ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

FACTORS AFFECTING UTILIZATION OF ANTENATAL CARE AND SERVICE PREFERENCE AMONG CURRENTLY MARRIED RURAL WOMEN IN BACHO WOREDA, SOUTH WEST SHOWA ZONE

By

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

Advisor: Dr. Samson Kassahun

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Welkite Berhanu
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List of Acronyms

ANC:	Antenatal Care
OBoFED:	Oromiya Bureau of Finance and Economic Development
CSA:	Central Statistical Authority
DHS:	Demographic and Health Survey
EDHS:	Ethiopia Demographic and Health Survey
EMOC:	Emergency Obstetric Care
HEP:	Health Extension Program
MCH:	Maternal and Child Health Care
MOH:	Ministry of Health
MoFED:	Ministry of Finance and Economic Development
NGOs:	Non-governmental Organizations
SPSS:	Statistical Package for Social Science
STDs:	Sexually Transmitted Diseases
TBA:	Traditional Birth Attendant
TTBA:	Trained Traditional Birth Attendant
TTI:	Tetanus Toxoid Injection
UNFPA:	United Nation Fund for Population Activities
WHO:	World Health Organization

Abstract

This study is conducted on factors affecting utilization of ANC and service preference in Bacho woreda of South west Showa Zone. ANC is expected to be important to ensure timely detection, management and referral of complications during pregnancy and delivery. ANC plays a decisive role in the development of fetus and infants. Hence, the issue of ANC occupies a prominent place on public health agenda and health planners and implementers should be identified those major barriers to ANC service which are base line intervention for reducing adverse effect of pregnancy.

The objective of this study is to assess factors affecting utilization of antenatal care and service preference among currently married women in Bacho Woreda. The study was carried out by employing interviewer administered questionnaire in selected kebeles of the woreda. A total of 423 currently married rural women were selected to achieve the stated objective of the study. Both descriptive and inferential statistics were used to analyze the survey data. The study found out that 30.3% and women in the study area received ANC from health facilities five years prior to the survey. 40.4% of women also preferred modern maternity care service from health facilities. The multivariate analysis using logistic regression model examined the likelihood of utilization of ANC by assessing the independent strength of demographic variables in model 1, socio-physical factors in model 2 and the over all effects of the selected predictors in model 3. The result showed that there are significant variations in the use of ANC with education of mother, physical distance travel on foot, parity, and with age of mother at recent birth.

Finally, improvement in access of utilization of ANC in rural districts, improving female education through formal and informal education, considering age women during ANC campaign, providing maternity service at nearby location, improving women's socio-economic right and enhancing female health care providers in health facilities are some of the recommendation in this study.

CHAPTER ONE

Introduction

1.1 Back ground of the study

In developing countries more than one-fourth of all deaths of women of reproductive age are pregnancy-related, caused mainly by hemorrhage, Sepsis, unsafe abortion, hypertensive disorders and obstructed labor. While maternal mortality has fallen in parts of Latin America and South east and west Asia, it remains high in Africa and south Asia. Even though the risk of dying as a result of pregnancy or child birth as declined globally, the number of pregnancy related death has continued to rise as the number of women in their prime child bearing years also rises (World Bank 1994:20)

The development of systemized, screening programmes for antenatal care (ANC) were first introduced in Western Europe at the beginning of twentieth century. By combining scientific innovations with an organised, preventive approach to health care it was hoped that routine antenatal care would contribute to the reduction of maternal and infant mortality rates (Tina et al, 2007:7).

Antenatal care is integral component of maternal and child health care. While increasing evidence suggests that certain components of ANC , such as risk screening have limited impact on reducing maternal morbidity and mortality, there are a number of components of ANC interventions that have been found to be effective such as detection and treatment of anemia, detection investigation and referral of hypertension, and detection and treatment of infections especially STDs. In addition, ANC use has been shown to influence women use of delivery services, probably the most effective intervention in reducing maternal mortality in the world. As well neonatal and infant health has been shown to be significantly affected by women's use of ANC (Mangistu and James 1996)

ANC is expected to have positive impact on the development of the fetus and the infant. A study reported that with, maternal risk held constant, low birth weight, neonatal mortality and infant mortality were 1.5 -5 times higher with late, and less frequent prenatal care than with early and frequent care (Mesganaw et al 2000). In Europe and North America the antenatal coverage was found to be 90 – 100 percent. For Ethiopia ANC coverage is estimated to be around 30 % (Mesganaw et al 2000). EDHS, 2005, also confirm this estimation. Accordingly , 28% Ethiopian mothers received antenatal care from health professionals for most recent births, and less than 1% of mothers received antenatal care from traditional birth attendant (trained or untrained). More than seven in ten mothers (72 percent) received no antenatal care (CSA and ORC Macro, 2005)

According to the result of EDHS 2005, maternal mortality ratio, a measure that enable us to know the obstetric risk associated with each live birth for the period 1996 – 2004 was 673 deaths per 100,000 live births. Similarly 95% of all births occur at home indicating the complexity of the problem. In addition, the proportion of neonatal deaths that occur, during the 48 hours after delivery is high basically due to lack of post-natal care. According to CSA and ORC Macro (2001) nine in ten mothers have not receive post-natal care. The 2005 EDHS also show similar output with out showing any improvement.

1.2 Rationale and Justification of the study

Little attention has been paid to the possibility that certain types of primary care during pregnancy might be extremely cost-effective and relatively simple to provide. The effect of low technology on primary maternity care including early abortion service, nutritional supplementation, and access to antibiotics, training of indigenous birth attendants and improved referral net works might be quite inexpensive ways and provide a basic level of health care during pregnancy, labor and delivery (Beverly 1987:137. Despite the fact that in resource poor country, like Ethiopia where majority of the population (i.e. 85 %), reside in rural areas, providing basic primary health care for the whole citizens and maternity care service in particular is difficult, the government endeavor to access maternity care service to the whole rural kebeles of the country is progressive task.

