ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

ASSESSMENT OF UTILIZATION AND DETERMINANTS OF ANTENATALAND DELIVERY CARE SERVICES IN BAHIR DAR SPECIAL ZONE: A COMMUNITY BASED STUDY

BY

TARIK SHEGAW

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TARIK SHEGAW

A Thesis Submitted to the School of Graduate Studies of Addis Ababa University in Partial Fulfillment of the Requirements for the Degree of Master of Science in Population Studies

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Assessment of Utilization and Determinants of Antenatal and Delivery Care Services in Bahir Dar Special Zone: A Community Based Study

By

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First and for most I praise the almighty God who has never left me alone even at times of many challenges and Controversy.

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I am indebted to Bahir Dar special zone health office experts for their contribution in giving me important information to the study. I am also indebted to all respondents of this study for their patiently responding to the questionnaire with out any direct reward.

I want to express my deepest felling and sense of regards to all members of my family. I owe special thanks to my beloved brother Mastewal Shegaw, for his marvelous and valuable help and moral support. My deepest gratitude goes to my beloved friend Ambanesh Necho for her tremendous support and encouragement throughout my study. Her support was multidirectional and so glorious. Any ways, I need to express my thanks to her in such few words.

I would like to express my heart-felt gratitude to Mezgebu Nimeta and to all my friends and colleagues for their help in some ways in the process of my study.

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List of Acronyms

AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
CSA	Central Statistical Authority
DC	Delivery Care
E DHS	Demographic and health survey of Ethiopia
FGD	Focus Group Discussion
HIV	Human Immunodeficiency Syndrome
MCH	Maternal and child health
SPSS	Statistical Package for Social Science
TBA	Traditional Birth Attendant
TTBA	Trained Traditional Birth Attendants

Abstract

A large number of women are dying due to factors related to pregnancy and child birth in developing countries. Antenatal care and delivery care is potentially the most effective health intervention for preventing maternal morbidity and mortality particularly in Ethiopia where the general health status of women is poor. However, the utilization of antenatal care and delivery care is low. In light of this consideration, a community based cross-sectional study on the utilization and determinant of antenatal and delivery care services was conducted in Bahir Dar special zone, Amhara National Regional State. The study was undertaken on sample of 660 women who give birth in the last five years preceding the survey. Quantitative as well as qualitative data collection method was employed.

The study found that the prevalence of delivery and antenatal care service utilization was about 46% and 32% respectively. The bivariate and the multivariate analysis showed significant association between utilization of the services and socio-cultural and demographic variables. Residence, decision-making power, media, awareness, marital status and education has showed significant association with the utilization of antenatal care. Utilization of safe child delivery care was also significantly associated with parity, decision-making power, media, age at last birth, awareness and education.

Some of the reasons for not using the service were responsibility in the household, absence of serious illness, financial constraint, absence of awareness, long waiting time to get the services, bad experience with the health care system and distance to the health care system.

In conclusion, utilization of antenatal and delivery care services was positively affected with education, women decision-making power, exposure to media, and awareness about the benefit of the service. Moreover, antenatal care was found to have a positive effect in utilizing delivery care.

Based on the above findings, it has been recommended that planners must give attention to mothers in creating awareness about its essentiality and positive attitude towards the service by increasing its quality. Besides, enhancing women decision-making power and their educational level has been suggested to make women use the maternity care services.

CHAPTER ONE

INTRODUCTION

1.1 Background

Worldwide, over 500,000 women and girls die of complications related to pregnancy and childbirth each year. Over 99 percent of those deaths occur in developing countries such as Ethiopia. But maternal deaths only tell part of the story. For every woman or girl who dies as a result of pregnancy-related causes, between 20 and 30 more will develop short- and long-term disabilities, such as obstetric fistula, a ruptured uterus, or pelvic inflammatory disease (Kishor, 2005).

In most developing countries, women of reproductive age constitute more than one-fifth of the total population. These women are exposed repeatedly to the risk of pregnancy and childbearing and, under existing socio-economic conditions and the inadequacy of medical and health facilities, are at greater risk of morbidity and mortality from causes related to pregnancy (Addai, 2000). The death of a woman whom in most developing countries, plays the principal role in rearing of children and the management of family affairs, is a significant social and personal misfortune. In developing countries each year an estimated 585,000 women die from complications of pregnancy, childbirth and unsafe abortion. On average, in developing countries a pregnancy is 18 times more likely to end in the women's death than in developed countries (WHO and UNICEF, 1996).

Studies demonstrating the high levels of maternal mortality and morbidity in developing countries and research identifying causes of maternal deaths have repeatedly emphasized the need for antenatal care and availability of trained personnel to attend women during labour and delivery. De spite the clear importance of maternity care, poor access to and low utilization of such services continue to be important determinants of mortality and morbidity through out the world (Yared, 2002).

Maternal mortality is high in Africa, with an estimated ratio of about 1000 deaths per 100,000 live births. Antenatal care is a key strategy for reducing maternal mortality, but millions of women in developing countries do not receive it (WHO, 2001) .Moreover, more than a quarter of

women living in developing world suffer from short or long–term illness related to pregnancy and child birth like uterine prolapsed vesico-vaginal and/or recto vaginal fistulae, infertility and gynecological disorders (WHO, 2001, UNICEF, 1996).

Efforts to reduce maternal mortality and morbidity must address societal and cultural factors that affect women's health and their access to services. Women's low status in society, lack of access to and control over resources, limited educational opportunities, poor nutrition, and lack of decision making power contribute significantly to adverse pregnancy outcome (Fantahun, 1992).

There are potential benefits to be had from some of the elements of ANC, and these benefits may be most significant in developing countries where morbidity and mortality levels among reproductive age women are high (Carroli et al, 2001).

The antenatal period clearly presents opportunities for reaching pregnant women with a number of interventions that may be vital to their health and well-being and that of their infants. It provides an opportunity to supply information on birth spacing, tetanus immunization, prevention and treatment of malaria, management of anemia, treatment of STIs and more recently, an entry point for HIV prevention and care, in particular for the prevention of HIV transmission from mother to child (WHO, 2003).

The target of the 5th MDGs is a 75% reduction in maternal mortality between 1990 and 2015.current trends indicate that this target is unlikely to be met in many countries, particularly in sub Saharan Africa and South Asia. Following antenatal care during pregnancy and skilled attendance at birth, supported by access to referral level facilities is therefore the key strategy to achieve MDGs (SubirSaha, 2006).

1.2 Statement of the Problem

Maternal and infant mortality and morbidity levels in Ethiopia are among the highest in the world. According to DHS (2000), Ethiopia's women suffer from an extremely high maternal mortality ratio estimated at 871 deaths per 100,000 live births, and infant mortality rate was 97 per 1000 live births. This was considered to be the result of poor nutritional status, high fertility rates, and inadequate access to health services. Concerning maternity care utilization, about a quarter of pregnant women receive antenatal care, less than 10% receive professionally assisted delivery care and only 2% postnatal care.

Only little improvement has been shown in maternal and infant mortality in the recent years. According to the 2005 Demographic and Health Survey of Ethiopia, maternal mortality ratio stood at 673 deaths per 100,000 live births, and the infant mortality rate is 77 per one thousand live births. Regarding the utilization of maternity services, about 28% of pregnant women receive antenatal care and 6% receive professionally assisted delivery.

In Ethiopia, the levels of maternal and infant mortality and morbidity are among the highest in the world. One explanation for poor health outcomes among women and children is the non use of modern health care services by a sizable proportion of women in Ethiopia. Previous studies have clearly demonstrated that the utilization of available maternal health services is very low in the country. Several studies in the 1990s have shown that about 25 percent of Ethiopian women received antenatal care and less than 10 percent received professionally assisted delivery care (Belay, 1997; CSA, 1994; Mekonnen, 1998).

Antenatal care interventions alone do not address the main causes of maternal deaths that result from complications arising during labour, delivery and the immediate post partum period. Most safe motherhood programmes therefore currently stress ensuring access to emergency obstetric care and ensuring that all women benefit from the care of a skilled health care professional during delivery (WHO, 2001).

Women play a principal role in rearing children and their death due to maternity-related causes has a significant traumatic effect on the child, the family and the community as a whole. It is well-established that giving birth under the care and supervision of skilled healthcare providers promotes child survival and reduces the risk of maternal mortality and morbidity (SubirSaha et al, 2006).

Despite these threats the utilization of maternity care service is very low in most part of Ethiopia. In light of this consideration, the current study will explore the utilization and determinants of antenatal and child delivery care services in Bahir Dar special zone.

1.3 Objectives

General objective

The general objective of the study is to assess the utilization and determinant of antenatal and delivery care service utilization in Bahir Dar special zone.

Specific objectives

The specific objectives of the study are the following

1. To examine the utilization of antenatal and delivery care services.

2. To identify the socio cultural and demographic factor that affect utilization of antenatal care among women who give birth in the last five years preceding the survey.

3. To investigate the socio cultural and demographic factor that affect utilization of safe child delivery care among women who give birth in the last five years preceding the survey.

1.4 Research Questions

1. What is the proportion for utilization of antenatal and safe child delivery care?

2. What are the socio cultural and demographic factors for the utilization of antenatal care

among women who give birth in the last five years preceding the survey?

3. What are the socio cultural and demographic factors for the utilization of safe child delivery care among women who give birth in the last five years preceding the survey?

1.5 Significance of the Study

The maternal health problems have been becoming multifaceted and interrelated. The purpose of this study is to understand the current status of utilization of antenatal and child-delivery care services in Ethiopia by elucidating the various factors influencing the use of these services in the country. It is hoped that the results of the study will improve policymakers' understanding of the determinants of maternal and child mortality and morbidity in the country and serve as an important tool for any possible intervention aimed at improving the low utilization of maternity care services in the country.

1.6 Definition of terms

Antenatal care=is a medical supervision given to a pregnant women and her baby starting from the time of conception up to the delivery of the baby. It includes regular monitoring of the women and her baby through out pregnancy by various means including a variety of routine regular examinations and a number of simple tests of various kinds. Components of ANC include measuring blood pressure and weight of a women and taking blood sample and urine analysis, measure of height, physical examination, measure of uterus height and vaccination.

House hold = A single person living alone or a group voluntarily living together ,having common house keeping arrangements for supplying basic living needs ,such as principal meals. The group may consist of related or unrelated persons.

Maternity Care= Care that promotes the overall health of a mother and child from conception, during pregnancy and delivery, and through the post partum period after delivery.

Safe child delivery care=The service given for a pregnant women at health facilities during labour; management of normal delivery and detection of complications, management of risk cases in labour and complicated cases.

Skilled attendant at birth = People with midwifery skills who have proficiency in skills necessary to manage normal deliveries, and diagnose, manage or refer obstetric complications.

