this study as demonstrated by table 4.7 that shows that among the 4 respondents who indicated that they had received three (3) to five (5) TT injections half 2(50%) indicated that they stay near the health centre and another half 2 (50%) indicated that they stay far while all the respondents who indicated that they stay very far none of them indicated that had received three (3) to five (5) TT injections. The findings demonstrate that women who lived in areas near the health Centre had higher chance of receiving TT immunization than those that lived further way. The findings are strongly supported by statistical test of chi-square of 6.050 and the p-value of 0.049 that showed that there was a stronger positive relationship association between distance and the number of TT injections received by the woman.

### **5.2.3 Beliefs/myths**

It has been noted in the current study results in figure 4.1 that majority (40%) of the respondents indicated that, there is a belief that TT immunization is a family planning and about 37.5% of the respondents indicated that some people in the community say that TT causes infertility. This misconception may be explained by the fact that local belief systems and cultural practices may prevent the women from asking for and receiving TT immunization services. Another possible explanation could be that communities may have common incorrect ideas about tetanus toxoid vaccine making it difficult for them to see the importance of receiving the vaccine. This may have a negative effect on the level of the service utilization as women will fear to utilize the service hence; it may contribute to low TT immunization coverage.

This study produced results which corroborate the findings by UNICEF (2004) which reported that Immunization Coverage is influenced by belief and myths in the community (HIV, anti-fertility drugs). Furthermore the report indicated that some of these cultural barriers may make it more difficult to immunize women of child bearing age and further the report indicated that even when vaccines are available to remote populations, local belief systems and cultural practices may prevent the women from asking for and receiving immunizations.

#### **5.2.4 Staff attitude**

It is interesting to note in figure 4.2 that all the women (40) indicated that they were greeted by a Nurse when they visited the centre. In this study 12 women indicated that the attitude of some nurses is discouraging and 28 indicated that the attitude of the Nurses is encouraging. The result may be explained by the fact that not all the health personnel relate well with clients and the reason for this could be due to various factors such as differences in personalities. This may have a negative bearing on the number of women who will come to the health centre and access the service; hence this negative attitude may contribute to low TT immunization coverage.

These results are consistent with those of other research studies conducted in Belgium, Bangladesh, Ethiopia, Thailand and Cambodia<sup>5-9</sup> that found various factors associated with faulty coverage. The studies indicated that among these factors was poor staff attitude and lack of commitment by health care workers.

#### **5.2.5 Low TT immunization coverage**

The results of this study show that all 10 (100%) Nurses indicated that TT coverage is low (64.5%) in Luanshya Health District. Furthermore; this study shows that 9 Nurses indicated that community volunteers usually give health talks at outreach sites before the Nurses arrive at the site for outreach session. The implication for this result is that women may be receiving substandard information on TT immunization hence; this contributes to knowledge deficit about TT immunization among women. This may also affect the women's level of utilization of TT immunization service hence contributing to the reduction of TT coverage.

Another important finding of this study is that more than half (6) Nurses indicated that one of the contributing factors to low TT immunization coverage may be that the community is not properly sensitized due to understaffing of health workers while, 40 Nurses indicated that TT coverage is low because women are lazy to come to the health centre to get the injection. The possible explanation for this result may mean that women are receiving substandard information on TT immunization hence; there is need for nurses to supervise delivery of IEC to the women. The results may also mean that there is inadequate information among women of childbearing age on TT immunization which may contribute

to knowledge deficit about TT immunization there by affecting the level of utilization of TT immunization service hence contributing to the reduction of TT coverage.

These results are consistent with those of other studies carried in a survey of EPI coverage that was conducted in 1993 by CARE Bangladesh which demonstrated that 70% of the failure of coverage is due to lack of information and 30% is due to various obstacles. Furthermore; the findings of this study are also in agreement with the studies conducted in Belgium, Bangladesh, Ethiopia, Thailand and Cambodia<sup>5-9</sup> that found various factors associated with faulty coverage. Among these factors were; carelessness on either women of child bearing age' or physician's part, attitude of the physician, lack of identification of target age groups, social problems, lack of women' knowledge about TT immunization, illiteracy,

The findings of this study are also supported by one of the views in a study which was conducted in Lahole district on the reasons of low tetanus toxoid vaccination (TT) coverage. The study revealed that a good number of respondents said that TT immunization coverage is low due to lack of awareness about TT among women of child bearing age; others said it was due to shortage of trained staff at some facilities, poor attitude and lack of commitment by health care workers, low literacy in the community.

#### **5.2.6 Staffing**

In this study it has been shown that half 5 (50%) of the Nurses were Enrolled M/wives, 4 (4%) were Enrolled Nurses while 1 (10%) was a registered Nurses. The findings may mean that those Nurses who are midwives and those that have been in service longer are more experienced in providing TT immunization services than those that have just worked for few years hence; this may contribute to the reduction of TT immunization rate as the inexperienced Nurses may shun to participate in providing the service.