In Ethiopia, only 28 percent of pregnant women received antenatal care and about 6 percent of births are delivered with the assistance of trained health professionals. In case of Oromiya Region the situation is even worse, from the expected potential pregnant women in the region, only 25% of them have received prenatal care and about 4.8% delivered in the health facilities (CSA and ORC, Macro, 2005). The 2005 demographic and health survey of Ethiopia also showed that most of antenatal visit occurred late in pregnancy. Accordingly, only 6 percent of women make their first antenatal care visits before the fourth month of pregnancy .The median duration of pregnancy for the first antenatal care (ANC) visit is 5.6 months (CSA and ORC Macro, 2005).

Regarding the study area, information obtained from woreda health office indicated that, there is only one health center, one health clinic and three health posts which have served the current estimated total population of 79,539 out of this 18,534 are women of reproductive age (15- 49), who consistently seek maternity care service. These available health facilities suffered from serious shortage of materials and skilled human power. Accordingly, there are only one

health officer, 11 nurses, 2 health assistance, 1 laboratory technician, 1 druggist, 1 sanitary worker and 19 health extension workers in the existing health care provisions mentioned above and rural kebeles. There is also no government or private hospital in woreda and besides no well trained health professionals in the health center to provide essential health care service for obstetric complication and gynecological problems.

For chronic mothers' health problem i.e. complication during pregnancy, obstetric labor and hemorrhage after delivery, mothers travel long distance more than 30 kilometers to seek health care service at the only available NGO zonal hospital in Woliso town. In addition to this reality, there are a number of socio-cultural, demographic and physical factors which need thorough investigation on their effect on utilization of ANC and other maternity care service in the woreda.

As the study subject is concerned, Becho woreda is selected purposefully because of:

i. As stated above low accessibility for maternity care service provision by health facilities,
ii. Low status women prevailing in the area as the result of socio-cultural reasons,
iii. Inefficient capacity of the health care professionals and lack of knowledge about the services among the users,
iv. Low priority is usually given to woman's health within the family and most of the rural women are also reluctant to avail themselves to the health facilities.

Furthermore, one report showed that pregnant women hesitate to be seen by male medical professionals and hence the problem of pregnant women is exacerbated with professional staffs to care obstetric and gynecological problems (Alemayehu and et al, 2002).

1.3 Statement of the Problem.

Each year more than 150 million women become pregnant, more than 50 million experience acute pregnancy related complications, and 15 million develop long term disabilities (World bank, 1994:20).

In terms of maternal mortality, recent figures for Northern Europe suggest that the life time risk of death as the result of pregnancy and child birth is approximately 1 in 7000. This compares to a figure of 1 in 23 for women living in parts of Africa where antenatal care is poor or non-existent (Corroli et al, 2001).

Saving woman's lives by making child birth safer is a high priority health care service. According to UNFPA (2001), more than 500,000 women die each year in pregnancy, 99 percent of these causes take place in developing countries and 20 million suffer from acute complications. The vast majority of deaths and disabilities could be prevented if women had access to basic and emergency medical treatment during pregnancy, child births and post- partum period. Only 53% of pregnant women in developing counties delivered with the help of a skilled attendant. (UNFPA 2001:11).

Ethiopia's rate of maternal and newborn morbidity and mortality are among of the highest in the world. Current estimates of maternal mortality stand at 673 deaths per 100,000 live births. High maternal mortality rates are also directly related to low infant survival rates of 77/1000 per year (MOH, 2006/07).

A key factor contributing to both high maternal and newborn mortality is the low rate of skilled care during pregnancy and delivery. Nation wide, the vast majority of pregnant women (almost 60 percent), never seek any type of antenatal care and only 9.7 percent of births are attended by a skilled professional, while nearly 85 percent are attended by untrained traditional birth attendant or relative. Not only are complications more likely to occur during these unattended births, they are

more likely to be fatal for mother and newborn due to delays in seeking skilled emergency obstetric care (EMOC), in reaching the health facility, and/or to receiving a timely intervention even after reaching the facility (MOH 2006:16).

Few studies have been done on the factors affecting utilization of maternity care services in Ethiopia (Mesganaw, 1992); Mangistu and James, 1996); Mesganaw et al, 2000). Most of these studies are based on small scale surveys concentrated in urban areas. In addition, none of these research works address barriers to utilization of maternity care service in rural settings where accessibility of health resources like medical personnel, health facilities and knowledge of the services are inadequate. This study, on the other hand focuses on major demographic, Socio-cultural and physical factors affecting the use of antenatal care as well as type of maternity care services that are preferred by currently married women of reproductive age at woreda level in detail in rural setting.

1.4 Objectives of the study

1.4.1General Objective

The main objective of this study is to assess factors that affect the use of antenatal care and the type of maternity care service preferred by currently married women in Bacho woreda in order to improve mother and child health in area.

1.4.2 Specific Objectives

- To explore the level of antenatal care utilization provided in the study area.
- To assess factors influencing women's use of antenatal care.
- To identify factors contributing in influencing maternity care service preference in the study area.
- To identify the policy implications of the findings for the future maternity care service provision and utilization in the woreda.

1.5 Significance of the Study

The study assesses and examines factors affecting Utilization of antenatal care and service preference among currently married women of child bearing age. This study will help as a base line study for further investigation on matters related to maternity care service in rural settings and also play its role in reducing maternal and infant mortality by indicating major barriers to use of the service. Besides, it will be hoped that the finding of this study will give opportunity for policy makers, planners and implementers to take measures on major factors affecting maternity care in general and antenatal care service in particular at grass root level in population where accessibility to the service is a basic question and needs appropriate intervention in rural communities.

1.6 Research Questions

The study investigates factors which affect the use of ANC and service preferred by currently married women in rural areas of Bacho woreda. By service, the investigator refers to maternity care service, which has been provided for women by health care facilities in the woreda. The potential respondents were supposed to answer the questionnaire which deals with socio-cultural, demographic and physical factors that affect the use of maternity care services. To precede with the study the following basic research questions were formulated.