Traditional birth attendant=One who assists the mother during childbirth: she may have acquired skills by delivering babies herself, or though apprenticeship of other TBAs. A traditional birth attendant (TBA), also known as traditional midwife (TMs), is a primary pregnancy and child birth care provider.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Determinants for utilization of antenatal and delivery care services

2.1.1 Demographic factors

Different demographic characteristics of the individual affect the tendency of women to seek maternity care (Addai, 2000). In this regard, good examples are maternal age and parity, which have been examined as determinants of health care use repeatedly (Mengistu and James, 1996). The better confidence and experience of the older and higher parity women, together with greater responsibilities within the household and for child care, have been suggested as explanatory factors for their tendency to use services less frequently (Rooney, 1992).

In different studies it has been shown that women are significantly more likely to use delivery care services for their first child than later children. This is because women who were pregnant with their first child are usually more likely to have difficulties during labour and delivery than women of high parity (CSA and ORC MACRO, 2005).Similarly; a study conducted by Binyam (2005) also shows maternal age as an important predictor of place of delivery. Accordingly, there is a negative relation between maternal age and modern delivery service utilization.

Number of previous pregnancies and parities were found to be positive predictors of antenatal care attendance and the choice of delivery site while ANC non-attendance and age of the women above 35 years were found to be barriers of institutional delivery care services (Melkamu, 2005).

Marital status is another predictor of utilization of maternity care services. Married women are more likely to use antenatal care than their unmarried counterparts. In countries like Ethiopia, many of the births from unmarried women are unwanted or unintended. More over women with unwanted pregnancies may initially attempt to deny their pregnancy to

themselves and to mask them from others. As a result such women become less motivated to seek antenatal care compared with their married counterparts (CSA and ORC MACRO, 2005).

2.1.2 Socio-cultural factors

Different studies have identified the socio cultural factors that affect the utilization of maternity care services. The utilization of antenatal care is particularly affected by mother's education and residence. Maternal education has been shown repeatedly to be positively associated with the utilization of maternity care services. Women with secondary or higher education are twice as likely as women with no education to be informed about pregnancy complications (Mesfin et al,2002). Study conducted by (Binyam, 2005) also shows that maternal educational status is one of the positive factors for place of delivery.

There is also a disparity in access of maternity health care services between urban and rural areas. Women in urban areas are more likely than rural women to access antenatal care and skilled attendants at delivery (Mesganaw, 1992).

As in most sub-Saharan countries, urban women in Ethiopia tend to benefit from increased knowledge and access to maternal health services compared with their rural counterparts. This is because ,health facilities are more accessible in urban areas and the various health promotion programs that use urban-focused mass media work to the advantage of urban residents and explain the close connection between urban residence and use of maternal health services. Moreover, rural women are more readily influenced by traditional practices that are contrary to modern healthcare (CSA and ORC MACRO 2006).

The cultural perspective on the use of maternal health services suggests that medical need is determined not only by the presence of physical disease but also by cultural perception of illness. In most African rural communities, maternal health services coexist with indigenous health care services; therefore, women must choose between the options (Addai, 2000). The use of modern health services in such a context is often influenced by individual perceptions of the benefit of modern health services and the religious beliefs of individual women (Kwast, 1991).

Women's power to make decisions is limited in many parts of the world even on matters directly related to their own health. In Bangladesh, it is usually the mother–in law and husband who make the decision regarding health care seeking .They are often the least likely to know about pregnancy-related complications and the possible fatal consequences (WHO, 2003).The situation in Ethiopia is similar.15 percent of Ethiopian women make sole decisions on their own health care, While about one third say their husband makes such decisions with out consulting them (CSA and ORC Macro, 2006).

Moreover, in many parts of Africa, women's decision making power is extremely limited, particularly in matters of reproduction and sexuality. In this regard, decisions about maternal care are often made by husbands or other family members (WHO, 1998).

Influence from husbands and relatives in relation to delivery attendants and women's power to make the decision in terms of getting institutional delivery services are found to be some of the important predictors of place of delivery (Binyam, 2005; Belay, 1997).

Availability of women's time is also important in utilizing the maternal health care service. In developing countries, women spend more time on their multiple responsibilities for care of children, collecting water or fuel, cooking, cleaning, growing food, and trade than on their own health (World Bank, 1996).

Accessibility of health services has been shown to be an important determinant of utilization of health services in developing countries. In most rural areas in Africa, one in three women lives more than five kilometers from the nearest health facility. The scarcity of vehicles, especially in remote areas, and poor road conditions can make it extremely difficult for women to reach even relatively nearby facilities. Walking is the primary mode of transportation, even for women in labor (Yared, 2002). In rural Tanzania, for example, 84 percent of women who gave birth at home intended to deliver at a health facility but did not due to distance and lack of transportation (Overbosch et al,2002).Cost reduce women's use of maternal health services and keep millions of women from having hospital-based deliveries or from seeking care even when complications arise. Even when formal fees are low or nonexistent, there may be informal fees or other costs that pose significant barriers

to women's use of services. These may include costs of transportation, drugs, food, or lodging for the woman or for family members who help care for her in the hospital (Mesfin et al, 1996).

A study conducted in Afar region shows that the main reason for women for not to attend ANC were lack of awareness, apparently healthy, distant health, facility, and work overload (Melkamu, 2005).

2.2 Utilization of ANC and safe child delivery services in Ethiopia

Utilization of maternity care services in Ethiopia is limited. About 28% of pregnant women receive antenatal care where as only 6% receive professionally assisted delivery. (CSA and ORC MACRO, 2006).For this matter different studies were conducted to understand and address the barriers women may face in seeking care during pregnancy and at the time of delivery.

A study conducted in Addis Ababa showed that lack of time, absence of illness, and lack of awareness are the major reasons for nonattendance for antenatal care more over a study conducted in the Arsi Zone of central Ethiopia, found maternal age, parity, lack of time, education, marital status, and women's economic status to be significant predictors of utilization of maternity care (Mesganaw, 1992 Mengistu and James 1996).

A study in Yirgalem Town and in the surrounding Southern Nations, Nationalities, and People's Region (SNNPR) of Ethiopia showed that women's education, inadequate household income, and unwanted pregnancy were important predictors of antenatal care utilization (Belay, 1997). In a nationally representative sample survey in Ethiopia, utilization of maternity care was found to vary by age, residence, and other socio-demographic factors (CSA, 1994).

A large-scale community and family survey in SNNPR concluded that although a number of socio demographic factors are important in urban areas, they are of less relevance in the rural part of the study area. Socio demographic factors including parity, age, and education appeared to influence the use of maternity care services in urban areas. In contrast, distance and travel time were identified as important factors in the rural parts of the country (Mekonnen, 1998).

The study conducted in Dire Dawa revealed that to deliver at home had greater association with prenatal and neonatal mortality than to deliver in the health facilities. It is obvious that giving births in the health institution is safer than to give birth at home, because in the health facilities there is clean and safe delivery which can protect the mother and the neonatal from infections, and there is a promotion of family planning services, counseling about STD and HIV/AIDS, breast feeding and psychological support for the mother (Tesfaye, 2003).Moreover antenatal care is heavily influenced by such factors as wealth and education. In poor households, women are far less likely to use antenatal care than women in well-off households. And the report notes that women with secondary schooling are two to three times more likely to have antenatal care than women with no education (WHO, 2004).

To meet the millennium development goals, Ethiopia will have to reduce its maternal mortality ratio to less than 450 per 100,000 by the year 2015.Maternal health care is incorporated as one of the focus areas of intervention by health sector development (HSDP).This program is designed in align with the wider policy frameworks such as PASDEP and MDGs. According to HSDP, antenatal and delivery care coverage is targeted to be 80% and 32% respectively, in the period 2005 to 2009 (MOH, 2006/7).

2.3 Conceptual Model

Anderson's Behavioral Model of Health Services Utilization

To understand health service utilization, Anderson's behavioral model of health services utilization has been used extensively in both developing and developed countries. The model classifies factors that affect health services utilization in to three groups: Predisposing, enabling and need factors.

Predisposing factors refer to situation which increase or decrease the motivation for utilizing the health services.For instance, demographic characteristics like age, gender, marital status reflect the propensity of individuals to use services. Social structure like education, occupation race/ethnicity measures the ability of the individual to cope with the problem, the resources available in the community, and the state of the physical environment. Health beliefs are values and knowledge about health and the health care system that influence utilization and these include general attitudes towards medical care, physicians, and disease.

Enabling factors refer to factors which may prevent people from utilizing the service. It represents the actual ability of the individual to obtain health services and it includes both personal and organizational factors. Personal enabling factors include income, health insurance, regular source of care, and travel and waiting times; organizational enabling factors include the availability of health care providers and their spatial distribution.

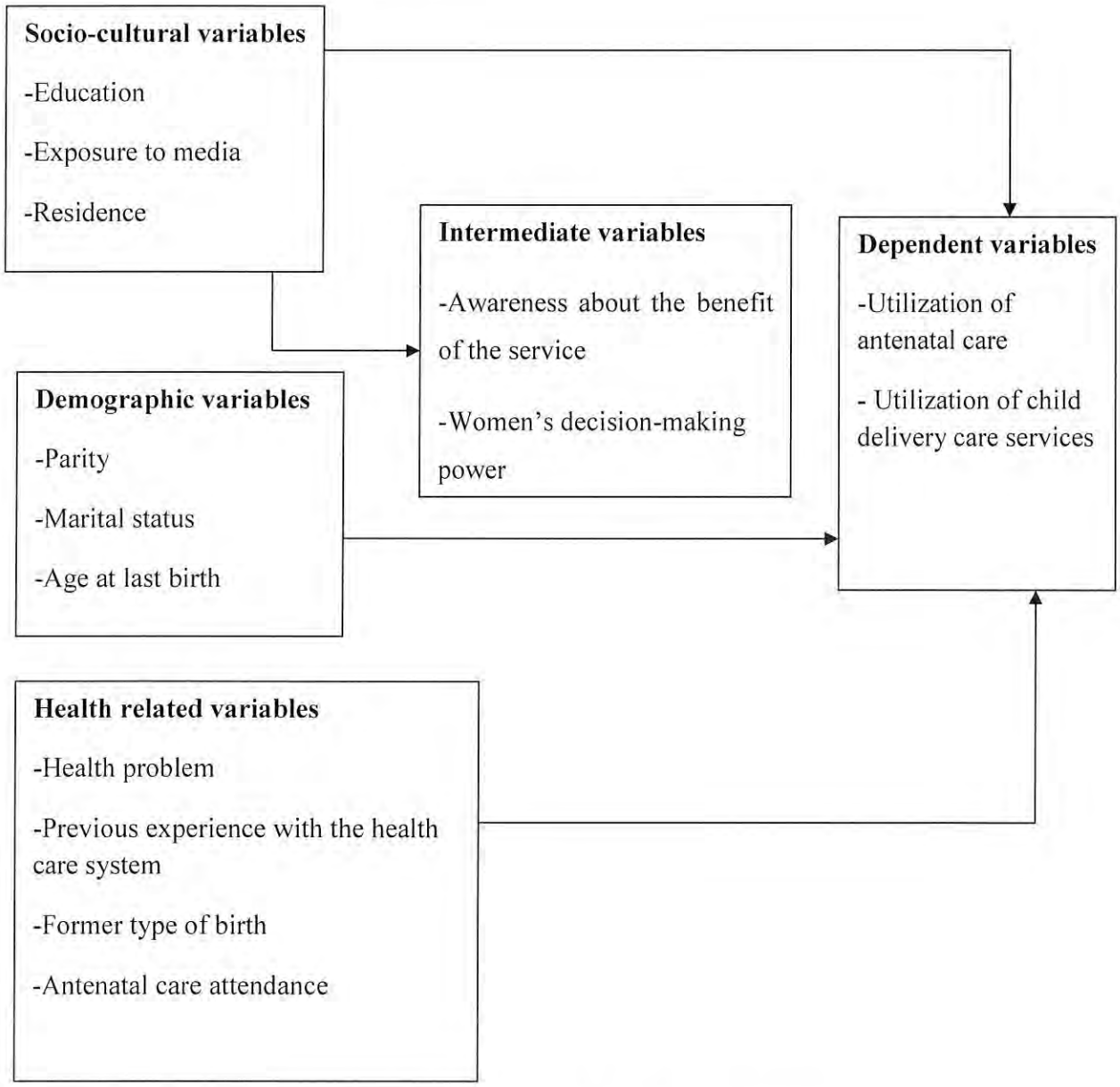
The immediate cause of health services utilization is need. The judgment about need for health service can be made by the individual himself or family caregivers(perceived need),and can be estimated by a self assessment of health status, symptoms experienced during a period of time, or number of symptoms during a period of time. Need can also be defined through a professional evaluation (evaluated need); for example, physician severity ratings for an episode of illness (Anderson, 1995).