The study findings on table 4.9 show that all the Nurses 10 indicated that staffing is not adequate to carry out TT immunization. More than half (6) Nurses indicated that health education is not always given to the women on TT immunization due to lack of qualified staff. This may mean that outreach activities may not be carried out due to inadequate staff to participate in TT immunization services. Inadequate staff may have a negative impact on TT coverage as staff level is not adequate to participate in TT immunization service hence; most of the women will be missed out and this causes TT coverage to reduce.

The findings of this study are similar to what was found in Lahole district on the reasons of low tetanus toxoid vaccination (TT) coverage which revealed that, shortage of trained staff at some facilities, underreporting/lack of documentation by health providers has effects on TT immunization coverage.

#### **5.2.7 Community sensitization:**

The results of this study on table 4.3 show that 9 Nurses indicated that community health workers usually give health talks at outreach sessions before Nurses arrive at the site. This may mean that most of the information is being given by the community health workers who might not deliver the service according to standards. Further figure 4.3 of this study shows that majority (6) of the Nurses indicated that there is lack of proper sensitization of the women on TT immunization due to shortage of qualified staff and this may lead to inadequate knowledge by women of child bearing age which may result into myths and misconceptions about tetanus toxoid vaccination among women of childbearing age.

The findings of this study are similar with the results found by Tanjida et al, 2009 from a public university in Dhaka to assess the respondents' source of knowledge about TT immunization where 35% of the respondents got the information from Television, 24% from health workers 16% from newspaper and 25% from the radio and other sources. It was also found that mass media was the main source of information.

#### **5.2.8 Availability of vaccines:**

The findings of this study show that all the Nurses (10) indicated that TT Vaccines are available at the health centre and further they all indicated that if stock of Vaccines reduces the centres report immediately to the District. Another important finding was that all the respondents indicated that the centres have working electrical Vaccine fridges which make it easier to keep Vaccines for longer use as cold chain is maintained. A possible explanation for this could be that there is good and consistent supply of TT Vaccines. Another possible explanation to this finding could be that the vaccines are not being administered to women of child bearing age due to different contributing factors such as laziness by women to go to health centres for immunization hence; TT Vaccine will always be in stock.

### **5.3 IMPLICATIONS TO THE HEALTH CARE SYSTEM**

The implications of this study fall under four (4) main headings which are related to the problem under study; its objectives and hypothesis.

#### **5.3.1 Practice**

It was noted in this study on table 4.9 that 100% of the nurses indicated that staff level is inadequate to participate in TT immunization services. This finding has implication on the nursing practice because there is a close link between staff level and participation in delivering TT service to women of childbearing age hence most of the women will be missed out.

Another implication on the nursing practice is that if staffing will be chronically inadequate to carry out all nursing services such; as sensitization of women on TT immunization services then women will have inadequate knowledge on TT immunization and that they may adhere to the myths and misconceptions in the community about TT immunization.

#### **5.3.2 Nursing Administration**

The Nurse administrators have a big influence on nursing practice in the health system of the country. Whatever change is made to the nursing practice should start with the administrators. When administrators have a positive attitude towards TT immunization services change will take place effectively. It is for this reason that Nurse Administrators should have adequate knowledge on TT immunization programme if the country is to achieve its target on TT. The study findings have revealed that there is a significant association between staff levels and low TT coverage. The study also highlighted that knowledge dissemination to childbearing women has been inadequate due to staff shortage who fail to deliver all TT immunization services to women. Therefore; the Nurse administrators through human resource Officers need to ensure that there is adequate and equal distribution of Nurses in all centres so that all the services on TT immunization can be provided to women of child bearing age which can contribute to the increase in TT immunization coverage. This will also mean that Nurse administrators should therefore; ensure that there is proper information distribution to the women in the community about TT immunization by first ensuring that all Nurses have true and adequate information about TT immunization services through organizing refresher courses for Nurses in TT immunization services.

#### **5.3.3 Education**

The study findings have shown that 40% of the Nurses had inadequate knowledge on the correct schedule for TT immunization. If Nurses have low knowledge on TT immunization services it may

affect their level of participation in TT immunization services and will not provide valid information to the women as they may fear to make mistakes. This finding has important implications to the nursing education for developing the curriculum for the trainee Nurses that should emphasize the importance of the woman receiving TT immunization under the component of safe motherhood. This is to equip trainee Nurses with proper information on TT immunization services so that by the time they are finishing their training they would have gotten used to the information.

