

## Chapter 1

### INTRODUCTION

#### 1.1 Brief overview of the topic and its relevance

Women all over the world have been bearing children for centuries before there were any formal medical institutions to attend to them. Child birth therefore has a strong socio cultural relevance in many communities around the world. With industrialization and the advent of the biomedical model of health care many of the traditional beliefs and mystic surrounding child birth have largely disappeared. However this does not mean to say that they no longer exist. Understanding these beliefs and acknowledging their existence even as women are cared for in hospitals and clinics will assist in enhancing the birth experience of women and address the high morbidity and mortality rates in many developing parts of the world.

Maternal and child health is important in developing countries which continue to have the highest morbidity and mortality rates. In Zambia maternal mortality stood at 729 per 100 000 live births in 2002 (CSO 2001-2002). Certain traditional practices and beliefs are risk factors to the wellbeing of the mother and/or child and may determine whether a woman seeks care at a health facility or not (Chinyelu 1994; Maimbolwa, 2003; Kyomuhendo, 2003). Many women have to overcome a number of traditional beliefs which may act as barriers to following what is recommended or advised by the health services. For communities in peri-urban areas of Lusaka government clinics are usually accessible but many will not begin attending until the pregnancy is advanced (Maimbolwa 2003).

## **1.2 Problem statement**

Health beliefs surrounding pregnancy and child birth affect the woman's use of health facilities and what advice will be followed from the clinic. Health providers therefore have to seek to understand what beliefs are held and practiced in the community and how these can be addressed to enhance cooperation and the well being of the mother and child.

## **1.3 Justification for the Study**

Qualitative studies around the world and in Zambia have elucidated a number of traditional beliefs which seem to be prevalent in various forms in many cultures. With this study I would like to make a quantitative analysis of some of these beliefs using a questionnaire among women accessing services at Chawama clinic in Lusaka. Healthcare professionals it is hoped will be assisted in understanding and managing these women. The clinic can also design specific programs to discuss and address beliefs affecting maternal and child health.

## **Chapter 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

Many cultures have had certain views about pregnancy and child birth that have been passed on for generations. Traditional beliefs about pregnancy usually run parallel to the biomedical model of practice but the two have been successfully integrated in some cultures where women are allowed to practice their traditional customs as long as they have no direct detrimental effect on the health of the mother or child (Callister et al 2009).

#### **2.2 Studies around the world**

In developed countries the majority of births take place in hospitals or delivery centers where the biomedical model of practice is followed with nurses, midwives and doctors/obstetricians available. A qualitative descriptive study to identify perceptions of Australian women about giving birth was conducted using audio taped interviews of seventeen women who had given birth in the previous 12 month (Callister et al 2009)

The themes that emerged from the interviews included a feeling of being empowered and the women defined a spiritual dimension to the experience which was sometimes religious or simply a connectedness to the baby. The care they received and the support from the nurses made a difference in their birth experience which was very positive in this study. However this study was limited in that a homogenous well educated convenience sample of Australian women was used, with only one immigrant

woman, and a small number of women with varied ethnic backgrounds (Callister et al 2009).

A study looking at the birth experience of Asian migrants in rural Tasmania, Australia gave rather different findings. Semi- structured interviews conducted with 10 Asian migrant women living in rural Tasmania were analyzed using grounded theory. Three main categories were identified: 'migrants with traditional practices in the new land', 'support and post natal experiences' and 'barriers to accessing maternal care'.

Following the biomedical model of practice meant that the women were often at conflict with their traditional beliefs and followed nurses' orders out of respect for authority (Hoang & Kilpatrick 2009).

Beliefs center on the pregnancy itself, the birthing experience and the post natal period. In many developed countries pregnancy is taken to be a medical condition which is largely treated using the biomedical model with some kind of scientific explanation of why something is done or a complication occurs. Health workers in western countries therefore need a large degree of cultural competence to appreciate the beliefs and practices of communities from other cultures who come in contact with their health care system during the period of pregnancy and child birth. (Bodo & Gibson 1999; Hoang & Kilpatrick 2009; Kim-Godwin 2003)

### **2.2.1 Beliefs in Pregnancy**

Traditional beliefs during pregnancy are practiced to ensure a good outcome. Rules about diet and behaviors are numerous and what to do after the baby is born. Once the woman knows that she is pregnant she may or may not start preparing for the birth experience. In Vietnamese culture procreation is highly regarded and the woman will start to wear clothes that draw attention to her changing shape (Bodo & Gibson 1999). In contrast in Russian society early pregnancy is only disclosed to the father and close relatives for fear of the “evil eye” bringing about some bad outcome (Callister et al 2007). The evil eye or a bad outcome because of ill wishes from others is feared in other cultures such as in the Arab world, the Far East and in many developing countries (Kridli 2002; Itina 1997). In Thailand there are certain taboos associated with preparing for the birth of a child too early (Liamputtong et al 2005). Thus events such as baby showers, commonly held in western countries, are not done until the child is born healthy and well and likely to survive (Liamputtong et al 2005; Callister et al 2007; Kridli 2002)

### **2.2.2 Studies from Asia**

Many cultures in Asia and the Far East believe in the Chinese principle of yin and yang which are equal and opposite forces that bring universal balance and harmony. Different foods and behaviors are thought to affect the balance of these forces and thus the well being of the pregnant woman and her child (D’Avanzo 1992; Bodo & Gibson 1999; Kim-Godwin 2003; Liamputtong et al 2005). Foods may be classified as ‘hot ‘or ‘cold’. Pregnancy is considered to be a hot state thus cold foods are encouraged. (Kim-

Godwin 2003; Liamputtong et al 2005). After delivery a woman is considered to be in a cold state due to the loss of blood and fluids. She is therefore advised to eat a lot of what are termed 'hot' foods and avoid cold foods and exposure to cold elements. Food must also be eaten hot in temperature. Behaviour such as taking a bath or shower is prohibited as there are thought to worsen this 'cold' state which is said to expose the woman to illnesses such as arthritis especially in old age (Liamputtong 2005; Bodo 1999; Kim- Godwin 2003; Lui 2006).

A qualitative study among women in Northern Thailand used in-depth interviews to determine Thai traditional beliefs and practices. These traditional practices were followed by most rural women and some urban women. Some of the themes that emerged from the interviews were dietary and behavioural precautions and preparations for an easy delivery. Pregnant women were advised to avoid foods referred to as *khong salaeng* (allergic foodstuff) as it was believed that its' consumption could cause health problems or even death. Spicy hot foods were avoided as these were believed to cause the baby to be born with no hair. Coffee and tea were thought to make the baby 'unintelligent' ( Liamputtong et al, 2005).

A qualitative study in Fujian province, China asked women about their beliefs and practices during the puerperium which is also known as *zuo yuezi* or the 'sitting' month (Raven et al, 2007). Here again women were advised to avoid what was termed 'cold' food and encouraged to eat a lot of the recommended 'hot' food. Behavioural precautions in the puerperium from this study and other cultures included staying

indoors, not doing housework and staying in bed most of the time. During this period bathing, washing of hair and brushing of teeth were also not allowed for 'health' reasons (Callister et al 2009; Kim-Godwin 2003; Liamputtong et al 2005; Raven et al 2007).

Similar findings were obtained in a cross-sectional, retrospective study conducted among postpartum women in three regions of Hubei, China. A questionnaire was used to collect data regarding post partum practices from 2100 women that had given birth within the previous two years. The study found that dietary restrictions were still practiced particularly in rural areas. There was excessive consumption of eggs, meat, fish and poultry which were considered 'hot' foods and more desirable for a recovering mother. Vegetables, fruit and milk were discouraged (Liu et al 2006).

Special food is generally prepared for the post partum mother to regain the 'hot-cold' balance of the body. In her article about postpartum beliefs and practices among non western cultures a Korean registered nurse married to an American discusses her experience giving birth in the United States. She felt that she was not treated in as special a way as she would have been back home in Korea. She was given the normal everyday food she had always been eating and was expected to start doing things for herself around the house soon after the birth of the child. In Korea she would have been given special hot foods and soups and allowed to rest from the everyday work of the home for a given period (Kim-Godwin 2003). Traditionally social support for the new mother is very important.

Wang et al (2006) looked at how wide spread traditional post partum practices were in Northern rural China using a post partum behavior questionnaire. Most women it was found drastically changed their pattern of behavior changing in their diet, sanitary habits, dress and activity like household chores. Level of education did not have any effect on the adherence to traditional beliefs and customs (Wang et al 2006). Similarly Chinese migrates in other parts of the world continue to practice 'doing the month' even when they are far away from home (Wang et al 2006). Academic education is therefore not sufficient to change this practice among the Chinese.

Lui et al (2009) designed a health and nutrition education intervention for post partum women which was given to women during the course of the pregnancy. The results of the randomized controlled trail (RCT) showed improved dietary knowledge and consumption of the traditionally prohibited foods such as fruit, vegetables soya bean and soya bean products. Women that had the nutrition intervention had a significantly 'lower incidence of constipation, leg cramps or joint pain and prolonged lochia rubra'. More women in the intervention group gave up traditional behaviour taboos (Lui et al 2009). Thus targeted interventions can be effective in changing beliefs and improving women's health.

Certain behaviors are regarded as undesirable for the pregnant woman or during the post partum period. In Thailand driving a car and sexual intercourse were examples of activities to be avoided (Liamputtong et al 2005). Similar precautions were also demonstrated among Russian women who did not drive during the entire pregnancy or

stopped doing so by the second trimester (Callister et al 2007). A period of confinement in the post partum period is observed in many cultures and varies in durations from 30 to 40 days (Callister et al 2007; Kim-Godwin 2003; Raven et al 2007) though some may stay as long as three months (Bauni et al 1998). During this time activity may be limited to only what is really necessary and the new mother is expected to spend most of her time eating the 'appropriate food,' resting and sleeping. Visitors are discouraged. On the other hand during pregnancy women are encouraged to be active right up to the time of labour as sitting or lying down for too long is believed could allow the fetus to become too large and thus difficult to deliver (Bodo & Gibson 1999; Liamputtong et al 2005).