To develop the conceptual framework of this study, Anderson's behavioral model was applied in addition to different literatures. Accordingly, the enabling factors are women decision-making power, exposure to media and distance. Predisposing factors are previous experience with the health care system, parity, marital status, age at last birth, education and residence. The need factors are health problem, previous type of birth, awareness about the benefit of the service and antenatal care attendance.

2.4 CONCEPTUAL FRAME WORK

Based on the available models and related literature the following conceptual frame work is used in the study

Figure: 1 Conceptual frame work



Source: Developed by the researcher from survey of available literatures

CHAPTER THREE

RESEARCH METHODS

3.1 Description of the study area

The study has been conducted in Bahir Dar special zone which is the capital city of Amhara National Regional state. Geographically the town is located on the Southern shore of Lake Tana and it is 565 kms far from NW of Addis Ababa (see annex) .The special zone has nine urban and twelve rural kebeles with total population of 294,533. The urban and rural areas account for a population of 217,599 and 76,934 respectively.

3.2 Study design

A cross-sectional study design was employed to undertake this investigation since it was important for the collection of information from the respondents and to look the problem at a specific time.

3.3 Study population

The target population for the study is those women who have given at least one birth in the past five years.

3.4 Source and method of data collection

Quantitative and qualitative data were collected using appropriate data collection instruments. The quantitative data were collected with interview using structured questionnaire which is prepared in English and translated in to Amharic. The questionnaire was pretested on 50 eligible women selected from Shumabo kebele to ensure clarity, comprehensibility, and logical flow. Orientation was given to the respondents about the objective of the study, ethical considerations, and matters of confidentiality.

Eight data collectors and two supervisors were recruited and trained for two days on the content of the questionnaire and interviewing techniques. Data collectors were recruited based on their previous experience in data collection, and they have been given one-day training by the

investigator. To keep the data as accurate as possible, supervision of interviewers on the spot and checking of each questionnaire for completeness and errors was done by the supervisors.

The quality of the data was further evaluated after data entry by sorting, running frequency and cross tabulations to rectify possible inconsistency. Based on that corrective measures were taken.

The study was supplemented with qualitative data using focus group discussion. Four focus group discussions, two for urban and two for rural residents were conducted separately. On average each FGD consisted of eight participants and took discussion of one hour period.

3.5 Sampling Design

In order to select the study units a multistage stratified sampling technique was employed. Twenty one kebeles of Bahir Dar special zone were initially stratified in to urban and rural kebeles. Next, using simple random sampling 2 from 10 urban kebeles and 2 from 11 rural kebeles were selected. Based on that Shimbit and Sefene Selam from urban kebele ,Meshenty and Zenzelima from rural kebeles were selected. Next, the total sample size of the study (660) was distributed to each of these four kebeles using probability proportional to their size. Finally, systematic random sampling technique was used to select the respondents from selected households with a sampling interval of three. If a woman had more than one live birth in the past five years, only care received for the most recent live birth was considered.

3.6 Sample size determination

The sample size of the study will be determined by assuming 5% level of significant, 95% confidence interval and prevalence rate (p) of 26.5% based on the following formula:

$$n = \frac{(Z_{\alpha/2} + Z_{\beta/2})^2 \, p\,(1-p)}{E^2}$$ that is:-

$$n = \frac{(1.96+0.84)^2 * 0.27(1-0.27)}{(0.05)^2} = 600.57 + 10\% = 660$$

Where,

n=total sample size

P=the proportion of women who have received ANC during their last pregnancy in Amhara Region from those women who had a birth in the last five years preceding the survey (26.5%) taken from previous study (CSA.MACRO, 2005).

E=standard error between the sample and the target population.

Source: - Cochran, W.G. 1977. Sampling Techniques, 3rd ed. John Wiley & Sons, New York.

3.7 Method of data analysis

Data were entered and cleaned using statistical package for social science (SPSS). Depending on the nature of the data, data was analyzed using different statistical procedures. Accordingly, univariate distribution was applied to the quantitative data to describe socio cultural and demographic characteristics of the respondents. Where as the bivariate analysis with chi square test was applied to assess possible association between the dependent and independent variables. Finally multivariate analysis was used to assess the net effect of each of the independent variable in explaining variation in the out come (dependent) variables.

Variables to be included in the model

Dependent variables 1: The first dependent variable is whether a women use antenatal care services or not.

2: The second dependent variable is whether a women use safe child delivery care services or not.

Independent variables: Residence, education, exposure to media, parity, age at last birth and marital Status.

Intermediate variables: Women decision making power and Awareness .

Variables included in the analysis

Dependent Variable	**Categories**
Use of antenatal care	yes , No
Use of institutional delivery	yes , No
Intermediate variables	**Categories**
Awareness	Aware, Not aware
Women decision making power	Low, High

Independent variables	Categories
Residence	Urban, Rural
Parity	1, 2, 3, 4+
Age at last birth	15-24, 25-34, 35-45
Exposure to media	Not at all, Infrequently, Frequently
Marital status	Never married, Divorce/separate/Widowed
Education	Illiterate, Read and write only, Primary, secondary and higher

3.8 Ethical consideration

Women who have at least one child under age 5 were enrolled in to the study after obtaining their prior consent .Information was provided to all concerned bodies on the basic objective of the study. Maximum efforts were made to maintain privacy during data collection. To assured confidentiality of information, name of the study subjects were omitted from the questionnaire. After the interview, advice was given for women who did not use ANC and ID to use the services efficiently.

3.9 Limitations of the study

Mothers who have been seen by health professionals for some medical problem during their pregnancy might have been considered as if they have received antenatal care.

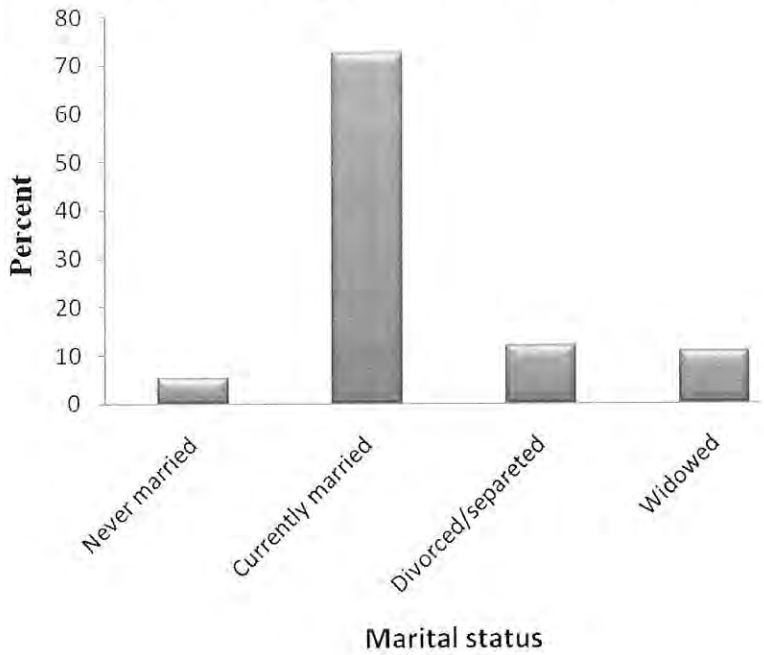
CHAPTER FOUR

RESULTS OF MAJOR FINDINGS

4.1 Socio-demographic characteristics of respondents

Of the total 660 individuals included in the survey, 67(10.2%), 302(45.8%), 191(28.9%) and 100(15.2%) of respondents are in the age group 15-19, 20-29, 30-39 and 40-49 respectively. About 43.3% of respondents were illiterate. Respondents who can only read and write constitute 20.6%, while primary, and secondary and higher level of education accounts for 23% and13% respectively. At the time of the survey currently married and divorced widowed /separated respondents were respectively 72.4% and 22.4% where as never married respondents were only 5.2 % (figure:2). Regarding religion of the study subjects, Orthodox constitute majority of the sampled population 483(73.2%).Muslim, protestant and other constitute114 (17.3%), 35(5.3%) and 28(4.2%) respectively. About 21.8%, 35.6% and 42.6% of women have respectively one, two to three, four and above number of children (Table 1).

