

UTILIZATION OF SKILLED ATTENDANTS BY POSTNATAL  
MOTHERS IN CHIPATA DISTRICT, EASTERN PROVINCE, ZAMBIA.

BY

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BSc.N, RM/RN

A Dissertation submitted in partial fulfillment of the requirements  
for the Degree of Master of Science in Nursing, Maternal and Child  
Health.

The University of Zambia

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I, **Doctor Catherine Ngoma**, having supervised and read this Dissertation is satisfied that this is the original work of the author under whose name it is being presented. I confirm that the work has been completed satisfactorily and approve it for final submission.

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### **Examiner III**

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## **DEDICATION**

*To my beloved husband Michael Mabvuto Banda, your understanding, unconditional love, encouragement, patience and perseverance have greatly contributed to my success.*

*To my four children: James Temwani Banda, George Simwaba, Mphatso Banda and last born daughter Mpheza Michelle Banda, you endured so many days and months without mum, your loneliness and love helped me to work harder.*

*To mum and dad: Mrs Agatha Simwaba and Mr Bodwin Simwaba, I appreciate your everlasting love and support.*

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## ABSTRACT

**Background-** Post-natal care assisted by a skilled attendant ensures the survival and health of the mother and her new-born. Despite the improvement in hospital deliveries, most postnatal mothers do not attend postnatal care for the recommended number of visits. A skilled attendant is an accredited health professional such as a midwife, doctor or nurse trained to proficiency in the skills needed to manage normal pregnancy, childbirth and the immediate postnatal period. Underutilization of skilled attendants after birth is still a major source of concern in the Sub Saharan African Countries Zambia inclusive. Evidence shows that the highest incidence of maternal and perinatal mortality occurs within the postnatal period.

**Aim-** The main objective of the study was to determine the factors that influence utilization of skilled attendants by postnatal mothers in Chipata District.

**Methodology-** A cross sectional study design using quantitative approach was done in Chipata District. The sample size for this study was 176 postnatal mothers who were systematically selected from twelve (12) selected research setting. A pretested semi-structured interview schedule was used to collect data. Data was analysed using Statistical Package for Social Sciences (SPSS) version 22 program and chi-square test was used to test significant associations. Binary logistic regression modeling was employed to predict the outcome.

**Results-** The study findings revealed that 125 (71%) did not utilize the skilled attendants. A significant association was observed between utilization of skilled attendants by postnatal mothers and knowledge levels on postnatal care ( $p=0.005$ ). Binary logistical regression showed that all independent variables did not contribute significantly to the model ( $p \text{ value} > 0.05$ ). The odds of utilizing skilled attendants for those with moderate knowledge levels were 2.083 times [OR, (95% CI) 2.083= (0.987, 4.399)] higher than those with low knowledge levels. The odds of utilizing skilled attendants for those with education levels of secondary and above were 1.4 times [OR, (95% CI) = 1.403 (0.579, 3.399)] higher than for those below secondary education.

**Conclusion** -The results suggest that underutilization of skilled attendants remain a major challenge in Chipata District. The study also revealed that postnatal mothers had moderate levels of knowledge on importance of postnatal care. Service related factors and cultural beliefs did not influence utilization of skilled attendants in this study. Only knowledge was significantly associated with utilization of skilled attendants. There is need to advocate for skilled attendance and increased awareness to postnatal mothers on the value of postnatal checkups and care. There is also need to research further on whether skilled attendants have adequate knowledge and skill in managing postnatal mothers.

**Key words:** *Utilization, Skilled attendant, Postnatl care*



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## LIST OF ABBREVIATIONS

CI	Confidence Interval
CDC	Centres for Disease Control and prevention
CSO	Central Statistics Office
DHO	District Health Office
DCMO	District Community Medical Office
DHMT	District Community Health Office
ERES	Excellence in Research Ethics and Science
FIGO	International Federation of Gynaecology and Obstetrics
HMIS	Health Management Information Systems
ICD	International Statistical Classification of Diseases and Related Health Problems
ICM	International Confederation of Midwives
IEC	Information, Education and Communication
MCH	Maternal and Child Health
MDG	Millennium Development Goal
MDR	Maternal Death Review
MMR	Maternal Mortality Rate
MoH	Ministry of Health
NDHS	Nepal Demographic and Health Survey
OPD	Out-Patients Department
OR	Odds Ratio
PHO	Provincial Health Office
PNC	Postnatal Care
SD	Standard Deviation
SIDA	Swedish International Development Cooperation Agency
SPSS	Statistical Package for Social Sciences
TBA	Traditional Birth Attendant
UNICEF	United Nations Children's Fund



UNFPA	United Nations Population Fund
UNZA	University of Zambia
WHO	World Health Organization
ZDHS	Zambia Demographic and Health Survey

## **CHAPTER ONE**

### **1.0 INTRODUCTION**

This study describes the utilization of skilled attendants by postnatal mothers in Chipata District, Eastern Province of Zambia. A postnatal period is the time after birth, a time in which the mother's body, including hormone levels and uterus size, returns to a non-pregnant state (WHO, 2013). Postnatal care affords the mother and the new-born baby an opportunity to be examined for any complications, receive vitamin A and information on danger signs in postnatal period (MoH, 2008). The health provider performing the postnatal check-up during a mother's first postnatal visit is important because the skills of a provider determine the ability to diagnose problems and to recommend appropriate treatment or referral (Wang et al., 2011). The highest incidence of maternal and perinatal mortality occurs during the postnatal period.

### **1.1 BACKGROUND INFORMATION**

Post-natal care assisted by a skilled attendant is important to help ensure the survival and health of the mother and her new-borns (World Health Organization (WHO), 2014). A skilled attendant is an accredited health professional such as a midwife, doctor or nurse who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and new-borns (WHO, 2004). A postpartum period (or postnatal period) is the period beginning immediately after the birth of a child and extending for about six weeks (WHO, 2013). The postnatal period is the most critical and yet the most neglected phase in the lives of mothers and babies; most deaths occur during the postnatal period (WHO, 2013). Zambia's safe motherhood guidelines recommend at least four postnatal check-ups to postnatal mothers (MoH, 2011).

Evidence suggests that skilled attendance at birth and access to emergency obstetric care are key factors in reducing the risk of maternal death, in both industrialized and developing countries (Wang et al., 2011). In 2013, approximately 289 000 women died while pregnant or giving birth and 3.1 million new-borns die in the neonatal period worldwide (WHO, 2014). More than 99% of the 289 000 women who died are in developing countries.

WHO; the International Confederation of Midwives (ICM) and the International Federation of Gynaecology and Obstetrics (FIGO) advocates for skilled care for all women during pregnancy, childbirth and the immediate postnatal period (WHO, 2015).

The scaling up of skilled attendance and emergency obstetric care is fundamental to reaching Millennium Development Goal (MDG) number 5 for maternal health though challenges still remain which relate to the shortage of health workforce, education and practice. According to Marshall and Raynor (2014), current evidence is that postnatal care is often undervalued and under resourced even though it is an important and challenging time for a mother who has recently given birth. Lack of appropriate care during this period could result in significant ill health and even death. Rates of provision of skilled care are lower after childbirth when compared to rates before and during childbirth.

The highest incidence of maternal and perinatal mortality occurs around the postnatal period with the majority of deaths occurring within the first 24 hours after birth (WHO, 2006). Post-natal care for the mother and child reduces the risk of complications and supports mothers and fathers or other caregivers to help their new baby get a healthy start in life (UNICEF, 2009). The mother and child should be checked regularly during the first 24 hours after childbirth, in the first week, and again six weeks after birth. More frequent check-ups are necessary, if complications are detected.

In Zambia, the maternal mortality rate still remains high at 398/100,000 per total live births (CSO, 2015). Performance against this indicator has not achieved much despite many strategies that have been introduced such as; focused antenatal care, emergency obstetrical care, Postal Abortal Care package and strengthened referral system. Literature by WHO (2014) has revealed that most deaths occur within the first 24 hours after birth and unfortunately most mothers do not receive any postnatal care during this critical period.

CSO (2015) shows that 63 percent of women received postnatal care within the critical first two days following delivery. Forty-eight percent of women received postnatal care within four hours of delivery, 14 percent received care within 4-23 hours, and 2 percent were seen 1 to 2 days following delivery. This low turn up of mothers for postnatal check-ups could be the reason for continued high numbers of maternal deaths which is 398/100,000 (CSO, 2015).

Chipata district has 36 health facilities, 12 health posts, 1 first level referral centre at Mwami and 1 second level General Hospital (Chipata District Health Management Action Plan, 2015-2017). The population of the district was 486,531(2013), out of these 107,037 (22%) are females in child bearing age (15-45 years) based on CSO, (2011-2035) projections with growth rate of 2%.

The researcher in this study determined the utilization of skilled attendant's by postnatal mothers in Chipata District.

## **1.2 STATEMENT OF THE PROBLEM**

Underutilization of skilled attendants after birth is still a major source of concern in the Sub-Saharan African Countries Zambia inclusive (UNICEF, 2014). The underutilization of skilled attendants after birth could be an underlying cause to the high Maternal and Neonatal deaths.

Despite the increase in the number of hospital deliveries, postnatal attendance is still very low when compared to the minimum acceptance standard of 90% (MoH, 2013). MoH have launched the safe motherhood initiative and the Millennium Development Goals to help reduce Maternal and Neonatal Mortality, still there have been few improvements in MDGs 4 and 5 in Zambia. Chipata District Health Management team has trained community volunteers and Safe Motherhood Action Groups (SMAGs) to help identify mothers with danger signs, escort women to labour ward and teach on importance of postnatal care. Despite the above efforts by MoH and Chipata District Health Management team, postnatal attendance still remains below the minimum acceptable standard.

According to Central Statistics Office (CSO), Maternal and Neonatal Mortality Rates are very high (398 per 100,000 live births) and Neonatal Mortality Rate stands at (24 per 1,000 live births) in Zambia. Therefore promoting use of skilled attendants after birth is essential in promoting Maternal and Neonatal Health. Most of the maternal deaths occur in the first 24-48 hours after delivery (MDR reviews, Eastern province, 2015). Skilled care after delivery and early identification of problems could reduce maternal morbidity and mortality rates (Fraser and Cooper, 2009).

**Table 1: Number of Deliveries and Postnatal Attendance in the District from 2013-2015**

<b>Year</b>	<b>No. of Deliveries</b>	<b>No. of postnatal attendance</b>	<b>Percentage</b>
2013	16, 174	10, 787	67%
2014	17, 558	13, 206	75%
2015	18, 589	13, 771	74%

**Source: Chipata District Community Medical Office (DCMO) Records, February, 2015**

The statistics in Table 1 indicate low postnatal coverage which ranged from 67% to 75%. Besides, there is limited research available on utilization of skilled attendants after birth. In view of the above, this research has been designed to investigate factors contributing to low utilization of skilled attendants by postnatal mothers in Chipata district.

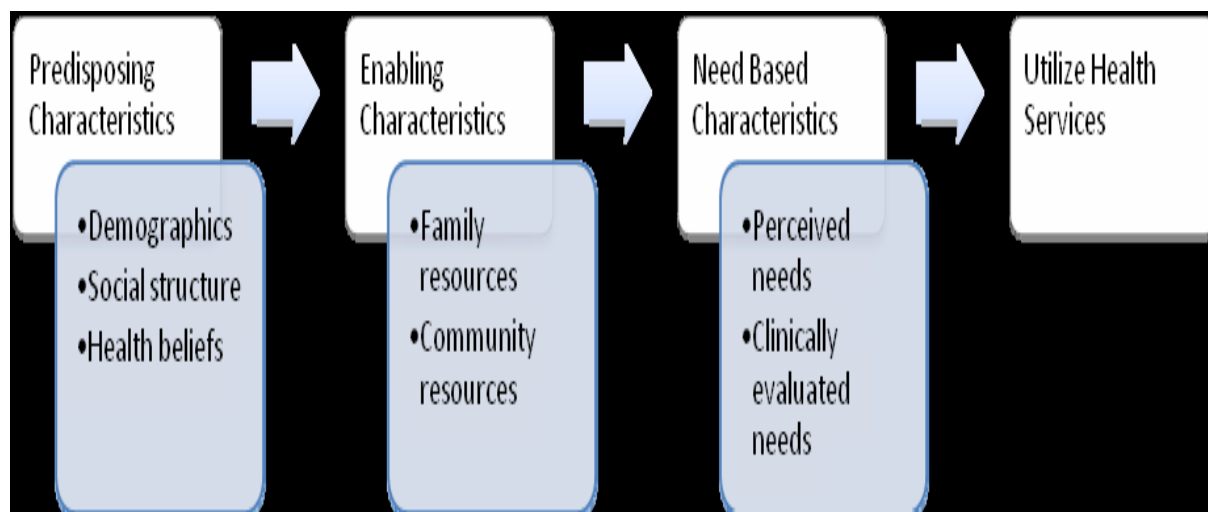
### **1.3 THEORETICAL/CONCEPTUAL FRAMEWORK**

A conceptual framework is a set of interrelated concepts or abstracts that are assembled together in some rational scheme by virtue of their relevance to a common theme; sometimes referred to as a conceptual scheme (Polit and Beck, 2010). In this study, the Andersen's Behavioural Model of Health Services Utilization was applied.

#### **1.3.1 Andersen's Behavioural Model of Health Services Utilization**

Andersen (1968 cited in Rebhan, 2008) developed a model of health care utilization which focuses at three categories of determinants: 1) predisposing characteristics. This category represents the proclivity to utilize health care services. According to Andersen, an individual is more or less likely to use health services based on demographics, position within the social structure, and beliefs of health services benefits. An individual who believes health services are useful for treatment will likely utilize those services; 2) enabling characteristics. This category includes resources found within the family and the community. Family resources comprise economic status and the location of residence. Community resources incorporate access to health care facilities and the availability of persons for assistance; 3) need based characteristics. The third category includes the perception of need for health services, whether individual, social, or clinically evaluated perceptions of need.

The Andersen's Behavioural Model of health Services Utilisation has been described further in (figure 1).



**Figure 1: Andersen's Behavioral Model of Health Services Utilization (adapted from Wolinsky, 1988b) cited in Rehbab, 2008**

Andersen's model does not specify which variables must be used to operationalise the need, predisposing and enabling factors (Andersen & Newman, 1973 cited in Rehbab, 2008). Instead, the decision of how to operationalise them should derive from the theoretical relationship between the independent and dependent variables. As such, the choice of variables, within the framework of need, predisposing and enabling factors, is up to each researcher.

In this study, the predisposing characteristics will include; age, parity, cultural health beliefs, knowledge levels and educational level of the postnatal mothers. The enabling characteristics will include the; availability of skilled attendants, attitude of skilled attendants, community resources, social economic factors and distance to health facility.

The need based characteristics will include the mothers perceived need of the postnatal care to be provided by skilled attendant and clinically evaluated needs. The three categories of determinants developed by Andersen (1968 cited in Rehbab, 2008); predisposing characteristics, enabling characteristics and need based characteristics will determine the outcome variable which is utilization of skilled attendants by postnatal mothers in Chipata district, Eastern Province, Zambia.

#### **1.4 JUSTIFICATION AND SIGNIFICANCE OF THE STUDY**

Zambia is experiencing high maternal mortality rate (398/100,000 live births). According to WHO (2005) report, the major causes of maternal death include; postpartum haemorrhage (25%), infection (15%) and eclampsia (12%). Under-utilization of skilled attendants by postnatal mothers could be a contributory factor.

Marshall and Raynor (2014) indicate that postnatal care is often undervalued and under resourced especially in developing countries even though it is an important and challenging time for a mother who has recently given birth. It is for this reason that the researcher wanted to determine utilization of skilled attendants by postnatal mothers in Chipata district, Eastern Province, Zambia. The findings will be used to inform policy makers to design strategies that would encourage utilization of skilled attendants; as this will help to reduce maternal mortality which is higher in the postnatal period especially the first 24 hours after delivery. The findings will also be utilized by other stakeholders such as nurses and midwives and non-governmental organisations providing maternal and child health services in Zambia to improve service delivery.

#### **1.5 RESEARCH QUESTION**

The research question that guided the study was:

What are the factors that influence utilization of skilled attendants by postnatal mothers in Chipata District?

#### **1.6 GENERAL OBJECTIVE**

The general objective was:

To determine factors that influences the utilization of skilled attendants by postnatal mothers in Chipata district.