#### **5.3.4 Research**

Further research is needed to explore socio-economic, cultural and service related factors contributing to low TT immunization coverage if the target of 80% for TT immunization coverage is to be reached in Luanshya district. Future studies need to be conducted to further explore this subject and this can help develop new strategies on how to improve TT immunization coverage in Luanshya district. The planners of health services should ensure that the aspect of research especially on the improvement of TT coverage has been allocated funds and researches are being conducted countrywide. Therefore; further researches are encouraged from the nurses and other health care providers to improve reproductive care through improvement of TT immunization in the centres, districts, provinces and countrywide at large.

#### **5.4 CONCLUSION**

The results of this study has shown that majority 31 (77%) of the women had high knowledge on TT immunization and out of these 31 women 20 (64.5%) had reached secondary education and 11 (35%) of them had reached primary education. It is also clear that none of the women who had never been to school had high knowledge on TT immunization. This shows that the level of education contributes to the level of knowledge that a women would have on TT immunization services.

The study has also shown that about 35% of women spent 31 minutes and over at the clinic before being attended to and this may discouraged them from going to the health centre for immunization in fear of spending most of their time at the health centre due to long waiting time before being attended to. The study has also shown that some women walk for long distance to reach the health centre hence, such women may choose to stay home looking

after their families rather than go for TT immunization where they have to walk for 2 hours or more to reach the points where the services are being offered.

It has also been noted in this study that majority (40%) of the respondents indicated that, there is a belief that TT immunization is a family planning and about 37.5% of the respondents indicated that some people in the community say that TT causes infertility. Therefore; this shows that there are some cultural beliefs/myths that exist in the community that may prevent women from asking for TT immunization services there by affecting TT immunization coverage in Luanshya district.

It has also been shown in this study that the behavior of some nurses is discouraging as indicated by 12 (30%) women of child bearing age. This has a negative bearing on TT immunization coverage as the number of women who will come to utilize the service will reduce.

Furthermore; the findings of this study revealed that TT coverage in Luanshya district is low. This was indicated by all the 10 (100%) nurses who said that TT coverage was 64.5% in Luanshya Health District. The Nurses 10 (100%) further indicated that staffing is not adequate to carry out TT immunization.

It is also noted in this study that health education is not always given to the women on TT immunization due to lack of qualified staff as indicated by more than half (60%) of the Nurses. The results of this study further have shown that 90% of the Nurses indicated that the Community Health Workers usually give health talks at outreach sessions before Nurses arrive at the site. This means that there is no monitoring of the community volunteers by the Nurses to ensure that proper and correct information about TT immunization is delivered to the women of child bearing age. This may also mean that there is inadequate information delivered among women of childbearing age on TT immunization which may contribute to knowledge deficit about TT immunization there by affecting the level of utilization of TT immunization service hence; contributing to the reduction of TT coverage.

Finally all the objectives of the study have been clearly met and the two (2) hypotheses, the null and the alternative have been proven. The review of this study provides clear evidence

of a relationship between social, economical, service related factors to low TT immunization coverage among women of childbearing age in Luanshya district.

Therefore; the study findings have suggested that a relationship exist between social, economical, service related factors to low TT immunization coverage among women of childbearing age in Luanshya district hence, the alternative hypothesis has been accepted.

The null hypothesis in this study states that there is no relationship between social, economical, service related factors to low TT immunization coverage among women of childbearing age in Luanshya district has been rejected. This is strongly supported by the fact that the p- value of 0.02 (is less than the normal p- value which is 0.05) was found in this study which indicates strong relationship among the variables hence; the null hypothesis has been rejected.

## **5.5 RECOMMENDATIONS**

In view of the study findings, the researcher has made the following recommendations;

### **5.4.1. To the Ministry of Health**

- a. The Ministry of Health should improve staffing levels in all the health centres by training more Nurses in the country.
- b. The Ministry of Health should find means and ways of retaining Nurses in the country to prevent on brain drain which is causing shortages in the health centres.
- c. The Ministry of Health in collaboration with the various NGOs promoting safe motherhood services should step up the training programmes on TT immunization services for health personnel (Nurses) that should be continuously updated.
- d. Planners and policy-makers should utilize mass medium and gear up the activities of health workers to convey the correct messages regarding tetanus toxoid immunization to its clients.

### **5.4.2. Luanshya DHMT**

- a. Luanshya DHMT needs to organize workshops on TT immunization services for the Nurses to update them with correct standard information.

- b. The Nursing services department needs to capitalize on holding sister in-charges meetings so that Nurses can continuously learn and adapt to the standard information on TT immunization.
- c. The district should find alternatives for paying lunch allowance to outreach Nurses so that outreach sessions can be conducted in the morning and afternoon instead of just in the morning. This will increase on the time that the nurses spend on outreach sessions there by capturing more women.
- d. The Nurses need to be supervising community volunteers when giving IEC to the women at the centres and outreach posts to ensure that they deliver proper, correct and standardized information. One of the alternatives that the district can use is to instruct all the centres to be budgeting for lunch allowances for outreach nurses using imprest money that each centre receives every month so that the nurses can take some food with them at the post. This will increase on the number of hours that the nurses would spend during outreach activities so that many women are attended to and captured.
- e. The district should intensify on school health services so that information is given to the school girls on TT immunization services and to ensure that all school girls who are within childbearing age are immunized with TT vaccine and record cards are issued to them.