Figure 2:-Percentage distribution of marital status



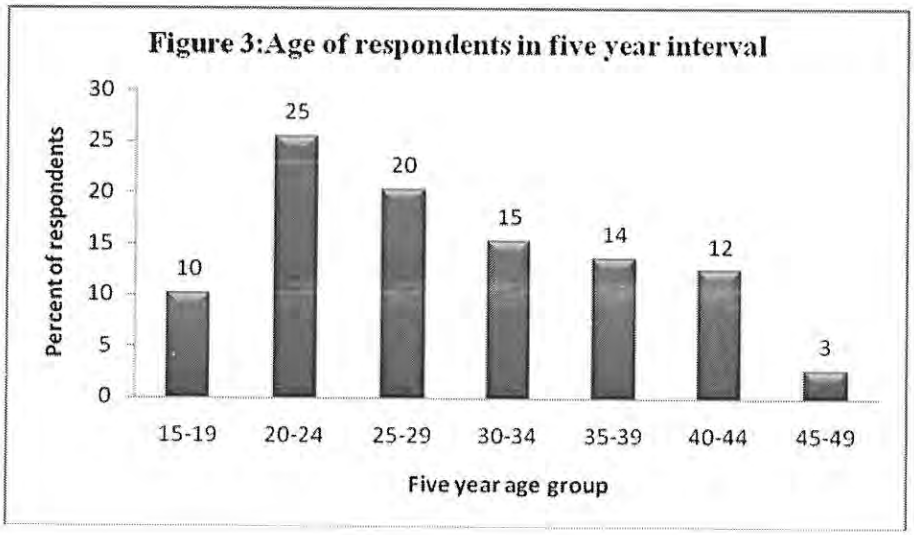
Source: Own survey data, 2008

Table 1: Back ground characteristics of respondents

Background characteristics	Count and percentage of the respondent	
	Count	Percentage
Residence		
Urban	496	75
Rural	164	25
Total	660	100
Mother's age		
15-19	67	10.2
20-29	302	45.8
30-39	191	28.9
40-49	100	15.2
Total	660	100
Educational level		
Illiterate	286	43.3
Read and write only	136	20.6
Primary	152	23
Secondary and higher	86	13
Total	660	100
Religion		
Orthodox	483	73.2
Muslim	114	17.3
Protestant	35	5.3
Other	28	4.2
Total	660	100
Children ever born		
4+	281	42.6
2-3	235	35.6
1	144	21.8
Total	660	100

Source: Own survey data, 2008

Regarding age of respondents in five year interval, figure 3 shows the detail. Mothers in the early and late age group (15-19 and 45-49) constitute less number as compared to other respondents in the age group 20-44. Mothers in the age group 20-24 constitute the maximum 25% followed by 20 % in the age group 25-29.



Source: Own survey data, 2008

4.2 Antenatal Care

4.2.1 Utilization of antenatal care

Of the total respondents only 211(32%) have received antenatal care, while the rest 449(68%) did not receive ANC during their last pregnancy (Table: 2).

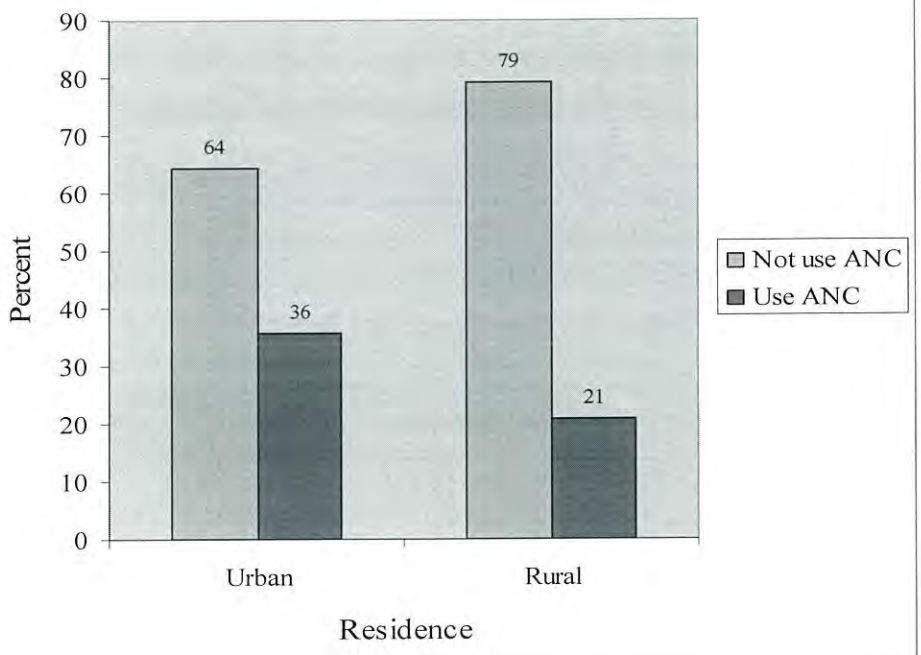
Table: 2 Utilization of antenatal care

Utilization of ANC	Count	Percent
Not receive ANC	449	68
Receive ANC	211	32
Total	660	100

Source: Own survey data, 2008

In utilization of antenatal care service, a great variation is shown with residence. 36% and 21% of urban and rural residents respectively use antenatal care services where as the rest did not use it (Figure: 4).

Figure:- 4 Utilization of antenatal care with residence



Source: Own survey data, 2008

Timing and number of ANC visits

Health professionals suggested that ANC is beneficial in preventing adverse pregnancy outcomes when it is sought early in the pregnancy and is continued through to delivery. It is also advisable to start ANC follow up during the first three months of pregnancy and continue until birth (CSA.MACRO, 2005).

However in this study it has been shown that among the total women, only 16% had attended in the first trimester and the majority (41%) had attended in the last trimester. Regarding to number of visits about 49% ,34% and 10% of women made four or more,2-3 times and only 1 time pregnancy check ups respectively (Table:3).

Table: 3 Use of ANC by month and number of visits

Months and number of visits	Frequency	Percent
ANC use by month		
1-3	56	16
4-6	109	31
7 and above	147	41
Do not remember	43	12
Number of visits		
only one time	37	10
2-3 times	122	34
4 and more times	174	49
Do not remember	22	6
Total	355	100

Source: Own survey data, 2008

4.2.2 Bivariate test for the utilization of antenatal care

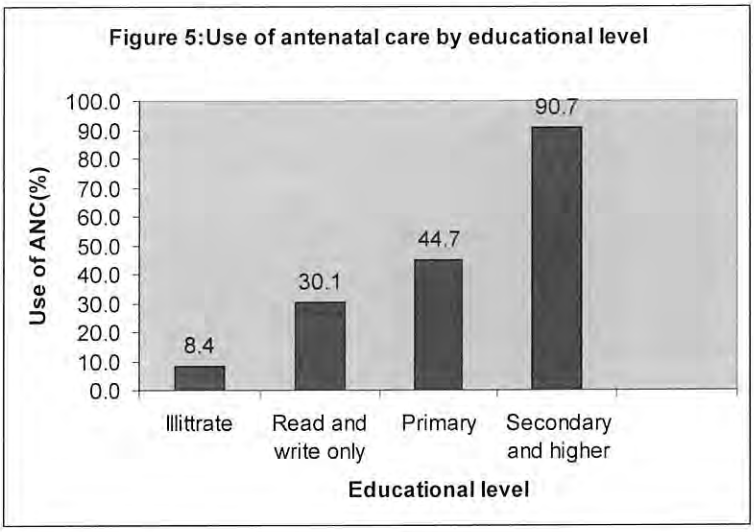
The study has examined the relationship between antenatal care and socio cultural and demographic variables like, residence, marital status, Educational level, parity, women decision making power and access to media. Accordingly, residence is significantly associated with utilization of ANC (χ^2=12.67). Utilization of rural residents (20.7%) is less than that of the urban residents (35.7%).Women's education is also associated with use of antenatal care in the study area, use of ANC service increase linearly with education.90.7 % of women with secondary and higher education received ANC from health professional compared with 44.7%, 30.1% and 8.4% of women with primary, read and write only and no education respectively. The chi square test revealed that education has significant association with utilization of ANC(χ^2=221.08,p=0.000)(figure:5). Marital status and utilization women received of ANC are also significantly associated (χ^2=41.15,p=0.000).About only 17.6% of never married ANC while

39.1% of currently married women received it. Mothers who have one child 44.4% more received ANC than those who have 2-3(40.9%) and 4 and above children(18.1%).This indicates as parity increase utilization of ANC decrease. Parity is significantly associated with utilization of ANC (χ^2=43.50P=0.000). Analysis of women decision making power confirmed that about 71.8 % of women with high decision making power received ANC while only 5.8% of women with low decision making power received ANC. Mothers decision making power is significantly associated with utilization of ANC(χ^2=316.21, P=0.000). Exposure to media is also significantly associated with Utilization of ANC(χ^2 =268.06, p=0.000).Mothers who are frequently exposed to media receive ANC better 69.9 % than those who infrequently 33.7 % and not at all 5.3 % exposed to media. Awareness about ANC has also a positive effect on utilization of the service. Women who have the awareness about ANC more received ANC 74.4 % than those who have no the awareness 12%. Mothers with age 15-24 at their last birth use ANC better than those mothers with age 25-34 and 35-45 respectively (Table 4).

Table 4: Distribution of ANC utilization by background characteristics

Variable	Antenatal care			$\chi 2$ value
	Do not Use	Use	Total	
Residence				
Urban	319(64.3)	177(35.7)	496(100%)	12.67***
Rural	130(79.3)	34(20.7)	164(100)	
Marital status				
Currently married	291(60.9%)	187(39.1%)	478(100%)	41.15***
Divorced/separated/widowed	130(87.8%)	18(12.2%)	148(100%)	
Never married	28(82.4%)	6(17.6%)	34(100%)	
Parity				
4+	230(81.9%)	51(18.1%)	281(100%)	43.50***
2-3	139(59.1%)	96(40.9%)	235(100%)	
1	80(55.6%)	64(44.4%)	144(100%)	
DMP				
LOW DMP	375(94.2%)	23(5.8%)	398(100%)	316.21***
HIGH DMP	74(28.2%)	188(71.8%)	262(100%)	
Media				
Not at all	323(94.7%)	18(5.3%)	341(100%)	268.06***
Infrequently	55(66.3%)	28(33.7%)	83(100%)	
Frequently	71(30.1%)	165(69.9%)	236(100%)	
Awareness				
Aware	54(25.6%)	157(74.4%)	211(100%)	256.831***
Not aware	395(88.0%)	54(12.0%)	449(100%)	
Age at last birth				
15-24	193(61.9%)	119(38.1%)	312(100%)	10.764***
25-34	154(72.3%)	59(27.7%)	213(100%)	
35-45	102(75.6%)	33(24.4%)	135(100%)	
Total	449(68.0%)	211(32.0%)	660(100%)	

Source: Own survey data, 2008



Source: Own survey data, 2008

4.2.3 Determinants of antenatal care utilization

Multivariate analysis for the use of ANC

The table below indicates that logistic regression result of socio demographic characteristics of women and the utilization of ANC. The binary logistic regression reveals the net effect of the independent variable on the dependent variable controlling the effect of other independent variables. Accordingly, the effect of education on utilization of ANC showed a statistically significant result ($p<0.05$).The odds of utilization of ANC was higher by a factor of 3.57and 5.08, among women with primary education and secondary and higher education compared to illiterate women respectively. Marital status was found statistically significant to explain the dependent variable. Those women who were divorced, separated and widowed were found 91% less likely to use ANC than currently married women. Women decision making power is another predictor factor which showed statistically significant effect for utilization of ANC. Women with high decision making power were found 21.84 times more likely to receive ANC than women with low decision making power. Women who have awareness about ANC are 4.61 times more likely to use ANC than those who have not. Effect of media showed statistically significant result ($p<0.01$).Women who are frequently exposed to media were found to use ANC 4.68 times more likely than those who did not exposed at all. Similarly, those who are infrequently exposed to media were found to use ANC 3.73 times more likely than mothers who did not exposed at all. Residence is also significant in this model ($p<0.001$).Rural residents are 53% less likely to use

the service than Urban residents. Parity and age at last birth is found to be non-significant in this model.