1. What are the major barriers to use ANC services in the woreda?
2. Is maternity care service determined by level of education of the mothers?
3. Does parity have influence on utilization of antenatal care and service preference?
4. What are the main factors influencing maternity care preference in Bacho Woreda?

1.7 Limitation of the Study

There are many factors that have been brought impacts on utilization of antenatal care and service preference. Among these physical distance is one of the variables

identified in this study. However, it was expressed as time taken on foot through traveling to reach health facility. Therefore, it is an estimated guess and not expressed by scientific measurement like kilometer or mile. Similarly, question on tetanus toxoid injection was asked, but the researcher has not proved whether a woman received the vaccination or not by looking at vaccination card. In this survey, the age of the respondent was examined by asking "What is your age in complete year?" But, despite the assurance and confidentiality of their responses during interview, some respondents misreport their age and sometimes it mismatched with the numbers of children a woman had given during her child bearing years. In addition, since analysis here included only currently married women of child bearing age, the result may not be generalized to all women.

1.8 Operational Definitions of Terms and Concepts

Antenatal care (ANC):- is the regular observation and care of mother and fetus by health professionals through out pregnancy period with necessary examination and recommendation to assure safe pregnancy. Health professions recommend that the first antenatal visits should occur within the first three month of pregnancy and continuous on monthly basis through 28th week of pregnancy fortnightly up to the 36^{th} week (or until birth).If the first antenatal visits is made at the third month of pregnancy and as regularly as recommended, there would be a total of 12 or 13 of antenatal visits (CSA and ORC Macro, 2005:114).

Delivery care: - the service given for pregnant women during labor, management of normal delivery and detection of complications, management of risk cases in labor and complicated cases, care given to woman's birth assisted by trained health personnel at health facility or at home is considered in this study.

Health facilities: - health institutions such as health center, health clinic and health post that provide antenatal care services. In this study, the available health center, health clinic and health posts providing maternity care services should be considered as health facilities for investigation.

Health Extension worker: A health practitioners who takes one year health related training after selecting by the community to do so. Generally, this health

worker works preventive, promotive and primary curative activity (MoFED, 2002).

Neonatal death: - is the number of infants who died during the first month of life.

ANC user: - a woman who visits an antenatal clinic in the health facilities at least once during her pregnancy is considered as antenatal care user.

No education: a respondent who can not read and write a simple sentence would be considering as no educational level.

Primary education: those respondents who attained or completed grades level 1-8 were considered as primary education attendant.

Basic Education: those respondents who had followed informal education and can write their name and read a simple sentence were considered as basic education attendant.

Secondary education: those respondents who attained or completed grades level 9-12 were considered as secondary educational level attendant.

Timing of ANC: The number of month from when a woman conceived to until she made her first antenatal care visit.

First trimester: the period between the dates of conception and the end of third month of pregnancy.

Second trimester: The period after the third month of pregnancy till the end of the six months.

Third trimester: The period after six month of pregnancy till the end of nine month (date of delivery)

CHAPTER TWO

2. Review of Related Literature

2.1 Theoretical Background

Pregnancy and delivery care have the potential for saving large number of additional lives with appropriate intervention. These interventions do not need to rely on complex medical technology but may be appropriately cast as primary maternity care (World Bank, 1994).

Reproductive health is not given a due attention in many parts of the world. Especially matter related to maternity care should be given a great emphasis considering the high mortality level and long life pain or disability that would other wise occurs (WHO, 1998:20).

For this reason, millennium development goal also focuses on improving maternal health, with a target of reducing the maternal mortality ratio by three quarters by 2015. Progress to wards this goal; however, is surprisingly low, especially in sub-Saharan Africa and southern Asia for various reasons (Pithforth et al, 2006).

While the emphasis in developing world continues to focus on early and regular attendance of antenatal clinics, the debate in developed world has moved on to one of evaluation. The consensus appears to be that although conventional programmes of antenatal care are perceived to be beneficial, a correlation between 'inadequate' antenatal care and adverse maternal out-comes has yet to be clearly established. As early as 1972 Archie Cochrane suggested that antenatal care screening procedure should be subjected to same critical evaluation as any other type of screening (Cochrane, 1989),

The conceptual basis for this study hence, based on empirical findings from developed and developing countries.

Preliminary theoretical model: A working theoretical model of United Kingdom (UK) antenatal care provision based on the NICE guidelines is one of

utilitarian based on a healthism/lifestylism approach to public health (Donaldson, 2000). There appears to be underlining assumption that women will uptake antenatal care that they are healthy, literate, they have personal autonomy and the capacity/resources to be mobile/ available to attend clinical sessions. There is also an underling assumption that pregnant women will trust care givers and the care systems, and that they believe that professionals are competent and caring (Tina, 2007:21)

A quality distance tradeoff hypothesis: A quality-distance hypothesis by the World Bank made in rural Ethiopia to decide whether really matter in accessing a health facility is sensitive not just to the distance to the nearest health facility but also to the quality of health care provided. If the quality of the existing health facilities is improved, usage would rise significantly (Collier, et al, 2002).

2.2 Socio-cultural and Demographic Factors Affecting the Use of ANC Service.

The reason why women die in pregnancy are the result of a complex interaction of medical and socio- cultural factors that collectively determine the health status of women in a given community (Kisser and Wan 1989 :81)

Different studies indicated that there is ethnic and religious variation in the utilization of modern health care services that also comprises of maternal health care. Some also recommend care by traditional birth attendant due preferences for privacy, modesty and female attendants. Among Saraguro Indians in Ecuador, hospital based deliveries are perceived to violate privacy because many health providers are men, which are unacceptable culturally. As the result affordable and accessible maternal health service are under-utilized (WHO, 1988:3 as cited in Hibrate, 2007). Yared and Asnaketch (2002) also found out that, there was significant variation in the utilization of maternity care service by religion in Ethiopia. Orthodox/Catholic, Muslim and Protestant women exhibit greater use of

maternal health care services than traditional beliefs (Yared and Asnaketch, 2002: 7).