#### **5.4.3. Further Research**

This study was done on a small scale and so the findings cannot be generalized to the whole country. There is need to assess the knowledge that healthcare workers have with respect to TT immunization on a much wider scale, which will also evaluate the efficacy of the training programmes.

#### **5.6 DISSEMINATION OF FINDINGS**

“Chitty, 2005 states that a research study is not useful unless results are communicated to others who may use them”.

Wide dissemination of research results ensure that important issues on TT immunization among women of child bearing age are understood and be useful to others. It is also important for others

to know what has happened to the research to be helpful in obtaining resources for further research.

The Department of Nursing Sciences at the University of Zambia (UNZA), the researcher's sponsors, Ministry of Health (MOH) and Luanshya DHMT, The University of Zambia School of Medicine Library will be availed with the research findings as they are all interested in finding in the factors to low TT immunization coverage.

Printed and bound copies of the entire work will be given to the department of Nursing Sciences at UNZA, the Medical Library of the School of Medicine at UNZA, researcher's sponsors the Ministry of Health, Luanshya DHMT where the research data was collected from and one copy will be kept by the researcher.

### **5.7 LIMITATIONS OF THE STUDY**

The small sample and the convenient sampling method used in this study limit the generalization of the findings to other settings.

Limited funding as well as the time available to collect data could not allow the researcher to conduct a large scale study.

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2007 IRS Geo-coding Assessment

**APPENDICES**

**APPENDIX I**

**INFORMED CONSENT**

Dear participant,

My name is Juness Kachimba; I am a student at the University of Zambia School Of Medicine in the Department of Nursing Sciences. I am pursuing a Bachelor of Science Degree in Nursing.

In partial fulfillment of degree program, I am required to undertake a research project. My study topic is “**Low Tetanus Toxoid Immunization coverage among women of child bearing age in Luanshya District**”.

You have been randomly selected to participate in this study and I wish to inform you that participation in this study is voluntary and you are free to withdraw at any stage of the study if you wish to do so. You will be asked some questions about Tetanus Toxoid immunization. The information you will give me will be kept confidential and no name will be written on the interview schedule.

You will not receive direct benefits from the study or monetary gain but the information that you will provide will help Luanshya District Health Office and other relevant authorities that have interest in improvement of Tetanus Toxoid immunization coverage in the district.

If you have any queries, please contact the Head of Department in the Department of Nursing Sciences on Telephone Number 252453 Lusaka.

I (name) .....here by called the participant declare that I understand the purpose of this study and I am willing to participate in the study.

Dated this .....day of October 2010

Signature/ thumb print of respondent.....

Signature of interviewer.....

**APPENDIX II**

**THE UNIVERSITY OF ZAMBIA**  
**SCHOOL OF MEDICINE**  
**DEPARTMENT OF NURSING SCIENCES**

**INTERVIEW SCHEDULE FOR WOMEN OF CHILD BEARING AGE (15-49 YEARS)**

**TOPIC: LOW TETANUS TOXOID IMMUNIZATION COVERAGE AMONG WOMEN OF CHILD BEARING AGE IN LUANSHYA DISTRICT**

Date of Interview: \_\_\_\_\_

Place of Interview: \_\_\_\_\_

Name of Interviewer: \_\_\_\_\_

Serial Number of Respondent: \_\_\_\_\_

## INSTRUCTIONS TO THE INTERVIEWER

1. Introduce yourself to the respondent
2. Explain the purpose of the interview
3. Tell the respondent how she was selected and obtain verbal consent to interview her
4. Assure respondent of confidentiality and anonymity
5. Do not write name of respondent on interview schedule
6. Tick in the box corresponding to the correct answer or write responses in spaces provided.

### SECTION A: DEMOGRAPHIC DATA

1. What is your age range?

- (a) <19 years
- (b) 20 – 24 years
- (c) 25 -29 years
- (d) 30 – 34 years
- (e) 35 and >35 years

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2. What is your marital status?

- (a) Single
- (b) Married
- (c) Divorced
- (d) Separated
- (e) Widowed

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3. What is your highest educational level

- (a) Primary
- (b) Secondary
- (c) Tertiary
- (d) Never been to school

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4. What is your occupation?

- (a) Self employed
- (b) Formal employment
- (c) Farmer
- (d) House-wife

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5. How many pregnancies have you had?

- (a) Non
- (b) 1-3
- (c) 4-6
- (d) 7 and above

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6. Number of children

- (a) 1-3
- (b) 4-6
- (c) 7 and above
- (d) None

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7. How many TT injections have you had?