## 1.7 SPECIFIC OBJECTIVES

The specific objectives were:

1.7.1 To assess the level of utilization of skilled attendants by postnatal mothers

1.7.2 To determine the level of knowledge for postnatal mothers on postnatal care

1.7.3 To establish whether service related factors influence utilization of skilled attendants by postnatal mothers

1.7.4 To determine if social cultural factors influence utilization of skilled attendants by postnatal mothers.

1.7.5 To establish associations between utilization of skilled attendant by postnatal mothers and other factors such as knowledge levels, service related and socio cultural factors.

1.8 **NULL HYPOTHESIS:** The null hypothesis for this study was:

There is no association between utilization of skilled attendants by postnatal mothers and the following:

1.8.1 Age of the mother

1.8.2 Parity

1.8.3 Knowledge of importance of postnatal care

1.8.4 Attitude of the skilled attendant

1.8.5 Educational level of the mother

1.8.6 Income

1.8.7 Cultural beliefs

1.8.8 Distance to the health centre

## 1.9 CONCEPTUAL DEFINITION

The conceptual definitions were:

1.9.1 **Utilization-** the critical examination (as by a physician or nurse) of health-care services provided to patients especially for the purpose of controlling costs (as by identifying unnecessary medical procedures) and monitoring the quality of care (Merriam-Webster Medical Dictionary, 2014).



1.9.2 **Postnatal mother**- refers to the mother after giving birth (Sellers, 2013)

1.9.3 **Postnatal**- After child birth (Sellers, 2013)

1.9.4 **Skilled attendant**- is a midwife, physician, obstetrician, nurse, or other health care professional who provides basic and emergency health care services to women and their newborns during pregnancy, childbirth and the postpartum period (WHO, 2004)

1.9.5 **Maternal Mortality**-The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes (WHO, 2012).

## 1.10 OPERATIONAL DEFINITIONS

The operational definitions were as indicated below:

1.10.1 **Utilization**- Utilization was measured by asking the respondents five (5) item questions. The total score for utilization was nine (9) marks. The postnatal mothers who visited more than three times scored a maximum of four (4) marks. The postnatal mother who was attended by a skilled attendant and examined adequately utilized the postnatal service.

1.10.2 **Skilled Attendant**- Skilled attendant refers to nurses, midwives and medical doctors.

1.10.3 **Knowledge**- Knowledge was measured by asking the respondents 8 item questions. The total score for knowledge level was 12 marks. The definition attracted 3 marks while 'Yes response' attracted 1 mark and 'No' response attracted '0' mark. Multiple response questions had maximum 2 marks. Responses on knowledge questions were assigned scores to determine the level of knowledge.

1.10.4 **Service Related Factors**- Service related factors refer to attitude of skilled attendants to postnatal mothers, scores were assigned to responses and 'Always' response attracted a maximum score of 3 and total score for attitude was 22 . The distance to the health centre was measured by living within 5 km and living more than 5 km from the health centre.

1.10.5 **Social Cultural Factors-** Socio-cultural factors refers to any cultural practices observed after delivery by a postnatal mother

1.10.5 **Postnatal-** after birth, first 42 days after delivery

1.10.6 **Maternal Mortality-** The number of women who die due to pregnancy and child birth complications in a given year.

## **1.11 VARIABLES**

The dependent and independent variables for this study included:

### **1.11.1 Dependent Variable**

In this study the dependent variable was:

**-Utilization of skilled attendants**

### **1.11.2 Independent Variable**

The independent variables in this study were:

1.11.2.1 Age of the mother

1.11.2.2 Parity

1.11.2.3 Knowledge of importance of postnatal care

1.11.2.4 Attitude of skilled birth attendants

1.11.2.5 Educational level of the mother

1.11.2.6 Income

1.11.2.7 Cultural beliefs

1.11.2.8 Distance to the health facility

## 1.12 VARIABLES, CUT OFF POINTS AND INDICATORS

**Table 2: Variables, indicators and Cut off points**

VARIABLE	INDICATORS	CUT OFF POINTS	QUESTION NO.	TYPE OF VARIABLE
<b>Dependent variable</b>				
Utilization of skilled attendant	Adequate  Inadequate	-A score between 5-9 on utilization of skilled attendants questions  -A score between 0-4 on utilization of skilled attendants questions	Questions 11 to 15	Categorical
<b>Independent variables</b>				
Knowledge level	High level  Moderate level  Low level	-A score between 9-12 on knowledge questions about importance of postnatal care  -A score between 5-8 on knowledge questions on the importance of postnatal care  -A score between 0-4 on knowledge questions on the importance of postnatal care	Questions 16 to 23	Categorical
Income	High income class  Middle income class  Low income class	-If the postnatal mothers household monthly income is $\geq$ k1,500.00  -if the postnatal mothers household monthly income is K510-K1,500.00  -if the postnatal mothers monthly income is $\leq$ K510.00	Questions 7	Categorical
Cultural beliefs	Yes  No	-if a postnatal mother observes any cultural practices after delivery  -if a postnatal mother does not observe any cultural practices after delivery	Questions 34 and 35	Categorical
Educational level of the mother	Not educated  Some education  Educated  Very educated	No education  Primary  Secondary  Tertially	Question 5	Categorical
Attitude of the skilled attendant	Good  Bad	-A score between 14-22 on attitude questions  -A score of 13 and below on attitude questions	Questions 25 to 32	Categorical
Distance to the health facility	Within reach  Not within reach	If within 5 km from the postnatal mothers home  If more than 5 km from the postnatal mothers home	Question 24	Categorical

## **CHAPTER 2**

### **2.0 LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

Literature review focus on the utilization of skilled attendants by postnatal mothers. The literature review provided the researcher with a background for understanding current knowledge on the topic and illuminated the significance of the new study. The sources of literature consulted included research journals, text books and search engines such as PubMed. Literature review is organised according to study variables such as utilization of skilled attendants, knowledge on postnatal care services, and education level of the mother, social economic factors and cultural influence on utilization of skilled attendants.

#### **2.2 UTILIZATION OF SKILLED ATTENDANTS BY POSTNATAL MOTHERS**

Several studies have investigated common barriers to utilization of skilled attendants after birth. Khanal et al. (2014) conducted a study that aimed to analyse the factors associated with utilisation of postnatal care services by mothers in Nepal based on the data from Nepal Demographic and Health Survey (NDHS) 2011. The result showed that of the 4079 mothers, 43.2% reported attending postnatal care within the first six weeks of birth, while 40.9% reported attending immediate postnatal care. A similar study was conducted by Babola and Fatusi (2009) in Nigeria which indicated that approximately three-fifths (60.3%) of the mothers used antenatal services at least once during their most recent pregnancy, while 43.5% had skilled attendants at delivery and 41.2% received postnatal care. This finding still indicates that utilization of skilled attendants by postnatal mothers is below 50% which is not supposed to be the case for this critical period for both the postnatal mother and the baby.

Several researchers have reported on the level of postnatal care utilization within two weeks after delivery in various countries, for example in Nigeria Idris et al. (2013) reported a postnatal utilization of 30.2%. A study conducted in Nepal by Dhakal (2007) reported a rate of 30% and in China Chen et al. (2014) reported postnatal utilization of 24%.

Lesia and Roets (2013) conducted a study in the Free State Province of South Africa on placement and utilization of midwifery practitioners. Out of 69 respondents, 81.2% (n=56) indicated that they were not correctly placed and utilized. While only 18.8% (n=13) were reportedly correctly placed and utilized. The results confirmed that advanced midwifery practitioners were underutilized, despite the global nursing shortage and health care crisis.

Evidence has indicated that advanced midwives improved patient's outcomes and enhanced the quality of health care services provided (Collaghan, 2008 cited in Lesia and Roets, 2013). If the advanced midwives could be utilized correctly, they could contribute to the reduction of maternal mortalities.

In Zambia, Largo et al. (2006) conducted a similar study in a rural district. The findings revealed that 42% of the 540 women who delivered at the district hospital attended the postnatal care. These findings show that postnatal care is not valued as it should be; hence there is need to further educate the postnatal mothers on importance of postnatal care especially by skilled personnel in order to detect complications early and intervene appropriately. Furthermore a Ministry of health (2008) report indicate that postnatal care attendance in Zambia is 22.7% and this was attributed to home deliveries. The majority of women (77.2%) who deliver at home did not receive postnatal care and this has an implication on women who develop complications at child birth.

### **2.3 KNOWLEDGE LEVELS OF THE POSTNATAL MOTHER ON IMPORTANCE OF POSTNATAL CARE**

The level of knowledge about postnatal care services is an important factor underlying utilization of skilled attendant after delivery. Knowledge is what someone knows about a particular subject (Macmillan English Dictionary, 2002). For example, a postnatal mother who knows the importance of postnatal care is more likely to go for postnatal check-ups.

A study conducted by Tesfahun (2014) in Ethiopia on knowledge, perception and utilization of postnatal care indicated that the majority of the women (84.39 %) were aware and considered postnatal care necessary (74.27 %); however, only 66.83 % of women obtained postnatal care. The most frequent reasons for not obtaining postnatal care were lack of time (30.47 %), long distance to a provider (19.25 %), lack of guardians for children care (16.07 %), and lack of service (8.60 %). Despite high levels of knowledge on importance of utilization of postnatal care, most mothers did not utilize the postnatal care service.

Mrisho et al. (2009) conducted a study on the perspectives and experiences of women and health care providers about antenatal and postnatal care in rural Tanzania. The findings were that although antenatal care coverage in Tanzania was high, much less was known about the utilisation of postnatal care. Despite the perceived benefits for children, there was low attendance of postnatal care by the mothers. Postnatal care (PNC) was usually perceived as a service for children of all ages, lasting well beyond 42 days after delivery.

The findings showed that the respondents in the communities did not make a distinction between the care in the first six weeks and the Expanded Programme on Immunisation (EPI) which is one component of PNC. This entails that there is a missed opportunity to comprehensively examine the mother after delivery which leads to complications not being identified and treated promptly by skilled attendant. The lack of postnatal care service is likely to lead to increased maternal deaths as postnatal mothers would not be examined to detect complications.

Nankwanga (2004) conducted a study to determine factors influencing utilization of postnatal services at Mulango and Mengo hospitals in Kampala district in Uganda. The study sample comprised 330 postnatal women six to eight weeks after delivery. Some of the key findings of the study were that most women lacked awareness about the postnatal services and those who knew about postnatal care services only knew about immunization and family planning services.

A study conducted by Jacobs (2009) in Chikankata district, in Zambia on utilization of postnatal care indicated that only 52% of the postnatal mothers had knowledge on postnatal care while 48% did not have knowledge on postnatal care. The findings from Jacobs (2009) study on knowledge levels by postnatal mothers were similar to those of Nsemukila (1998) and Miti (1999).

## **2.4 EDUCATIONAL LEVEL OF THE MOTHER**

A postnatal mother's educational level can influence utilization of skilled attendants. For instance a study conducted by Jat et al. (2011) in India revealed that the odds of reporting the use of postnatal care among women who had higher secondary level of education and above were about 1.39 times higher than among those who were illiterate.

A study conducted by Elo (1992) in Philadelphia revealed that the bivariate effects of female schooling show a strong positive association between education and the use of maternal health-care services with the effects being somewhat stronger for delivery assistance.

Among the educated women, 87% sought maternal health service as compared to 13% of non- educated women who did not seek maternal health. Women with secondary education or above are empowered to make decisions about their health. Therefore empowering women and promoting mother's education would yield greater results in increasing the use of maternal health services especially postnatal care which is often undervalued.

In Ethiopia Workineh (2014) demonstrated an association between mothers level of education and utilization of postnatal care services. The study revealed that mothers who attended secondary school were about 4 times (AOR=4.16, 95%CL :( 2.48, 8.71) more likely to utilize postnatal care service than illiterate women. The above findings are consistent with (CSO, 2015), which reports that women with secondary education were more likely to utilize postnatal care services than women with primary education.

## **2.5 SOCIO-ECONOMIC FACTORS**

Khanal et al. (2014) studied factors influencing utilization of postnatal services by postnatal mothers in Nepal. The findings indicated that mothers who were from urban areas, from rich families, who were educated, whose partners were educated, who delivered in a health facility, who had attended a four or more antenatal visits, and whose delivery was attended by a skilled attendant were more likely to report attending at least one postnatal care visit. The implication therefore is that failure to seek postnatal care will lead to increased maternal mortality because the complications and danger signs will not be detected by skilled attendants for appropriate measures.

The findings of Khanal et al. (2014) are similar to the findings of Wang et al. (2011) in which the use of the skilled birth care was highest among the wealthiest group in almost all of the countries studied. In sub-Saharan Africa, over 90 percent of women in the highest wealth quintile in Benin, Cameroon, Ghana, Madagascar, Namibia, Zambia and Zimbabwe received skilled birth assistance for their last birth. The above findings indicate that low social class postnatal mothers were not likely to utilize skilled attendants which predispose them to increased maternal mortality.

CSO (2015) shows that women in rural areas were more likely not to have a postnatal check-up than women in urban areas. As with other health services surrounding childbirth, better educated and wealthier mothers are more likely to go for a postnatal check-up within the first two days after delivery.

## **2.6 CULTURAL INFLUENCE ON UTILIZATION OF SKILLED ATTENDANT BY POSTNATAL MOTHERS**

Studies have shown that social-cultural practices around child birth such as maternal seclusion after delivery and cultural beliefs play a vital role in utilization of skilled attendants.

This notion is re-affirmed by a study conducted in Kenya by Kinunthia (2014) and Dhakal et al. (2007) in Nepal.

Nsemukila et al. (1998) and Maimbolwa et al. (2003) have also affirmed from their studies that like any culture, Zambians have specific beliefs surrounding pregnancy and childbirth. Zambian women often deliver in seclusion or with the accompaniment of a few select women at home. In general, pregnancy due dates and the start of labour are not announced to the village for fear of witchcraft harming the child. These beliefs will make a woman delay to seek postnatal care by skilled attendant as postnatal period is a continuation of pregnancy and delivery.

## **2.7 CONCLUSION**

The literature reviewed has revealed that utilization of skilled attendants by postnatal mothers is still generally low. Literature review has shown that utilization of postnatal care services by postnatal mothers is influenced by various factors such as educational level of the mother, knowledge of postnatal care services, cultural beliefs, attitude of skilled attendants, socio economic factors, age and parity of the mother. Most of the studies reviewed were conducted in other countries other than Zambia.

According to CSO (2015) rural women in Zambia were not likely to use postnatal care services than urban women. However, despite low levels of utilization of skilled attendants after birth by postnatal mothers in Chipata District, no study has been conducted to determine factors influencing the utilization of skilled attendants. Hence the researcher decided to conduct this study.



## **CHAPTER 3**

### **3.0 RESEARCH METHODOLOGY**

#### **3.1 INTRODUCTION**

Chapter three (3) presents the methodology that was used in this study. It focused on; research design, research setting, and study population, sampling method, sample size, data collection tool, validity, reliability, data collecting technique, data analysis, data presentation, ethical consideration, pilot study, ethical considerations and limitations of the study.

Burns and Grove (2005) define research methodology as the entire strategy for the study, from identification of the problem to final plans for data collection. Thus, it referred to the decisions the researcher made concerning the methods used to address the research question, sometimes the nature of the research question dictates the methods used. Research methodology has major implications on the validity and credibility of the findings (Basavanthappa, 2007).

#### **3.2 RESEARCH DESIGN**

A descriptive cross sectional study design using quantitative approach was used. A descriptive method is a broad class of non-experimental studies (Polit and Beck, 2010). The reason for choosing the descriptive cross sectional study method was that it was ideal; as it involved collection of data directly from the study sample at one point in time without manipulating the variables. The descriptive cross sectional study design was suitable as it was less expensive and less time consuming considering the limited time the study was given. The purpose of the study was to observe, describe and document aspects related to utilization of skilled attendants by postnatal mothers in Chipata district.

#### **3.3 RESEARCH SETTING**

The study was conducted in 12 health centres of Chipata district. The health centres included; Kapata, Muzeyi, Namuseche, Chipata OPD, Kasenengwa, Jerusalem, Kamulaza, Katandala, Madzimoyo, Mshawa, Mchini, and Msekera. Chipata district is the provincial headquarters for Eastern Province. The district has 36 health centres that offer postnatal services.

The population of Chipata district is 486,531 (2013) and 107,037 (22%) are females in child bearing age (15-45 years) based on CSO, (2011-2035) projections with growth rate of 2%.

The expected number of deliveries is 25,300 at 5.2% while the expected number of live births is 24, 813 at 5.1% (Chipata DHMT, Action Plan, 2015-2017). The researcher got the information about utilization of skilled attendants by postnatal mothers in relation to the expected numbers of deliveries and live births in Chipata district.

### **3.4 STUDY POPULATION**

The study population was postnatal mothers.