Once the service is accessible it still needs to be acceptable to the population. Acceptability of the service which could be affected by quality of the service and socio- demography characteristics of the consumer have also been shown to be consociated with of various services (Assefa 1989:9)

Further more, due to lack of health education and cultural reasons women are far from information access and do not know how to recognize, prevent or treat pregnancy related complications (or when and Where to seek medical help (WHO, 1998:2).

In many culture men make the decisions about health related concern as food purchase distribution within the family, family size, birth spacing, and the use of health care. In Senegal, for example, a study seeking to learn why so few women used maternal health service found out that only 2 percent of women interviewed said they would decide for themselves to seek care in the events of pregnancy-related complication. For most, the decision rested within their husbands (World Bank, 1994:42). Other finding also showed that men play a paramount role in determining the health needs of women. Since men are the decision makers and the control of all the resources, they decide when and where woman should seek health care (Babar and Juanita, 2004:49)

Marriage is a primary indicator and in most societies, marks the beginning of regular exposure of women to the risk of pregnancy. The 2001 EDHS report showed that only 24 percent of Ethiopian women in reproductive age never been married; about two-third (63 percent) are currently married, that is in legal union, and a very small proportion (1 percent) are living together in informal union(CSA and ORC Macro, 2001:73).In population where age at first marriage is low tend to experience early child bearing and high fertility; this circumstance result in great

burden and responsibilities within the household and decrease the intention to use modern maternity care cervices.

Maternal education has also been shown repeatedly to be positively associated with utilization of maternity care services (Misganaw, 1992; Mangistu and James, 1996; Misganaw et al, 2000 and Yared and Asnaketch, 2002).

In addition, in developing countries, women face scarcity of time because they spend more time on their multiple responsibilities for care of children, collecting water or fuel, cooking food , cleaning, growing children , and trade than on their health (Yared and Asnaketch et al, 2002), though vary by age. Studies indicate that younger and lower parity women tend to use service more frequently than older and higher parity women. A great responsibility of older women within the house hold including child rearing is a possible explanation given with this regard (Adekanle et al, 1990:3).

2.3 Service related factors affecting maternity care utilization

The major service factors may be use fully grouped in to availability, cost and the quality of care. Availability encompasses two main issues. The physical presence of the services and the physical and social accessibility affect utilization of maternity care. Physical distance for instance, has been found to be the primary deterrent of the utilization of general health services. Other factors include mode of transport, cost and ease of movement, the geographical distance (Yared and et-al, 1998:9).

Fees 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 normal fees are low or non- existent, there may be informal fees or other costs that pose significant barriers to women's of service. These may include cost of transportation, drugs, food or lodging for the

women or for family members who help care for her in the hospital (Gertler and Van der Gaag, 1988; Gertler et al, 1988 as cited in Yared and Asnaketch, 2002:4).

Maternity care service must be viewed not as a consumer good, available only to women with certain financial and personal assets, but as essential part of the county's social and health services, comparable to public education-easily available, valued, and used by virtually all women(Sahara S. Brown 1988:137)

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 (World Bank, 1994)

2.4 Health Care System in Ethiopia

Primary responsibility for the delivery of health care services has traditionally rested with the public sector, and it has been estimated that nearly two thirds of all health services are provided through the government owned facilities. In the last five years(2000-5) , the number of public sector health facilities has risen dramatically from 110 to 131 hospitals; from 382 to 600 health centers; and from 1,023 to 4,211 health posts .Over the same period , 2,393 health stations were either down-graded to health posts or up-graded to health centers(MOH,2005:3)

In recent years the role of private sector has been growing, so that today facilities managed by non-governmental organizations, private for-profit clinics, traditional practitioners and rural drug vendors together make up about one third of all services provision(MOH 2006:5).

Despite of all of the above government efforts, there are still inaccessible population groups due to poor infrastructure and inefficient materials and skilled human powers.