### **2.2.3 Beliefs and religion/spirituality**

Beliefs in many parts of the world have a spiritual or religious connotation with a fear of some unseen negative forces that can influence the outcome of the pregnancy. In Russia fear of some misfortune befalling the pregnant woman leads to secrecy about the pregnancy and isolation of the woman in the early months (Callister et al 2007). The pregnancy is not spoken of too optimistically for fear of being 'jinxed.' Religious incantations are recited during the birth process by midwives to ensure a favorable outcome. New babies are not taken out in public and visitors are restricted as a form of protection. When the baby is eventually taken out a pin is put in the stroller as added protection. A blessing from the priest is usually arranged and celebrations of the birth are held 40 days after the baby comes home. Babies are given a baby massage and are encouraged to be out in the fresh air for several hours each day after this (Callister et al 2007)

In a review article Bodo and Gibson (1999) describe orthodox Jewish practices in order to assist family physician enhance the quality and sensitivity of care to this cultural group in Canada. Lewis (2003) looked at Jewish perspectives on pregnancy and child birth among Jews in the United States. Many of the beliefs have their origin in Old Testament bible teachings and the writings of Moses. Each Jewish group will observe these customs differently with the Orthodox Jews being the strictest. Over the years rabbis have added to these teaching in the *hibachi* and *responsa* to cover areas of modern life not present at the time of the old writings.

There are rules about almost every aspect of everyday life, such as diet, Sabbath observance, when to have or not have sexual intercourse and rituals about what the woman should do during and after her menstrual period. In Jewish custom procreation is encouraged and having a large family is generally considered a *mitzvah* or a 'good thing'. However the woman's health is more important than the just having of many children. Contraception is therefore encouraged for the mental and physical well being of the mother (Bodo & Gibson 1999; Lewis 2003). Female physicians are generally preferred for the care of the pregnant Orthodox Jewish woman. Women going into labor are considered to be in mortal danger and in a state of risk for three days. During this time the husband is not allowed to support, touch or physically comfort his wife because of the bloody discharge from the process of giving birth following the laws of *tahirat hamishpacha* or 'family purity'. The husband can talk to his wife or read verses out loud from their holy book (Bodo & Gibson 1999)

Arab women similarly have strong religious teachings about conduct and behaviour during pregnancy and the post partum period. As in many cultures this is an event that is considered to be a female affair with minimal participation of the father. Men are generally not involved much in the pregnancy or the birth process (Callister et al 2007; Hoang et al 2009; Kridli 2002). However this does not mean to say that men are unconcerned about their wives as may be perceived by western cultures. The woman is generally cared for by other women who give her traditional advice during pregnancy, escort her to the hospital and encourage her through the process of delivery and in the post partum period (Bodo & Gibson 1999; Fisher 2003; Kridli 2002; Hoang et al 2009; Maimbolwa 2001, 2003;)

#### **2.2.4 Use of herbal medication**

In developed countries medication prescribed by a physician or proved to be safe in pregnancy is taken by a pregnant woman when necessary. However many cultures around the world may use herbal medications during pregnancy or labor. The dose and pharmacological properties of such herbal remedies are unclear but many women take them trusting the advice of the elder and more experienced generations. (Banda et al 2007; Bodo & Gibson 1999; Itina 1997; Lans 2007; Liamputtong 2005; Geloo 2003). Herbs may also be used to bath or as charms to ward off 'negative' forces (Itina 1997).

In Trinidad and Tobago a qualitative study looked at the use of herbs for the treatment of various reproductive problems for both men and women. There were 30 respondents (10 men and 20 women) who were selected by snowball sampling. Ten traditional

healers were among the respondents. The study identified a wide range of plants used for a spectrum of reproductive ailments. The effects of a few of these plants had been validated by scientific trails. Pending clinical trails for the majority of the plants the non experimental validation method was used to advise the public on which plants were safe, effective and useful and which were not (Lans 2007).

### **2.3 Studies in Africa**

Developing regions of the world such as Africa have some of the highest maternal mortality rates in the world. The health and well being of the mother is no less important here and many of the problems such as the availability of a clinic and trained personal may be beyond the control of the individual women (Chinyelu et al 1994). However there are beliefs that may pose a danger to the health of the woman (Itina 1997; Geloo 2003; Maimbolwa et al 2003). In a case control study looking at maternal mortality in the highlands of rural northern Tanzania risk of mortality was increased when women or husbands followed traditional customs (Evjen-Olsen et al 2008). In Africa many women are dependent on men for most decisions including matters of sexuality, contraception and when to access health care (Bauni1998).

In many parts of Africa particularly in rural areas and other rural areas of the developing world where health facilities are limited women may deliver at home with the help of family members or the assistance of a traditional birth attendant (TBA) (Chinyelu 1994; Kesterton & Cleland 2009; Osrin et al 2002; Itina 1997;) Traditional birth attendants are respected members of the community who advice women on traditional practices in

pregnancy, at delivery and during the post partum period. However their knowledge is limited and their advice may be detrimental to the well being of the woman in some cases (Chinyelu 1994; Itina 1997; Maimbolwa 2003)

A study in Nigeria found TBA encouraging the drinking of alcohol (palm wine), and caffeine stimulants (Kola nuts) to promote lactation while discouraging the eating of meat, fish and eggs (Chinyelu 1994). Health education interventions are needed to influence the belief system of these communities. The training of TBA may assist in reducing maternal mortality and morbidity as they have a major influence on the community (Itina 1997; Osrin et al 2002). Midwives and TBA may often be at conflict in a community with each discouraging women from going to the other (Chinyelu 1994, Van der Kooi & Theobald 2006)

A study in Uganda investigated the low use of rural maternity services using a 'cross-sectional and descriptive design' and employed quantitative and qualitative methods. The quantitative survey indicated poor use of the available maternal services by most women. The qualitative analysis showed that cultural beliefs greatly influenced individual perceptions and use of health facilities with many women preferring to deliver at home. Maternal death was seen as a 'sad but normal event' (Kyomutendo 2003). Traditional herbs were used extensively in pregnancy and in the perinatal period to 'prevent' and 'treat' complications. Going to a health care facility was only done as a last resort with death at home being regarded as more honorable (Kyomutendo 2003).

Another study in Uganda looking at adolescent health seeking behaviour in pregnancy showed that TBA were preferred because they did not ask for monetary payment before attending to the women and respected traditional customs such as placental rites (Atuyambe et al 2009). The TBA give the women the placenta to go and perform rituals that ensure good life for mother and child while health facilities incinerate the placenta which is not appreciated by those that want to follow the tradition (Atuyambe et al 2009).

The use of traditional medication to promote labour was studied in Mogwase district in the North West province of South Africa. Most black women use ANC services and deliver in health care facilities. However they still believe in the use of traditional medicine also known as *kgaba*. Traditional medicine was seen to be useful in preventing and solving physical ailments and to protect from evil spirits that may cause harm during the pregnancy. However health care workers believed that the traditional medicine taken during pregnancy caused foetal distress and an increase in the rate of caesarian sections. As a result communication on the use of traditional medicine was poor between health workers and pregnant women making it difficult to evaluate the extent to which *kgaba* is used and the doses ingested (Van der Kooi & Theobald 2006)

#### **2.4 Studies in Zambia**

Maimbolwa et al (2003) looked at cultural childbirth practices and beliefs in Zambia with regard to advice given to women by those that escort them in labour. The women providing this social support were interviewed on providing companionship for the woman in labour. Eighteen of the 36 women interviewed considered themselves

*mbusas* or traditional birth assistants. They assisted women with deliveries and advised women on appropriate traditional practices for childbirth. They advised women on herbs to precipitate labour and to widen the birth canal. They attributed any complications that occurred during labour to witchcraft or traditional beliefs such as some misdeed by the pregnant woman which she was required to confess. (Maimbolwa et al 2003). Here again knowledge about pregnancy and child birth was generally lacking or inadequate.

Another study in Zambia looked at the use of traditional medicine among pregnant women enrolled in the program to prevent mother to child transmission (PMTCT) of HIV. The questionnaire was administered to the women after delivery and determined demographic characteristics, HIV knowledge and prior use of traditional herbs. Thirty per cent of the 1128 women interviewed admitted to having visited a traditional healer in the past while 21% admitted to having done so in that pregnancy. The women generally believed that medical care would be poorer if one admitted to visiting a traditional healer. Women infected with HIV who visited traditional healers were found to be less likely to adhere to the PMTCT regimen. Women who used traditional medicine were also more likely to drink alcohol in pregnancy (Banda et al 2007)

Through this study the health beliefs of the women receiving maternal and child health services at Chawama clinic was assessed quantitatively to determine how common certain beliefs are in the peri urban population under study.

## **Chapter 3**

### **METHODOLOGY**

#### **3.1 Aim**

The aim of the study was to explore the beliefs regarding pregnancy and child birth of women receiving maternal and child health services at Chawama Clinic in Lusaka, Zambia

#### **3.2 Objectives**

The objectives of the study were:

1. To determine the demographical data of women attending the antenatal clinic
2. To determine the dietary beliefs related to pregnancy and childbirth
3. To determine behaviour believed to affect pregnancy, and child birth.
4. To determine belief in the use of herbs during pregnancy, delivery and the pueperium

#### **3.3 Research Question**

What are the beliefs regarding pregnancy and child birth of women receiving maternal and child health services at Chawama clinic in Lusaka, Zambia?

#### **3.4 Study design**

The study was a descriptive, cross-sectional survey.

### **3.5 Study setting**

The study was conducted at Chawama clinic which is a primary level health care center in a peri urban area of Lusaka, Zambia

### **3.6 Study population**

All women accessing Maternal and child health (MCH) services at the clinic as reflected in the clinic antenatal register constituted the study population. The sample was selected from pregnant women attending the antenatal clinic (ANC) during a four week period from 8 December, 2009 to 5 January, 2010.

### **3.7 Sampling frame and sample size**

A total of 14,448 women attended the ANC in the year 2007. Thus an average of 1,204 women consulted each month (first time and re attendance). At a confidence level of 95% and confidence interval of 0.05, a representative sample size for a population of 1,204 per month worked out to 291. The clinic operates Monday to Friday which is about 20 days in a month. An average of 60 patients is therefore seen per day. Through systematic sampling the study aimed to recruit 15 patients per day. Every fourth patient was therefore invited to participate in the study. These were selected from the patients queuing for the ANC that day.

### **3.8 Variables and measurement of variables**

Variables were listed on the questionnaire. They consisted of questions on demographic data, beliefs on diet, behaviour and beliefs in the use of herbs. The questionnaire had

32 items with the last question (no. 32) being an open ended question requiring the research assistant to write a detailed response where a response was given.