#### **3.4.1 Target Population**

The target population for this study was postnatal mothers aged 15-49 years at 6 days and 6 weeks post-delivery.

#### **3.4.2 Accessible Population**

The accessible population was postnatal mothers aged 15-49 years at 6 days and 6 weeks post-delivery in Chipata district at chosen research setting. The postnatal mothers needed to utilize the skilled attendants after delivery because most maternal deaths occurred in postnatal period especially the first 24 hours. Postnatal mothers were in the best position to provide first-hand information about utilization of skilled attendant after delivery.

### **3.5 SAMPLE SELECTION**

The researcher purposively selected the health centres basing on the data from Chipata Health District Office on postnatal coverage. Purposive sampling is a non-probability method in which the researcher selects study units/participants based on personal judgment about who will be most representative or informative in the proposed study (Schneider et al., 2005). In this study the health Centre's with low utilization levels of skilled attendants by postnatal mothers were selected. The advantage of purposive sampling was that the researcher decided purposely to select the widest possible variety of study units who were judged to be typical of the population in question or particularly knowledgeable about the issues that were under study (Polit & Beck, 2010).

The disadvantage of purposive sampling is that sampling provides no external, objective method for assessing how typical the selected study units are (Schneider et al., 2005).

### 3.5.1 Sample Selection for Respondents

The researcher employed systematic sampling as a sample design in which a list of the population was used as a sampling frame and cases were selected by skipping through the list at regular intervals (Polit and Beck, 2010).

In this study the postnatal mothers at 6 days and 6 weeks post-delivery were grouped and every 3<sup>rd</sup> postnatal mother was interviewed if they were willing to take part in the study. The starting point of the selection was at random.

The advantage of systematic sampling is that it is flexible and easy to implement; instructions can easily be given to research assistants. The main disadvantage is that ordering in the list may bias the resulting estimates and variance is biased.

### 3.6 SAMPLE SIZE

The total sample size was calculated using OpenEpi Epidemiological calculator software version 3.04.04.

#### Sample Size for Frequency in a Population

Population size (for finite population correction factor or fpc) ( $N$ ): 391

Hypothesized % frequency of outcome factor in the population ( $p$ ): 50% +/- 5

Confidence limits as % of 100 (absolute +/- %)( $d$ ): 5%

Design effect (for cluster surveys- $DEFF$ ):

#### Sample Size( $n$ ) for Various Confidence Levels

ConfidenceLevel (%)	Sample Size
95%	195

The formulae was as follows;

$$\text{Sample size } n = [DEFF * Np(1-p)] / [(d^2 / Z_{1-\alpha/2}^2 * (N-1) + p*(1-p)]$$

The sample size for this study was 176 respondents. The formulae included the 10% drop out rate.

### **3.7 ELIGIBILITY CRITERIA**

The Eligibility criteria for this study is indicated below:-

#### **3.7.1 Inclusion Criteria**

The inclusion criteria was:

- Postnatal mothers aged 15-49 years at 6 days and 6 weeks post delivery
- Postnatal mothers at 6 days and 6 weeks in research selected areas willing to participate in the study.
- Postnatal mothers attending children's clinics, growth monitoring programmes, family planning and mothers in children's ward.

#### **3.7.2 Exclusion Criteria**

The exclusion criteria was:

- Postnatal mothers not willing to participate in this study.
- Postnatal mothers at 6 hours

### **3.8 DATA COLLECTION TOOL**

In this study, a semi-structured interview schedule was used to collect data from the participants. The semi-structured interview schedule was developed from the relevant literature such as Largo et al. (2006) study tool and Nepal Demographic Health Survey (2011) questions which had previously been tested. McLeod (2014) has outlined the advantages of a structured interview such as being easy to replicate because a fixed set of closed questions were used, which was easy to quantify. Semi-structured interviews were fairly quick to conduct which meant that many interviews could take place within a short amount of time. The interview schedule could also be used on both the literate and the illiterate.

The disadvantages of the interview schedule included; interviews not being flexible as new questions could not be asked during the interview and the answers from structured interviews lacked detail as closed questions were mostly asked which generated quantitative data. The researcher had a list of pre-set questions in form of an interview typed. These questions were mostly closed with a few open ended.

The semi-structured interview schedule comprised five (5) sections. Section A consisted of questions on the respondents' demographic data. Section B comprised questions eliciting information on utilization of skilled attendants. Section C comprised questions on knowledge level of postnatal mothers on importance of postnatal care. Section D comprised questions on service related factors. Section E comprised questions on socio-cultural factors. The structured interview schedule was used because it was easy to test for validity and reliability.

### **3.8.1 VALIDITY OF THE DATA COLLECTING INSTRUMENT**

The use of the semi-structured interview schedule enabled the researcher to collect valid data as the questions focused on utilization of skilled attendants by postnatal mothers in Chipata district. The researcher made questions simple, concise and brief to ensure validity. The supervisor and Excellence in Research Ethics and Science Coverage (ERES) Committee reviewed the instrument before administering it to the respondents. The research tool was adopted from other researchers such as Largo et al (2006) and Nepal DHS (2011).

The researcher ensured validity by appropriate selection of study design, systematic selection of participants and by use of a standardized research instrument to collect data from the respondents.

### **3.8.2 RELIABILITY OF THE DATA COLLECTING INSTRUMENT**

In this study reliability was ensured by conducting a pilot study. The pilot study helped to detect if the study instrument was able to measure what it purported to measure. In addition, the researcher understood the local language and had good communication skills.

### **3.9 DATA COLLECTION TECHNIQUES**

Excellence in Research Ethics and Science Coverage (ERES) Committee approved that the researcher proceeds to collect data. Permission was sought from the Provincial Medical Officer and District Community Medical Officer in Chipata District.

The study participants were interviewed using a semi-interview schedule, translated into Chinyanja and another one in English. Each study participant was interviewed in a private room for 20 to 30 minutes. All interviews were conducted between 08:30 and 16:30 hours.

The interviewer conducted eight (08) interviews per day leaving time for sorting out and checking for completeness of interview schedules before respondents left the MCH department or the health centre.

The researcher introduced herself to each respondent before starting each interview to create rapport and make participants relax. The purpose of the study was truthfully explained to each respondent. The researcher followed instructions on interview schedule to standardize the interview technique. Questions were asked the way they were written, without influencing the answers.

The questions not understood were repeated without paraphrasing them or indicating the direction of the answer. The researcher endeavoured to ensure respondents' comfort at all times by considering their priorities and need.

All the responses were recorded right away to avoid missing any of them. At the end of each interview, respondents were given time to ask questions, which were answered accordingly. Respondents were thanked at the end of each interview. Interviewing had a higher response rate and was suitable for use with postnatal mothers because majority of women in rural areas could not read and write. Interviewing also permitted clarification of questions from the researcher. The researcher collected the filled interview schedules and put them in one big envelop.

### **3.10 PILOT STUDY**

A pilot study was conducted in Chipata district at three (3) health centres namely Mnoro, Kapara and Eastern command. The 3 health centres have similar characteristics with the 12 health centres for the main study. An interview schedule was administered to 10% of the study sample. The sample for the pilot study comprised 10% of the study sample. The distribution was according to the proportion of facility total population; seven (7) respondents at Kapara, six (6) respondents at Mnoro and another six (6) at Eastern Command health centres. The pilot study enabled the researcher to determine the participant's likely responses to actual research study and changed questions 19 and 21 after eliciting likely responses. The researcher added; don't know response to question 19 as most of the respondents under the pilot study said that. This further enabled the researcher to make adjustments on the semi-structured interview schedule and to test the validity of the methodology.

### **3.11 ETHICAL AND CULTURAL CONSIDERATIONS**

Ethical approval to conduct the study was sought from Excellence in Research Ethics and Science Coverage (ERES) Committee. The researcher requested for permission from the Provincial Medical Officer (PMO) of Eastern Province, the District Community Medical Officer (DCMO) for Chipata district and from the in- charges of the health centres where the research was conducted.

Informed consent was obtained from the respondents 18 years and above while assent was obtained for clients 15-17 years. The respondents were informed about the main objective of the study which was to determine the factors that influence utilization of skilled attendant's by postnatal mothers in Chipata district.

They were re-assured about confidentiality by respecting privileged information and anonymity by use of serial numbers on semi-structured interview schedules without names to protect the participant's identity and prevent any long term longitudinal or follow up studies. The respondents were informed that they would not be remunerated in any form and that they would be allowed to freely withdraw from the study at any time without suffering any consequences.

## **CHAPTER FOUR**

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

#### **4.1 INTRODUCTION**

Chapter four (4) describes the data analysis and presentation of findings of the study conducted to determine factors that influence utilization of skilled attendants by postnatal mothers in Chipata District, Eastern Province, Zambia. The study results were based on responses from one hundred and seventy six (176) postnatal mothers systematically selected in research setting centres.

#### **4.2 DATA ANALYSIS**

Data analysis is conducted to reduce, organize and give meaning to pieces of information that are collected during a study (Burns and Grove, 2009). During data processing, the interview schedules were counted to ensure that the correct numbers that were administered to study participants was obtained. All interview schedules were checked for completeness and consistence every evening after work; the data was then sorted out, categorized and coded. The responses from open-ended questions were categorised and then coded.

Data was analysed using Statistical Package for Social Sciences (SPSS) version 20 program and chi-square test was used to test associations among variables. A model to predict the combined effect of the independent variables on the dependent variable was developed using binary logistic regression. The confidence interval was set at 95% and the level of significance was at 5%. The p-value of 0.05 or less was considered statistically significant, thereby rejecting the null hypothesis.

The dependent variable which was utilization of skilled attendants by postnatal mothers was measured against independent variables such as age, parity, knowledge levels of the mother, educational levels of the mother, cultural beliefs, economic status, distance to the health facility and attitude of the skilled attendant.



### **4.3 DATA PRESENTATION**

Data from this study has been presented according to the sequence and sections in the interview schedule.

The interview schedule comprised five (5) sections. Section A consists of questions on the respondents' demographic data. Section B comprises questions eliciting information on utilization of skilled attendants. Section C comprises questions on knowledge levels of postnatal mothers on importance of postnatal care. Section D comprises questions on service related factors. Section E comprises questions on socio-cultural factors. Section F has been included for cross tabulations of the variables to help show clearly the relationship between dependant and independent variables. The findings of the study have been presented in frequency tables, histograms and bar charts to ensure that the readers understand the findings of the research study easily.

#### **4.3.1 SECTION A: DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE (n=176)**

Ten (10) components were considered under demographic characteristics of the postnatal mothers under this study. The components included age, marital status, husband's occupation, religion, education level, respondent's occupation, monthly income, parity, age of last child and place of delivery. The frequencies and percentages were used to summarize the ten (10) items under demographic characteristics of the sample.

**TABLE 3: RESPONDENT'S DEMOGRAPHIC DATA (n=176)**

<b>Respondents</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Age</b>		
15 - 19 years	41	23.3
20 - 24 years	65	36.9
25 - 29 years	36	20.5
30 years and above	34	19.3
<b>Total</b>	<b>176</b>	<b>100.0</b>
<b>Marital status</b>		
Single	35	19.9
Married	141	80.1
<b>Total</b>	<b>176</b>	<b>100</b>
<b>Husbands occupation (n=141)</b>		
Unemployed	10	7.1
Farmer	50	35.5
Formally Employed	54	38.3
Businessman	27	19.1
<b>Total</b>	<b>141</b>	<b>100</b>
<b>Religion</b>		
Christianity	168	95.5
Islamic	8	4.5
<b>Total</b>	<b>176</b>	<b>100</b>
<b>Educational level</b>		
None	20	11.4
Primary	76	43.2
Secondary	74	42.0
Tertiary	6	3.4
<b>Total</b>	<b>176</b>	<b>100</b>
<b>Respondent's occupation</b>		
Unemployed	85	48.3
Formally Employed	11	6.3
Farming	57	32.4
Businesswoman	23	13
<b>Total</b>	<b>176</b>	<b>100</b>
<b>Monthly income</b>		
Less than K510	115	65.3
K510 – K1,500	50	28.4
Above K1,500	11	6.3
<b>Total</b>	<b>176</b>	<b>100</b>
<b>Number of children</b>		
1	69	39.2
2	43	24.4
3	23	13.1
4 and Above	41	23.3
<b>Total</b>	<b>176</b>	<b>100</b>
<b>Age of last child</b>		
6 days	70	39.8
6 weeks	106	60.2
<b>Total</b>	<b>176</b>	<b>100</b>
<b>Place of delivery</b>		
Hospital	50	28.4
Clinic	111	63.1
On the way to clinic	3	1.7
Home	12	6.8
<b>Total</b>	<b>176</b>	<b>100</b>

Table 3 shows that most 65 (36.9%) of the respondents were between 20 and 24 while the minority 34 (19.3%) were those of 30 years and above. The mean age was ( $\bar{x}$ =23.99) and standard deviation (SD) 5.75. The majority 141 (80.1%) were married while 35 (19.9%) were single. For respondents who were married, 54 (38.3%) reported having husbands who were formally employed and 10 (7.1%) reported having unemployed husbands. The majority 168 (95.5%) of the respondents were Christians while 8 (4.5%) were Muslims.

The majority 76 (43.2%) reported having attained primary education and 20 (11.4%) did not have any formal education, while only 6 (3.4%) attained tertiary education. Concerning respondents' occupation, 85 (48.3%) reported being unemployed and only 11 (6.3%) were in formal employment. The income status of the respondents shows that 115 (65.3%) reported earning a monthly income of less than K510 while only 11 (6.3%) reported earning higher than K1, 500 per month.

The majority 69 (39.2%) of respondents reported that they had 1 child while 41 (23.3%) reported having 4 children or more. The majority 106 (60.2%) said their last child was 6 weeks old while 70 (39.8%) of the respondents reported having children who were 6 days old. The majority 111 (63.1%) of the respondents reported delivering from the clinic, followed by those who delivered from the hospital 50 (28.4%). Then 12 (6.8%) reported delivering from home while 3 (1.7%) delivering on the way to the health centre.

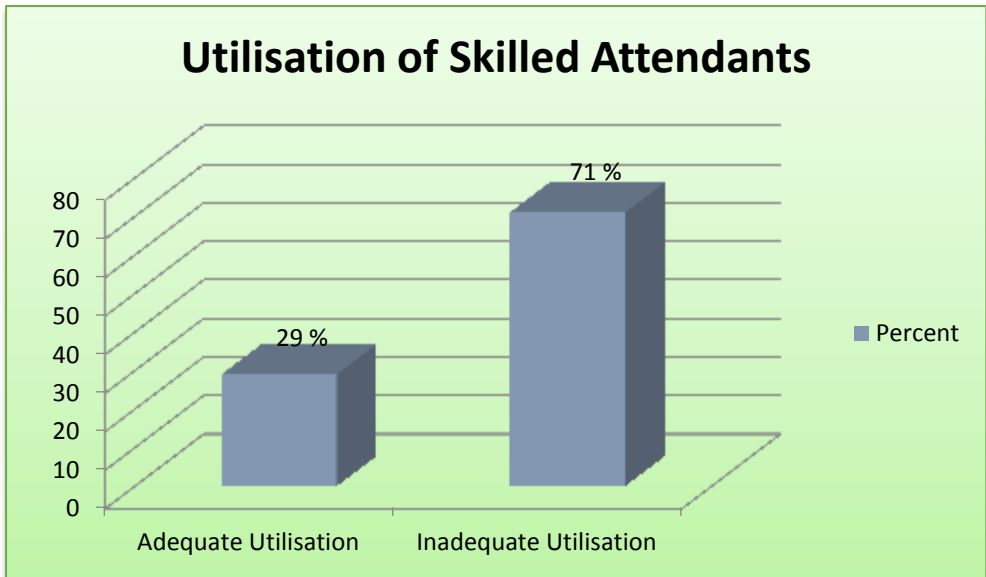
#### **4.3.2 SECTION B: UTILIZATION OF SKILLED ATTENDANTS BY POSTNATAL MOTHERS (N=176)**

Five (5) questions were asked to respondents to elicit information on utilization of skilled attendants. Responses were assigned scores to determine the level of utilization of skilled attendants. The variables that were addressed were: who delivered their last child, whether the postnatal mother attended postnatal clinic, number of postnatal visits and who attended to postnatal mothers and what was checked at postnatal care.