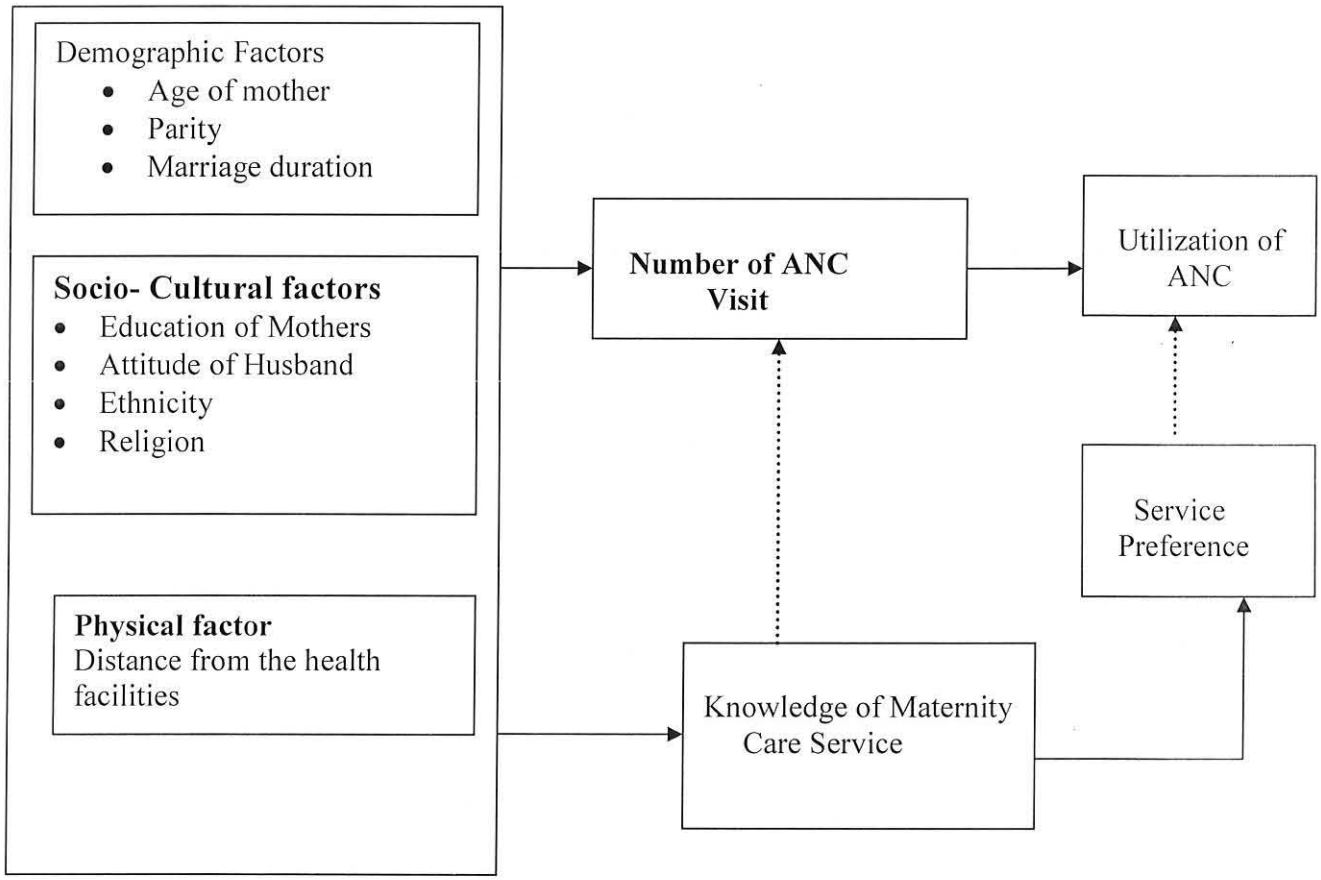
To ensure the delivery of primary health services throughout the country, the health care delivery system is being recognized from a six- to a four-tiered system. This new system includes: i) primary health care units comprising health centers and five satellite health posts designed to serve 25,000 people, ii) district hospitals that give comprehensive and training to catchments population of 250,000 people; iii) zonal hospitals providing services in the four basic specialties to 1,000,000 people and clinical training for nurses; and iv) specialized hospitals that provide sub-specialist and clinical training (MOH, 2006)

Recent assessments have identified systemic shortcomings that hamper the delivery of all health services, but specially those pertaining to reproductive health, particularly in remote areas. To address these issues, the government is reinforcing the health system development program (HSPD) with strong community based component centered on health extension program (HEP). The HEP will make essential health care universally available though the package of preventive, promotive, minimum curative and rehabilitative service provided by health extension workers. Through effective implementation of health extension program, which constitutes the primary health care unit at a community level, the government intends to deploy two health extension workers (HEW) per kebele (5,000 people) by 2008 (MOH,2006:6)

The health facilities in Oromiya Regional State similar to the others part of the country comprises of health post, health centers and hospitals. In the region, 2004/5, there were 29 hospitals, 95 health centers and 808 health posts (OBoFED, 2006). All this health facilities have been provided maternity care services and the study has made assessment of ANC service which is part maternity care service in this system at lowest administrative level i.e. at woreda and kebele administrative units.

Figure 1: Conceptual Frame work

Independent Variables ——→ Intermediate Variables ——→ Dependant variable



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Source: Developed by Author through reviewing different literatures

CHAPTER THREE

3. METHODOLOGY

3.1 Profile of the Study Area and Target Population

This study is undertaken in Bacho woreda based on primary data gathered between February to March 2008. Bacho woreda is one among the twelve Woredas found in south west Showa Administrative Zone of Oromiya National Regional State. The woreda bordered by Ellu, Tole, Saden Soddo, Woliso and Dawo woredas of south west Showa Zone. The Woreda Capital Tulu Bollo is located 80 kilo meters south west of Addis Ababa and 34 kilo meters North East of the Zonal capital, Woliso town.

According to the 1994 Population and Housing Census of Ethiopia, Bacho woreda has the total population of 52,393 of which 26,225 (50.1 %) were males and 26,168 (49.9%) were females. But the current crude data obtained from Bacho woreda Health Office, the estimated total population of the woreda is 79,539 of which 18,534 were women of child bearing age (15-49).

The unit of analysis for this study is all currently married of child bearing age residing in the twenty kebeles of the woreda. Thus, the study population is pregnant women and women who have at least one live birth five years preceding this survey which have been selected from the target population by stratified sampling technique. The woreda based cross-sectional study was designed, because it is helpful to obtain vital information from the study population at a time about major factors affecting use of antenatal care and service preferred by study population.

3.2 Sample Size Determination and Study Design

3.2.1 Sample Size Determination

There are few research conducted on factors affecting utilization of antenatal care in the region. Recently, the Ethiopian Demographic and Health Survey (EDHS) of 2005, shows that, in Oromiya Regional State only 24.8 percent mothers utilized antenatal care from health professionals(Doctor, Nurse or mid-wife). In addition, the Survey conducted by Hibrate (2007) in west Showa Zone of Dandi woreda on impact of distance on the use of antenatal care found out that 21.3 percent of women obtained antenatal care from health professionals. Therefore, these figures are small to use as P-value for this study. As the result, 50% of the proportion of the population assumed to be service users and used as a P-value to determine the sample size at 95% confidence interval, an alpha level of 0.05 and the total sample of 384 is obtained. To achieve the final Sample Size a 10% of non-response rate is added.

The formula used to calculate the sample size is:

$$n = \frac{(Z\alpha/2)^2 P (1-P)}{d^2}$$

Where: **n**= the total sample size,

Zα/2= the standard normal deviate at 95% confidence interval with value of 1.96

P= the estimate of proportion women who use ANC from health facilities.

(1-P)= non-user of ANC from health facilities.