### **3.9 Data Collection**

#### **3.9.1 Research assistants**

The study was conducted during the month of December 2009 and the beginning of January 2010. Two research assistants were chosen from the community health workers (CHW) at the health Center. The research assistances were recommended by the sister in charge of the health center and were selected based on the abilities required to conduct the study. They were both female and assisted at the clinic but were not members of staff and were able to read and write in English and the local languages used in the questionnaire (Appendix II). After an introductory meeting they were orientated in the aims and objectives of the study and the method of sampling and data collection. Materials (clip board, pens, pencils, eraser) to conduct the study were provided at this time

#### **3.9.2 Sampling and target population**

Participants were sampled randomly by counting every fourth client in line for ANC visit at Chawama Health Center. All women 18 and older who met the inclusion criteria were eligible for the study. Younger clients, those with pregnancy related complications, mentally incapacitated or could not understand either of the languages of communication were excluded from participating. The study was explained to each pregnant woman selected and informed consent for participation was obtained.

Participants signed or put a thumb print on the consent form before the interview was conducted.

### **3.9.3 Conducting the study**

The questionnaire was administered by a verbal interview in a secluded area of the clinic though still within site of other people as the antenatal clinic takes place in a big hall like building with incomplete wall partitions allowing people to see each other. A total of 294 questionnaires were completed over the four week period. Each research assistant interviewed an average of eight women per day when the clinic was attending to antenatal women. During the first week the completed questionnaires and consent forms were collected every day and some of the problems encountered during its administration were addressed. From the second week the questionnaires and consent forms were collected on Mondays and Thursdays with adjustments being made for the Christmas and New Year holidays. The research assistants were remunerated for their work.

### **3.10 Data analysis**

Data was entered and analyzed using SPSS version 11.0 statistical software. Descriptive statistics and ordinal regression analysis were used.

### **3.11 Reliability and validity of study**

#### **3.11.1 Validity**

'Validity refers to the extent to which a research design is scientifically sound or appropriately conducted' (Struwig & Stead 2001:136)

The questionnaire measured health beliefs as had been expressed by members of the community at the clinic. The items assessing beliefs had a behavioural stem and responses were measured using a Likert scale. The questionnaire had face validity as it did ask questions relating to health beliefs. However content validity was not determined by a panel of experts.

The items were compiled based on which beliefs had been commonly expressed and findings from qualitative studies in the country on the subject. Adding an open ended question at the end of the questionnaire asking for other beliefs assisted in assessing other beliefs that may have been omitted from the questionnaire.

The questionnaire was not based on an already existing one as the content of the one existing questionnaire that was looked at did not address the beliefs that had been expressed by the target population hence the need to design specific questions to address these beliefs.

#### **3.11.2 Reliability**

Reliability is the 'extent to which test scores are accurate, consistent or stable' (Struwig & Stead 2001: 131). As the participants were not interviewed more than once by different interviewers to see if they gave the same responses reliability could not be

assured by this method and such a process would have been inconveniencing to the pregnant women.

The questionnaire was translated into two local languages and the translations back translated from the local languages to English. In this way correlation in meaning and understanding was assessed. The research assistants were trained on how to conduct the study so that all participants were asked questions in the same manner and responses marked correctly.

### **3.12 Study bias**

Interviewer bias was minimized by the use of research assistants from the community instead of health care workers whose presence may influence participants' responses.

Selection bias was minimized by systematic sampling. The required sample size was calculated and reached by selecting every fourth client. All potential respondents had an equal chance of being selected.

### **3.13 Ethical Considerations**

The study objectives were explained to the respondents in order to obtain informed consent. Respondents were required to sign a consent (Appendix III) form or put a thumb print if they were unable to write. The questionnaire did not carry the name of the respondents thus concealing their identity. Though the consent form had a name and signature this form was not attached to the corresponding questionnaire but filed

separately. Confidentiality was assured and the women were told that responses would not be traceable to any particular individual but would be analyzed as a group.

Ethical clearance for the study was obtained from the Medunsa Campus Research and Ethics Committee (MREC) of the University of Limpopo (Clearance Certificate number REC/M/20/2009: PG) (appendix IV). Permission to conduct the study was also obtained from the District Medical Officer (DMO) for Lusaka District which is where Chawama clinic is located and from the University of Zambia Research and Ethics Committee [UNZA REC Reference number 014-06-08 (Appendix V)]

The information obtained from the study is for academic purposes only as outlined in the protocol. Subjects who refused to participate in the study were not penalized in any way and continued with their normal ANC visit. Respondents were also free to withdraw from participation or answering further questions even when they had already given consent or had started the questionnaire. No questions were asked.

## **Chapter 4**

### **RESULTS**

#### **4.1 Introduction**

The results of the survey were analyzed with descriptive statistics and ordinal regression analysis for correlation studies using SPSS 11.0. A total of 294 questionnaires were administered. Responses to the questionnaire were tabulated to see the frequencies of the responses from the group as a whole. Questions that were not answered and responses that were ambiguous or unclear were considered missing.

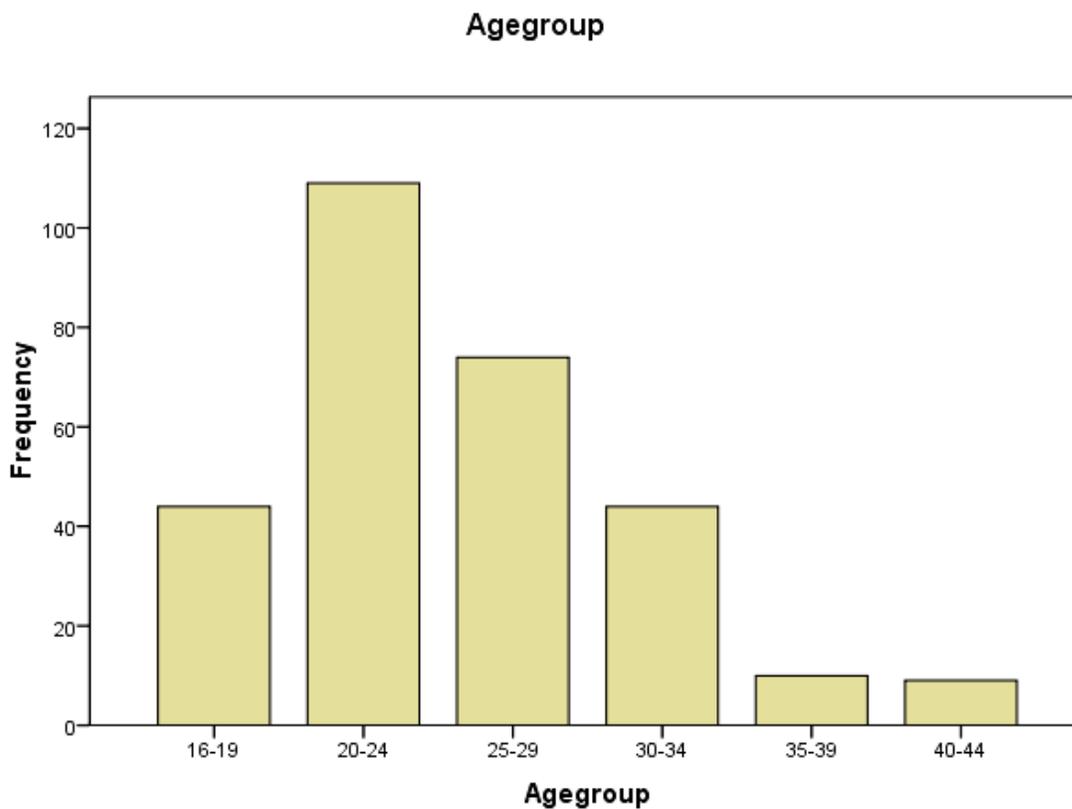
#### **4.1 Demographics**

Table 1 shows a summary of the demographic characteristics of the participants. The age of participants ranged from 18 to 44 with a mean age of 25.21 years. Figure 1 shows the age distribution of participants. Eighty three percent (83%) of the participants were aged 30 years and below. Ninety five percent (95%) of participants were married and 93% were not in employment. One woman was self- employed, selling vegetables at the market.

Thirteen women (4.4%) had not received any formal education at all, 114 (38.8%) had attended up to primary school and 161 (55%) had attended school up to secondary level. Twenty seven language groups were represented by the participants though only two local languages were used for collecting the data. A total of 239 (81.3%) questionnaires were completed using Nyanja and 55 (18.7%) using Bemba. No questionnaire was administered in English.

**Table I Demographic Characteristics**

<b>Characteristic</b>	<b>Number</b>	<b>Percentage (%)</b>
<b><i>Age (years)</i></b>		
<20	44	15
20-24	109	37
25-29	74	25
30-34	44	15
35-39	10	3.4
40-44	9	3.1
Missing	4	1.4
<b><i>Marital status</i></b>		
Single	14	4.8
Married	279	94.9
Missing	1	0.3
<b><i>Employment</i></b>		
Yes	19	6.5
No	273	92.9
Self employed	1	0.3
missing	1	
<b><i>Education</i></b>		
None	13	4.4
Primary	114	38.8
Secondary	161	54.8
Tertiary	3	1.0
Missing	3	1.0
<b><i>Tribe</i></b>		
Bemba	86	20.3
Tonga	34	11.6
Nyanja	27	8.5
Senga	22	7.5
Mambwe	19	6.5
Others	105	35.8
Missing	1	0.3



**Figure 1** Age distribution of participants

#### **4.2 Obstetric profile**

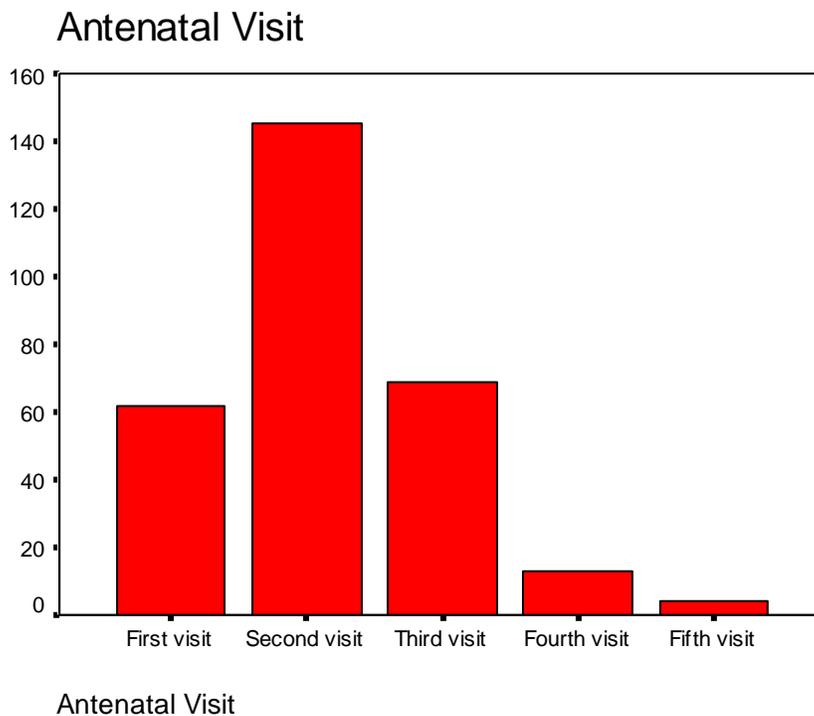
Approximately 31% of participants had had no previous pregnancies while 184 (63%) had had one to four previous deliveries and 18 (6%) were grandmultiparous having had more than four pregnancies. Table II and III show a summary of the obstetric history. The majority of participants 145 (49%) were on their second ANC visit as summarized in figure 2.