**TABLE 4: UTILIZATION OF SKILLED ATTENDANTS BY POSTNATAL MOTHERS**

<b>Respondents</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Delivery of last child was by (n=176)</b>		
Self / Relative	13	7.4
TBA	32	18.2
Nurse / Midwife	114	64.8
Doctor	17	9.7
Total	176	100.0
<b>Attendance of postnatal clinic (n=176)</b>		
Yes	113	64.2
No	63	35.8
Total	176	100.0
<b>Number postnatal clinic attended (n=113)</b>		
Once	93	82.3
Twice	17	15.0
Three times	2	1.8
More than three times	1	.9
Total	113	100.0
<b>Who attended to postnatal mothers (n=113)</b>		
TBA	28	24.8
Midwife / Nurse	55	48.7
Not Applicable (N/A)	30	26.5
Total	113	100.0
<b>What was checked at postnatal care (multiple response)</b>		
Lochia	66	31.3
Uterine involution	71	33.6
Lactation	37	17.5
Infection	37	17.5

The assigned scores to the above responses in Table 4 assisted to determine the level of utilization of skilled attendants by postnatal mothers. Figure 2 below summarises the level of adequate and inadequate utilization of skilled attendants by postnatal mothers.



**Figure 2: Utilization of Skilled Attendants by Postnatal Mothers (n=176)**

Only 51 (29%) adequately utilized skilled attendants while 125 (71%) did not utilize the skilled attendants.

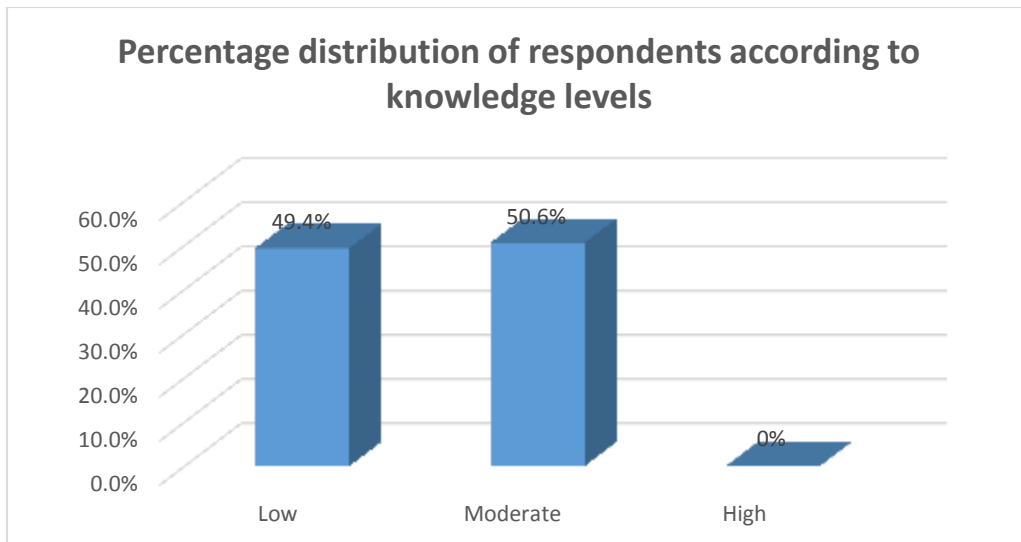
#### **4.3.3 SECTION C: KNOWLEDGE ON POSTNATAL CARE (n=176)**

To assess knowledge levels on postnatal care, the responses to questions 16 to 23 were assigned scores, and the total score was calculated for each respondent. The total score was then categorized according to the range in which it falls as either 'Low Knowledge', 'Moderate Knowledge' or 'High Knowledge'. The table below shows the knowledge levels of respondents on postnatal care.

**TABLE 5: KNOWLEDGE LEVELS ON POSTNATAL CARE**

<b>Respondents</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Ever heard of postnatal care (n=176)</b>		
Yes	124	70.5
No	52	29.5
<b>Total</b>	<b>176</b>	<b>100.0</b>
<b>Where did the postnatal mother hear it from (n=124)</b>		
Health provider	106	85.5
TBA	12	9.7
Relative	4	3.2
Friend	1	.8
Other	1	.8
<b>Total</b>	<b>124</b>	<b>100.0</b>
<b>Definition of postnatal care (n=176)</b>		
Examination of the newborn after delivery	2	1.1
Care of the mother and the newborn up to 6 weeks after delivery	90	51.1
Giving immunizations to children under 5 years	84	47.7
<b>Total</b>	<b>176</b>	<b>100.0</b>
<b>When should the postnatal mother visit the clinic for postnatal care (multiple response)</b>		
At 6 hours after delivery	3	1.6
Within 2-3 days of delivery	3	1.6
At 6 days after delivery	99	51.3
At 6 weeks after delivery	39	20.2
Don't know	49	25.3
<b>Is it important to attendant postnatal clinic (n=176)</b>		
Yes	169	96.0
No	7	4.0
<b>Total</b>	<b>176</b>	<b>100.0</b>
<b>Importance of postnatal care (n=169)</b>		
Blood pressure is checked	59	34.9
Detect complications	44	26.0
Child's growth monitoring	24	14.2
Monitor progress of mother and baby	42	24.9
<b>Is health education given? (n=176)</b>		
Yes	86	48.9
No	88	50.0
Don't know	2	1.1
<b>Total</b>	<b>176</b>	<b>100.0</b>
<b>Who gives the health education (n=86)</b>		
TBA	25	29.1
Midwives / Nurse	61	70.9
<b>Total</b>	<b>86</b>	<b>100.0</b>

Figure 3 illustrates the findings of low, moderate and high levels of knowledge after scoring the responses on knowledge level regarding importance of postnatal care. None of the respondent had high levels of knowledge.



**Figure 3: Distribution of Knowledge Levels**

Slightly above half 89 (50.6%) of postnatal mothers had moderate knowledge levels while 87 (49.4%) had low knowledge levels. None of the respondents had high knowledge levels.

#### **4.3.4 SECTION D: SERVICE RELATED FACTORS INFLUENCING UTILISATION OF POSTNATAL CARE (n=176)**

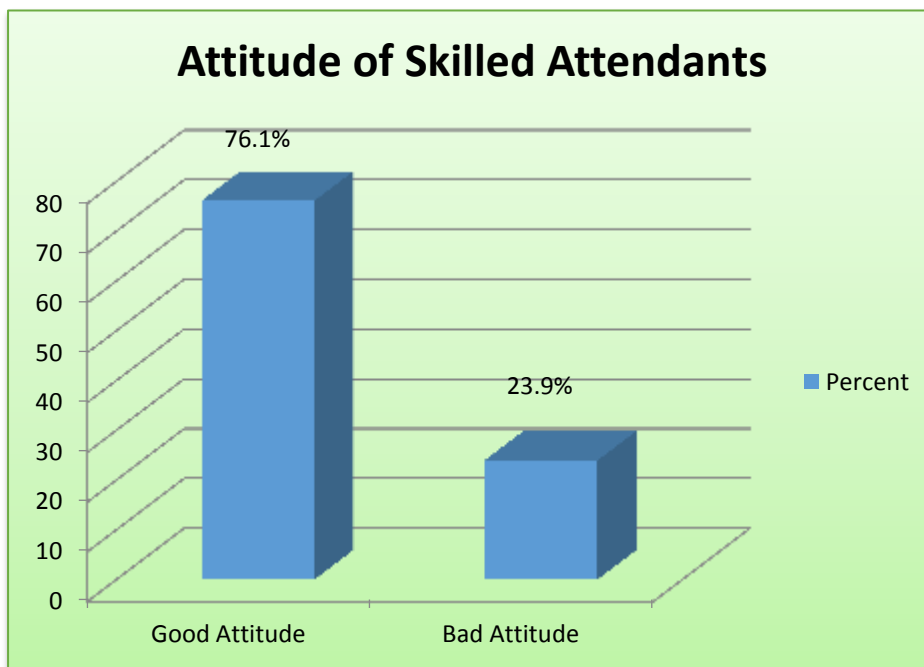
To assess attitude of skilled attendants, the responses to questions 25 to 32 were assigned scores, and the total score was calculated for each respondent. The total score was then categorized according to the range in which it falls as either ‘good attitude’ or ‘bad attitude’. Table 6 below shows the respondents responses on attitude of skilled attendants.

**TABLE 6: ATTITUDE OF SKILLED ATTENDANTS (n=176)**

Attitude of Skilled Attendant	Frequency	Percentage (%)
<b>Are there postnatal services at the nearest centre</b>		
Yes	176	100.0
No	0	0.0
Total	176	100.0
<b>If Yes to Q25, how accessible are the services?</b>		
Readily accessible	122	69.3
Available sometimes	48	27.2
Not accessible	6	3.4
Total	176	100.0
<b>Do skilled attendants greet you when you go to the clinic?</b>		
Always	106	60.2
Sometimes	29	16.5
Rarely	30	17.0
Never	11	6.3
Total	176	100.0
<b>How often do skilled attendants treat you with courtesy and respect?</b>		
Always	122	69.3
Sometimes	25	14.2
Rarely	28	15.9
Never	1	.6
Total	176	100.0
<b>How long do you wait at the health clinic before you are attended to?</b>		
15 minutes	1	0.6
30 minutes	58	33
1 hour	69	39.2
Over 1 hour	48	27.3
Total	176	100
<b>Do skilled attendants explain procedures before attending to you?</b>		
Always	63	35.8
Sometimes	45	25.6
Rarely	21	11.9
Never	47	26.7
Total	176	100.0
<b>How often did skilled attendants listen to you carefully?</b>		
Always	122	69.3
Sometimes	34	19.3
Rarely	12	6.8
Never	8	4.5
Total	176	100.0
<b>Would you recommend this clinic to your friends or relatives?</b>		
Always	154	87.5
Sometimes	18	10.2
Rarely	4	2.3
Total	176	100.0



After scoring the responses, the majority 134 (76.1%) of respondents indicated that the attitude of skilled attendants was good while 42 (23.9%) indicated that the attitude of skilled attendants was bad.



**Figure 4: Attitude of Skilled Attendants (n=176)**

#### 4.3.4.1 DISTANCE TO THE HEALTH FACILITY (n=176)

To assess distance to health facility, the respondents who lived within 5 km were classified as ‘within reach’ while those who lived 6 km and above were classified as not ‘within reach’.

**TABLE 7: DISTANCE TO THE HEALTH FACILITY (n=176)**

Distance to health centre	Frequency	Percentage (%)
Within reach	153	86.9
Not within reach	23	13.1
<b>Total</b>	<b>176</b>	<b>100.0</b>

The majority of respondents 153 (86.9%) indicated that they lived within reach while only 23 (13.1%) did not live within reach.

#### 4.3.5 SECTION E: SOCIO-CULTURAL BELIEFS INFLUENCING UTILIZATION OF POSTNATAL CARE

**TABLE 8: SOCIO-CULTURAL BELIEF (n=176)**

<b>Cultural Beliefs after Delivery</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Yes	117	66.5
No	59	33.5
Total	176	100.0
<b>Cultural beliefs observed during postnatal period</b>		
Seclusion	59	33.5
No Sexual Intercourse	45	25.6
Bathing Baby in Herbs	13	7.4
Total	117	66.5
<b>Suggestions to encourage postnatal attendance</b>		
IEC	164	93.2
Attitude Should Improve	8	4.5
Building Clinics Within Reach	4	2.3
Total	176	100.0

Table 8 indicates that above half 117 (66.5%) of the respondents observed socio-cultural beliefs while 59 (33.5%) did not observe any socio-cultural beliefs. Among the respondents who observed socio-cultural beliefs during the postnatal period 59 (33.5%) reported observing seclusion, 45 (25.6%) said that they abstained from sexual intercourse and 13 (7.4%) bathed their babies in Herbs to protect them from illness.

In this study, the respondents were asked to give suggestions on how to encourage more women to attend the postnatal clinic. A large percentage 164 (93.2%) of the respondents suggested that intensifying IEC on the importance of postnatal care would encourage more women to attend the postnatal clinic, 8 (4.5%) said that staff attitudes should be improved and 4 (2.3%) said that building clinics within reach would encourage postnatal uptake.

#### 4.3.6 SECTION F: ASSOCIATION AMONG STUDY VARIABLE

In this section, the dependent or outcome variable (utilisation of skilled birth attendants) was associated with the demographic characteristics of the respondents, knowledge levels on postnatal care, attitudes of the staff at the postnatal, distance to the health facility and socio-cultural beliefs of the respondents.

**TABLE 9: ASSOCIATION BETWEEN UTILIZATION OF SKILLED ATTENDANTS AND THE RESPONDENTS' DEMOGRAPHIC DATA (n=176)**

Demographic Variable		Utilization of Skilled Attendants		Total	P value
		Adequate Utilization	Inadequate Utilization		
Age	15-19 years	13 (31.7%)	28 (68.3%)	41 (100%)	0.627
	20-24 years	16 (24.6%)	49 (75.4%)	65 (100%)	
	25-29 years	13 (36.1%)	23 (63.9%)	36 (100%)	
	30 and above	9 (26.5%)	25 (73.5%)	34 (100%)	
Total		<b>51 (29%)</b>	<b>125 (71%)</b>	<b>176 (100%)</b>	
Income	Less than k 510	32 (27.8%)	83 (72.2%)	115 (100%)	0.151
	K 510-k 1,500	13 (26.0%)	37 (74%)	50 (100%)	
	K1,500 and above	6 (54.5%)	5 (45.5%)	11 (100%)	
Total		<b>51 (29%)</b>	<b>125 (71%)</b>	<b>176 (100%)</b>	
Parity	1	20 (29%)	49 (71%)	69 (100%)	0.538
	2	13 (30.2%)	30 (69.8%)	43 (100%)	
	3	9 (39.1%)	14 (60.9%)	23 (100%)	
	4 and above	9 (22%)	32 (78%)	41 (100%)	
Total		<b>51 (29%)</b>	<b>125 (71%)</b>	<b>176 (100%)</b>	
Educational	Below secondary	24 (25%)	72 (75%)	96 (100%)	0.203
	Secondary and above	27 (33.8%)	53 (66.2%)	80 (100%)	
Total		<b>51 (29%)</b>	<b>125 (71%)</b>	<b>176 (100%)</b>	

Table 9 shows associations between demographic characteristics of the respondents with utilization of skilled attendants. The chi-square test revealed no statistical significant association between the variables in question. Hence failing to reject the null hypothesis and conclude that there is no sufficient evidence to prove that there is an association between age (p=0.627), income (p=0.151), parity (p=0.538) and education level (p=0.203) with utilisation of skilled attendants by postnatal mothers. The p values for all the demographic variables were above 0.05.

**TABLE 10: ASSOCIATION BETWEEN UTILIZATION OF SKILLED ATTENDANTS BY POSTNATAL MOTHERS AND KNOWLEDGE LEVELS ON POSTNATAL CARE (n=176)**

		Utilization of Skilled Attendants		Total	P value
		Adequate Utilization	Inadequate Utilization		
<b>Knowledge Level</b>	Low	17 (19.5%)	70 (80.5%)	87 (100%)	<b>0.005</b>
	Moderate	34 (38.2%)	55 (61.8%)	89 (100%)	
Total		<b>51 (29%)</b>	<b>125 (71%)</b>	<b>176 (100%)</b>	

From the results in Table10, a significant association was observed between the respondents knowledge levels on postnatal care and utilization of skilled attendants by postnatal mothers (p=0.005). With the p value of 0.005, we reject the null hypothesis and conclude that there is an association between knowledge levels of postnatal mothers and utilisation of skilled attendants.

**TABLE 11: ASSOCIATION BETWEEN UTILIZATION OF SKILLED ATTENDANTS BY POSTNATAL MOTHERS AND ATTITUDE OF STAFF AT THE POSTNATAL CLINICS (n=176)**

		Utilization of skilled attendants		Total	P value
		Adequate utilization	Inadequate utilization		
<b>Attitude</b>	Good	43 (32.1%)	91 (67.9%)	134 (100%)	0.104
	Bad	8 (19%)	34 (81%)	42 (100%)	
Total		<b>51 (29%)</b>	<b>125 (71%)</b>	<b>176 (100%)</b>	

From Table 11, no significant association was observed between utilization of skilled attendants and attitude of skilled attendants at the health facilities ( $p=0.104$ ). With the p value of 0.104, we fail to reject the null hypothesis and conclude that there is no sufficient evidence to prove that there is an association between utilization of skilled attendants by postnatal mothers and attitude of skilled attendants at the health facilities.

**TABLE 12: ASSOCIATION BETWEEN UTILISATION OF SKILLED ATTENDANTS BY POSTNATAL MOTHERS AND DISTANCE TO NEAREST HEALTH CENTRE (n=176)**

		Utilization of skilled attendants		Total	P value
		Adequate utilization	Inadequate utilization		
<b>Distance to health centre</b>	Within reach	42 (27.5%)	111 (72.5%)	153 (100%)	0.250
	Not within reach	9 (39.1%)	14 (60.9%)	23 (100%)	
Total		<b>51 (29%)</b>	<b>125 (71%)</b>	<b>176 (100%)</b>	

Table 12 shows that no significant association was observed between the utilisation of skilled attendants by postnatal mothers and distance to nearest Health centre (p=0.250).