Table 5: Parameter estimate for the dependent variable, antenatal care with selected predictor variables on application of binary logistic regression model.

Variables	B	S.E.	Exp(B)
Parity			
4+(RC)	0		1
3	-0.84	0.7	0.43
2	-0.59	0.77	0.55
1	-0.21	0.55	0.81
Residence			
Urban(RC)	0		1
Rural	-0.75	0.21	0.47***
DMP			
Low DMP(RC)	0		1
High DMP	3.08	0.34	21.84***
Media			
Not at all(RC)	0		1
Infrequently	1.32	0.51	3.73*
Frequently	1.54	0.5	4.68**
Age at last birth			
15-24(RC)	0		1
25-34	0.19	0.57	1.2
35-45	-0.32	0.74	0.73
Awareness			
Not aware(RC)	0		1
Aware	1.53	0.37	4.61***
Marital status			
Currently married(RC)	0		1
Divorce/separate/widowed	-2.45	0.48	0.09***
Never married	-1.18	0.82	0.31
Education			
Illiterate(RC)	0		1
Read and write only	0.71	0.47	2.03
Primary	1.27	0.49	3.57**
Secondary and higher	1.63	0.69	5.08*
Constant	-3.96	0.71	0.02

RC=Reference *p<0.05, **p<0.01, ***p<0.001

Source: Own survey data, 2008

4.2.4 Reasons for not using ANC

Table 6: Reasons for not using ANC

Major reason	Responses			
	Urban		Rural	
	N	Percent	N	Percent
Because I had many responsibility in the household	14	5	71	13
Because I was healthy.	168	63	257	47
Because of financial constraint	22	8	17	3
Because I have no idea about it.	9	3	69	13
Because waiting time to get the service is too long.	39	15		
Because my home was far from health institution.			111	20
Because of other reason.	17	6	21	4
Total	269	100	546	100

Source: Own survey data, 2008

Out of the total number of women who did not use ANC,an attempt was made to know the possible reasons for non use of ANC. Accordingly ,5 %,63%,8 %,3%,15% and 6% of urban women mentioned responsibility in the household, absence of serious illness, financial constraint, lack of awareness, long waiting time to get the service and other reasons as the major problem for not accessing the service respectively.

On the other hand, reasons for not receiving ANC for rural women was attempted to be known. In this case, 13%, 47%, 3%, 13%, 20% and 4% of them explained respectively responsibility in

the household, absence of serious illness, financial constraint, and absence of awareness, distance and other reasons as the major problem for not accessing the service (Table:6).

4.3 Delivery Care

4.3.1 Utilization of child delivery care

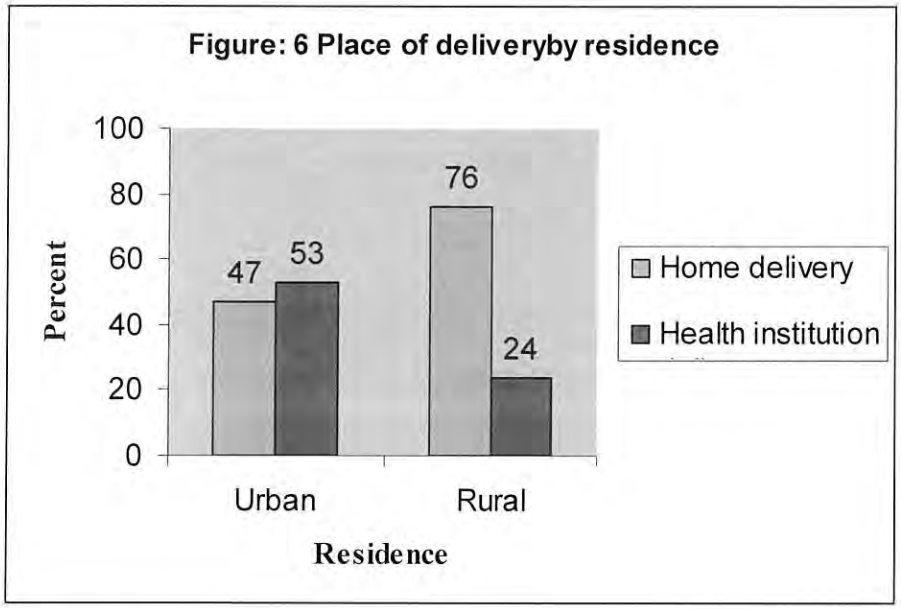
Of the total 660 respondents 358(54%) give their last birth at home and 302(46%) give their last birth at health institutions.

Table 7: Utilization of child delivery care

Place of delivery	Count	Percent
Home delivery	358	54
Health institution delivery	302	46
Total	660	100

Source: Own survey data, 2008

Similar with the utilization of ANC, great variation is also shown with residence in utilization of institutional delivery. 53 and 24% of urban and rural residents use institutional delivery care services to give their last birth where as the rest did not use it (Figure: 6).



Source: Own survey data, 2008

4. 3.2 Percentage of women with delivery attendant

The delivery attendant for the majority of respondents (55%) is health professionals. While the rest 13%, 22%, 6% and 3 % of the women were assisted with trained traditional birth attendant untrained traditional birth attendant, health extension workers and community health agent during child delivery.

Table: 8 Percentage of women with delivery attendant

Delivery attendant	Frequency	Percent
Health professional	365	55
Trained traditional birth attendant	88	13
Untrained traditional birth attendant	147	22
Health extension workers	38	6
Community health agent	22	3
Total	660	100

Source: Own survey data, 2008

4.3.3 Bivariate test for the utilization of child delivery care

Table 8 shows percentage distribution with home and health facility delivery of study subjects based on some socio cultural and demographic characteristic. Accordingly, the chi square result depicted that residence is significantly associated with the utilization of safe child delivery care (DC) with (χ^2 =42.47, p=0.000). Only 23.8% of rural women utilize DC whereas about 53% of urban women use DC. Women's education is also associated with use of DC in the study area, Use of DC increases linearly with education. 89.5% of women with secondary and higher education used DC from health professional compared with 82.9%, 49.3% and 11.2% of women with primary, read and write only and no education respectively. The chi square test revealed that education has significant association with utilization of DC (χ^2=289.24, p=0.000).Marital status and utilization of DC are also significantly associated (χ^2=0.46, p=0.000).About 41.2% of never married women, 44.6% of divorced/separated/widowed women and 46.4% of currently married women received DC. Mothers who have one child (55.6%) more used DC than those who have 2-3(53.2 %) and 4 and above children (34.5%) This indicates as parity increase utilization of DC decrease. Parity is significantly associated with utilization of DC (χ^2=25.10, P=0.000).Analysis of women decision making power confirmed that about 77.9% of women with high decision making power received DC while only 24.6% of women with low decision making power received DC. Mothers decision-making power is significantly associated with utilization of DC ($\chi^{2=}$180.43, P=0.000). Exposure to media is also significantly associated with Utilization of DC (χ^2 =371.08, p=0.000). 86% of Mothers who are frequently exposed to media receive DC better than those who infrequently 79.5% and not at all 9.7% exposed to media. Women who have the awareness about DC more received DC 71.09% than those who have no the awareness 10.51% (Table 9).

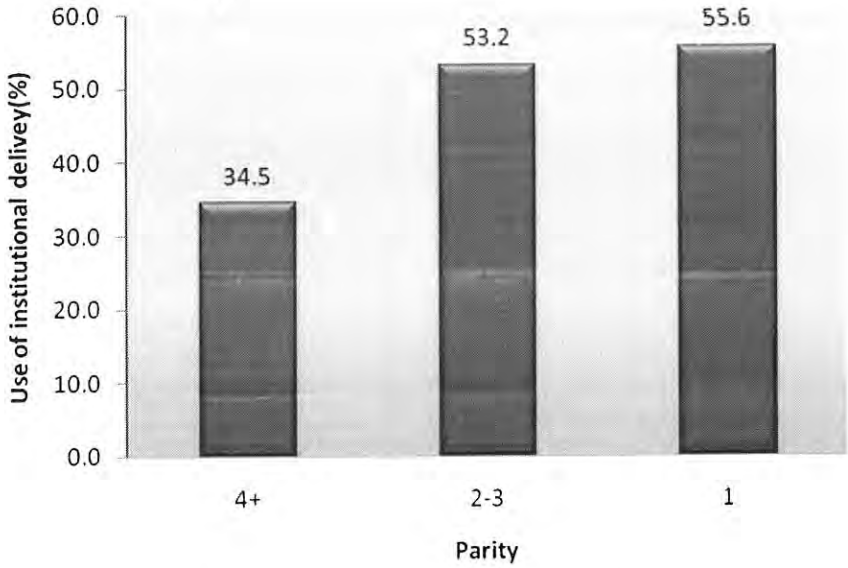
Table 9: Distribution of mothers by place of child delivery based on selected background characteristics.

Variable	Place of delivery			$\chi 2$ value
	Home	Health facility	Total	
Education				
Illiterate	254(88.8%)	32(11.2%)	286(100%)	289.24***
Read and write only	69(50.7%)	67(49.3%)	136(100%)	
Primary	26(17.1%)	126(82.9%)	152(100%)	
Secondary and higher	9(10.5%)	77(89.5%)	86(100%)	
Marital status				
Currently married	256(53.6%)	222(46.4%)	478(100%)	0.46
Divorced/separated/widowed	82(55.4%)	66(44.6%)	148(100%)	
Never married	20(58.8%)	14(41.2%)	34(100%)	
Residence				
Urban	233(47%)	263(53%)	496(100%)	42.47***
Rural	125(76.2%)	39(23.8%)	164(100%)	
Decision making power				
Low	300(75.4%)	98(24.6%)	398(100%)	180.43***
High	58(22.1%)	204(77.9%)	262(100%)	
Media				
Not at all	308(90.3%)	33(9.7%)	341(100%)	371.08***
Infrequently	17(20.5%)	66(79.5%)	83(100%)	
Frequently	33(14%)	203(86%)	236(100%)	
Awareness				
Aware	111(28.91%)	273(71.09%)	384(100%)	237.490***
Not aware	24 (89.49%)	29 (10.51%)	276(100%)	
Total	358(54.2%)	302(45.8%)	660(100%)	

***p<0.001

Source: Own survey data, 2008

Figure 7:-Use of institutional delivery by parity



Source: Own survey data, 2008

4.3.4 Determinants of safe child delivery service utilization

Multivariate test for the use of child delivery care

The logistic regression result shows that there was a statistically significant association between awareness and use of safe child delivery services at $p<0.001$.Women who have no awareness about the service were 93% less likely (OR=0.07) to use the service than those who have the awareness. Women with primary education use DC 21.18 times more likely than illiterate women. In addition women who can read and write only use the service 4.94 times more likely than the illiterate one. Age at last birth found to be statistically significant to explain the dependent variable. Those women with age at last birth 25-34 and 35-45 were found to be 53.52 and 20.01 more likely to use the service respectively than those women with age at last birth of 15-24.Women decision making power is another predictor factor which showed statistically significant effect for the utilization of DC. Women with high decision-making power were found 5.87 times more likely to receive DC than women with low decision-making power. Effect of media showed statistically significant result ($p<0.001$).Women who are frequently exposed to media were found to be 11.07 times more likely to use delivery care than women who did not exposed at all. Similarly women who are infrequently exposed to media were found to use 14.64 times more likely than women who did not exposed at all. Parity was found statistically

significant to explain the dependent variable. Those women who have three and two women were found respectively 9.40 and 16.35 more likely to use DC than currently married women. Residence was found to be non-significant.