**Table II parity of participants**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	none	91	31.0	31.1	31.1
	1-4	184	62.6	62.8	93.9
	>4	18	6.1	6.1	100.0
	Total	293	99.7	100.0	
Missing	999	1	.3		
Total		294	100.0		

**Table III summary of current pregnancy**

<b>Gravida</b>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primigravida	90	30.6	30.7	30.7
	multiparous	163	55.4	55.6	86.3
	Grandmultip	40	13.6	13.7	100.0
	Total	293	99.7	100.0	
Missing	999	1	.3		
Total		294	100.0		



**Figure 2 Bar graph of ANC visits**

#### 4.2 Diet

Regarding dietary beliefs 283 participants (96.2%) agreed or strongly agreed that a balanced diet was important in pregnancy. Two hundred and twenty respondents (74.9%) agreed or strongly agreed that salt should be avoided after child birth as it's believed to delay the healing of the cord stump. One hundred and fifty eight participants (53.8%) agreed or strongly agreed that eating eggs could cause a baby to be born with no hair. One hundred and eighty three (62.2%) participants disagreed or strongly disagreed that eating offals during pregnancy could lead to a tight cord around the neck. One hundred and seventy three (58.8%) disagreed or strongly disagreed that eating bones could cause a high head during labour. Drinking alcohol such as the locally

brewed opaque beer called ‘*chibuku*’ was not thought to cause large babies leading to prolonged labour with 165 (56.2%) of participants disagreeing or strongly disagreeing with the statement.

Dietary beliefs are summarized in table IV.

**Table IV Summary of responses to dietary questions**

<b>Question</b>	<b>Number (%)</b>	
<b>Eating a balanced diet is important in pregnancy</b>		
Strongly agree	140	(47.6)
Agree	143	(48.6)
Neither agree nor disagree	1	(0.3)
Disagree	1	(0.3)
Strongly disagree	9	(3.1)
<b>Eating eggs can cause a baby to be born with no hair</b>		
Strongly agree	96	(32.7)
Agree	62	(21.1)
Neither agree nor disagree	16	(5.4)
Disagree	95	(32.3)
Strongly disagree	24	(8.2)
Missing	1	(0.3)
<b>Eating okra can cause the child to drool a lot and have a lot of mucus</b>		
Strongly agree		
Agree	67	(22.8)
Neither agree nor disagree	39	(13.3)
Disagree	31	(10.5)
Strongly disagree	88	(29.9)
	69	(23.5)
<b>Eating offals during pregnancy can lead to a tight cord around the neck during delivery</b>		
Strongly agree	50	(17.0)
Agree	21	(7.1)
Neither agree nor disagree	40	(13.6)
Disagree	93	(31.6)
Strongly disagree	90	(30.6)
<b>Eating bones during pregnancy can lead to a high head and prolonged labor</b>		
Strongly agree	38	(12.9)
Agree	30	(10.2)
Neither agree nor disagree	53	(18.0)
Disagree	71	(24.1)
Strongly disagree	102	(34.7)
<b>Eating sugar cane causes the baby to have rough dry cracked skin</b>		
Strongly agree	75	(25.5)
Agree	58	(19.7)
Neither agree nor disagree	15	(5.1)
Disagree	85	(28.9)
Strongly disagree	61	(20.7)
<b>Drinking alcohol and chibuku will result in a difficult labour as the baby will be too big</b>		
Strongly agree	38	(12.9)
Agree	45	(15.3)

Neither agree nor disagree	45	(15.3)
Disagree	76	(25.9)
Strongly disagree	89	(30.3)
Missing	1	(0.3)
<b>Certain foods (e.g. meat and vegetables) should be avoided soon after delivery as they cause severe lower abdominal pain</b>		
Strongly agree	22	(7.5)
Agree	27	(9.2)
Neither agree nor disagree	28	(9.5)
Disagree	93	(31.6)
Strongly disagree	119	(40.5)
Missing	5	(1.7)
<b>Salt should be avoided until the cord stump of the baby has healed</b>		
Strongly agree	106	(36.1)
Agree	114	(38.8)
Neither agree nor disagree	2	(0.7)
Disagree	33	(11.2)
Strongly disagree	34	(11.6)
Missing	5	(1.7)

### 4.3 Behaviour

Two hundred and sixty six (90.5%) participants agreed or strongly agreed that it was important to begin ANC as soon as a woman knows she is pregnant. Two hundred and eleven (71.8%) agreed or strongly agreed that pregnant women should continue in their normal daily activities. Quarrelling with people was thought could lead to adverse outcomes by 200 (68.1%) participants. Obstructed labour was believed could be caused by unfaithfulness of either partner by 163 (89.5%) of the participants. One hundred and thirty seven (80.6%) agreed or strongly agreed that unfaithfulness by the woman could lead to the occurrence of fits at the time of delivery. Breastfeeding a baby in public in the presence of other mothers was believed could cause illness in that child by 218 participants (74.2%). One hundred and forty six (49.6%) disagreed or strongly disagreed that using condoms could result in having a 'weak' child. One hundred and ninety eight (68.1%) disagreed or strongly disagreed that eating with family members

soon after delivery could make the family ill. Table V shows a summary of responses to the questions on behaviour.

**Table V Summary of responses to questions on behaviour question**

<b>Question</b>	<b>Number</b>	<b>(%)</b>
<b>Antenatal should be started as soon as a woman knows she is pregnant</b>		
Strongly agree	122	(41.5)
Agree	144	(49.0)
Neither agree nor disagree	8	(2.7)
Disagree	15	(5.1)
Strongly disagree	3	(1.0)
Missing	2	(0.7)
<b>Pregnant women should continue doing their normal daily activities</b>		
Strongly agree	87	(29.6)
Agree	124	(42.2)
Neither agree nor disagree	11	(3.7)
Disagree	53	(18.0)
Strongly disagree	10	(3.4)
Missing	9	(3.1)
<b>Quarrels with people during pregnancy can lead to a bad pregnancy outcome</b>		
Strongly agree	91	(31.0)
Agree	109	(37.1)
Neither agree nor disagree	18	(6.1)
Disagree	40	(13.6)
Strongly disagree	36	(12.2)
Missing		
<b>Bad rituals can be performed with the soil where a pregnant woman has stepped</b>		
Strongly agree	92	(31.3)
Agree	89	(30.3)
Neither agree nor disagree	31	(10.5)
Disagree	40	(13.6)
Strongly disagree	41	(13.9)
Missing	1	(0.3)
<b>Unfaithfulness of the woman during pregnancy can cause fits at delivery</b>		
Strongly agree	103	(35.0)
Agree	134	(45.6)
Neither agree nor disagree	14	(4.8)
Disagree	12	(4.1)
Strongly disagree	27	(9.2)
Missing	4	(1.4)
<b>Unfaithfulness (of man or woman) during pregnancy can cause obstructed labour</b>		
Strongly agree	129	(43.9)
Agree	134	(45.6)
Neither agree nor disagree	8	(2.7)
Disagree	10	(3.4)
Strongly disagree	10	(3.4)
Missing	3	(1.0)

<b>Using condoms during pregnancy will lead to a weak baby</b>		
Strongly agree	37	(12.6)
Agree	46	(15.6)
Neither agree nor disagree	60	(20.4)
Disagree	46	(15.6)
Strongly disagree	100	(34.0)
Missing	5	(1.7)
<b>Sexual intercourse in late pregnancy should be avoided as this may injure the baby</b>		
Strongly agree	74	(25.2)
Agree	59	(20.1)
Neither agree nor disagree	23	(7.8)
Disagree	74	(25.2)
Strongly disagree	59	(20.1)
Missing	5	(1.7)
<b>Breast feeding a baby in public with other mothers may cause illness in that child</b>		
Strongly agree	104	(35.4)
Agree	114	(38.8)
Neither agree nor disagree	8	(2.7)
Disagree	40	(13.6)
Strongly disagree	24	(8.2)
Missing	4	(1.4)
<b>Cooking in the first week after delivery delays the healing of the cord stump</b>		
Strongly agree	93	(31.6)
Agree	100	(34.0)
Neither agree nor disagree	7	(2.4)
Disagree	48	(16.3)
Strongly disagree	41	(13.9)
Missing	5	(1.7)
<b>Eating with family members (husband or children) soon after delivery may make them ill</b>		
Strongly agree	38	(12.9)
Agree	30	(10.2)
Neither agree nor disagree	22	(7.5)
Disagree	95	(32.9)
Strongly disagree	103	(35.2)
Missing	6	(2.0)

#### 4.4 Use of herbs

One hundred and forty seven (50%) disagreed or strongly disagreed that traditional herbs could make delivery faster once labour had started. One hundred and ninety five (66.4%) agreed or strongly agreed that herbs could assist in a difficult labour. Two hundred and thirteen (72.4%) agreed or strongly agreed that cleansing with herbs after

a miscarriage needed to be done to prevent illness in the family. Table VI shows the summary of responses to questions on the belief in the use of herbs.