With the p value of 0.250, we fail to reject the null hypothesis and conclude that there is no sufficient evidence to prove that there is an association between utilisation of skilled attendants by postnatal mothers and distance to the nearest clinic.

**TABLE 13: ASSOCIATION BETWEEN UTILISATION OF SKILLED ATTENDANTS BY POSTNATAL MOTHERS AND OBSERVATION OF CULTURAL BELIEFS (n=176)**

		Utilization of skilled attendants		Total	P value
		Adequate utilization	Inadequate utilization		
<b>Cultural belief observed</b>	Yes	32 (27.4%)	85 (72.6%)	117 (100%)	0.503
	No	19 (32.2%)	40 (67.8%)	59 (100%)	
Total		<b>51 (29%)</b>	<b>125 (71%)</b>	<b>176 (100%)</b>	

The results in Table 13 shows no significant association was observed between utilization of skilled attendants by postnatal mothers and the observations of cultural beliefs (p=0.503). With the p value of 0.503, we fail to reject the null hypothesis and conclude that there was no sufficient evidence to prove that there was an association utilisation of skilled attendants in postnatal mothers and between observations of cultural practices after delivery.

### 4.3.7 MULTIVARIATE BINARY LOGISTIC REGRESSION MODEL SUMMARY RESULTS.

After bivariate analysis using chi-square tests of association between the respective independent variables and the dependent variable, a model to predict the combined effect of the independent variables on the dependent variable was developed using binary logistic regression (Table 14).

**Table 14: Multivariate Binary Logistic Regression Model Summary Results**

Independent Variables	Odds Ratio (OR)	95% Confidence Interval		P value
Age group (15-19) Ref				
Age Group (20-24)	.505	.166	1.531	.227
Age Group (25-29)	1.117	.285	4.388	.874
Age Group (30 and above)	.685	.126	3.718	.661
Monthly income (less than 510) Ref				
Monthly income (k 510-1,530)	.741	.324	1.696	.478
Monthly income (above k1,530)	2.489	.588	10.545	.216
No. of children (1) Ref				
No. of children (2)	1.401	.478	4.105	.539
No. of children (3)	1.614	.398	6.536	.502
No. of children (4 and above)	.808	.168	3.897	.791
Educational level (below secondary)Ref				
Educational level (above secondary)	1.403	.579	3.399	.454
Knowledge level (low ) Ref				
<b>Knowledge levels(moderate)</b>	<b>2.083</b>	<b>.987</b>	<b>4.399</b>	<b>.054</b>
Attitude (Bad) Ref				
Attitude (Good)	1.596	.633	4.021	.321
Distance (not within reach) Ref				
Distance (within reach)	.470	.172	1.284	.141
Cultural belief observation (yes) Ref				
Cultural belief observation (No)	0.986	.442	2.199	.973

Table 14 shows actual contributions of changes in variables to the outcome of our model. All changes in all variables did not contribute significantly to the model except for knowledge which was significantly associated with p value 0.54.

The odds of utilizing skilled attendants for those with moderate knowledge levels are 2.083 times higher than those with low knowledge levels.

The odds of utilizing skilled attendants for those that reported high monthly income are 2.489 times higher than those with low monthly income. The odds of utilizing skilled attendants for those that reported good attitude from the attendants are 1.6 times higher than for those who reported bad attitude. The odds of utilizing skilled attendants for those with education levels of secondary and above were 1.4 times higher than for those below secondary education.

#### **4.4 CONCLUSION**

The data was collected from 176 postnatal mothers who were systematically selected from Chipata District in research setting centres. Data was analysed using SPSS version 20 and chi-square was used to test associations with a significant level of 0.5% and confidence interval set 95%. Regression analysis was performed to establish the degree to which utilization of skilled attendant by postnatal mothers is explained by each of the suggested independent variables. The presentation of data findings were according to variables divided in five sections ranging from A to E. The variables included Demographic data, Utilization of skilled attendants, Knowledge levels, Service Related factors and Socio-Cultural beliefs.



## **CHAPTER FIVE**

### **5.0 DISCUSSION OF FINDINGS**

#### **5.1 INTRODUCTION**

Chapter five (5) focuses on this study interpretations and discusses the findings as well as the implications to the health care system. The discussion of findings is based on data collected from a sample of 176 postnatal mothers who were systematically selected in Chipata District, Eastern Province, Zambia. The general objective of the study was to determine factors that influence utilization of skilled attendants by postnatal mothers in Chipata district.

The dependant variable was utilization of skilled attendants while independent variables included; age of the mother, parity, knowledge level on importance of postnatal service, education level, attitude of skilled attendants, income, socio-cultural factors and distance to health facility.

#### **5.2 DEMOGRAPHIC DATA OF THE SAMPLE**

In this study, 36.9% of the respondents were between 20 and 24 years (Table 3) similar to CSO (2015) findings which had a high proportion of women aged between 15-24 years. The mean age was ( $\bar{x}$ =23.99) and standard deviation (SD) 5.75. There were more respondents in this age group because it reflects the comparatively young age structure of the population in Zambia. A large percentage of the respondents (80.1%) were married. This is because marriage is still regarded as a universal institution. For the respondents who were married, 38.3% reported having husbands who were formally employed. Most of the husbands were in formal employment because research setting was both urban and rural hence most men being employed. A larger percentage (95.5%) of respondents were Christians belonging to different religious denominations (Table 3). There were more Christians due to the fact that Zambia is a Christian nation (CCA, 2005)

Educational attainment is one of the most influential factors affecting people's knowledge, attitudes, and behaviours in various facets of life (CSO, 2015). The educational level of the respondents in this study ranged from no formal education to tertiary level. Less than half (43.2%) of the respondents reported having attained primary education while 11.4% did not have any formal education with only 3.4% attaining tertiary education (Table 3).

The low educational attainment of the respondents in this study could be attributed to a high school dropout rate among girls due to early pregnancy, early marriages and poverty. These findings are similar to (CSO, 2015) which reports that, 16 percent of females have never been to school, 46 percent have some primary education, 11 percent have completed primary school, 19 percent have some secondary education, 4 percent have completed secondary education, and 3 percent have more than a secondary school education. Eastern province of Zambia where chipata district is located has the second highest proportion (24%) of women with no formal education (CSO, 2015). However these findings are not in line with the findings of a Kenyan study where two thirds of the women (66%) in their study had primary education (Gitumu et al., 2015).

The current study observed a higher odds 1.403 (OR (95% CI) =1.403 (0.579, 3.399) of utilizing skilled attendants among postnatal women with secondary education than postnatal women with primary education or no education. The finding that mothers with higher education were more likely to attend postnatal care can be explained by the notion that mothers with higher levels of education are more likely to be informed about health risks, demand and gain access to health care (Rahman, Haque and Zahan, 2011). A study by Gitumu et al., (2015) in Kenya also found that women with secondary level education were four times likely to use a skilled birth attendant while those with primary education were three times likely to use a skilled birth attendant during delivery as compared with those with no education at all. This finding is also similar to that of Mpembeni et al.(2007) in Tanzanian study who found that more years spent in school was positively associated with utilizing a skilled birth attendant.

The finding in Table 3 shows that 48.3% of the respondents were unemployed. This could be attributed to their low educational status as most of the postnatal women had primary school education. This finding is lower compared to Gitumu et al.(2015) study which found that slightly over three quarters, (81.2%) of the women in their study were unemployed. With regards to the respondent's income levels, 65.3% reported earning a monthly income of less than K510. This could be attributed to the fact that most of the postnatal women had low level of education; hence they could not be in formal employment to earn a good income. Thirty nine percent (39.2%) of the women in this study had 1 child (Table 3). Primiparas are also more receptive to health education messages due to lack of experience as compared to multiparous women.

This assertion is reaffirmed by CSO (2015) that reported that mothers with first order birth are more likely to attend postnatal care than women who have delivered more than once.

Two third (60.2%) of the postnatal women in this study had a 6 weeks old baby (Table 3). This suggests that women associate postnatal care with immunization and family planning services.

This is because babies start receiving immunizations by this time therefore mothers bring them along to health facility to get the immunizations. A Ugandan study by Nankwanga (2004) conducted reported similar findings where postnatal care was associated with immunizations and care of a new born.

The percentage distribution of the respondents' place of delivery is indicated in Table 3 and shows that Sixty three percent (63.1%) of the respondents reported delivering at the health facility. This could be due to the fact that most respondents were living near to the health facilities. The percentage of the women delivery at the health facility is slightly lower in the current study compared to CSO (2015) report which showed that Sixty-seven percent of births take place in a health facility, while 31 percent take place at home. The current study has also shown that some (6.8%) women are still delivering at home meaning that they are being delivered by unskilled attendant.

### **5. 3 UTILIZATION OF SKILLED ATTENDANTS BY POSTNATAL MOTHERS**

One of the objectives of the study was to assess the level of utilization of skilled attendants by postnatal mothers. Figure 2 shows that 71% of the postnatal mothers did not utilize skilled attendants. This underutilization of skilled attendants could be the underlying cause for increased maternal mortality which is still high in Zambia (398/100,000). Several studies have demonstrated low utilization of skilled attendant during the postnatal period (Dhakal, 2007; Babalola and Fatusi, 2009; Idris et al., 2013; Khanal et al., 2014; Chen et al., 2014, Kaunda, 2010).

A large percentage (82.3%) of the respondents in the current study had attended postnatal clinic only once (Table 4). This could be attributed to the fact that the mothers plan to visit the health facility when children's immunizations are conducted so that their babies could receive the immunizations as well. This finding is contrary to the Zambia's safe motherhood guidelines that recommend postnatal mothers to receive at least four postnatal check-ups (MoH, 2011).

Inadequate utilization of skilled attendants at postnatal check-ups could explain increased maternal and neonatal mortality during postnatal period. Utilization of postnatal care in the current study is low compared to 58% recorded in Uganda by Nakwanga (2004).

Of those who had attended the postnatal clinic, almost half (48.7%) were attended to by Nurses or Midwives (Table 4). This could be attributed to the fact that Nurses and Midwives are frontline health workers in Zambia who are found at the lowest level of the health care system.

The finding from the present study is lower in terms of percentages when compared to the 2014-2015 Demographic Health Survey that showed that 53 percent of women received postnatal care from a nurse or midwife. Contrary to the 2014-2015 Demographic Health Survey which reported that Three percent of women received postnatal care from a traditional birth attendant. This study revealed that 24.8% of the postnatal women stated that they were being attended to by TBAs. Shortage of midwives explains why postnatal mothers are still being examined by TBA's or by no one.

#### **5.4 POSTNATAL MOTHERS KNOWLEDGE ON POSTNATAL CARE**

To determine postnatal mothers level of knowledge on postnatal care, 8 item questions were included on the data collecting instrument. These were: have you heard of postnatal care, if yes where did they hear it from, what is postnatal care, When is the mother supposed to visit the health centre for postnatal care, Is it important to attend postnatal care, Is it important to attend postnatal care, what is the importance of postnatal care, Is health education given on importance of postnatal care at the health centre and who gives the health education.

With regards to the respondents knowledge of the meaning of postnatal care 51.1% of the postnatal mothers stated the correct meaning of postnatal care (Table 5). This finding could be attributed to the advice given to women on the importance of care given at the health facilities by the health care professionals. Khanal et al. (2014) conducted a study in Nepal where they investigated factors associated with the utilisation of postnatal care services among mothers. Results showed that the majority of the women (84.39 %) were aware of postnatal care. The awareness levels of postnatal care were much higher compared to the current study. In addition, a Ugandan study by Nankwanga (2004) showed awareness levels of postnatal care of 79%. Some respondents in this study (47.7%) related postnatal care to giving immunizations to under five children (Table 5). This is misconception that requires

clarification and it could explain the reason why most mothers attend postnatal clinic only at six weeks (6), however, this misconception has been reported by other researchers. For instance, a similar pattern of response was noted in a study conducted by Mrisho et al. (2009) in Tanzania where it was reported that postnatal care was usually perceived as a service for children by the mothers.

A study conducted in Uganda by Nankwanga (2004) in Mulago and Mengo hospitals in Kampala, Uganda found that 66.7% of the mothers attended postnatal care only for immunisations of babies.

The findings in Table 5 shows that 50.6% of the respondents had moderate knowledge levels on the importance of postnatal care. The moderate knowledge levels could be as a result of health education given at the health facilities on postnatal care. The study shows that half (50%) of the respondents stated that health education on the importance of postnatal care was given by the health care professionals at the health facilities (Table 5). This is a welcome development that requires commendation to the health care professionals for the efforts they are making to enlighten the mothers on the importance of postnatal care. However; more still needs to be done.

An important finding in this study was that the odds of utilizing skilled attendants for those with moderate knowledge level were 2.083 times [OR, (95% CI) 2.083= (0.987, 4.399)] higher than those with low knowledge level (Table 14). A postnatal mother who knows and values postnatal care is more likely to attend postnatal check-ups by a skilled attendant than the postnatal mother who has low or no knowledge. However, a study conducted by Tesfahun (2014) in Ethiopia on knowledge, perception and utilization of postnatal care indicated that despite majority of the women (84.39 %) being aware of importance of postnatal care, only 66.83 % of women obtained postnatal care. This means that knowledge did not correspond with women's attendance of the postnatal clinic. This result does not also agree with the findings reported by Sakala and Kazembe (2011) in Malawi entitled "Factors influencing the utilisation of postnatal care at one week and six weeks among mothers at Zomba Central Hospital in Malawi" where there was no association between knowledge and utilisation of postnatal care.

Table 5 shows that slightly above half (51.3%) of the postnatal mothers stated that postnatal check-up was done at six (6) days postpartum. This indicates a lack of information by the women or lack of adequate health education because the Safe Motherhood guidelines

recommend at least four postnatal check-ups by postnatal mothers i.e. at 6 hours, at 2-3 days, at 6 days and at 6 weeks. Evidence shows that postnatal mothers who deliver a live mature health baby with no complications do not appreciate the need for postnatal check-up (Marshall and Raynor, 2014).

In this study, the respondents were requested to give suggestions on how the postnatal care services could be improved, a larger percentage (93.2%) suggested the need for the health care system to intensify IEC on the importance of postnatal care (Table 8).

## **5.5 FACTORS INFLUENCING UTILIZATION OF SKILLED ATTENDANTS BY POSTNATAL MOTHERS**

The present study investigated two major factors influencing utilisation of skilled attendant by postnatal mothers and these were service related and socio-cultural factors.

### **5.5.1 SERVICE RELATED FACTORS INFLUENCING UTILISATION OF SKILLED ATTENDANT**

To establish whether service related factors influence utilization of skilled attendants by postnatal mothers, eight (8) item questions were included on the data collection instrument to elicit information on attitude of skilled attendants. The questions were; are there postnatal services at the nearest health centre, if yes how accessible are the services, do skilled attendants greet you when you go to the clinic, how often do skilled attendants treat you with courtesy and respect, how long do you wait at the health clinic before you are attended to, do skilled attendants explain procedures before attending to you, how often did skilled attendants listen to you carefully and would you recommend this clinic to your friends or relatives?

The findings in figure 4 show that majority (76.1%) of the postnatal mothers said that skilled attendants had a good attitude towards the clients. The odds of utilizing skilled attendants for those that reported that skilled attendants had a good attitude towards clients were 1.6 times [OR, (95% CI) 1.596= (0.633, 4.021)] higher than for those who reported that skilled attendants had a bad attitude towards clients. Mothers could shun postnatal care if Health care professionals were not welcoming.

This notion is supported by a study conducted in Uganda by Katusiime (2014) in a study entitled “factors affecting utilization of postnatal services among mothers attending Kitagata

hospital in Sheema district”. The finding also agrees with a study conducted in Nigeria by Idris et al. (2013) which showed that bad attitude of skilled attendants was one of the major reasons for not utilizing skilled attendants. Hence this entails that good attitude of skilled attendants improves utilization of skilled attendants by postnatal mothers.

Distance to the health facility could limit use of skilled attendants by postnatal mothers. According to the current study, 86.9% of the postnatal mothers lived within reach (0-5 km) (Table 7). There were many postnatal mothers who lived within five kilometres from the health facilities. This is because the study was conducted on an urban population.