Table 10: Parameter estimate for the dependent variable, delivery care with selected predictor variables on application of binary logistic regression model.

Variables	B	S.E.	Exp(B)
Parity			
4+(RC)	0		1
3	2.24	1.01	9.40*
2	2.79	1.04	16.35**
1	0.13	0.85	1.14
Residence			
Urban	0		1
Rural	-1.29	0.2	0.28
Decision making power			
Low (RC)	0		1
High	1.77	0.39	5.87***
Media			
Not at all(RC)	0		1
Infrequently	2.68	0.53	14.64***
Frequently	2.4	0.47	11.07***
Age at last birth			
15-24(RC)	0		1
25-34	3.98	0.93	53.52***
35-45	3	1	20.01**
Awareness			
Aware (RC)	0	0.38	1
Not aware	-2.68		0.07***
Education			
Illiterate(RC)	0		1
Read and write only	1.6	0.51	4.94**
Primary	3.05	0.61	21.18***
Secondary and higher	1.08	0.67	2.95
Constant	-5.62	1.02	0

RC=Reference *p<0.05, **p<0.01, ***p<0.00

Source: Own survey data, 2008

4.3.5 Reasons for not using safe child delivery care

Table 11: Reason for not using safe child delivery care

Major Reason	Responses			
	Urban		Rural	
	N	Percent	N	Percent
Because I had bad experience with the health care system	50	18	36	5
Because I had no problem in the labour.	108	39	223	29
Because I always bear my child there.	88	32	234	30
Because of financial constraint	16	6	27	4
Because health institutions are too far from my home			242	31
Because of other reasons.	13	5	11	1
Total	275	100	773	100

Source: Own survey data, 2008

Out of the total number of urban women who did not deliver at health facilities, 18%, 39%, 32%, 6%, and 5% of women mentioned bad experience with the health care system, absence of serious problem in the labour, usual practice, financial constraint and other reasons as a reason to deliver at home.

On the other hand, for rural women, reasons not to deliver at health facilities was attempted to be known. In this case, 5%, 29%, 30%, 4%, 31% and 1% of them explained bad experience with the health care system, no serious problem in the labour, usual practice, financial constraint, distance and other reasons respectively as the major problem for not accessing the service (Table 11).

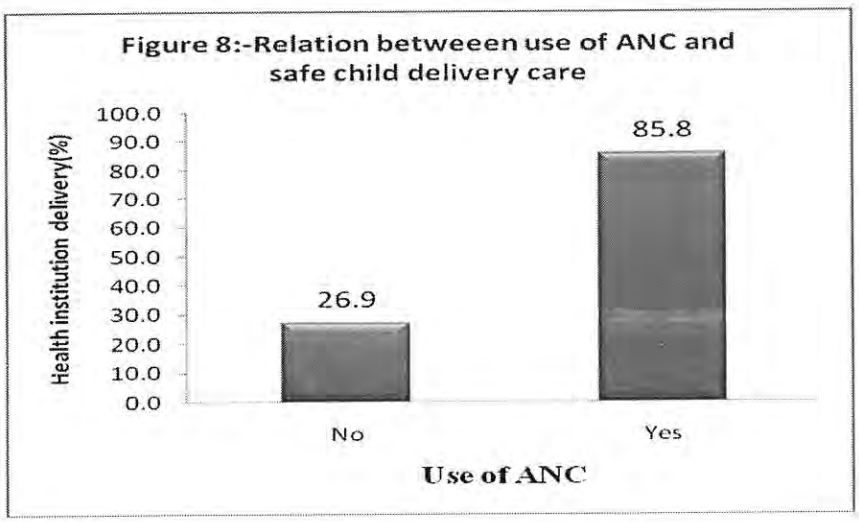
4.4 Relation between utilization of ANC and child delivery care

Table 12: Relation between ANC and DC

		Where did you deliver		
		Home	Health institution	Total
Did you attend ANC	No	328(73.1%)	121(26.9%)	449(100%)
	Yes	30(14.2%)	181(85.8%)	211(100%)
	Total	358(54.2%)	302(45.8%)	660(100%)

Source: Own survey data, 2008

Of the total 449(100%) women who did not receive ANC, 328(73.1%) deliver their last child at home. Where as only 121(26.9%) deliver at health facilities. On the other hand from a total of women who received ANC for their last pregnancy, 30(14.2%) give their last birth at home where as 181(85.8%) deliver at health facilities (Table 12).



Source: Own survey data, 2008

4.5 Relation between ANC and check up for HIV/AIDS

Table 13: Relation between ANC and Check up for HIV/AIDS

Have you checked up for HIV/AIDS during your last pregnancy?	Have you seen a health professional for ANC during your last pregnancy		Chi square value
	No	Yes	414.95***
yes	22(4.9%)	166(78.7%)	
No	400(89.1%)	23(10.9%)	
Do not know	27(6%)	22(10.4%)	
Total	449(100%)	211(100%)	

Source: Own survey data, 2008

The table above shows the positive effect of receiving ANC on checking for HIV/AIDS. Out of women who have received ANC for their last pregnancy, 166(78.7%) have checked for HIV/AIDS where as 23(10.9%) have not checked for it, and the rest 22(10.4%) did not know about it. On the other hand, 22(4.9%), 400(89.1%) and 27(6%) of women who did not receive ANC have checked for HIV/AIDS, have not checked for it and do not know about it respectively.

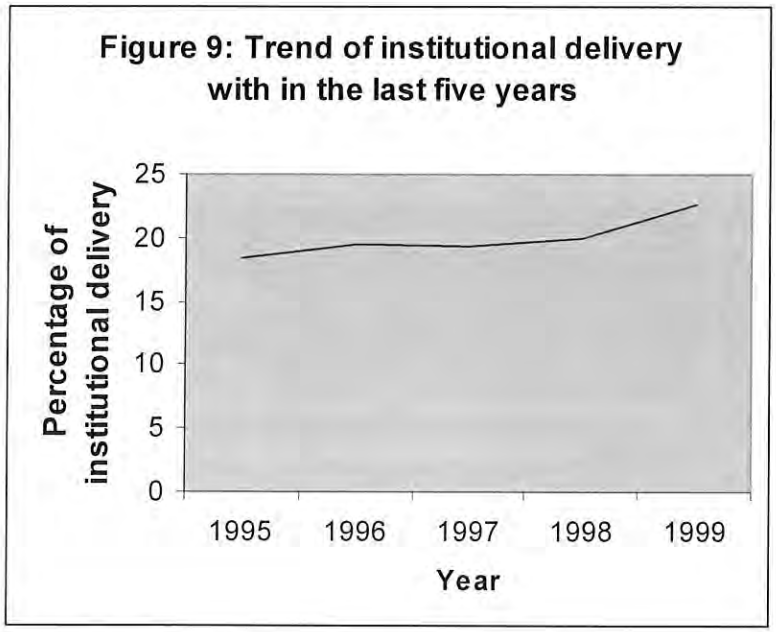
4.6 Trend of ANC and health institutional delivery with in the past five years

Table: 14 Trend of utilization of ANC and health institutional delivery in the last five years

Service utilization		**Year**					
		1995	1996	1997	1998	1999	Total
DC	Count	82	87	86	89	101	445
	%	18	20	19	20	23	100
ANC	Count	66	74	71	75	81	367
	%	18	20	19	20	22	100

Source: Own survey data, 2008

Utilization of ANC and institutional delivery shows an increasing and decreasing trend with time. Among a total health institutional delivery in the last five years, 23 %, 20 %, 19 %, 20 %, and 18 % was in the year 1999, 1998, 1997, 1996 and 1995 respectively (Figure: 9). Similar pattern has been shown for the case of antenatal care utilization with year. Accordingly, 22 %, 20 %, 19 % 20 % and 18 % of antenatal coverage was in the year 1999,1998,1997,1996 and 1995.The improvement in the utilization of these services in the last two years may be due to the activity of the government in health facilities especially in improving the MCH (Table:14).



Source: Own survey data, 2008

4.7 Focus group discussion summary results

A total of 32 participants were involved in four focus group discussion. The discussion was held for urban and rural women separately. The discussion centered on general knowledge, utilization, reason for not utilizing the service, and experience about the ANC and safe child delivery services.

The group discussion started with the general question on their awareness about ANC and safe child delivery. Most of the rural women have no clear idea about the services especially for ANC. the urban women however; have better awareness about it .They defined ANC as care provided during pregnancy to prevent any problems related to pregnancy and child birth. They also define

delivery care as the care provided for women by trained health professional in the health institution, and utilization of the service was beneficial for the safety of the mother and the fetus/child. Where as, the rural women said that it was not relevant to go to health facilities unless a serious problem has occurred.

Regarding the practice of the service, most rural women said that they didn't use the services unless they had faced a serious problem .Where as the urban women use the services in a better way. With regard to place of delivery, the majority of the urban discussants agreed that the best place to deliver a child is a health institution. Where as Most of rural discussants preferred home delivery.

The main reasons forwarded by the discussants for not utilizing ANC were lack of awareness, absence of serious illness, household responsibility, and cultural reasons. Some of the participants said that "going to health facilities ends with acquiring diseases ".

Measurement of blood pressure and weight, urine and blood test, and test for HIV/AIDS were some of the services women get during antenatal care follow up. Regarding the quality of the service some respondents comment that some health workers were not treating the women politely; especially during delivery care. Moreover lack of neatness was seen on the utensils of the health facility.

The discussants in the FGD were asked about the factors that affect DC. Accordingly bad experience with the health care system, absence of serious problem in the labour, short duration of labour, not wanting to go alone, usually practicing home delivery and financial constraint were mentioned by urban discussants. The reasons explained by the rural discussants were almost the same except that rural women add long distance to the health facility as a reason.

CHAPTER FIVE

DISCUSSION

The community-based study has attempted to identify the practice and factors associated with the practices of antenatal care and safe child delivery services in Bahir Dar special zone.

Antenatal care is an important determinant of high maternal mortality rate and one of the basic components of maternal care on which the life of mothers and babies depend. According to (WHO,2003) the early initiation of ANC is important to identify, prevent and treat health problems like anemia and STDS including the current life threatening disease HIV/AIDS. However, majority of women in this study did not start ANC follow up early.