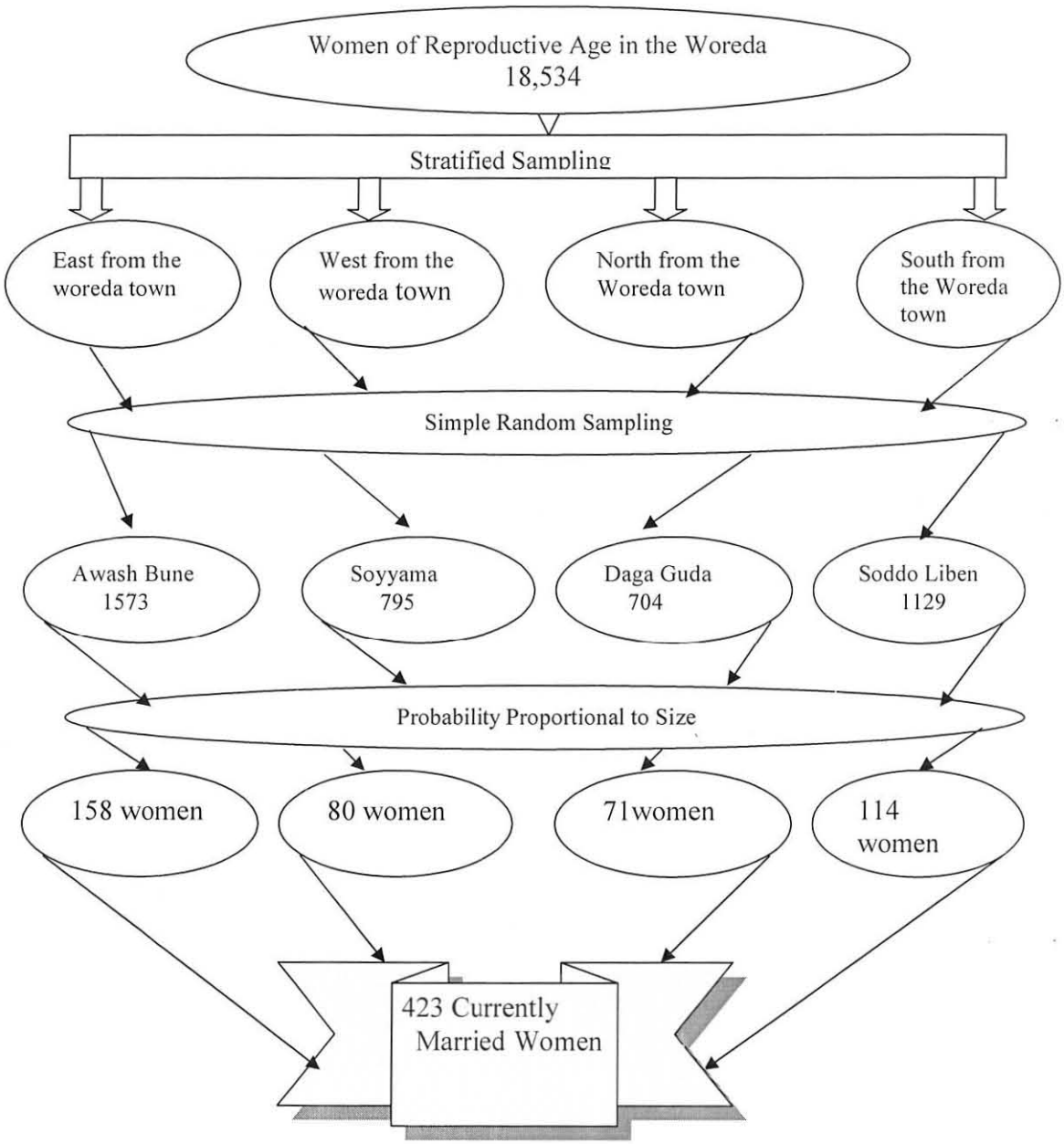
d= margin of error tolerated at 5% which is 0.05.

For non-response 10 %(38.4) of sample size is added. Therefore, the total sample size of 423 currently married women in the age group15-49 was assigned and information from them collected between the months of February to March 2008.

3.2.2 Study design

The selection of the study population is carried out through multistage stratified sampling technique. The Bacho woreda consists of twenty kebeles. These twenty kebeles of the woreda stratified in to four strata according to their geographical location from the woreda town (Tulu Bollo). And then, one kebele was selected from each stratum by simple random sampling. Finally, the sampled population distributed to all selected kebeles proportionate to their size.

Figure 2: Sample procedure of the study



Source: Develop by Author, 2008.

3.3 Data Collection Procedure

Based on the study objective both primary and secondary data were collected Secondary data was collected from previous records which describe about maternity care services given for mothers from health facilities to improve their health condition.

Regarding the primary data, interviewer administered structured questions were employed to collect information from the field. The questionnaire first prepared in English and translated in to Afaan Oromo (the local language). The translation from English to Afaan Oromo was necessary to make the respondent understand the concept of the questions which help them to respond easier. The questionnaire then translated back to English for consistence check. Before printing the final cope of the questionnaire pre-test was carried out on 34 currently married women of child bearing age who were not included in the main study. Based on its result, the questionnaire has been modified whenever it is necessary.

Information concerning the socio-economic, cultural, demographic and physical determinants affecting utilization of antenatal care is obtained from the sampled respondents by using interviewer administered structured questions as stated above. The information was collected from currently married rural women of child bearing age (15-49), who were pregnant during the course of data collection and/or who have at least one child under the age of five years prior to the survey. If a woman has more than one child during the five years preceding the survey, only information asked for the most recent birth. Women were asked whether they were received antenatal care from health professional during their last birth as well there interest and intention to prefer modern health care service has been investigated.

3.4 Data Quality Control and Management

To verify the quality of the data collected through house to house survey, different mechanism was used to monitor the quality of survey implementation. First the questionnaire was pre-tested on similar settings for the improvement on the clarity, comprehensiveness, ordering and acceptance. The investigator has made day to day site supervision during the whole periods of data collection. At end of each day, the questionnaire filled by enumerators reviewed and cross-checked for completeness, accuracy and consistency by the researcher and corrective discussion has been undertaken with all research team members.