<b>Table VI Summary of responses to questions on the belief in the use of herbs</b>		
<b>Question</b>	<b>Number</b>	<b>(%)</b>
<b>Traditional herbs can help to make delivery faster when labour starts</b>		
Strongly agree	48	(16.3)
Agree	71	(24.1)
Neither agree nor disagree	28	(9.5)
Disagree	85	(28.9)
Strongly disagree	62	(21.1)
Missing	0	
<b>A difficult labour can be assisted with some traditional herbs</b>		
Strongly agree	81	(27.6)
Agree	114	(38.8)
Neither agree nor disagree	23	(7.8)
Disagree	38	(12.9)
Strongly disagree	35	(11.9)
Missing	0	
<b>Cleansing with herbs needs to be done after a miscarriage to prevent illness in the family</b>		
Strongly agree	108	(36.7)
Agree	105	(35.7)
Neither agree nor disagree	11	(3.7)
Disagree	36	(12.2)
Strongly disagree	30	(10.2)
Missing	4	(1.4)

#### **4.5 Other Beliefs**

Table VII shows responses to the open ended question asking for additional beliefs that may have been omitted from the questionnaire. Sixty three participants gave responses of beliefs that were not on the questionnaire. Twenty five (39.7%) stated that coitus should be avoided after delivery. The period of abstinence given ranged from four weeks to six months among those that assigned a time frame. Eleven (17.5%) stated another belief that fire should not be shared with neighbours. This applies to living conditions where there is no electricity and charcoal or wood is used for cooking.

Women who have just delivered should not ask neighbours for a burning coal to start a fire nor should they give neighbours who come asking the same. Another belief stated by five women (7.9%) was that pregnant women should not stand in the doorway as this practice is believed could result in obstructed labour.

**Table VII**

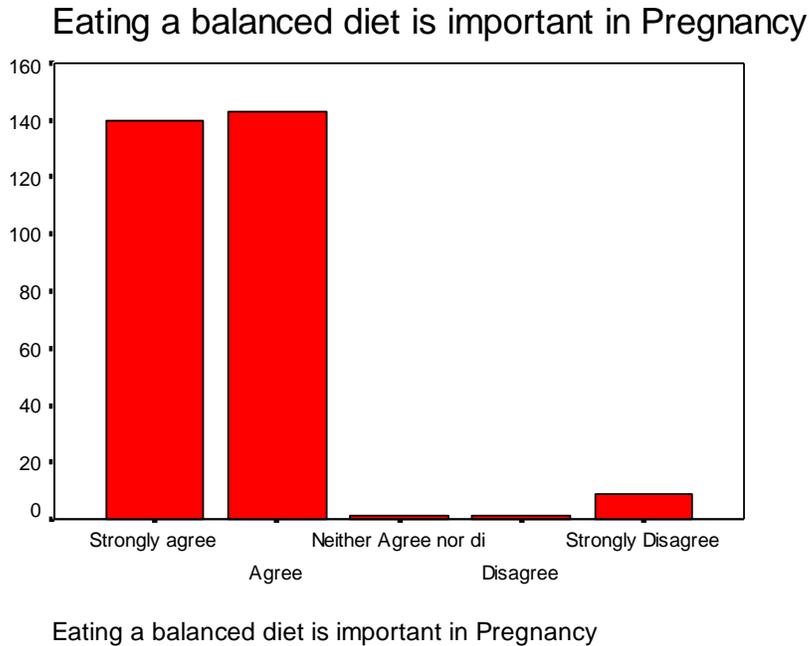
<b>Other Beliefs</b>	<b>Number</b>	<b>(percent)</b>
Avoid intercourse after delivery	25	(39.6%)
Fire should not be shared after delivery	11	(17.5%)
Standing in a doorway can lead to obstructed labour	5	(7.9%)
Others	22	(34.9%)

### **Analysis**

Analysis of the data on beliefs to determine significant relationships was done by ordinal regression on SPSS. Ordinal regression was the most appropriate for the ordered Likert scale responses on the questionnaire used. The frequency distributions of the responses were analyzed to see the general tendency of responses. Output on ordinal regression analysis gave Model fitting information, Goodness-of-fit, Pseudo R-square for strength of association and Parameter Estimates from which the significance column was analyzed to determine the probable significant associations. The conclusions made give the *direction* of the relationship. Employment was excluded from the analysis as valid conclusions could not be made due to insufficient numbers in two of the categories.

From the frequency distribution most of the women agreed that a balanced diet in pregnancy was important (figure 3) but this belief was not related to any of the factors of

age, marital status, education, parity, gravida (current number of pregnancy) or the number of the antenatal visit.



**Figure 3 Bar Chart of responses to question on balanced diet**

The belief that eating eggs can cause a baby to be born with no hair was found to be significantly associated with age ( $p=.007$ ). The implication was that as the age increases so does the likelihood that the woman would believe that eggs can cause a baby to be born with no hair (Direction of belief only).

The belief that eating okra can cause drooling and a lot of mucus was found to have a negative correlation with age, employment and parity and a positive correlation with marital status. Older women and those that were of lower parity were less likely to believe that statement ( $p=.199$  and  $p=.041$  respectively)

For the belief that eating bones can cause prolonged labour, parameter estimation shows that only age is significant (and to some extent, those women with secondary school education). Age had a negative correlation, while education had a positive one. The older the women, the less likely they are to believe in the assertion that eating bones during pregnancy can lead to a high head and prolonged labour. Only education up to secondary school was significant. It can be said that women in this category are more likely to believe in the assertion than those women who had attained tertiary education.

The statement that eating sugar cane could cause a baby to be born with dry cracked skin was not found to have any significant correlation except for the number of ANC visits which suggests that those with fewer ANC visits were more likely to agree to this statement ( $p = .04$  for first visit) than those with at least 4 ( $p = .08$ ).

The women largely agreed that ANC should be started as soon as the woman knows she is pregnant but there was no strong correlation with any of the independent variables. A similar result was obtained for the belief that a woman can continue with her normal daily activities.

## **Chapter 5**

### **DISCUSSION**

#### **5.1 Introduction**

The results showing the frequency distributions gave an indication of which beliefs were popular or commonly held in this population of pregnant women. Ordinal Regression analysis attempted to look for correlations between demographic characteristics and beliefs expressed.

#### **5.2 Demographics**

The average age of participants in this study was 25.21 years with the majority of women being below the age of 30. The average would have been lower had women under the age of 18 been included as the clinic also attends to a number of adolescents. Study participants were within the early child bearing years with only nine participants (3.1%) in the over forty age group which is to be expected as fewer women have children when they get older.

As is true in many developing countries women tend to be economically dependent on men as demonstrated in the results that show 93% of the women surveyed being unemployed and married (95%). The level of education showed the majority of women having attended school up to primary and secondary level. The degree of literacy has been shown to affect health beliefs and practices by some studies (Kesterton & Cleland) while others such as those among the Chinese communities have shown that education level did not have much affect (Wang et al 2006). In strong traditional communities such

as those in rural China those who may not want to practice the traditional beliefs are strongly influenced by their relatives and the community. Traditional practices are therefore followed even by the well educated and those living in foreign countries (Wang et al, 2006, Kim-Godwin 2003).

The effect of education on beliefs was not clearly demonstrated in this study. The probable reason for this may be due to the numbers that had gone beyond secondary school being too few to make valid comparisons. Similarly valid conclusions could not be made about the effect of employment status.

No questionnaire was administered in English and participants came from a variety of tribal groups in the country. As only two languages were used for administering the questionnaire this could be a possible source of error. Most Zambians are able to communicate well in more than one local language so this was not a major concern. Eighty one percent (81%) of questionnaires were administered in Nyanja which is the local language commonly used in this part of the country even by those from other tribal groups.

### **5.3 Obstetric profile**

The obstetric profile of participants showed that the majority of women were multiparous and had had between 1 to 4 previous deliveries. Forty women (13.7%) were on their fifth pregnancy or higher. The majority of the women were on their second antenatal visit. Women are expected to attend at least four ANC visits before delivery for optimum

care to be given. The study was limited in that it did not ascertain the gestational period of the women at the time of interview as this would have assisted in determining if the women were on course to have four ANC visits before delivery. However this was not one of the primary objectives of the study.

#### **5.4. Diet**

Though the results did not show many significant dietary associations with the independent variables the distribution of frequencies gave some indication of how widespread certain beliefs were. Good nutrition is an important component of health in women and children and participants agreed that this was so in pregnancy. The belief that a balanced diet was important in pregnancy was not related to other factors in this study. In this study women stated if they believed in certain practices but the study did not determine if they actually participated in those practices.

Studies in China and Thailand showed significant dietary changes in women after giving birth that were a health concern (Lui et al 2009; Liamputtong et al 2004). In a study on maternal nutrition and low birth weight Muthayya (2009) found that 'optimal weight gain and a good foetal out come' were a result of several factors including improved 'food intake, food supplementation, improved micronutrient intake, education and the environment of the pregnant woman and her family.'

The majority (72%) of women from this study did not believe that meat and vegetables should be avoided after giving birth to avoid abdominal pain. However they were some

who did believe this statement and these could be in danger of developing micronutrient deficiencies such as iron, folic acid or B12 deficiency. The state of pregnancy itself creates a great demand for these minerals so deficiency is more likely in women who avoid the foods required to restore these micronutrients. In addition iron deficiency anaemia is a common problem in pregnancy and a common cause of pre term births.

The eating of eggs, a source of protein that may be more affordable than meat was believed could cause a baby to be born with no hair by more than 50% of the women. Being born with or without hair seems to cause some concern in some populations though it is not a permanent or debilitating condition. However its fear may deprive the mother of a source of protein during pregnancy.

## **5.5 Behaviour**

The women generally agreed that ANC should be started as soon as the woman knows she is pregnant however this is not the practice as most women wait until the pregnancy is visible but from the results the women are familiar with what is supposed to be done. They women may have been giving a response that they felt was the correct answer. However this cannot be verified as they women were not asked when they started their ANC visits.

Continuation of normal daily activity was believed to be alright by more than 70% of women which may be from a cultural background where women generally do all housework and care for children. In addition most of the women surveyed were from the

low income group who are unlikely to have hired help though they may be assisted by family members.

Beliefs that certain behaviors can lead to unwanted outcomes is widespread as seen from the frequency distributions (Table V). Negative behaviour such as quarrels with neighbours or unfaithfulness was widely believed to be linked to adverse events during labour. Thus serious conditions such as fits in pregnancy due to eclampsia may be seen as the woman's fault. More than 80% of the participants believed that fits can occur as a result of a woman's unfaithfulness.

Similar findings were observed among rural communities in other studies in Zambia (Maimbolwa 2003) and in other African countries where complications during child birth were associated with some misbehavior or witchcraft (Itina 1997; Chinyelu 1994; Maimbolwa 2003). A study among school pupils in Tanzania found that many of the students believed that complications during pregnancy and child birth are due to not following traditions and taboos during pregnancy (Mushi et al 2007).