The results of the present study revealed that the use of ANC is significantly influenced by level of education. Women with primary education and higher level of education were more likely to use ANC services than those with lower education levels. This finding is in line with most maternity care studies conducted in developing countries (Addai,2000,).Studies conducted in different parts of Ethiopia also show similar results. The possible reason for this is that, education is more likely to enhance the status of women and enable them to develop greater confidence and capacity to make decisions about their own health. The other reason may be different aspect effect of education in awareness creation.

With respect to the effect of marital status on the utilization of ANC, the result appears to be consistent with other studies done in Ethiopia (Yared, 2002; Hibret, 2007; Tefera, 2005).Those women who were divorced, separated and widowed were found less likely to use ANC than currently married women.

Women's decision making power in relation to utilization of ANC is another critical factor because whether the other factors are favorable or not, the most important step getting the services largely relies on whether the women have the power to decide by her self for getting the service. Different studies indicated that women decision making power has affirmative impact on utilization of ANC(Kishor,2005;Hibret,2007).Similarly in this study women with high decision making power were found 21.84 times more likely to receive ANC than women with low decision making power.

Exposure to media has been shown to have an effect for the utilization of maternity health care services (Mesfin, 2002) .Similarly the present study shows that those women who are better exposed to media were found to use ANC better than women who did not exposed at all.

Previous study conducted in Jimma town has shown that women, who were aware about the benefits of ANC, had utilized the service more than their counter parts that were not aware. Likewise, this study reveals that awareness about the service has a positive impact for the utilization of it.

Study done in Pakistan shows that less than one third of pregnant women receive antenatal care, with a large urban and rural difference: 17% of pregnant women in rural areas receive antenatal care while 71% of women in major cities are able to take advantage of service (Govindasamy et al, 1993). Consistent with this, residence has found to be another important predictor of ANC in this study. Urban women use the service better than rural women. One possible reason for this may be urban women tend to benefit from increased knowledge and access to maternal health services compared with their rural counterparts. This is because, health facilities are more accessible in urban areas and the various health promotion programs that are mostly urban focused mass media gives advantage for the urban women. The other explanation may be rural women are more influenced by traditional practices that are contrary to modern health care.

Among the different reasons mentioned by the respondents for not to use ANC house hold responsibility, absence of illness or pain, financial constraint, lack of awareness, too long waiting time distance and other reasons were the major problem for not accessing the service. In the focus group discussion similar results were found.

According to MOH (2006/7), the antenatal coverage of Ethiopia has shown an increasing trend with in the year 2003-2007 .Similarly a trend of increasing in the utilization of ANC has been found in this study. This improvement may be due to the implementation of Health Sector Development Plan (HSDP), which focuses on maternal health care as one part of its main priority areas.

Utilization of institutional child delivery was affected by socio cultural and demographic factors. The multivariate analysis in this study confirms that education, awareness, age at last birth, women decision making power, access to media and parity were found to be significant predictor of safe child care utilization.

Utilization of safe child delivery care was raised by a factor of 53.52 and 20 among women age at last birth 25-34 and 35-45 respectively compared to women of age at last birth15-24.

It is evident that there is unquestionable truth education has great role to play in the utilization of Safe child delivery care. Utilization of safe child delivery care increases linearly with educational level. Women's education appears to positively and independently predict the use of delivery care services in Ethiopia (CSA.MACRO,2005).Similarly ,in this study ,Women with read and write only and primary education were more likely to use safe child delivery care services than those with lower education levels (illiterate women).The bivariate test describes similar result with the multivariate. Most of women with secondary and higher education used safe child delivery services compared with women with primary, read and write only and no education respectively.

Exposure to media has been shown to have an effect for the utilization of maternity health care services (Mesfin, 2004) .Similarly the present study shows that those women who are frequently and infrequently exposed to media were found to use safe child delivery care better than women who did not exposed at all respectively.

Awareness was found to be another significant factor in the use of safe child delivery services. Women who have no awareness about the service were 93% less likely (OR=0.07) to use the service than those who have the awareness. This result was consistent with other studies done in Ethiopia (Belay, 1997).

Consistent with Kishor (2005) findings, women decision making power was found to have an effect for utilization of safe child delivery care services. Moreover in many parts of Africa women's decision making power is extremely limited. In this regard, decisions about maternity care are often made by husbands or family members. This study also revealed that women with high decision making power were found 5.87 times more likely to receive DC than women with low decision making power.

Study conducted in developing countries revealed that the use of health services at the time of delivery appears to be influenced by whether or not a woman received antenatal care during that pregnancy (Govindasamy, 1993; Mesfin, 2004). Antenatal care being a path way to institutional delivery as seen in many studies, this study tried to look up on the relation between these variables in the study area. The result revealed that women who have not received antenatal care were less likely to seek institutional delivery than women who have received ANC. 85.8% of women who have received ANC use safe child delivery care compared to 26.9 % of women who have not received ANC. The possible explanation for this is exposure of women to the health service in general and the information as well as the experiences they have gathered during the follow up in particular, might have influenced them to deliver in health facilities. Second possible explanation may be, since ANC and DC services are pregnancy and delivery related services, factors which affect utilization of ANC might have affected also utilization of DC.

The study has tried to investigate the reason for not using safe child delivery care service. Accordingly, among the different reasons mentioned by the respondents for not to use safe child delivery care, absence of serious problem in the labour, usual practice, distance ,financial constraint, bad experience with the health care system, and other were the main. The qualitative data found from the focus group discussion also strengthened this idea.

CHAPTER SIX

CONCLUSSION AND RECOMMENDATION

6.1 CONCLUSSION

The proportion of women that have used the antenatal and delivery care is 32 and 46 percent respectively, with great variation in urban and rural residents. This study shows that the most important factors affecting utilization of antenatal and delivery care services are demographic and socio-cultural. The socio-cultural factors are residence, education, exposure to media, women decision making power and awareness about the benefit of the service .where as the demographic factors are parity, age of women at last birth and marital status.

Urban residents used the services better than the rural one. Education of women is found to have an important effect on the utilization of ANC and safe child delivery care services. Accordingly, educated women are more likely to use the maternity care services than the uneducated women.

Utilization of ANC has a positive effect on utilization of safe child delivery care. ANC attendants are more likely to deliver in health facilities when compared to non attendants.

Women with high decision making power are better in utilizing the ANC and child delivery services than women with low decision making power. Mothers who have better awareness about the benefit of antenatal and delivery care use the services much better than those who have not the awareness. In addition, exposure to media has also a positive effect in utilizing these services.

The main reason for mothers not to receive ANC service was found to be absence of illness, usual practice, house hold responsibility, financial constraint, absence of awareness, too long waiting time to get the service and distance. Utilization of delivery and antenatal care services in the last five years did not show a constant trend. It showed an increasing and decreasing trend in the study area. The main reasons mentioned to deliver at home was absence of serious problem in the labour, usual practice, distance, financial constraint and bad experience with the health care system. The focus group discussion result also confirms these ideas.

6.2 RECOMMENDATIONS

- Awareness should be created on the benefit of ANC and Safe child delivery services and danger signs surrounding pregnancy and child birth to mothers, so that they will have the motive to use the services.

- Relevant stake holders should be involved to promote empowerment of disadvantage women through integrated activities including girls and women education so that enabling them to decide by themselves about their health.

- Parity of women should be taken in to consideration in the campaign of increasing Safe child delivery care by giving top priority to high parity women.

- The effort currently done by the government to increase access to health care through Health Extension program should be encouraged and strengthened giving especial emphasis to antenatal and delivery care.

- Knowledge and positive attitude of the community in general and women in particular should be increased to enhance better utilization of maternal and child health services.
- Increasing ANC coverage can be an effective means of increasing professional assistance at delivery, especially delivery in a medical institution.
- The quality of the maternity care services provided should be improved to have trust by the clients.

- Policy makers and implementing agencies should deserve due attention in implementation of integrated activities related to the challenges of maternity health.

- Similar studies should be conducted in various settings to come up with more representative findings which will be helpful in designing interventional activities to improve ANC and child delivery service utilization in country Ethiopia.

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Questionnaire for community based survey on assessment of utilization and determinants of maternal health care services in Bahir Dar Special zone

This is a study to be conducted with the objectives of assessing utilization and determinants of antenatal and delivery health care services. As the study is directly related to women who have ever given birth, those women who have at least one child with age five and under age five are identified. And you are one of the women who are selected to participate in this study. Therefore you are kindly requested to participate in this study and provide the information required from you. Your participation in this study is completely on voluntary bases and you have the right to refuse from participating.

Your responses will be kept confidential and there will be no way of liking your individual responses till the final results of the study findings. For your confidentiality please don't write your name.

We would like to inform you that the responses that you provide to the questions are very essential, not only ,for the successful accomplishment of the study ,but also for producing relevant information which will be help full in improving the maternal health care service utilization.

Do you volunteer to continue? Yes ☐

No ☐

Thank you!

Name of the interviewer_____ Signature_____ Date _____

Starting Time: _____
Ending Time: _____

Name of the supervisor _____Signature _____

Part I: - Background Characteristics

N o	Questionnaire on identification of the respondents	Alternative choice for responses	Skip
101	Age	_____years old	
102	Education	1.Illiterate 2.Read and write only 3.Grade_____	
103	Religion	1.Orthodox 2.Muslim 3.Protestant 4.Catholic 5.Other specify_____	
104	Ethnicity	1.Amhara 2.Tigray 3.Oromo 4.Guragee 5.Other Specify_____	
105	Occupation	1. Housewife 2. Daily laborer 3. Civil servant 4.Own private business 5.Private sector employee 6. Other specify_____	
106	Marital status	1. Never married 2. Currently married 3. Divorced / Separated 4. Widowed 5.Other specify_____	
107	Age at first marriage	_____year	
107	Average monthly income	_____Birr	

Part II:-Birth history

201	Age at first birth	_____year	
202	Total umber of children ever born		
203	Number of children who are alive		
204	Number of children who are not alive		
205	Last birth interval	_____ years	

Part III:-Exposure to media

301	How often do you read news paper?	1. Not at all 2. Less than once in a week 3. At least once in a week 4. Almost everyday	
302	How often do you listen the radio?	1. Not at all 2. Less than once in a week 3. At least once in a week 4. Almost everyday	
303	How often do you watch Television?	1. Not at all 2. Less than once in a week 3. At least once in a week 4. Almost everyday	

Part IV Questions regarding five years and five years before the survey

401	How many children do you have with age five and less than five?	1.One 2.Two 3.Three 4.Four 5.Five	
402	How many of them are alive?		
403	How many of them are not alive?		
404	Age of your last child?		
405	What was your age at last birth?		