Nankwanga’s study carried out in Uganda in 2004 found an association between distance and utilization of postnatal services. Another study by Katusiime (2014) in Uganda also showed that long distance to health facilities affected utilization of postnatal services. However, the current study did not find any association between utilization of skilled attendants and distance to the health facility (Table 12).

### **5.5.2 SOCIAL CULTURAL FACTORS INFLUENCE UTILIZATION OF SKILLED ATTENDANTS**

To determine if social cultural factors influence utilization of skilled attendants by postnatal mothers. Two (2) item questions were included in the questionnaire that elicited information on whether a postnatal mother observed any cultural belief and if yes which belief did they observe. The findings in table 8 indicates that 66.5% of the respondents observed socio-cultural beliefs and 33.5% reported being secluded during postnatal period. The findings for this study are consistent with studies done by Kinunthia (2014) in Kenya, Dhakal et al. (2007) in Nepal and Maimbolwa et al. (2003) and Nsemukila et al. (1998). Observation of the cultural beliefs such as seclusion delays the postnatal mother from seeking skilled attendance after delivery. In this study, there is no association between utilization of skilled attendants and social cultural beliefs (Table 13).

### **5.6 ASSOCIATIONS AMONG STUDY VARIABLES**

Utilization of skilled attendants by postnatal mothers has been associated with many factors by various studies. In this study only knowledge was significantly associated with utilisation of skilled attendants (p value 0.005) during postnatal period (Table 10). This implies that knowledge is critical in utilisation of skilled attendants by postnatal mothers.

The demographic characteristics of age, parity, education and income did not have any significant association  $p$  value  $> 0.05$  with utilization of skilled attendant (Table 9).

There was also no sufficient evidence to prove that attitude of skilled attendants, distance and socio cultural beliefs ( $p$  value  $> 0.05$ ) influenced the outcome of utilization of a skilled attendant by postnatal mothers (Tables 11,12 & 13).

Table 14 shows that the odds of utilizing skilled attendants for those with education levels of secondary and above were 1.4 times [OR, (95% CI) = 1.403 (0.579, 3.399)] higher than for those below secondary education.

The postnatal mothers who reported good attitude from skilled attendants were more likely to utilize skilled attendants 1.6 times [OR, (95% CI) =1.596 (0 .633, 4.021)] higher than for those who reported bad attitude. The postnatal mothers who reported high monthly income were more likely to utilize skilled attendants than those with low monthly income 2.489 times higher [OR, 95% CI) = 2.489 (0.987, 4.399)] (Table 14).

## **5.7 APPLICATION OF THE THEORETICAL FRAMEWORK TO THE CURRENT STUDY**

This study adopted the Andersen's Behavioural Model of Health Services Utilization which was developed by Andersen (1968 cited in Rebhan, 2008) and it looks at three categories of determinants: Predisposing characteristics, Enabling characteristics and Need based characteristics. The predisposing characteristics in this study included age, parity, educational level, cultural belief and knowledge level. In this study the postnatal mothers with moderate knowledge (50.6%) were more likely to utilise skilled attendants than those who had low knowledge (Table 14).

The enabling characteristics in this study included; availability of skilled attendants, attitude of skilled attendants, community resources, social economic factors and distance to health facility.

The majority (84.7%) of postnatal mothers stated that skilled attendants were available at their health facilities and (76.1%) said that the attitude of skilled attendants was good (Figure 4). Most (65.3%) postnatal mothers were earning a monthly income of less than K510 (Table 3). The reported availability of skilled attendants and good attitude of skilled attendants enabled the postnatal mothers to utilize skilled attendants. The majority (86.3%) of the postnatal mothers lived within reach which enabled them to utilize skilled attendants (Table



7). The need based characteristics included; the mother's perceived need of the postnatal care to be provided by skilled attendant and clinically evaluated needs.

A larger percentage (96%) of the postnatal mothers perceived the need for postnatal care as they acknowledged that it was important (Table 5). The postnatal mothers in this study alluded the importance of postnatal care to blood pressure checking (34.9%), detection of complications (26%), monitoring the progress of both mother and baby (24.9%) and child growth monitoring (14.2%). Despite acknowledging the importance of postnatal care only 29% adequately utilized skilled attendants after birth (Figure 2).

Knowledge level and good attitude of skilled attendants in this study determined the outcome variable which is utilization of the skilled attendants by postnatal mothers. The Andersen's Behavioural Model of Health Services Utilization applied in this study was appropriate.

## **5.8 Implications of the Study Findings**

### **5.8.1 Nursing Education**

This study shows that 50% of the postnatal mothers were not given health education on importance of postnatal care. The study further shows that 51.1% of postnatal mothers only knew of the six days postnatal visit with 25% not even knowing when they are supposed to come back for postnatal check-ups. This calls for all Nurses/Midwives to intensify on health education concerning importance of postnatal care as most maternal and neonatal deaths occur during postnatal period. Only 51.1% of postnatal mothers defined postnatal care while others related it to immunization of the children under five and examination of the new born. This implies that Nursing Education has to emphasize on the need for public awareness on importance of postnatal care. Nursing/Midwifery students should acquire more knowledge and skill in giving IEC as it is a critical variable in utilizing skilled attendants.

### **5.8.2 Nursing Administration**

This study shows that only (48.7%) of the postnatal mothers that utilized the skilled attendants were examined by Nurses/Midwives while 24.8% were examined by TBA's with 26.5% being examined by no one. Monitoring and supervision is very important for nurse managers as they will identify problems such as shortage of skilled attendants and lobby at higher level. Postnatal mothers who make an effort to come for postnatal visit and are not seen by anyone are less likely to return for another postnatal check-up.

### **5.8.3 Nursing Practice**

Midwives/Nurses need to be aware of the legislation and guidelines defining their role, describing their scope of practice and specifying standards of practice (Fraser and Cooper, 2003). Postnatal mothers needed to be checked for amount of lochia, uterine involution, infection and lactation. This study indicates that not all postnatal mothers that came for postnatal care were examined thoroughly (Table 4:2). The mother and child should be checked regularly during the first 24 hours after childbirth, in the first week, and again six weeks after birth. More frequent check-ups are necessary, if complications are to be detected.

### **5.8.4 Nursing Research**

This study has revealed that there is underutilization of skilled attendants by postnatal mothers in Chipata District, Eastern Province. Literature review has shown that many studies have been conducted to determine factors that influence utilization of skilled attendants in many countries and findings are similar. There is need to research further on whether skilled attendants have adequate knowledge and skill in managing postnatal mothers.

## **5.9 Conclusion**

Underutilization of skilled attendants still remain a major problem for postnatal mothers. Despite most women delivering in the health facilities, postnatal attendance is still very low. This study shows that only 29% of the postnatal mothers utilized skilled attendants. This explains the higher proportion of women dying during postnatal period because no check-ups are done to detect complications early. Only knowledge in this study had a significant association with utilization of skilled attendants. The postnatal mothers who had higher education, good attitude from skilled attendants and high income were more likely to utilize skilled attendants than the postnatal mothers with low education, bad attitude and low income. Health education needs to be intensified on the importance of postnatal care because 50% of postnatal mothers were not given IEC.

### **5.10 Recommendations**

To improve the utilization of skilled attendants by postnatal mothers, the following measures should be considered;

- Deployment of more health workers (skilled attendants) to the health facilities by Ministry of Health (MoH) to encourage utilization of skilled attendants because 26.5% of the postnatal mothers were not examined by anyone despite seeking postnatal care.
- Health care workers at facilities should work with Community Based Health committees to encourage postnatal mothers to utilise skilled attendants.
- The District must also organize regular clinical care meetings and presentations that will enable skilled attendants to refresh their knowledge and skill of delivering care to postnatal mothers.
- Skilled attendants to intensify IEC on the value of postnatal care as suggested by postnatal mothers
- Further research to be conducted to determine the level of practice and skill for skilled attendants so as to have evidenced based practice when managing postnatal mothers

### **5.11 Strengths of the Study**

The study achieved its main objective of determining the factors that influence the utilization of skilled attendants by postnatal mothers in Chipata district. The knowledge level of postnatal mother is significantly associated with utilization of skilled attendants. The conducted study had a relatively large sample (176) and statistical methods such as Chi square and binary logistic regression have been applied.

### **5.12 Limitations of the Study**

The research findings cannot be generalized to other settings because the study was conducted only in Chipata district. Secondly, the study cannot establish causality because it used a cross sectional study design. The use of self-report method as a data collection method may yield socially desirable responses. The respondents were asked to recall some information retrospectively, this may yield some recall bias.

Nevertheless this bias may not be problematic because the study only included women who gave birth within 6 weeks.

### **5.13 Dissemination of the Results**

The researcher intends to disseminate the findings of this study at UNZA Postgraduate Seminar week from 27<sup>th</sup> of June 1<sup>st</sup> July, 2016. Then bound approved copies of the study document will be sent to the following;

- Department of Nursing Sciences,
- School of Medicine,
- The University Medical Library and
- In the Peer reviewed Journal.

The abstract of this study will be distributed to MOH, Provincial Health Office-Chipata and the District Health Office-Chipata. The researcher also intends to disseminate the findings in meetings and seminars that will be taking place in Chipata district especially concerning Maternal and Child Health (MCH) issues. Information will also be disseminated to Non-Governmental organisations that have reproductive health programmes running such as Centres for Disease Control and prevention (CDC) and Swedish International Development Cooperation Agency (SIDA).

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# APPENDICES

## APPENDIX I A: INFORMATION SHEET

### TITLE OF STUDY:-UTILIZATION OF SKILLED ATTENDANTS BY POSTNATAL MOTHERS IN CHIPATA DISTRICT.

My names are Esther N. Banda, I am pursuing Masters of Science Nursing Degree training at the University of Zambia, School of Medicine, at the Department of Nursing Sciences.

In partial fulfilment of my training in Masters of Science Nursing Degree program, I'm required to undertake a research project of which my topic is stated above.

### PURPOSE OF THE STUDY

The main objective of this study is to determine the factors that influence utilization of skilled attendant's by postnatal mothers in Chipata district.

### PARTICIPATION WILL BE VOLUNTARY

I wish to inform you that participation in this study is voluntary and therefore; you are free to withdraw at any stage of the study if you so wish. You will answer questions on knowledge levels on importance of postnatal care, educational level, cultural beliefs, attitude of skilled attendant and distance to the health facility. You will also be expected to give information on your demographic data.

### CONFIDENTIALITY

Any information given will be kept in confidence and no name will be written on the interview schedule, only serial numbers will be used.

### RISKS AND BENEFITS

There is no any known risk and monetary benefits from this study but you will benefit from the study results by improving ways of educating the postnatal mothers to utilize skilled attendants. The information that you will give will assist the researcher to determine factors contributing to utilization of skilled attendants and the findings will be used by policy makers and other organizations in finding ways to improve utilization of skilled attendants by postnatal mothers.

If you are willing to participate in this study, you will be asked to sign consent or thumb print for agreement. Please ask where you are not clear for clarification.

**APPROVED**

01 JUL 2015

ERES CONVERGE  
P/BAG 125, LUSAKA.

## APPENDIX II: INFORMED CONSENT FORM

### VOLUNTARY CONSENT FORM

#### DECLARATION

I have been explained to and I understand the nature of the research in which I have been requested to participate. The opportunity to ask questions about the research was given and I have been answered to my satisfaction.

I therefore agree to participate.

Dated this .....day of .....2015

Signature/ thumb print of respondent.....

Witness.....

#### PERSONS TO CONTACT FOR PROBLEMS OR QUESTIONS

1. The Head of Department,  
University of Zambia,  
Department of Nursing Sciences,  
P.O Box 50110,  
**LUSAKA.**  
Telephone +260 211 252453
2. The Chairperson  
ERES Converge IRB  
33 Joseph Mwilwa Road  
Rhodes Park  
**LUSAKA.**

**APPROVED**  
01 JUL 2015  
ERES CONVERGE  
P/BAG 125, LUSAKA.

**APPENDIX 1B: CHIDZIWITSO KWA OTENGAKO MBALI MU KAFUKUFUKU**

**WOTSONGOLELA KAFUKUFUKU UYU NDI: MAI ESTHER N BANDA**

Ndine mwana wasukulu pa Univesitiya Zambia, ndimpunzila sukulu yaukacanjede yamadotolo, mbali yamanasi.

Mwazofunikila zina pama mphuziro anga azaumoyo ndikuchita kafukufuku kuti ndiziwe zomwe zimapangisa kuti azimai obeleka azipita ukaonana ndimanasi, anamwino ndi adotolo kapena anthu omphuzira pazaumoyo wazimai atabeleka muboma ya Chipata.

**ZOFUNIKA KUTI INU MUCHITE MUKAFUKUFUKU UYU**

Ngati mwalola kutengako mbali kukafukufuku uyu, muzayankha paza umoyo wanu, zasukulu yanu, za zomwe muziba pa nkhani yachipimo chazimai atabeleka, zomwe mukhulupilira zamwambo, momwe akulandirirani kuvipatala ndikomwe munkhala mutunda. Muzafunsidwa mafunso pamwekha ndiponso mwachisinsi.

**UFULU WANU POFUNA KUTENGAKO MBALI KAPENA KUSAFUNA KUTENGAKO MBALI MUKAFUKUFUKU UYU**

Muli ndiufulu wontengako mbali, kapenana osalola kutengako mbali, ngankhale kusapitiliza ndikafukufuku uyu panthawi ina iliyonse pomwe mwafuna kutero. Ndipo simuzapasiwa chilango olo mulandu uli wonse.

**KUSUNGA CHINSINSI CHANU**

Ine ndizasunga chinsinsi chanu conse pa zomwe muzandiuza ndiponso zomwe tizakambilana kwainenenkha. Sikofunika kuti mundipase zina lanu ayi chifukwa ndigwirisila nchito manambala osatimazina ayi kuti tikusungileni chinsinsi.

**ZOBVUTA NDI MPHINDU**

Ayi palibe zovuta zina zilizonse zonkhuzana ndikafukufuku uyu ndaba kulibe zogwirana pathupi, tizango kambilana chabe basi.

Kulibe ndalama kapena mphoto iliyonse izapasidwa pakutengako mbali kukafukufuku uyu yayi. Koma zomwe tizapeza mukafukufuku uyu tizangwirisa nchito kupeleka pasongolo mapunzilo yonhandiza azimai obeleka kumapita kuvipatala ukapimidwa.

Ngati mwabvomela kutengako mbali kukafukufuku uyu muzafunsidwa kufwantika pa pepala iyi olokusaina ngati muziba kulemba. Pomwe muli namafunso, mulihoza kufunso?

**APPROVED**  
01 JUL 2015  
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## APPENDIX IV: TRANSLATED INFORMED CONSENT FORM

### CHIBVOMEKEZO

Ine ndabvensa zakafukufuku uyu ndiponso ndine ozipeleka utengako mbali mukafukufuku uyu.

Siku.....Chaka.....

Siginecha/Ufwantika.....

Wosimikizila.....

**ANTHU AMENE MUNGANTHE KUFUNSA PALI ZOVUTA ZINA ZILIZONSE ZOKHUZIDZANA NDIKAFUKUFUKU UYU NDI AWA:**

1. Wamukulu kumupando,  
Univesiti ya Zambia,  
Mbaliyamanesi,  
P.O Box 50110,  
**LUSAKA.**  
Tel: +260 211 252453
2. Wamukulu kumupando,  
KabungweKowonazakafukufuku,  
ERES Converge IRB  
33 Joseph Mwilwa Road  
Rhodes Park  
**LUSAKA.**

**APPROVED**

01 JUL 2015

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**APPENDIX V**  
**UNIVERSITY OF ZAMBIA**  
**SCHOOL OF MEDICINE**  
**DEPT OF NURSING SCIENCES**

**SEMI-STRUCTURED INTERVIEW SCHEDULE**

**TOPIC: UTILIZATION OF SKILLED ATTENDANTS BY POSTNATAL MOTHERS  
IN CHIPATA DISTRICT**

PLACE OF INTERVIEW: .....

DATE OF INTERVIEW: .....

NAME OF INTERVIEWER .....

SERIAL NUMBER OF INTERVIEW SCRIPT: .....

**INSTRUCTIONS FOR THE INTERVIEWER:**

Introduce yourself to the respondent and explain the reason for the interview.

1. Do not write the name of the participant on the interview schedule.
2. Circle the most appropriate response given by the participant to the question for closed ended questions.
3. Fill in the answer on the spaces provided for open ended questions.
4. All the information provided by the respondent should be kept in strict confidence.
5. Provide time for the respondent to ask questions at the end of the interview.

**Thank the respondent at the end of each interview.**

**SECTION A: DEMOGRAPHIC DATA OF  
THE RESPONDENTS**

**FOR OFFICIAL USE ONLY**

1. How old were you on your last birthday?

.....