The women (74%) believed that breast feeding a baby in public in the presence of other breast feeding mothers could cause that child to be ill. Due to this belief herbal medication is put around the waist or the neck of babies to ward off evil forces. There is a belief that other people have 'strong medicines' that can cause harm to others especially helpless babies. The health implications of this, is that women may not feed a

hungry child in a public place where others may be breast feeding, thus a child who is exclusively breast fed may go hungry for whatever period of time.

The use of condoms during pregnancy is advised where one or both partners are HIV positive or to prevent sexually transmitted diseases. There is a belief that a father continues to strengthen the unborn child during pregnancy which cannot be done if a condom is used. Among the barriers in the fight against HIV/AIDS is the reluctance to use condoms even among discordant couples. Babies that are said to be weak are those that are frequently ill, fail to thrive and generally always in and out of hospital. However this picture too may be the result of perinatal transmission of HIV where status is not known and other factors are blamed. The study showed that 27% of participants believed using condoms could lead to a 'weak' baby. Continued education of the population is necessary to dispel this myth.

The belief that women should not eat with other family members for fear of causing illness in them was not widely held in this population and may be due to the fact that this is a peri urban population living in a high density area where such an arrangement is difficult especially if the woman is alone in taking care of other children. The practice of the post natal woman eating alone may lead to feelings of loneliness and isolation and may be a contributing factor in those predisposed to puerperal psychosis especially when other support systems are not available.

## **5.6 Herbs**

While 50% of participants disagreed or strongly disagreed that herbs could assist a woman deliver faster once labour had started 66.4% agreed or strongly agreed that herbs could assist in a difficult delivery, which appears contradictory. A number of participants also believed that herbs should be used for cleansing after a miscarriage. Further questioning should perhaps look at what it is the women are being cleansed from. The belief in the use of traditional herbs during pregnancy and the perinatal period is wide spread on the continent and in other parts of the world (Banda 2007; Chinyelu et al 1994; Itina 1997; Lans 2007; Van der Kooi & Theobald 2006). Many herbs may exert some pharmacological effect in the body, hence belief in the use of herbs should be taken seriously by health professionals. Herbs that are directly applied to the genital area may also be a source of infection especially during the puerperium. Closer examination of these herbs as suggested by Lans (2007) is necessary to ascertain their efficacy and dangers.

## **5.7 Other beliefs**

Additional beliefs such as abstinence from sexual relations were expressed by some of the participants. These are found in other cultures where the post natal woman is considered somehow 'impure' or 'polluted' until the end of the puerperium (Bodo & Gibson 1999; Lewis 2003). Abstinence allows the reproductive organs to recover from the changes they undergo during pregnancy and childbirth. Abstinence may also avoid an early pregnancy before the normal menstrual period returns or contraceptives are

started. The period given by many women went beyond the puerperium perhaps illustrating different views on what is considered an adequate period for full recovery.

A period of confinement is practiced in many cultures allowing the woman the rest she needs (Callister et al 2007; Kridli 2002; Liamputtong 2005). In their study Hoang et al (2009) look at some of the reasons behind certain beliefs. Though not relevant in Western cultures the perinatal practices observed in certain Asian communities may have had their origins in trying to protect the mother and baby from infection (Hoang et al 2009). Prohibiting bathing of the mother protected her from using unsanitary water. Restricting visitors reduced the likelihood of acquiring infections (Callister 2007) from other people and eating hot food also ensured that food was not contaminated (Hoang et al 2009). Dialogue with women to discuss these practices is important for better understanding and eliciting change where it may be necessary.

Other beliefs that were mentioned in the study were the 'sharing of fire'. Avoiding this activity is probably a way to restrict visitors and to prevent the women from moving away from the house leaving the small baby. Most women will have help during the early weeks so they will not be alone in taking care of the house (Maimbolwa 2001, 2003)

## **Analysis**

Correlation studies were inconclusive where there were insufficient numbers in certain categories for valid conclusion to be made. For example, employment only had one

woman that was self employed, less than 20 were employed and the rest of the women were not in formal employment. For education only three participants had gone beyond secondary school so comparisons were mainly between women who had had primary, secondary or no formal education. Analysis of tribe was omitted as this information was only collected to see the language distribution of participants given that only two local languages were used for data collection.

Older women were more likely to believe eating eggs could cause a baby to be born with no hair but were less likely to believe that eating okra could cause a child to drool a lot or eating bones could cause a high head in labour. These findings may be the result of their own observations as opposed to the community influence they may have had

Those with a secondary school education were more likely than those with a tertiary education to believe that eating bones could lead to a high head and prolonged labour. However the groups were not very comparable as those with tertiary education were very few. Education though should be a source of enlightenment where by certain beliefs are less likely to be held.

The belief that eating sugar cane can cause a baby to be born with dry cracked skin was found to be positively correlated to the number of ANC visits. Dry cracked skin is often seen in babies that are born post dates (two weeks or more after the expected date of delivery). Those that have attended more ANC visits are likely to have had a health education session on what outcomes to expect in pregnancy regarding pre

maturity or post maturity and how they will be treated by the clinic. Responses to this question may have been based on the knowledge gained from the clinic sessions. Thus those that had attended more ANC visits are likely to have heard about why babies may be born with dry cracked skin.

## Chapter 6

### CONCLUSION AND RECOMMENDATION

The study was able to ascertain the demographic characteristics of the women attending the ANC at Chawama Health Center with the majority of participants being in the younger reproductive age group. Though not found to have statistically significant associations traditional beliefs were wide spread among the participants. Dietary beliefs that what is eaten could affect the progress of labor or the unborn child's appearance or behaviour were popular. Negative behaviour such as quarrelling or infidelity was believed could lead to adverse outcomes. Herbs were generally believed to be useful for certain indications such as to assist labour or for cleansing after miscarriage.

Following these findings it is recommended that women be engaged in dialogue to discuss the common beliefs in the community and why some may be harmful to the health of the mother or child. Some of the subjects raised may need to be explored using qualitative studies. Health education talks routinely held at the clinic should allow time for topics on traditional beliefs in the antenatal, perinatal and post natal period. Being able to explain why certain events occur may be able to expel some of the myths.

The study is limited in that the findings cannot be extrapolated to other groups or communities which may have different beliefs from those asked about. The questionnaire used needs to be validated by expert review.

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## **APPENDIX I RESEARCH PROTOCOL**

### **Title**

**The beliefs of women receiving maternal and child health services at Chawama Clinic in Lusaka, Zambia regarding pregnancy and child birth.**

### **Introduction**

Maternal and child health is important in developing countries which continue to have high morbidity and mortality rates. In Zambia maternal mortality stood at 729 per 100 000 live births in 2002.<sup>1</sup> Commonly sited causes include excessive hemorrhage, infections hypertensive disorders obstructed labor and complications of unsafe abortions.<sup>2</sup> Certain traditional practices and beliefs may also be a risk factor to the wellbeing of the mother and/or child and may determine whether a woman seeks care at a health facility or not.<sup>2</sup>

Many women have to overcome a number of traditional beliefs which may act as barriers to following what is recommended or advised by the health services. For communities in peri-urban areas government antenatal clinics are usually accessible but many will not begin attending until the pregnancy is advanced. In Thailand, for example there are certain taboos associated with preparing for the coming of the child too early. Would be mothers may not buy clothes for the baby until it's born.<sup>3</sup> In a study done at the University Teaching Hospital (UTH) in Lusaka Zambia it was found that 63% of the primi gravida women interviewed started ANC attendance in their second trimester and had made 'no preparations for delivery or their parenting role'.<sup>4</sup>

Qualitative studies in developing countries have elucidated to a number of traditional beliefs which seem to be prevalent in various forms in many cultures. With this study I would like to make a quantitative analysis of some of these beliefs using a questionnaire among women accessing services at Chawama clinic in Lusaka Zambia. It is hoped that this will assist healthcare professionals in understanding and managing them better. The clinic can also design specific programs targeting these beliefs.

### **Literature Review**

Pregnancy and child birth have been occurring for centuries in all cultures around the world. Thus many cultures have had certain views about pregnancy and child birth that have been passed on for generations. Each culture therefore established its own beliefs and practices regarding these events. With the passage of time and a better understanding of the body some of these beliefs have faded but some are still held and practiced in some cases.<sup>3</sup>

Studies looking at traditional beliefs regarding pregnancy and child birth have been conducted in rural areas where maternal mortality tends to be high. A qualitative study among women in Northern Thailand used in-depth interviews to determine Thai traditional beliefs and practices. Traditional practices were followed by most rural

women and some urban women. Some of the themes that emerged from the interviews included dietary and behavioural precautions and preparations for an easy delivery.<sup>3</sup> Food referred to as *khong salaeng* (allergic foodstuff) was to be avoided by pregnant women as it was believed that its' consumption could cause health problems or even death. Spicy hot foods were avoided as these were believed to cause the baby to be born with no hair. Coffee and tea were thought to make the baby 'unintelligent'. Behavioural precautions included avoiding vigorous activity as these it was believed could cause miscarriage. Driving a car and sexual intercourse were examples of activities to be avoided.<sup>3</sup> Another practice that was common was that the baby's clothes should not be prepared by the mother till it is born incase something bad happened to the unborn child. Other member of the family could however make preparations on behalf of the mother.<sup>3</sup>

Another qualitative study in Fujian province, China asked women about their beliefs and practices during the puerperium which is also known as *zuo yuezi* or the 'sitting' month.<sup>5</sup> The traditional practices were aimed at assisting the mother regain her strength and ensure future health. Failure to follow the requirements was thought to lead to diseases like arthritis in old age. There were dietary precautions such as eating more food and avoiding what was termed 'cold' food. Behavioural precautions in the puerperium included staying indoors, not doing housework and limiting visitors. During this period bathing and brushing of teeth were not allowed as they were thought to cause illness in the mother.<sup>5</sup>

Similar finding were obtained in a cross-sectional, retrospective study conducted among postpartum women in three regions of Hubei, China. A questionnaire was used to collect data from 2100 women that had given birth within the previous two years. Data regarding post partum practices were collected using a questionnaire administered by trained investigators. The study found that dietary restrictions were still practiced particularly in rural areas. There was excessive consumption of eggs, meat, fish and poultry which were considered 'hot' foods and more desirable for a recovering mother. Vegetables, fruit and milk were discouraged and generally eaten less. These were regarded as 'cold' foods to be avoided during this time.<sup>6</sup>