- (a) 1
- (b) 2
- (c) 3-5
- (d) None

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**SECTION B: KNOWLEDGE ON TT IMMUNIZATION**

8. What is TT Vaccine?

- a) A vaccine given to women of child bearing age
- b) Family planning given to women of child bearing age

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9. Who is supposed to receive TT immunization in order to protect the unborn child

- a) All men and women
- b) All women of child bearing age including school girls 15 years and above
- c) Only children

10. When is the woman supposed to receive 2<sup>nd</sup> dose of TT after receiving 1<sup>st</sup> dose?

- a) After one week
- b) After 4 weeks
- c) After 6 months
- d) After one year

11. Do you understand why it is important for a child bearing woman to Receive TT immunization?

- (a) Yes
- (b) No

12. How many TT injections is the woman supposed to receive to be fully protected in life?

- a) One injection
- b) Two injections
- c) Four injections
- d) Five injections

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(d)

13. What disease are you being immunized against if you receive TT vaccine?

- (a) Tetanus
- (b) Measles
- (c) Malaria
- (d) TB

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(a)

**SECTION C: DISTANCE**

14. How long does it take you to reach the nearest health facility when walking?

- (a) Less than 30 minutes
- (b) 30minutes- 1 hour
- (c) More than 1hour

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15. What is your mode of transport to the nearest Health Centre?

- a) Walking,
- b) Bicycle
- c) Ox- Cart
- d) Vehicle

16. How much do you pay for transport to the nearest health centre?

- (a) Nil
- (b) Less than K10,000
- (c) More than K10,000

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17. Is the road from your home to the nearest health centre passable throughout the year?

- (a) Yes
- (b) No

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**SECTION D: BELIEFS**

18. According to your belief, what causes women of child bearing age to Shan TT immunization?

- (a) They fear to become infertile
- (b) They believe that it is F/P
- (c) Do not know

19. Does your culture encourage TT immunization among women of child bearing age?

- (a) Yes
- (b) No

20. Do you think TT immunization should be encouraged?

- (a) Yes
- (b) No

**SECTION E: STAFF ATTITUDE**

21. Did the staff you found at the time of seeking health service greet you?

- (a) Yes
- (b) No

22. When you came to the health centre for the service how long did you have to wait before you were attended to?

- (a) Within 10 minutes
- (b) Between 10 – 30 minutes
- (c) Longer than 30 minutes

23. How is Staff reception at the health facility

- a) Poor
- b) Fair
- c) Good

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

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- (a) Encouraging
- (b) Discouraging
- (c) Some are discouraging

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25. What would you suggest would be the best way to improve TT immunization coverage?

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**END OF INTERVIEW**

**THANK YOU FOR YOUR CO-OPERATION**

**APPENDIX III SELF ADMINISTERED QUESTIONNAIRE FOR NURSES  
TOPIC: LOW TETANUS TOXOID IMMUNIZATION COVERAGE AMONG WOMEN OF  
CHILD BEARING AGE IN LUANSHYA DISTRICT**

Number of Interviewee.....

Date of Interview.....

Place of Interview.....

**INSTRUCTIONS FOR THE INTERVIEWEE**

1. Do not write your name on the questionnaire
2. Answer all the questions in the order they are arranged
3. For questions provided with alternatives, tick your answers in the box provided.
4. For answers without alternatives, write down the responses on the spaces provided.
5. You are assured that all information will be treated as confidential and used for the purpose it is intended for.

**Tick in the box beside the most appropriate attribute**

**SECTION A: DEMOGRAPHIC**

1. How old are you?

a) 18 – 24 years

b) 25 – 34 years

c) 35 – 44 years

d) 45 years and over

2. What is your Religion?

a) Christian

b) Moslem

- c) Hindu
- d) Other (specify) \_\_\_\_\_

**3. Your professional qualification**

- a) Enrolled nurse
- b) Enrolled midwife
- c) Registered nurse
- d) Registered midwife
- e) Registered theatre nurse

**4. How long have you been in service?**

- a) Less than 2 years
- b) 2-5 years
- c) 6-10 years
- d) 11-20 years
- e) Over 20 years

**5. In which department are you currently working?**

- a) Medicine
- b) Surgery
- c) Obstetrics and gynaecology
- d) Out patients
- e) District health centre