2. What is your marital status?

- a. Single
- b. Married
- c. Divorced
- d. Widowed


3. If married, what does your husband  
do for his living

- a. Un employed
- b. Farmer
- c. Formally employed
- d. Businessman


4. What is your Religion?

- a. Christianity
- b. Islamic
- c. Hinduism
- d. Any other, specify \_\_\_\_\_


5. What is your highest level of education?

- a. None
- b. Primary
- c. Secondary
- d. Tertiary


6. What do you do for your living?

- a. un employed
- b. Formally employed
- c. Farming
- d. businesswoman


7. What is your monthly income?

- a.  $\leq$  K 510,00
- b. K 510- K1,530.00
- c.  $\geq$  K1,500.00


8. How many children do you have?

- a. 1
- b. 2
- c. 3
- d. 4 and above


9. How old is your last child?

- a. 6 days
- b. 6 weeks


10. Where did you deliver the last child?

- a. Hospital
- b. Clinic
- c. On the way to health centre
- d. Home


**SECTION B: UTILIZATION OF POSTNATAL SERVICES**

11. Who delivered your last child?

- a. Self/relative
- b. TBA
- c. Nurse/midwife
- d. Doctor


12. Did you attend the postnatal clinic for postnatal care after delivery of your last child?

- a. Yes
- b. No


13. If **YES** to question 12, how many times did you attend the postnatal clinic?

- a. Once
- b. Twice
- c. Three times
- d. More than three times


14. Who attended to you at postnatal clinic?

- a. TBA
- b. Midwife/Nurse
- c. Doctor
- d. No one


15. During postnatal care, did they check the following?

- a. Lochia
- b. Uterine involution
- c. Lactation
- d. Infectio




**SECTION C: KNOWLEDGE OF POSTNATAL  
CARE SERVICES**

16. Have you ever heard of postnatal care?

- a. Yes
- b. No


17. If **YES** to question 16, where did you hear it from?

- a. Health provider
- b. TBA
- c. Relative
- d. Friend
- e. Others, specify.....


18. What is postnatal care?

- a. Examination of the new born after delivery.
- b. Care of the mother and the new born up to 6 weeks after delivery.
- c. Discharge of a woman after delivery.
- d. Giving immunizations to children under 5 years.


19. When is the mother supposed to visit the health centre for postnatal care?

(tick all applicable)

- a. At 6 hours after delivery
- b. Within 2-3 days
- c. At 6 days after delivery
- d. At 6 weeks after delivery
- e. Don't know


20. Is it important to attend postnatal care?

a. Yes

b. No


21. If **YES** to question 20, what is the importance of postnatal care?

a. Blood pressure is checked

b. Detect complications

c. Child's growth monitoring

d. Monitor progress of mother and baby


22. Is health education given on importance of postnatal care at the health centre?

a. Yes

b. No

c. Don't know


23. If **YES** to question 22, who gives the health education?

a. TBA

b. Midwives/nurse

c. Doctor

d. Relatives


**SECTION D: SERVICE RELATED FACTORS**

24. How long does it take to get to your clinic? **(to be converted to km; 0-2, 3-5, 6-10, >10)**

- a. less than 30 minutes
- b. within 1 hour
- c. within 2 hours
- d. more than 2 hours


25. Are there postnatal services at the nearest centre?

- a. Yes
- b. No


26. If **YES** to question 25, how accessible are the services?

- a. Readily accessible
- b. Available sometimes
- c. Not accessible
- d. Other, specify.....

.....


27. Do skilled attendants greet you when you go to the clinic?

- a. Always
- b. Sometimes
- c. Rarely
- d. Never


28. How often do skilled attendants treat you with courtesy and respect?

- a. Always
- b. Sometimes
- c. Rarely
- d. Never


29. How long do you wait at the health clinic before you are attended to?

- a. 15 minutes
- b. 30 minutes
- c. 1 hour
- d. Over 1 hour


30. Do skilled attendants explain procedures before attending to you?

- a. Always
- b. Sometimes
- c. Rarely
- d. Never


31. How often did skilled attendants listen to you carefully?

- a. Always
- b. Sometimes
- c. Rarely
- d. Never


32. Would you recommend this clinic to your friends or relatives?

- a. Always
- b. Sometimes
- c. Rarely
- d. Never


**SECTION E: SOCIO-CULTURAL BELIEFS**

33. Did you observe any cultural practices after delivery?

- a. Yes
- b. No


34. If yes explain the postnatal cultural practices observed in your community.

.....  
.....  
.....  
.....  
.....

35. What suggestions would you give to encourage postnatal mothers full utilization of the service.

.....  
.....  
.....  
.....

**Thank you very much for taking your time to answer these questions !!!!!**

**APPENDIX VI**  
**UNIVERSITY OF ZAMBIA**  
**SCHOOL OF MEDICINE**  
**DEPT OF NURSING SCIENCES**

**SEMI-STRUCTURED INTERVIEW SCHEDULE**  
**(CHINYANJA VERSION)**

**TOPIC: UTILIZATION OF SKILLED ATTENDANTS BY POSTNATAL MOTHERS  
IN CHIPATA DISTRICT**

PLACE OF INTERVIEW: .....

DATE OF INTERVIEW: .....

NAME OF INTERVIEWER .....

SERIAL NUMBER OF INTERVIEW SCRIPT: .....

**INSTRUCTIONS FOR THE INTERVIEWER:**

Introduce yourself to the respondent and explain the reason for the interview.

1. Do not write the name of the participant on the interview schedule.
2. Circle the most appropriate response given by the participant to the question for closed ended questions.
3. Fill in the answer on the spaces provided for open ended questions.
4. All the information provided by the respondent should be kept in strict confidence.
5. Provide time for the respondent to ask questions at the end of the interview.

**Thank the respondent at the end of each interview.**

**CHIGAWO CHOYAMBA: KUDZIWA ZA UMOYO WANU**

1. Kodi muli ndizaka zingati zakubadwa?

.....

2. Kodi mulindi banja?

- a. Ndine mbeta
- b. Ndiri ndi banja
- c. Tinalekana
- d. Wofendwa


3. Ngati mulindi banja, amuna banu agwira nchito yanji pa umoyo wao?

- a. sakungwira nchito
- b. Nalimi
- c. Nchito yandalama
- d. Nchito zamalonda


4. kodi mumphela ndigulu liti?

- a. YaChrisitu
- b. Yachisilamu
- c. Ya Chi Hindu
- d. Gululina, Zina\_\_\_\_\_


5. Kodi maphuziro yasukulu munalekeza poti?

- a. Sinamphuzileko
- b. Pakati pa giledi 1 ndi 7
- c. Pakati pa giledi 8 ndi 12
- d. Pamaphuziro opitilira giledi 12


6. Pa umoyo wanu, mugwira nchito yanji?

- a. Sindigwira nchito
- b. Nchito yamalipilo
- c. Mulimi
- d. Nchito zamalonda


7. Kodi pa mwezi musebezensa ndalama zingati?

- a.  $\leq$  K 510,00
- b. K 510- K1,530.00
- c.  $\geq$  K1,500.00


8. Kodi mulindi ana angati?

- a. Umodzi
- b. Awiri
- c. Atatu
- d. Anayi ndikupitilila


9. Kodi uyu mwana wapamanja alindimasiku kapena masondo angati?

- a. Masiku sikisi
- b. Masondo sikisi


10. Kodi uyu mwana wapamanja munabelekela kuti?

- a. Kuchipatala chachikulu
- b. Kuchipatala chachi'ngono
- c. Munjila yakuchipatala
- d. Kunyumba




**CHIGAWO CHACHIWIRI: KASEWEZENSENDWE KA****CHIPIMO CHA AZIMAI ATABELEKA**

11. Ndani anakunthandizani thawi yobeleva

Mwanayu wapamanja?

- a. Nenkha/wabanja
- b. Anamwino akumudzi
- c. A nesi/Anamwino akuchipatala
- d. Adotolo


12. Kodi munapita kuchipimo cha azimai mutabeleva

mwana uyu wapamanja?

- a. Inde
- b. Yayi


13. Ngati muvomekeza kutimunapita

kuchipimo, kodi munapitako kangati?

- a. Kamodzi
- b. Kawiri
- c. Katatu
- d. Mopitilira katatu


14. Kodi ndani anakupimani kuchipimo

cha azimai mutabeleva?

- a. Anamwino akumudzi
- b. A nesi/anamwino kuchipatala
- c. Adotolo
- d. Kulibe ananipima


15. Kodi anakupimani chani?

- a. Magazi ku uzimai
- b. Pa mimba
- c. Uchoka kwamukaka kubele
- d. Matenda ena alionse


**CHIGAWO CHACHITATU: ZOMWE MUZIWA**

**PACHIPIMO CHA AZIMAI ATABELEKA**

16. kodi munabvapo zakupimitsa za azimai atabeleka?

- a. Inde
- b. Yayi


17. Ngati yankho ndi inde, kodi munabvela kwandani?

- a. Kuchipatala
- b. Anamwino akumudzi
- c. Kwa abanja
- d. Azanga
- e. Benabache, Nchulani.....


18. Kodi chipimo cha azimai atabeleka nichani?

- a. Upima mwana atabadwa chabe
- b. Usamalira amake ndimwana atabadwa pakana masondo sikisi
- c. Kutulusa amake a mwana kuchipatala atabelekachabe
- d. Kupasa katemela ku ana atabadwa paka zaka zisanu


19. Kodi muzimai afunika upita liti kuchipimo atabeleka?

(tick all applicable)

- a. Pama ola sikisi atabeleka
- b. Pakati pamasiku awiri ndi atatu
- c. Pama siku sikisi atabeleka
- d. Pama sondo sikisi atabeleka
- e. Zindiziwa


20. Kodi nichofunikila upita kuchipimo cha azimai mutabeleka?

- a. Inde
- b. Yayi


21. Ngati mubvomekeza kuti nichofunikila, Pazifukwa ziti?

- a. Amapima kuthamanga kwamangazi
- b. Amatipima matenda
- c. Amapima kakulidwe ka mwana
- d. Amapima mwana ndi amake


22. Kodi muma mphunzila pazaubwino zachipimo cha azimai atabeleka?

- a. Inde
- b. Yayi
- c. Sindiziwa


23. Ngati muma mphunzila, kodi ndani akuphunzinsani?

- a. Anamwino akumudzi
- b. Anesi/anamwino kuchipatala
- c. Adotolo
- d. Abanja


**CHIGAWO CHACHINAYI: ZONKHUZA KU CHIPATALA**

24. Kodi mumatenga nthawi yotani kufika kuchipatala?

(to be converted to km; 0-2, 3-5, 6-10, >10)

- a. Mphindi makhumi atatu
- b. Ola limodzi
- c. Ma ola awiri
- d. kupitilira maola awiri

25. Kodi chipimo cha azimai atabeleka chiliko pachipatala chapafupi chakuno?

- a. Inde
- b. Yayi

26. Ngati mubvomekeza kuti chipimo cha azimai atabeleka chiliko, kumankhala wothandiza?

- a. Nthawi ili yonse
- b. Nthawi zina
- c. Sankhalako
- d. Zina, zotani.....

.....

27. Kodi anesi, anamwino ndi ma dotolo

Amapeleka moni mukapita kuchipatala?

- a. Nthawi zonse
- b. Nthawi zina
- c. Mwapanthawi
- d. Sizichitika

28. Kodi ndikangati komwe anesi, anamwino ndimadotolo amapeleka ulemu mukapita kuchipatala?

- a. Nthawi zonse
- b. Nthawi zina
- c. Mwapanthawi
- d. Sizichitika


29. Mumalindira nthawi yaitali bwanji musanalandire Nthandizo mukapita kuchipimo cha azimai mutabeleka?

- a. Mphindi khumi ndizisanu
- b. Mpindi ma khumi atatu
- c. Ola limodzi
- d. Kupitilira ola limodzi


30. Kodi anasi, anamwino ndi adotolo amakufotokozelani Zomwe achita asanakupaseni nthandizo?

- a. Nthawi zonse
- b. Nthawi zina
- c. Mwapanthawi
- d. Sizichitika


31. Kodi nikangati komwe manasi, anamwino ndi adotolo amaku bvensesani modekha?

- a. Nthawi zonse
- b. Nthaw izina
- c. Mwapanthawi
- d. Sizichitika


32. Kodi mungakonde anzanu olo abanja

Kusewezensa chipatala ichi?

- a. Nthawi zonse
- b. Nthawi zina
- c. Mwapanthawi
- d. Sizingachitike


**CHIGAWO CHACHISANU: ZOMWE MUKHULUPILIRA PA ZAMWAMBO WANU**

33. Kodi kulizomwe munalemekeza za mwambo mutabeleka?

- a. Inde
- b. Yayi


34. Ngati mubvomela kuti munalemekeza zamwambo mutabeleka, fotokozani zomwe munalemekeza?

.....

.....

.....

.....

.....

35. Kodi njira zotani zomwe mungatiuzeko zingalimbinse Muzimai kuti azisewezensa chipimo atabeleka?

.....

.....

.....

.....

**TAFIKA KUMAPETO, ZIKOMO KWAMBIRI PA MUPATA MWANIPASA KUTI NDICHEZE NANU. NDINTHOKOZA KWAMBIRI!!!!**

**APPENDIX VII**

**MARKING KEY FOR THE STUDY VARIABLES**

<b>SECTION B</b>		<b>UTILIZATION OF SKILLED ATTENDANTS</b>	
<b>QUESTION NUMBER</b>	<b>QUESTION</b>	<b>CORRECT ANSWERS</b>	<b>MAXIMUM</b>
11.	Who delivered your last child?	Midwife/Nurse, Doctor	1
12.	Did you attend the postnatal clinic for postnatal care after delivery of your last child?	Yes	1
13.	If yes to question 12, how many times did you attend postnatal clinic?	Once, twice, three times, more than three times	4
14.	Who attended to you at postnatal clinic?	Midwife/Nurse, Doctor	1
15.	During postnatal care, did they check the following?	Lochia, uterine involution, lactation, infection	2
<b>TOTAL</b>			<b>9</b>
<b>SECTION C</b>		<b>KNOWLEDGE LEVEL</b>	
<b>QUESTION NUMBER</b>	<b>QUESTION</b>	<b>CORRECT ANSWERS</b>	<b>MAXIMUM</b>
16.	Have you ever heard of postnatal care?	Yes	1
17.	If Yes to question 16, where did you hear it from?	Health provider, Traditional Birth attendant, relative, friend	1
18.	What is postnatal care?	Care of the mother and the newborn up to 6 weeks after delivery	3
19.	When is the mother supposed to visit the health centre for postnatal care?	At 6 hours after delivery, at 2-3 days, at 6 days, at 6weeks	2
20.	Is it important to attend postnatal clinic?	Yes	1
21.	If yes to question 20, what is the importance of postnatal care?	Blood pressure is checked, detection of complications, child's growth monitoring and monitor progress of the mother	2
22.	Is health education given on importance of postnatal care at the health centre?	Yes	1
23.	If yes to question 22, who gives the health education?	Midwife/nurse, Doctor, relative	1
<b>TOTAL</b>			<b>12</b>

SECTION D	ATTITUDE OF THE SKILLED ATTENDANT		
QUESTION NUMBER	QUESTION	CORRECT ANSWERS	MAXIMUM
25.	Are there postnatal services at the nearest centre	Yes	1
26.	If yes to question 25, how accessible are the services?	Readily accessible	3
27.	Do skilled attendants greet you when you go to the clinic?	Always	3
28.	How often do skilled attendants treat you with courtesy and respect?	Always	3
29.	How long do you wait at the health clinic before you are attended to?	Always	3
30	Do skilled attendants explain procedures before attending to you?	Always	3
31.	How often did skilled attendants listen to you carefully?	Always	3
32.	Would you recommend this clinic to your friends or relatives?	Always	3
<b>TOTAL</b>			<b>22</b>



## **KEY**

### 1. SECTION B: UTILIZATION OF SKILLED ATTENDANTS

- Adequate utilization            5 - 9
- Inadequate utilization        0 - 4

### 2. SECTION C: KNOWLEDGE LEVEL

- High level                        9 - 12
- Moderate level                5 - 8
- Low level                        0 - 4

### 3. SECTION D: ATTITUDE OF SKILLED ATTENDANTS

- Good attitude                    14 - 22
- Bad attitude                     0 - 13