In a case control study looking at maternal mortality in the highlands of rural northern Tanzania risk of mortality was increased when women or husbands followed traditional customs.<sup>7</sup>

A study in Uganda investigated the low use of rural maternity services using a "cross-sectional and descriptive design" and employed quantitative and qualitative methods.<sup>8</sup> The quantitative survey indicated poor use of the available maternal services by most women. The qualitative analysis showed that cultural beliefs greatly influenced individual perceptions and use of health facilities. Maternal death was seen as a 'sad but normal event'.<sup>8</sup>

The use of traditional medication to promote labour was studied in Mogwase district in the North West province of South Africa. Most black women use ANC services and

deliver in health care facilities. However they still believe in the use of traditional medicine also known as *kgaba*. Traditional medicine was seen to be useful in preventing and solving physical ailments and to protect from evil spirits that may cause harm during the pregnancy. However health care workers believed that the traditional medicine taken during pregnancy caused foetal distress and an increase in the rate of caesarian sections. As a result communication on the use of traditional medicine was poor between health workers and pregnant women making it difficult to evaluate the extent to which *kgaba* is used and the doses ingested.<sup>9</sup>

Maimbolwa et al looked at cultural childbirth practices and beliefs in Zambia with regard to advice given to women by those that escort them in labour. These social support women were interviewed on providing companionship for the woman in labour. Eighteen of the 36 women interviewed considered themselves *mbusas* or traditional birth assistants. The assisted women with deliveries and advised women on appropriate traditional practices for childbirth. They advised women on herbs to precipitate labour and to widen the birth canal. They attributed any complications that occurred during labour to witchcraft or traditional beliefs such as some misdeed by the pregnant woman which she was required to confess.<sup>10</sup> They generally lacked adequate knowledge about pregnancy and child birth.

Another study in Zambia looked at the use of traditional medicine among pregnant women enrolled in the program to prevent mother to child transmission of HIV. The questionnaire was administered to the women after delivery and determined demographic characteristics, HIV knowledge and prior use of traditional herbs. Thirty per cent of the 1128 women interviewed admitted to having visited a traditional healer in the past while 21% admitted to having done so in that pregnancy. The women generally believed that medical care would be poorer if one admitted to visiting a traditional healer. Women infected with HIV who visited traditional healers were found to be less likely to adhere to the regimen to prevent mother to child transmission. Women who used traditional medicine were also more likely to drink alcohol in pregnancy.<sup>11</sup>

Through this proposed study the health beliefs of the women receiving maternal and child health services at our clinic will be assessed quantitatively to determine how common certain beliefs are in the population under study.

### **Aim**

To explore the beliefs regarding pregnancy and child birth of women receiving maternal and child health services at Chawama Clinic in Lusaka, Zambia.

### **Objectives**

5. To determine the characteristics of women attending the antenatal clinic
6. To determine the dietary beliefs related to pregnancy and childbirth
7. To determine behaviour believed to affect pregnancy, and child birth.
8. To determine the use of herbs during pregnancy, delivery and the puerperium

## **Research Question**

What are the beliefs regarding pregnancy and child birth of women receiving maternal and child health services at Chawama clinic in Lusaka, Zambia?

## **Study Design**

The study will be a descriptive, cross-sectional survey.

## **Setting**

The study will be conducted at Chawama clinic which is a primary level health care center in a peri urban area of Lusaka, Zambia.

## **METHODS**

Data for the study will be collected using a questionnaire (Appendix II) designed specifically to explore the lay beliefs regarding pregnancy and child birth that are encountered in the practice but have only been discussed anecdotally. The proposed time of data collection is one month during the year 2009. Questions for the questionnaire were formulated after casual discussions with members of the community including an interview with a traditional birth attendant (TBA) and some women with children admitted in the paediatric ward of the clinic.

## **Materials**

Questionnaire (English, Nyanja and Bemba)

Stationery

Pencils

Pens

Clip board

Computer

Printer

## **Study Population**

All women accessing Maternal and child health services (MCH) services at the clinic as reflected in the clinic antenatal register (ANC) register will constitute the study population. Data will be collected over a one month period. The sample will be selected from pregnant women attending the antenatal clinic.

## **Sample**

The clinic saw 14,448 women in the ANC in the year 2007. Thus an average of 1,204 women was seen per month (first time and re attendance). *At a confidence level of 95% and confidence interval of 0.05, a representative sample size for a population of 1,204 per month works out to 291.* The clinic operates Monday to Friday which is about 20 days in a month. An average of 60 patients is therefore seen per day. Through systematic sampling 15 patients will be recruited per day. Therefore every fourth patient will be invited into the study. These will be selected from the patients queuing for ANC that day.

### **Inclusion Criteria**

Pregnant women 18 years and above

### **Exclusion Criteria**

Younger than 18 years of age (Age of consent  $\geq$  18 years)

Patients with pregnancy related complications

Mentally disabled

Non-Zambian pregnant women accessing the service while in transit in the community

Those that do not understand the language of communication (i.e. Nyanja, Bemba or English.)

### **Variables**

Variables will be listed from the questionnaire and will include the demographic characteristics and the questions posed.

### **Data Collection**

The questionnaire will be administered by two trained female research assistants from the community – excluding the main researcher so as to minimize interviewer bias. After explaining the nature of the study and obtaining consent the research assistants will interview every fourth patient as they come in. The interview will be conducted in a private area of the clinic for confidentiality. The questions will be read and filled in by the research assistants after obtaining informed consent from the participants. Respondents can sign or put their thumb print on the consent form.

### **Data Analysis**

Data will be analyzed using SPSS. The results will be presented as tables, frequencies and graphs. Associations of variables will be achieved through appropriate statistical analytical method e.g. Chi-squared test, t-test, etc. Findings with p-values  $\leq$  0.05 or CI 95% will be considered statistically significant. A statistician will be involved in the writing of the protocol, formulation of the final questionnaire and eventual analysis.

### **Reliability, Validity and Objectivity**

#### **Validity**

- Content validity is the extent to which the questionnaire measures what it is supposed to measure, which are health beliefs in this study. Content validity will be ensured by seeking the opinion of others including the supervisor of the study.
- Face validity refers to the appearance of the questionnaire in terms of the responses that are obtained from it. A pilot study on a small group will be able to determine the face validity. This will be done before final administration of the questionnaire.

- **Reliability**
- Reliability of the responses will be ensured by translating the questionnaire into the local language to ensure adequate comprehension by the participants. The research assistants will be trained in how the study should be conducted.

### **Objectivity**

- The main researcher will not be involved in the administration of the questionnaire and the results obtained will be analyzed by others as well.

### **Bias**

- **Interviewer bias**  
Participants' responses may be influenced by healthcare professionals that work at the clinic. This leads to information bias whereupon the respondent gives information that she believes the healthcare provider would like to hear. The respondent may not want to give what she feels is the "wrong" response. To minimize this bias, the research team members conducting the interviews will not be part of the clinic staff and the women will be assured of confidentiality as the responses will not be individualized but analyzed as a group.
- **Selection bias**  
Selection bias may be both introduced and minimized by systematic sampling. Selection bias has been minimized by calculating the sample size and systematically selecting every fourth client to be recruited into the study. All potential respondents therefore have an equal chance of being selected.
- **Inter-observer bias**  
The way an interview is conducted may be a source of bias. Training of the research assistants, conducting the interviews on how to ask the questions will minimize this bias. Each interviewer will maintain self-awareness during the interviews and deviation from the questionnaire avoided.
- **Bias in the presentation of data and bias of interpretation of data**  
Presentation and interpretation bias may occur when the researcher analyses and draws conclusions of the study alone to suit their own preconceived ideas or opinion. Giving others such as experts, statistician, fellow colleagues and the supervisor to go through the study and give their conclusion/opinion on the findings will help minimize this bias.

### **Ethical Considerations**

The study purpose will be explained to the respondents in order to obtain informed consent. Respondents will be required to sign a consent form or put a thumb print if they are unable to write. The questionnaire will not carry the name of the respondents thus concealing their identity. Ethical clearance for the study will be obtained from the Medunsa Campus Research and Ethics Committee (MREC) of the University of Limpopo. Permission to conduct the study will also be sort from the District Director of Health for Lusaka District which is where Chawama clinic is located and from the University of Zambia Research and Ethics Committee in Zambia. The information obtained from the study is for academic purposes only as outlined in the protocol. Subjects who refuse to participate in the study are free to do so and will not be penalized in any way. Respondents are also free to withdraw from participation or

answering further questions even if they have already given consent or have started the questionnaire.

### Time Frames / Time Lines:

Activity	Time frame
Data collection	3 months
Data entry	1 month
Data analysis	2 months
Draft Report	1 month
Final Report	1 month

### Budget:

Item	Amount US\$
Stationery	\$50.00
Clerk's fees/research assistants	\$200.00
Analysis	\$100.00
Write up	\$ 00.00
Any other	\$150.00
TOTAL	\$500.00

All costs will be borne by the researcher

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## APPENDIX II QUESTIONNAIRES

### English questionnaire

Questionnaire number \_\_\_\_\_

Date of interview \_\_\_\_\_

#### Demographics

1. Age (years) \_\_\_\_\_
2. Marital status \_\_\_\_\_
3. Employment \_\_\_\_\_
4. Education

None	
primary	
secondary	
Tertiary	

5. Tribe \_\_\_\_\_
6. Parity \_\_\_\_\_
7. Gravida \_\_\_\_\_
8. Antenatal visit

#### Beliefs

- 1. Strongly agree**                     
 **2. Agree**                                     
 **3. Neither agree nor disagree**                     
 **4. Disagree**                                     
 **5. Strongly disagree**

		1	2	3	4	5
9	Eating a balanced diet is important in pregnancy					
10	Eating Eggs can cause a baby to be born with no hair					
11	Eating okra can cause the child to drool a lot and have a lot of mucus					
12	Eating offals during pregnancy can lead to a tight cord around the neck during delivery					
13	Eating bones during pregnancy can lead to a high head and prolonged labor					
14	Eating sugar cane causes the baby to have rough dry cracked skin.					
15	Antenatal should be started as soon as a woman knows she is pregnant					
16	Pregnant women can continue doing their normal daily activities					

17	Quarrels with people during pregnancy can lead to a bad pregnancy outcome					
18	Traditional herbs can help to make delivery faster when labour starts					
19	Drinking alcohol and “chibuku” will result in a difficult labour as the baby will be too big					
20	Bad rituals can be performed with the soil where a pregnant woman has stepped					
21	Unfaithfulness of the woman during pregnancy can cause fits at delivery.					
22	Unfaithfulness (of woman or man) during pregnancy can cause obstructed labour					
23	A difficult labour can be assisted with some traditional herbs					
24	Using condoms during pregnancy will lead to a weak baby					
25	Sexual intercourse in late pregnancy should be avoided as this may injure the baby.					
26	Cleansing with herbs needs to be done after a miscarriage to prevent illness in the family					
27	Breast feeding a baby in public with other mothers may cause illness in that child.					
28	Certain foods (e.g. meat and vegetables) should be avoided soon after delivery as they cause severe lower abdominal pain.					
29	Cooking in the first week after delivery delays the healing of the cord stump.					
30	Eating with family members (husband or children) soon after delivery may make them ill					
31	Salt should be avoided until the cord stump of the baby has healed					

**Open Question**

32 What other customs and beliefs about pregnancy and child birth do you know of?

## Bemba Study Questionnaire

Questionnaire number \_\_\_\_\_

Date of interview \_\_\_\_\_

1. Imyaka Inga ? \_\_\_\_\_
2. Bushe Mwalyupwa ? \_\_\_\_\_
3. Mulabomba? \_\_\_\_\_
4. Mwapelele Mushani isukulu?

None	
primary	
secondary	
Tertiary	

5. Mulibatundu nshi? \_\_\_\_\_
6. Mwafyalapo imiku inga? \_\_\_\_\_
7. Iyi ifumo ya mpendwanshi \_\_\_\_\_
8. Mwaisako imiku inga ku icipimo?