A reminding remark was given during morning sessions on how to eliminate or minimize errors and take corrective actions timely. Moreover, the data collected from the field was entered in to the computer soft ware immediately after the questionnaire reviewed. Data was cleaned and edited after it was enter in to the soft ware.

3.5 Field Work and Supervision

For this study eight enumerators (seven males and one female) have been recruited based on their previous experience in data collection and ability to read and write Afaan Oromo. After recruitment, training was conducted for two days on the questions included in the questionnaire, on the purpose of the study, on interviewing techniques, importance of privacy, discipline and how to approach to interviewees and confidentiality of the respondents. Immediately, after training deployment has been held. Enumerators were provided support letter from the woreda administrative office to facilitate the data collection in the selected kebeles. It was the sole responsibility of the researcher to facilitate every thing at woreda and kebele administrative units, supervise and assist the data collectors technically.

3.6 Data Analysis

The data collected from the field were edited, coded, entered and processed by using Statistical Package for Social Science (SPSS) version 15.0 for accomplishing the objective of the study and answering the basic questions stated earlier. The analysis part consists of frequency distribution, cross-tabulation and proportion which were employed for describing the socio-economic, demographic and other related variables.

In order to test the degree of association between each independent variables with dependant variable bivariate analysis test was made. Multivariate logistic regression analysis was done to examine the relative effect of each independent variable on utilization of antenatal care and preference of modern health care service. The rationale for using multivariate logistic regression model is its applicability in deciding to predict the presence or absence of characteristics or out come based on scores of independent variables (predictors). Based on this idea, the dependant variable collapsed to create dichotomous variables which indicate whether the women had utilized antenatal care and prefer services or not. Accordingly, the out come variable is coded as 1 if the woman received antenatal care and as 0 if she did not received antenatal care. The same procedure applied for service preference.

Variable specification in the model

Dependant variable: the dependent variables for this study are utilization antenatal care (use of ANC or not) and service preference (wanting modern maternity care service or not wanting the service).

Independent variables: age of mother, parity, marriage duration, education of mother, attitude of husband toward the use of maternity care, religion, ethnic group of mother, and distance (in terms of time travel on foot to reach the nearest health facility).

Variables included in Analysis

Dependent variable	**categories**
❖ Utilization of antenatal care	1=Yes, 2=No
❖ Service Preference	1=Yes, 2= No

Independent Variables	**Categories**
➢ Age at recent birth	15-24, 25-34, 35-49
➢ Parity	1, 2-3, 4-6, >6
➢ Marriage duration	1, 2-5, 6-10, >10
➢ Education of mother	illiterate, literate
➢ Attitude of husband	Positive, Not Support or react
➢ Distance (in terms of time travel on foot reach the nearest health facility)	<one hours, 1-2 hours 2-3.30 hours.

3.7 Ethical Consideration

The study was undertaken after obtaining supporting letter from Institute of Population Study (IPS) of Addis Ababa University.

The objective of the study has been thoroughly explained by the researcher to the numerators team of the study to get maximum compliance. Then, the study subjects were informed about the purpose of the study's contribution to improve mothers and child health. In addition, the consent of the study subject was respected and their responses have been kept confidentially and anonymous. Finally, they were informed of their full right not to provide information when they do not want to do so.

CHAPTER FOUR

4. Findings

4.1 Characteristics of the Study Population

4.1.1Socio-economic Characteristics

In this study, 423 respondents who were either pregnant or having at least one child in the past five years was included from the selected kebeles of Bacho Woreda.

Majority of the ethnic group of the respondents were Oromo (94.8%) while the remaining 4.5% and 0.7% were from Amhara and Gurhage ethnic group respectively. About 92.9% of the religious affiliation of the study population was Orthodox Christianity followed by Protestant (4.3%) and traditional believers (2.8%).

Information was also gathered on educational status of the respondent. Accordingly, 74.7% of the study subject had no formal schooling at all and the other respondents had some basic, primary and secondary education. In addition, a woman also asked about the attitude of her husband to ward attending of modern health care services. 67% of the husbands have supported utilization of the service whereas 33% the husband neither support nor react against attending the service.

Regarding the economic background of the household of the respondents, their livelihood predominantly dominated by agriculture (96.2%) followed by petty trade (2.8%) and daily labor (0.9%). Similarly, since the study is rural based, and predominated by agriculturalist household, the type agriculture they were performing also identified. Thus, 33.7% of the household have engaged themselves only in crop production while 66.3% of them have evolved in mixed farming.

The occupation of the women also assessed in particular and found out that, majority of them i.e. 94.3% were house wife and the remaining 5.7% were self employed in farming and other activities.

Table1: Percentage distribution of women by selected socio-economic characteristics

Background characteristics	Number	Percentage
Ethnicity		
Oromo	401	94.8
Amhara	19	4.5
Gurhage	3	0.7
Religious Affiliation		
Orthodox	393	92.9
Protestant	18	4.3
Traditional	12	2.8
Educational Status		
No education	329	77.8
Basic education	4	0.9
Primary education	76	18
Secondary education	14	3.3
Attitude of Husband toward maternity care		
Positive	282	66.7
Not support or react	141	33.3
Household Economic Activities		
Agriculture	407	96.2
Trade	12	2.8
Daily Labor	4	0.9
Occupation of the Respondent		
House wife	399	94.3
Farming	19	19
Others	5	1.2

Source: Own Survey, 2008.

4.2 Bivariate Analysis for Utilization of Antenatal Care

Table 3 presents the result of the bivariate analysis for utilization of antenatal in Bacho Woreda according to some selected background characteristics. About 30.3% of women who had at least one birth five years preceding this survey and/or who were pregnant during the course of data collection received antenatal care from health professionals (Doctors, Nurses or midwifes).