## APPENDIX VIII: RESEARCH WORK SCHEDULE

	TASK TO BE PERFORMED	DATES	WEEKS	PERSONNEL	DAYS REQUIRED
1.	Literature review	Continuous		Researcher	
2.	Submit topic to the supervisor	9 <sup>th</sup> to 13 <sup>th</sup> February, 2015	1	Researcher	7 days
3.	Submit first draft copy of proposal to the supervisor	16 <sup>th</sup> to 27 <sup>th</sup> February, 2015	2- 4	Researcher	12 days
4.	Finalize research proposal	2 <sup>nd</sup> March to 2 <sup>nd</sup> April, 2015	5- 9	Researcher	28 days
5.	Data collection tool	6 <sup>th</sup> April to 10 <sup>th</sup> April, 2015	10- 11	Researcher	7days
6.	Submit final draft copy of proposal to supervisor	13 <sup>th</sup> to 24 <sup>th</sup> April, 2015	11-13	Researcher	14 days
7.	Presentation of the research proposal to the department	27 <sup>th</sup> April to 1 <sup>st</sup> May, 2015	14-15	Researcher	1 day
8.	Amending the corrections	4 <sup>th</sup> to 8 <sup>th</sup> May, 2015	16- 17	Researcher	7 days
9.	Presentation of research proposal to graduate forum	11 <sup>th</sup> to 15 <sup>th</sup> May, 2015	18- 19	Researcher	1 day
10.	Amending the corrections	18 <sup>th</sup> to 22 <sup>nd</sup> May, 2015	20- 21	Researcher	7 days
5	Clearance from Ethical Committee	25 <sup>th</sup> May to 5 <sup>th</sup> June, 2015	22 -24	Ethical committee	14 days
6.	Pilot study	8 <sup>th</sup> to 12 June, 2015	25	Researcher	7 days
7.	Data collection	1 <sup>st</sup> July to 1 <sup>st</sup> Sept, 2015	26- 34	Researcher	60 days
8.	Data analysis	7 <sup>th</sup> to 18 <sup>th</sup> sept, 2015	35- 37	Researcher	14 days
9.	Report writing	21 <sup>st</sup> Sept to 23 <sup>rd</sup> October, 2015	38- 42	Researcher	28 days
10.	Submission of draft copy of research report to supervisor	2 <sup>nd</sup> to 20 <sup>th</sup> November, 2015	43- 46	Researcher	21 days
11.	Finalizing research report and binding	23 <sup>rd</sup> November to 21 <sup>st</sup> December, 2015	47- 51	Researcher	28 days
12.	Deposition of final research report	4 <sup>th</sup> January to 4 <sup>th</sup> February, 2016	52- 56	Researcher	28 days
13.	Monitoring and evaluation	Continuous		Researcher	

**APPENDIX IX: THE GANTT CHART**

Activity	Responsible Person	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	
Literature Review		←—————→													
Submit topic to the supervisor		↔													
Submit first draft copy of proposal to the supervisor 1		↔													
Finalize research proposal			↔												
Submit final draft copy of proposal to supervisor				↔											
Presentation of the research proposal to the department				↔											
Amending the corrections					↔										
Presentation of research proposal to graduate forum					↔										
Amending the corrections					↔										
Clearance from Ethical Committee						↔									
Pilot study						↔									
Data collection							↔								
Data analysis								↔							
Report writing									↔						
Submission of draft copy of research report to supervisor										↔					
Finalizing research report and binding											↔				
Deposition of final research report												↔			
Monitoring and evaluation		←—————→													

## APPENDIX X – STUDY BUDGET

Budget category	Unit cost (ZMK)	Quantity	Total (ZMK)
1. Realms of paper	35.00	10	350.00
2. Pens	1.00	20	20.00
3. Pencils	1.00	20	20.00
4. Rubbers	1.00	10	10.00
5. Note books	10.00	4	40.00
6. Correction fluid	15.00	5	75.00
7. Stapler	50.00	3	150.00
8. Staples	10.00	3	30.00
9. Lift bags	150.00	4	600.00
10. Printer cartridge	400.00	2	800.00
11. Flash disk	100.00	1	150.00
<b>Sub Total</b>			<b>2,245.00</b>
<b>Personnel</b>			
<b>Lunch allowances</b>			
1. Principal investigator	50.00	1 x 30	1,500.00
2. Driver	50.00	1 x 30	1,500.00
<b>Sub Total</b>			<b>3,000.00</b>
<b>Transport</b>			
Fuel (Petrol)	7.50	40 x 12	<b>3,600.00</b>
<b>Budget category</b>	<b>Unit cost (ZMK)</b>	<b>Quantity</b>	<b>Total (ZMK)</b>
<b>Other services</b>			
1. Ethics committee	1,000.00	1	1,000.00
2. Photocopying proposal	0.30	1 x 40 pages	12.00
3. Photocopying questionnaire	0.30	15 pages x422	877.50
4. Analysing the report	1,000.00	1	1,000.00
5. Printing the report	300.00	4	1,200.00
6. Binding the document	150.00	4	600.00
7. Printing picture report	1,500	1	1,500.00
<b>Sub Total</b>			<b>6,189.50</b>
<b>TOTAL</b>			<b>15,035.50</b>
Contingency	10%		1,503.50
<b>GRAND TOTAL</b>			<b>16,538.50</b>

## **Budget justification**

### **1. Stationery**

The realms of paper were required for typing the research proposal, the questionnaires and printing the research report. Staples and staplers were required for keeping papers properly arranged all the time. The pens and pencils were needed for taking notes throughout the research project. The bags were needed for packing the interview schedules during data collection. The flash disk was needed to keep soft copies of the research proposal and report. The scientific calculator was needed for making calculations.

### **2. Personnel emoluments**

Lunch allowance was needed for buying food for the principal researcher and the driver when collecting data.

### **3. Other services**

Funds were needed for items that were facilitating the process of research from proposal to binding stage. The research ethics handling fee was a requirement for the research ethics committee (ERES) which approved the study.

### **4. Transport**

The budget for fuel was required to take the researcher to the data collection sites.

### **5. Contingency fee**

This was an additional 10% of the total budget to cater for the unforeseen expenses during the period of study such as inflation and unstable currency.

### **6. Source of funding**

Ministry of Health funded the researcher.

**APPENDIX XI: PERMISSION LETTER FROM THE PMO**

**APPENDIX VI: LETTER TO THE PROVINCIAL MEDICAL OFFICER**

21

The University of Zambia,  
School of Medicine,  
Department of Nursing Sciences,  
P.O Box 50110,  
**LUSAKA**

**29.06.2015**  
The Provincial Medical Officer,  
Eastern Province  
P.O Box 510023  
**CHIPATA.**

UFS: The Head of Department,  
Department of Nursing Sciences,  
P.O Box 50110,  
**LUSAKA.**



*Planned  
F.Y.A*

Dear Sir/Madam

**RE: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY ON UTILIZATION OF SKILLED ATTENDANTS BY POSTNATAL MOTHERS IN CHIPATA DISTRICT, EASTERN PROVINCE, ZAMBIA**

I am a Masters of Science Nursing student at the University of Zambia, School of Medicine, Department of Nursing Sciences. In partial fulfilment for the award of this Degree, I am required to conduct a research to contribute to the body of scientific knowledge and improve health service delivery in the District, Province and Country at large.

The purpose of this research is to determine the factors that influence utilization of skilled attendants by postnatal mothers in Chipata District. The research study will be conducted at 12 health centres of Chipata district and the pilot study will be conducted at 3 healthcentres.

I am therefore requesting for permission to conduct my study in the District. The researcher intends to interview postnatal mothers at 6 days and at 6 weeks after delivery at selected research setting. The researcher hopes to collect the data between 13<sup>th</sup> July and 11<sup>th</sup> September, 2015.

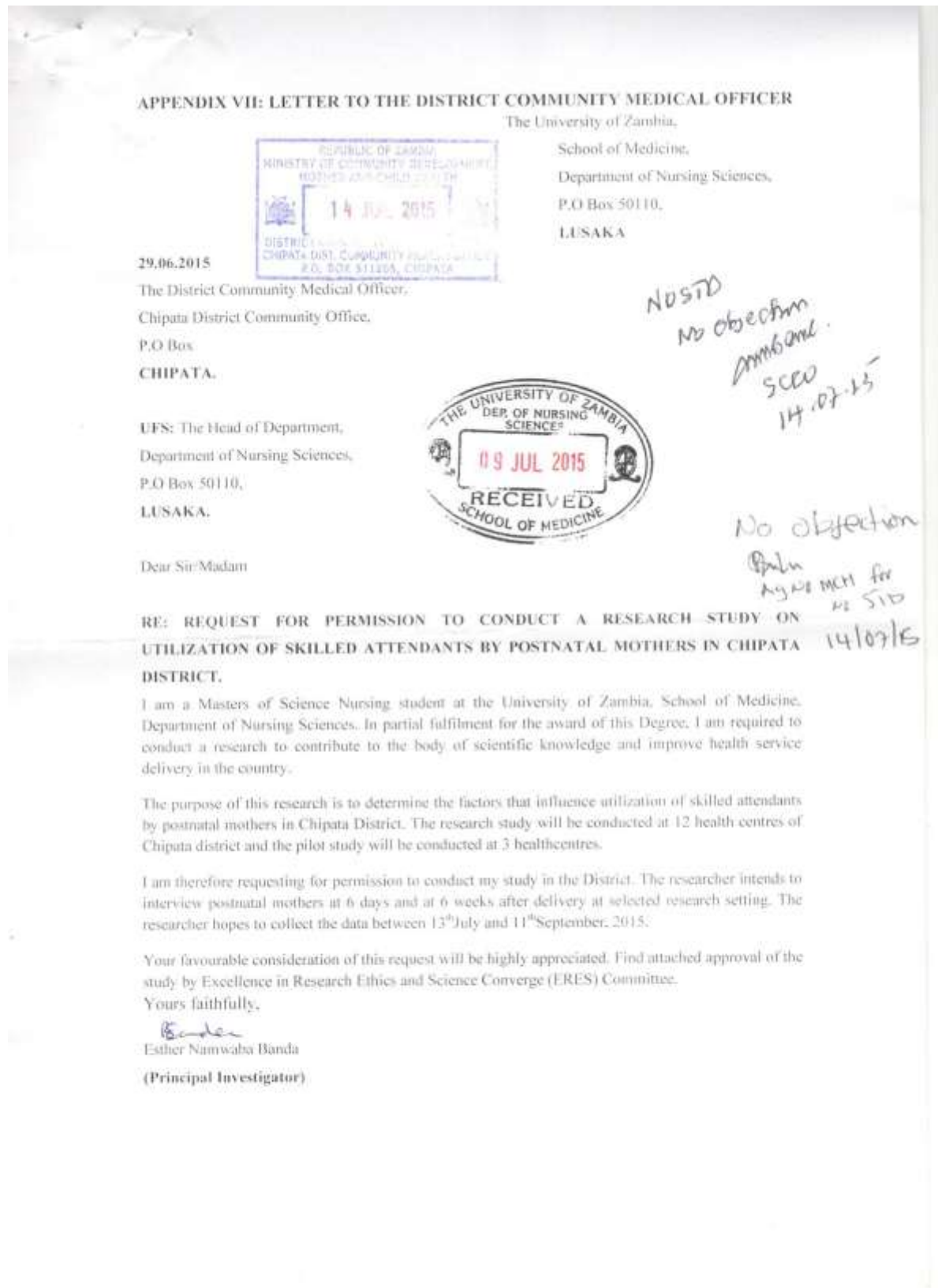
Your favourable consideration of this request will be highly appreciated. Find attached approval of the study by Excellence in Research Ethics and Science Converge (ERES) Committee.

Yours faithfully,

*E. Banda*  
Esther Namwaha Banda

**(Principal Investigator)**

**APPENDIX XII: PERMISSION LETTER FROM THE DMO**



**APPENDIX VII: LETTER TO THE DISTRICT COMMUNITY MEDICAL OFFICER**

The University of Zambia,



School of Medicine,  
Department of Nursing Sciences,  
P.O Box 50110,  
LUSAKA

29.06.2015

The District Community Medical Officer,  
Chipata District Community Office,  
P.O Box  
CHIPATA.

UFS: The Head of Department,  
Department of Nursing Sciences,  
P.O Box 50110,  
LUSAKA.



*NO STD  
No objection  
Amband.  
SCEO  
14.07.15*

*No objection  
Palu  
Ag. MCH for  
H2 STD  
14/07/15*

Dear Sir/Madam

**RE: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY ON UTILIZATION OF SKILLED ATTENDANTS BY POSTNATAL MOTHERS IN CHIPATA DISTRICT.**

I am a Masters of Science Nursing student at the University of Zambia, School of Medicine, Department of Nursing Sciences. In partial fulfilment for the award of this Degree, I am required to conduct a research to contribute to the body of scientific knowledge and improve health service delivery in the country.

The purpose of this research is to determine the factors that influence utilization of skilled attendants by postnatal mothers in Chipata District. The research study will be conducted at 12 health centres of Chipata district and the pilot study will be conducted at 3 healthcentres.

I am therefore requesting for permission to conduct my study in the District. The researcher intends to interview postnatal mothers at 6 days and at 6 weeks after delivery at selected research setting. The researcher hopes to collect the data between 13<sup>th</sup> July and 11<sup>th</sup> September, 2015.

Your favourable consideration of this request will be highly appreciated. Find attached approval of the study by Excellence in Research Ethics and Science Converge (ERES) Committee.

Yours faithfully,

*Esther Namwaba Banda*  
Esther Namwaba Banda

(Principal Investigator)



33 Joseph Mwilwa Road  
Rhodes Park, Lusaka  
Tel: +260 955 155 633  
+260 955 155 634  
Cell: +260 966 765 503  
Email: eresconverge@yahoo.co.uk

I.R.B. No. 00005948  
EWA. No. 00011697

1<sup>st</sup> July, 2015

**Ref. No. 2015-June-004**

The Principal Investigator  
Ms. Esther Namwaba Banda  
University of Zambia  
Dept. of Nursing  
P.O. Box 50110,  
**LUSAKA.**

Dear Ms. Banda,

**RE: UTILISATION OF SKILLED ATTENDANTS BY POSTNATAL MOTHERS IN CHIPATA DISTRICT.**

Reference is made to your corrections dated 29<sup>th</sup> June, 2015. The IRB resolved to approve this study and your participation as principal investigator for a period of one year.

Review Type	Ordinary	Approval No. <b>2015-June-004</b>
Approval and Expiry Date	Approval Date: 1 <sup>st</sup> July, 2015	Expiry Date: 30 <sup>th</sup> June, 2016
Protocol Version and Date	Version-Nil	30 <sup>th</sup> June, 2016
Information Sheet, Consent Forms and Dates	<ul style="list-style-type: none"> <li>English, Nyanja.</li> </ul>	30 <sup>th</sup> June, 2016
Consent form ID and Date	Version-Nil	30 <sup>th</sup> June, 2016
Recruitment Materials	Nil	30 <sup>th</sup> June, 2016
Other Study Documents	Structured Interview Schedule.	30 <sup>th</sup> June, 2016
Number of participants approved for study	195	30 <sup>th</sup> June, 2016



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Specific conditions will apply to this approval. As Principal Investigator it is your responsibility to ensure that the contents of this letter are adhered to. If these are not adhered to, the approval may be suspended. Should the study be suspended, study sponsors and other regulatory authorities will be informed.

#### **Conditions of Approval**

- No participant may be involved in any study procedure prior to the study approval or after the expiration date.
- All unanticipated or Serious Adverse Events (SAEs) must be reported to the IRB within 5 days.
- All protocol modifications must be IRB approved prior to implementation unless they are intended to reduce risk (but must still be reported for approval). Modifications will include any change of investigator/s or site address.
- All protocol deviations must be reported to the IRB within 5 working days.
- All recruitment materials must be approved by the IRB prior to being used.
- Principal investigators are responsible for initiating Continuing Review proceedings. Documents must be received by the IRB at least 30 days before the expiry date. This is for the purpose of facilitating the review process. Any documents received less than 30 days before expiry will be labelled "late submissions" and will incur a penalty.
- Every 6 (six) months a progress report form supplied by ERES IRB must be filled in and submitted to us.
- ERES Converge IRB does not "stamp" approval letters, consent forms or study documents unless requested for in writing. This is because the approval letter clearly indicates the documents approved by the IRB as well as other elements and conditions of approval.

Should you have any questions regarding anything indicated in this letter, please do not hesitate to get in touch with us at the above indicated address.

On behalf of ERES Converge IRB, we would like to wish you all the success as you carry out your study.

Yours faithfully,  
**ERES CONVERGE IRB**

  
Dr. E. Munalula-Nkandu  
BSc (Hons), MSc, MA Bioethics, PgD R/Ethics, PhD  
**CHAIRPERSON**