**SECTION B: STAFFING**

**6. How is staffing level at your health centre?**

- a) 1-3 nurses
- b) 4-6 nurses
- c) 7 and above

7. How many staff participates in TT immunization?

a) 2 or less

b) 3 health workers

c) 4 health workers

10. In your opinion is the number of health workers provided adequate to carry out TT immunization activities?

a) Yes

b) No

11. If the answer to question 10 is No how many do you suggest should be?

a) 3

b) 4-5

c) 6 and above

12. Do you always give health education on TT to mothers before and after vaccination?

a) Yes

b) No

13. If the answer is No to question 12 what is the reason for not giving health education?

a) Do not have enough time to do that

b) Understaffed hence we fall to carry out certain activities like health talks

c) Do not see it necessary

### SECTION C: IMMUNIZATION COVERAGE

14. How is your percentage of TT immunization?

a) High

b) Low

15. If TT immunization coverage for your centre is low what could be the contributing factors.

- a) Community is not properly sensitized due to lack of enough staff to carry out the duties
- b) Women are lazy to come to the health centre for the injection usually they come when they fall pregnant.
- c) Sometime we fail to go for outreach due to lack of transport
- d) The time for outreach sessions is not enough

**SECTION D: COMMUNITY SENSITIZATION**

16. Do you go for outreach activities?

- a) Yes
- b) No

17. How often do you go for outreach activities?

- a) Weekly
- b) Monthly
- c) Quarterly

18. Do you have an outreach activity plan in place?

- a) Yes
- b) No

19. How many health workers participate in an outreach session?

- a) 1
- b) 2
- c) 3 and above

20. How do you carry out outreach activities

- a) We always start with health talks and then proceed with other activities.
- b) We usually find community health workers have given health talks therefore we just go straight into other activities.

21. For how long is an outreach session carried out.

- a) Morning sessions only
- b) Morning and afternoon

22. Are you given lunch allowance when you go for an outreach session

- a) Yes
- b) No

23. If the answer to question 21 is No what are the reasons.

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**SECTION D: AVAILABILITY OF VACCINE**

24. Do you have enough vaccines?

- a) Yes
- b) No

25. Give reasons for your answer in 23 if your answer is No.

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26. If stocks of vaccines are low, when do you report?

- a) Immediately.
- b) Only when there is completely out of stock.
- c) Do not report at all.

27. How often do you order TT Vaccine?

- a) Weekly
- b) Monthly
- c) Quarterly

28. How do TT Vaccines reach your health centre after you have ordered?

- a) The Health Centre in-charge collects from the District

- b) Any nurse from the centre who passes through the District can collect the Vaccines
- c) The District distributes

29. Do you have functioning fridge for storage?

- a) Yes
- b) No

30. If yes to question 25 what kind of fridge do you have?

- a) Electrical
- b) Gas
- c) Paraffin

**SECTION E: NURSES KNOWLEDGE ON TT IMMUNIZATION**

31. What type of Vaccine is TT?

- a) TT is an inactivated vaccine
- b) TT is an activated vaccine

32. Are immunization protocols on TT available in your department?

- a) Yes.
- b) No.
- c) Don't know.

33. What schedule are you following for TT?

- a) 3 doses
- b) 4 doses
- c) 5 dose
- d) 6 doses

34. What kind of literature do you read?

- a) Newspapers
- b) Journals
- c) Textbooks

- d) Magazines
- e) None

35. Is there literature on in your department on TT?

- a) Yes.
- b) No.
- c) Don't know.

36. When last did you read literature on TT immunization?

- a) This week.
- b) A month ago.
- c) In the last six months.
- d) Cannot remember.

32. Do you hold clinical meetings or nursing conferences at your institution?

- a) Yes.
- b) No.

**Thank You Very Much For Taking Time To Answer The Questionnaire**

## APPENDIX IV

The University of Zambia  
School of medicine  
Department of nursing Sciences  
P. O. Box 50110  
Lusaka

The District Director of Health,  
Luanshya DHMT,  
Box 90170  
**Luanshya.**

**UFS:** The Head of Department  
Department of Nursing Sciences  
School of Medicine  
P.O. Box 50110  
**Lusaka**

Dear Sir / Madam,

**RE: PERMISSION TO CONDUCT A RESEARCH STUDY: “LOW TETANUS TOXOID IMMUNIZATION COVERAGE AMONG WOMEN OF CHILD BEARING AGE IN LUANSHYA DISTRICT”.**

I am a fourth year student pursuing a Bachelor of Science Degree in Nursing requesting for permission to carry out a Research study stated above which will include a pilot study. The purpose of this study is to determine the factors contributing to low TT immunization coverage among women of child bearing age. It is hoped that the results of this study will help the District Health Office and other relevant authorities in improving Tetanus Toxoid immunization coverage in Luanshya district.

I will be very grateful if my request will be considered.  
Yours faithfully  
Kachimba Juness

**4<sup>th</sup> year BSc Student**

Juness Kachimba  
The University of Zambia  
School of Medicine  
P. O. Box 50110  
Lusaka  
Date 8/10/2010

The District Director of Health,  
Luanshya DHMT,  
Box 90170

Luanshya.