406

Your child age	Year of delivery	Did you attend ANC 1.Yes 2.No	Where did you deliver your child? 1.Hospital 2.Health center 3.Private health facility 4.Home 5.Other specify____	Did you attend postnatal care?
5	1995			
4	1996			
3	1997			
2	1998			
1	1999			

Part V: - Antenatal care			
501	Have you heard about ANC follow up?	1. Yes 2. No	
502	Do you know about the benefit of ANC?	1. Yes 2. No	
503	What is the benefit of ANC follow up?	1.Maternal health 2.Child health 3.Both for maternal and child health 4. Do not know 5.Other specify_____	
504	Have you attended the ANC check up during your recent pregnancy?	1. Yes 2. No	If No skip toQ515
505	Whom did you see?		
506	Where did you get it?		
507	What was your main reason for ANC follow up?	1.Health problem 2.To start regular check up 3.Other specify_____	
508	In your recent pregnancy at which month did you start antenatal care follow up?	At _____th month of pregnancy	
509	How many times did you visit for ANC?	_____times	
510	During your ANC follow up what service did you get?		
511	Did you heard about possible pregnancy and delivery complications during antenatal care follow up from health workers?	1.Yes 2.No 3.Do not remember	
512	From which institution did you get ANC?	1. Hospital 2. Health center 3. Private clinics 4. Other specify_____	
513	Why did you prefer that particular health institution?(multiple response is possible)	1.It is close to my place of residence 2. It has little or no expense. 3. Better quality of services available (The health workers have good behavior; the time is convenient to get the service.) 4. Other specify_____	

514	If No for Q 504, why didn't you attend ANC? (multiple response is possible)	1.I am not informed about ANC 2. Being in a state of good health 3. The ANC services are too far from my home 4. I had many responsibility in the hose hold 5. Poor Quality of services 6.Waiting time to get the service was too long 7. Other specify_____	
515	During your last pregnancy, did you receive any information about HIV/AIDS?	1.Yes 2.No 3. Do not remember	
516	Have you checked up for HIV/AIDS during your last pregnancy?	1. Yes 2. No 3.Do not know	
517	During your last pregnancy, did you encounter any health problem?	1. Yes 2. No	
518	What is your experience with the health care system?	1.Encouraging 2.Discouraging 3.Other	
Part VI: - Delivery Care Services			
601	How long was the duration of labour?	_____hour	
602	Have you faced any delivery complication?	1.Yes 2.No	If No skip toQ604
603	What kind of problem did you face?(multiple response is possible)	1.Ante partum hemorrhage 2.post partum hemorrhage 3.Preterm labour 4.Elevated blood pressure 5.Excessive bleeding during labour 6.Intra uterine fetal death 7.Sepsis 8.Premature rupture of membrane 9.Other specify_____	

604	What was the type of birth before your last child?	1.Normal 2.Cesorian section 3.Other	
605	What was the outcome of your last pregnancy?	1.Still birth 2.Abortion 3.Survived baby 4.Other specify_____	
606	Were you aware about where to deliver your child?	1. Yes 2. No	
607	Does institutional delivery have any benefit?	1. Yes 2. No	
608	What is the benefit of heath institution delivery?		
609	Where did you deliver your last baby?	1. Hospital 2.Health Center 3.Private clinic 4. Home 5.Other specify____	If home skip to Q614
610	Who was your delivery attendant?	1.Skilled health workers 2.TTBA 3.TBA 4.Relative(family member) 5.Other specify_____	
611	If you deliver your last baby at health institution, why did you prefer to deliver your baby in health institutions?(multiple response is possible)	1.I was informed to deliver at health Facilities 2. I have faced a problem which forces me to deliver at health institutions.(obstetric problems, Cesarean section) 3.It is my usual practice 4.Other specify	
612	If you deliver your last baby at health institution, why did you prefer to deliver your baby at that particular institution?(multiple response is possible	1. Close to my place of residence 2. Availability of better quality of services. 3. Little expenses are required to deliver in this particular place 4.Other specify_____	
613	If you deliver your recent baby at health institution what was the type of delivery?	1.Spontaneous vaginal delivery(SVD) 2.Assisted vaginal delivery(AVD) 3. Cesarean section (CIS) 4.Other specify_____	

614	If you deliver at home why did you prefer to deliver at home?(multiple response is possible)	1. Because of previous bad experience with health care system 2.Because of financial constraint. 3. I have not faced sever problem during labour. 4. It is my usual practice. 5.The health institution is very far home 6.Other specify_____	
Part VII: - Postnatal Care Service			
701	Have you ever heard about post natal care services?	1. Yes 2. No	If No skip to Q703
702	Where do you heard about it?(multiple response is possible)	1. From health institution during delivery 2. From media(radio,TV,news paper) 3.From friends/relatives 4. Other specify_____	
703	Have you encountered a health problem which is not normal after your delivery of the last child?	1. Yes 2. No	If No skip toQ705
704	What was the health problem?(multiple response is possible)	1.Bleeding 2.Vaginal discharge 3.Stich pain 4.Abdominal pain 5.Other specify_____	
705	Did you attend postnatal care services after delivery?	1. Yes 2. No	If No skip to 708
706	How many times did you attend the service?	_____times	
707	Why did you attend postnatal care?(multiple response is possible)	1. Because I was sick 2. Because my baby was sick 3. To check my health and my baby's health 4. Other specify_____	

708	If no for Q 705 Why did not you attend postnatal care?(multiple response is possible)	1.Because,there was no problem after delivery 2. I had no power to decide on the issue by myself. 3.I have no idea about it 4. My religion/ culture restricts me to do that 5. Other specify_____	
Part VIII Attitude Questions on Maternity care			
801	Where do you prefer to deliver?	1. At home 2.Atgovernment health services 3. At private health services 4. Other specify_____	If at home skip to 803
802	Why do you prefer to deliver at health institutions? (multiple response is possible)	1.It is my usual practice 2. I have learnt about it when I follow antenatal care. 3.For my child and my health 4.Other specify_____	
803	Why do you prefer to deliver at home?	1.It is my usual practice 2. I am afraid about the safety of materials they used. 3.Health services are very far from home 4.Otherspecify_____	
804	Do you believe that, pregnant women should get antenatal care follow up?	1. Yes 2. No 3. Do not know	
805	Do you believe that, women after delivery should get postnatal care?	1. Yes 2. No 3. Do not know	
Part IX Women decision making power questions			
901	Who usually decide about making major household purchase?	1.Mainly respondent 2.Mainly husband/partner 3.Manly respondent and husband/partner jointly 4.Mainly relatives	
902	Who usually make decisions about health care for yourself?	1.Mainly respondent 2.Mainly husband/partner 3.Manly respondent and husband/partner jointly 4.Mainly relatives	

903	Who usually make decisions about visits to your family or relatives?	1.Mainly respondent 2.Mainly husband/partner 3.Manly respondent and husband/partner jointly 4.Mainly relatives	
904	Who usually make decisions about purchase for daily household needs?	1.Mainly respondent 2.Mainly husband/partner 3.Manly respondent and husband/partner jointly 4.Mainly relatives	

Focus group discussion questions

A. Knowledge

1. Are you aware about ANC and child delivery?

2. What is the advantage of the services?

3. When should some body start to utilize it?

Probes
1. Would you explain further?
2. Would you give me an example?
3. Has any one else had similar experience?
4. Is there anything else?
5."I don't understand"

B. Utilization

1. Do you practice the services?

2. What are the main reasons for not utilizing the service?

3. What kind of services do you get during the practice?

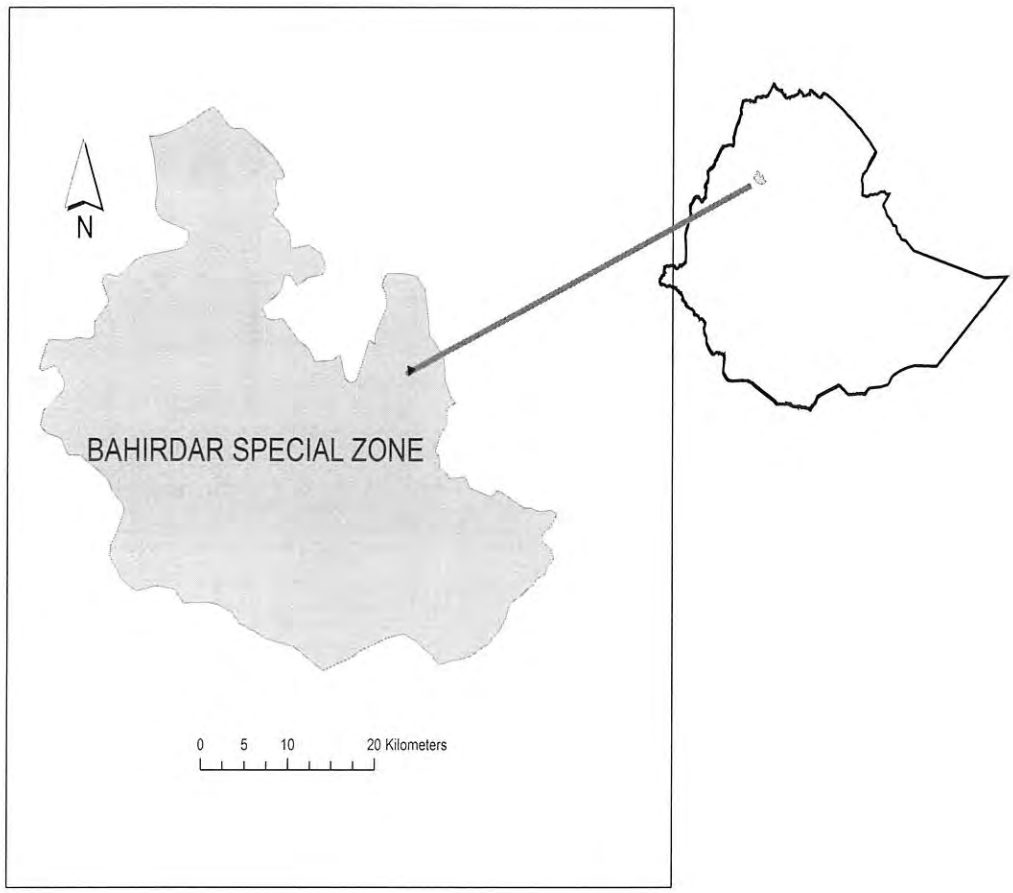
4. What do you say about the quality of the services?

Probes
1. Would you explain further?
2. Would you give me an example?
3. Has any one else had similar experience?
4. Is there anything else?
5."I don't understand"

C. What is your comment and Suggestions regarding these services?

Probes
1. Would you explain further?
2. Would you give me an example?
3. Has any one else had similar experience?
4. Is there anything else?
5."I don't understand"

Map of Bahir Dar Special Zone



Declaration

The thesis is my original work, has not been presented for a degree in any other university and that all sources of material used for the thesis have been duly acknowledged.

Tarik Shegaw		18/07/2008
Student	Signature	Date

I confirm that this thesis has been submitted with my approval as the supervisor of the same.

Habtamu Bekele		18/07/2008
Advisor	Signature	Date