1
2
3
4
5

### Beliefs

**1. Ndesumina sana 2. Ndesumina 3. Nshishibe 4. Ndekana 5. Ndekana sana**

		1	2	3	4	5
9	Ukulya ifilyo ifyakumanina cintu cimo icikankala ilyo uli pabukulu					
10.	Ngolelya amani ilyo uli pabukulu kuti calenga umwana ukufyalwa no lukusu					
11	Ngolelya umulembwe ilyo uli pabukulu kuti calenga umwana ukuba namalenda					
12	Ukulya amatumbo ya nama ilyo uli pabukulu kuti umwana pakufyalwa umutoto wamukama pa mukoshi					
13	Ukulya amafupa yanama ilyo uli pabukulu, pakupaapa kuti calenga umutwe wamwana ukukana seluka bwangu kabili ukukana paapa bwangu					
14	Ukulya ifisali ilyo uli pabukulu kuti calenga umwana ukufyalwa no mubili uwalepauka					
15	Icipimo cefumo cifwile ukwambwa lilya line namayo aishiba ati ali pabukulu					
16	Banamayo abali pabukulu kuti bakonkanyapo ukubomba imilimo yapaganda ngefyo bacita lyonse					

17	Ukupusana nabantu ilyo uli pabukulu kuti calenga ukuba no bwafya pa ukupapa					
18	Ukunwa umuti wacimuntu kuti calenga ukupapa bwangu					
19	Ukunwa chibuku kuti washupika pakupaapa pantu umwana kuti akula sana					
20	Ukubula icishimba kuti cacitwa ilyo namayo uli pabukulu bamubula ulukatu					
21	Namayo uli pabukulu ukucita ubucende kuti calenga ukusamfula pakupaapa					
22	Ubucende (bwa mwanakashi nangu umwume) kuti wakakwa pakupaapa					
23	Ukusupikwa pakupaapa kuti kwa afwilishiwa no muti wacimuntu					
24	Ukubofya imipila ilyo uli pabukulu kuti wafya umwana uwabula amaka					
25	Takuli ukulalana no mwaume ilyo imweshi yefumo yapwa, kuti umwana acenekwa					
26	Ukuwamya ne miti yacimuntu kufwilwe ukucitwa ilyo namayo aposa ifumo ukucingi lila amalwele mulupwa					
27	Ukonsha umwana mucintu bwingi pamo nabanamayo bambi kuti calenga umwana ukulwala					
28	Ifilyo fimo ifyapala inama ne misalumisalu namayo tafwile ukulya lilyaline apaapa pantu kuti fyalenga mumala ukukalipa sana					
29	Ukwipika lilya namayo apaapa apo umulungu umo taulapwa cilalenga umutotowamwana ukukana pola bwangu.					
30	Ukulya pamo no lupwa (abalume nanguabana) lilya line namayo apaapa , kuti abalwalika					
31	Takuli ukulunga u mucele mpaka umutoto wamwana wa pola					

### Open Question

32. What other customs and beliefs about pregnancy and child birth do you know of?

## Nyanja Study Questionnaire

Questionnaire number \_\_\_\_\_

Date of interview \_\_\_\_\_

1. Zaka \_\_\_\_\_
2. Kodi ndimwe okwatiwa? \_\_\_\_\_
3. Kodi musewenza? \_\_\_\_\_
4. Munafika pati mumaphunziro?

None	
primary	
secondary	
Tertiary	

5. Mutundu \_\_\_\_\_
6. Anabeleka kangati \_\_\_\_\_
7. Iyi ni mimba ya kangati \_\_\_\_\_
8. Chipimo canunthu wapakati nica nambala bwanji?

1
2
3
4
5

### Beliefs

1. Ndibvo meladi    2. Ndivo mela    3. Ndika yika    4. sindibvo mela    5. sindibvo meladi

		1	2	3	4	5
9	Ndicofunikila muzimai wapakati kudya zakudya magulu atatu					
10	Muzimai wapakati kudya madzila angabeleke mwana alibe tsitsi					
11	Muzimai wapakati kudya delele angabeleke mwana wochosa maleda yambili.					
12	Muzimai wapakati kudya matumbo angabeleke mwana wa muchombo mukhosi					
13	Muzimai wapakati kudya mafupa mutu wamwana ukhala patali ndiponso angacedwe kubeleka					
14	Muzimai wapakati kudya misale azabeleka mwana wong'ambika-ng'ambika pathupi					
15	Muzimai wapati afunika kuyamba chipumo akadziwa kuti ali ndi pakati					
16	Azimai apakati angapitilize ndi nchito zamene achita masiko onse					
17	Muzimai wapakati kuyambana ndi anthu angakhale ndi mabvuto pobeleka					

18	Mankhwala acimunthu angathandize muzimai wapakati kubeleka mwamusanga						
19	Muzimai wapakati ngati akumwa chibuku abeleka ana akulu ndiponso abvutika pobeleka						
20	Matembelelo oipa angacilike pontenga dothi yapanzayo pomwe muzimai wapakati aponda.						
21	Ngati muzimai wapakati achita chigololo, angakhunyuke pobeleka						
22	Muzimai wapakati ndi mwamuna wake onse ali ndi abwenzi amumbali, muzimai sabeleka bwino						
23	Ngati pali bvuto pobeleka, mankhwala a cimunthu athandiza						
24	Ngati muzimai wapakati asewenzetsa makondomu abeleke mwana ofooka. (odwala dwala)						
25	Kugonana ndi muzimai wapakati alipafupi kubeleka mwana angapwetekedwe.						
26	Kusewenzetsa mankhwala acimunthu muzimai wapakati akapita mwacabe matenda amacingizidwa pa banja						
27	Kuyamwitsa mwana muli azimai oyamwitsa ambili, kudwalitsa mwanayo						
28	Muzimai wochokela kubeleka kudya zakudya monga nyama ndi zanasamba azadwala chamumala						
29	Sondo yoyamba kuchokelakubeleka muzimai kuphika, pamuchombo pa mwana pachedwe kupola						
30	Azimuna ndi ana ngati adya chakudya pamodzi ndi muzimai achoka kubeleke amadwala						
31	Muzimai achoka kubeleka safunika kuyikha muchele kufikila pamuchombo pamwana papola						

### Open Question

32. What other customs and beliefs about pregnancy and child birth do you know of?

**APPENDIX III  
CONSENT FORMS AND INSTRUCTIONS**

**UNIVERSITY OF LIMPOPO (Medunsa Campus) CONSENT FORM**

Statement concerning participation in Study

**Name of Study**

**The lay beliefs of women receiving maternal and child health services at Chawama Clinic in Lusaka, Zambia regarding pregnancy and child birth.**

I have heard the aims and objectives of the proposed study and was provided with the opportunity to ask questions and given adequate time to rethink the issue. The aim and objectives of the study are sufficiently clear to me. I have not been pressurized to participate in any way.

I understand that participation in this study is completely voluntary and that I may withdraw from it at any time and without supplying reasons. This will have no influence on the regular treatment that holds for my condition neither will it influence the care I receive from the health center.

I know that this study has been approved by the Research and ethics and publications committee of the Faculty of Medicine, University of Limpopo (Medunsa Campus) and Lusaka District Health Management team. I am fully aware that the results of this study will be used for scientific purposes and may be published. I agree to this provided my privacy is guaranteed.

I hereby give consent to participate in this study.

.....  
Name of Participant

.....  
Signature of participant

.....  
Place

.....  
Date

.....  
Witness

## **Study information for participants**

Dr. M'soka is conducting a study looking at the lay beliefs of women like yourself who are accessing maternal and child health services at Chawama clinic. The other things she would like to find out or the objectives for doing the study have been listed as follows

### **Objectives**

1. To determine the characteristics of women attending the antenatal clinic
2. To determine the dietary beliefs related to pregnancy and childbirth
3. To determine behaviour believed to affect pregnancy, and child birth.
4. To determine the use of herbs during pregnancy, delivery and the puerperium

### **Instructions**

The study will be conducted by asking you questions on a prepared questionnaire in a language you are comfortable with. If you agree to participate the questionnaire will be read to you by a research assistant and will take about 20 minutes to complete.

There are no foreseeable adverse effects to participating in the study but you may experience some inconvenience at having to answer questions or some embarrassment at the nature of some of the questions.

There are no immediate benefits to participating in the study but the information obtained will be useful in understanding some of the beliefs held by the community served by the clinic. This it is hoped will assist in planning health education programs and discussions for expectant mothers.

You are free to withdraw from participation at any time even after you have signed the consent form or began answering the questionnaire. Refusal to participate in the study will not affect the care you receive at the clinic in any way.

Your responses to the questions will be confidential and the questionnaire will not carry your name. The responses to the questions will be analyzed as a group and they will not be traceable to any particular individual.

The results will be kept in a secure place by the researcher.

If you have any questions or concerns about the study you can contact Dr M'soka at Chawama clinic or call her on 0955 665026.

If you have understood these instructions and accept to participate please sign or thumbprint the consent form provided.