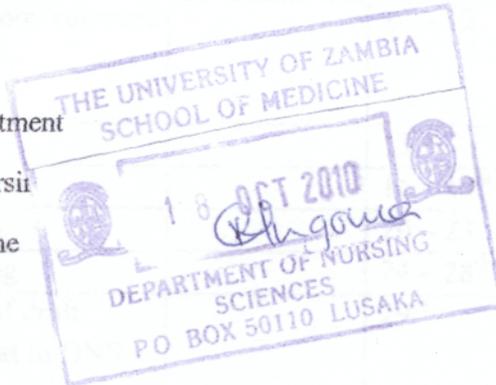
Ufs: The Head of Department

Department of Nursing

School of Medicine

P.O. Box 50110

Lusaka



Dear Sir / Madam,

**RE: PERMISSION TO CONDUCT A PILOT STUDY AND MAIN STUDY LOW TETANUS TOXOID IMMUNIZATION COVERAGE AMONG WOMEN OF CHILD BEARING AGE IN LUANSHYA DISTRICT**

I am a fourth year student pursuing a Bachelor of Science Degree in Nursing requesting for permission to carry out a research study stated above which will include a pilot study. The purpose of this study is to determine the factors contributing to low Tetanus Toxoid immunization coverage among women of child bearing age in Luanshya district.

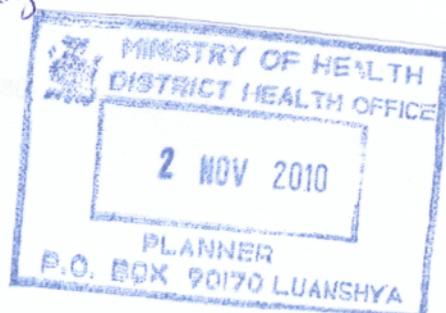
It is hoped that the results of this study will help the District Health Office and other relevant authorities in improving Tetanus Toxoid immunization coverage in Luanshya district.

I will be very grateful if my request will be considered.

Yours faithfully

Kachimba Juness  
4<sup>th</sup> year BSc Student

Approved C. Langisi.



**APPENDIX V: RESEARCH WORK SCHEDULE**

| <b>S/N</b> | <b>TASK TO BE PERFORMED</b>                | <b>DATES</b> | <b>WEEKS</b>          | <b>PERSONNEL</b>                           | <b>DAYS REQUIRED</b> |
|------------|--------------------------------------------|--------------|-----------------------|--------------------------------------------|----------------------|
| 1          | Literature review                          | Continuous   |                       | Researcher                                 |                      |
| 2          | Finalize research proposal                 |              | 1 - 9 <sup>th</sup>   | Researcher                                 | 64 days              |
| 3          | Clearance from relevant authorities        |              | 10 – 12               | Researcher, DNS, Supervisor, Luanshya DHMT | 20 days              |
| 4          | Pilot study                                |              | 13 <sup>th</sup>      | Researcher                                 | 5 days               |
| 5          | Data collection                            |              | 16 – 19 <sup>th</sup> | Researcher                                 | 22 days              |
| 6          | Data analysis                              |              | 20 – 23               | Researcher                                 | 24 days              |
| 7          | Report writing                             |              | 24 – 28 <sup>th</sup> | Researcher                                 | 40 days              |
| 8          | Submission of draft research report to DNS |              | 29 <sup>th</sup>      | Researcher                                 | 6 days               |
| 9          | Finalizing research report and binding     |              | 30 -34 <sup>th</sup>  | Researcher                                 | 32 days              |
| 10         | Dissemination of findings                  |              | 35 <sup>th</sup>      | Researcher                                 | 7 days               |
| 11         | Monitoring and evaluation                  | Continuous   |                       | Researcher                                 |                      |

## APPENDIX VI: BUDGET

| Budget category                | Unit price (K) | Quantity  | Total (K)         |
|--------------------------------|----------------|-----------|-------------------|
| <b>A. STATIONERY</b>           |                |           |                   |
| Ream of paper                  | 30 000.00      | 4 reams   | 120 000.00        |
| Note book                      | 10 000.00      | 1         | 10 000.00         |
| Scientific calculator          | 70 000.00      | 1         | 70 000.00         |
| Pencils                        | 6 000.00       | 1 packet  | 6 000.00          |
| Pens                           | 12 000.00      | 1 packet  | 12 000.00         |
| Tip-Ex corrective fluid        | 30 000.00      | 1         | 30 000.00         |
| Stapler                        | 25 000.00      | 1         | 25 000.00         |
| Staples                        | 15 000.00      | 1 packet  | 15 000.00         |
| Flash disk (USB)               | 180,000.00     | 1         | 180,000.00        |
| Markers                        | 5000.00        | 4         | 35 000.00         |
| Calculator                     | 80 000         | 1         | 80 000.00         |
| Perforator                     | 40,000.00      | 1         | 40,000.00         |
| Eraser                         | 16 000.00      | 1 packet  | 16 000.00         |
| Flip chart                     | 50 000.00      | 1         | 50 000.00         |
| Ruler                          | 5 000.00       | 1         | 5 000.00          |
| Cello-tape                     | 8 000.00       | 1         | 8 000.00          |
| Folder                         | 20 000.00      | 1         | 20 000.00         |
| <b>Subtotal</b>                |                |           | <b>723 000.00</b> |
| <b>B. Secretarial Services</b> |                |           |                   |
| Typing research proposal       | 3,000.00       | 110 pages | 330,000.00        |
| Typing research questionnaire  | 3,000.00       | 10 pages  | 30,000.00         |

|                               |            |           |                       |
|-------------------------------|------------|-----------|-----------------------|
| Typing draft report           | 3,000.00   | 120 pages | 360,000.00            |
| Typing final report           | 3,000.00   | 120 pages | 360,000.00            |
| Binding final report          | 50,000.00  | 5 copies  | 250,000.00            |
| <b>Subtotal</b>               |            |           | <b>1,330,000.00</b>   |
| <b>C. PERSONNEL</b>           |            |           |                       |
| Transport to & from Luanshya  | 150 000.00 | 2         | 300 000.00            |
| Tape Recorder                 | 50000      | 1         | 50000                 |
| Blank tape                    | 5000       | 1         | 5000                  |
| Principal researcher          | 100 000.00 | 22 days   | 2,200,000.00          |
| Research bag                  | 50,000.00  | 1         | 50 000.00             |
| <b>Subtotal</b>               |            |           | <b>405,000.00</b>     |
| <b>Dissemination Workshop</b> |            |           | <b>1,000,000.00</b>   |
| <b>Sub grand total</b>        |            |           | <b>5,603,000.00</b>   |
| <b>10% contingency</b>        |            |           | <b>560,300.00</b>     |
| <b>Grand Total</b>            |            |           | <b>6, 218, 300.00</b> |

## **BUDGET JUSTIFICATION**

In order to conduct this study effectively and professionally, funds for operational, administrative and secretarial services will be required as outlined above.

## **STATIONERY**

Stationery will be required for typing the research proposal, writing the final research report as well as typing and printing the report. Interview schedules will be produced using the same stationery. The notebooks will be needed for record keeping during data collection and analysis. The scientific calculator will be required for data analysis. Tip-Ex corrective fluid will be used to erase errors

written in pen and rubber will be used to erase error written in pencil. Files will be used for storing research questionnaires. A research bag will be required for carrying questionnaires during data collection process.

### **SECRETARIAL SERVICES**

Funds for typing work will be required to pay a hired secretary. Photocopies will be made at times in order to reduce costs on printing the questionnaires. Money will be required for binding the research proposal and report at the end.

### **PERSONNEL**

The investigator will need money for lunch and snacks in the field

### **CONTINGENCY**

Contingency fund will be required in case of any unforeseen circumstance like inflation and unstable currency. The contingency fund is put 10% of the total budget.

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**APPENDIX VII**

**THE GANTT CHART SHOWING VARIOUS TASKS TO BE UNDERTAKEN AND THE TIME REQUIRED FOR EACH TASK TO BE PERFORMED FROM JUNE, 2010 TO APRIL 2011.**

**GANTT CHART**

| TASK PERFORMED                             | RESPONSIBLE PERSON | JUN    | JUL | AUG | SEPT | OCT | NOV    | DEC | JAN    | FEB | MAR | APR |
|--------------------------------------------|--------------------|--------|-----|-----|------|-----|--------|-----|--------|-----|-----|-----|
| Literature review                          | Researcher         | ←————→ |     |     |      |     |        |     |        |     |     |     |
| Finalizing research proposal               | Researcher         |        |     |     |      |     |        |     |        |     |     |     |
| Clearance from Authority                   | Researcher         |        |     |     | →    |     |        |     |        |     |     |     |
| Pilot study                                | Researcher         |        |     |     |      | →   |        |     |        |     |     |     |
| Data collection(actual study)              | Researcher         |        |     |     |      | →   |        |     |        |     |     |     |
| Data analysis                              | Researcher         |        |     |     |      |     | ←————→ |     |        |     |     |     |
| Report writing                             | Researcher         |        |     |     |      |     |        |     | ←————→ |     |     |     |
| Submission of draft research report to DNS | Researcher         |        |     |     |      |     |        |     |        | →   |     |     |
| Finalizing of report                       | Researcher         |        |     |     |      |     |        |     |        |     | →   |     |
| Dissemination of results                   | Researcher         |        |     |     |      |     |        |     |        |     |     | →   |
| Monitoring and Evaluation                  | Researcher         | ←————→ |     |     |      |     |        |     |        |     |     |     |