There is strong association between utilization of ANC and mothers education at $p<0.0001$. The percentage of women who have visited health facilities for antenatal care increases with the increase of mothers' education. Accordingly, 87.5%, 53.8% and 21.9% of mothers with secondary, primary and no education respectively had received antenatal care in five years preceding the survey from health professionals. In contrast, the finding from this study depicts that use of antenatal care decreases with the increase of marriage duration. Thus, about 57.1% of women who had one year marriage duration used ANC service from health professionals while the utilization decreased to 22.8% among women who had marriage duration more than ten years.

There are also differences in the use of antenatal care with husband attitude, women whose husbands' perception were positive (support and approve attending modern maternity care services), antenatal care utilization three times more greater than that of husbands who not support or react against service utilization.

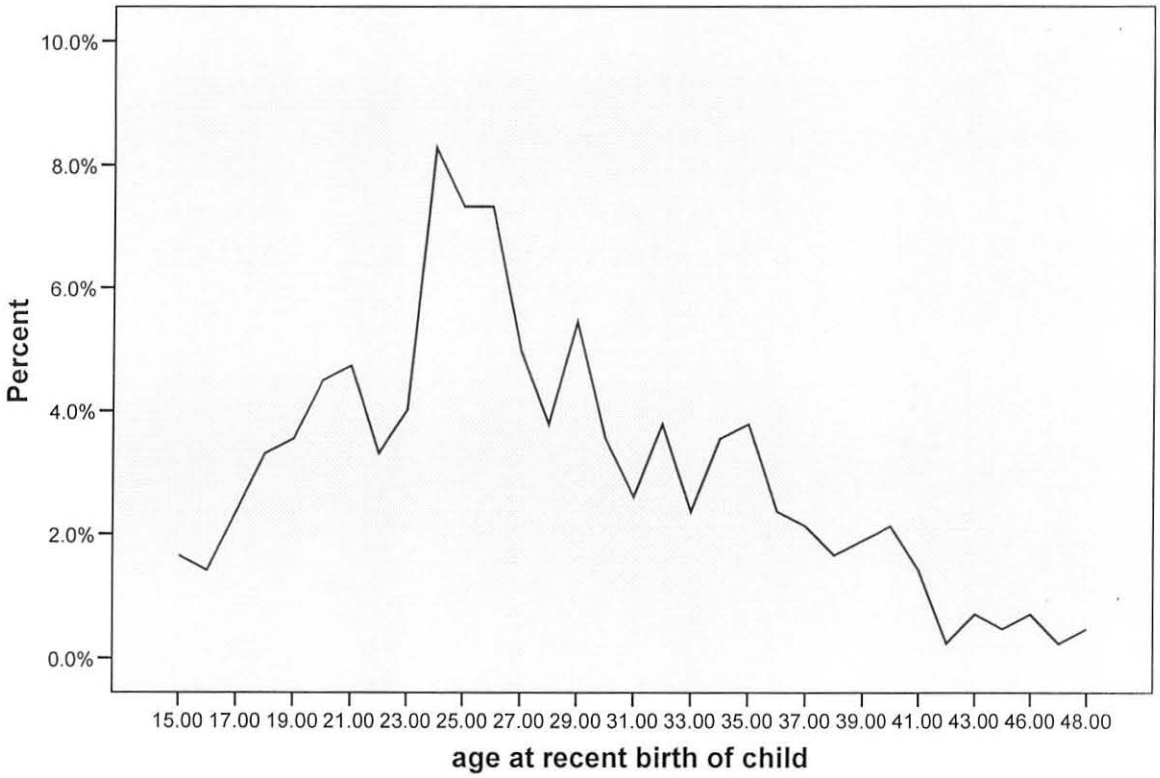
Table3: Percentage distribution of women by use or non use of ANC from health professional according to selected background characteristics

Background characteristic	Antenatal Care		Total	X^2
	Use	Non use		
Age at recent birth				
15-24	64(40.8%)	93(59.2)	157(100%)	
25-34	53(28%)	136(72%)	189(100%)	17.96***
35-49	11(14.3%)	66(85.7%)	77(100%)	
Marriage duration				
1	8(57.1%)	6(42.9%)	14(100%)	15.6**
2-5	35(39.5%)	53(60.2%)	88(100%)	
6-10	36(34%)	70(66%)	106(100%)	
Above 6	49(22.8%)	166(77.2%)	215(100%)	
Education				
No education	72(21.9%)	257(78.1%)	329(100%)	
Primary	42(53.8%)	36(46.2%)	78(100%)	49.21***
Secondary	14(87.5%)	2(12.5%)	16(100%)	
Ethnicity				
Oromo	120(29.9%)	281(70.1%)	401(100%)	
Amhara	7(36.8%)	12(63.2%)	19(100%)	–
Gurahge	1(33.3%)	2(66.7%)	3(100%)	
Parity				
1	37(51.4%)	35(48.6%)	72(100%)	27.07***
2-3	39(34.5%)	74(65.5)	113(100%)	
4-6	39(25.7%)	113(74.3%)	152(100%)	
Above 6	13(15.1%)	73(84.9)	86(100%)	
Religious Affiliation				
Orthodox	122(31%)	271(69%)	393(100%)	5.40
Protestant	6(33.2%)	12(66.7%)	18(100%)	
Traditional	0(0%)	12(100%)	12(100%)	
Distance travel				
<one hour	30(43.5%)	39(56.5%)	69(100%)	8.72*
1 hour-2 hours	61(30.7%)	138(69.8%)	199(100%)	
2 hours-3.30 hours	37(23.9%)	118(76.1%)	155(100%)	
Total	128(30.3%)	295(69.5%)	423(100%)	

Source: Own Survey, 2008. *(P<0.05), **(P<0.001). *** (P<0.000)

As indicated in other findings, Mesganaw (1992), Yared and Asnaketch (2002), Mangistu and James (1996), in this finding also, utilization of antenatal care decreases with the increase of age of mother at recent birth. Thus, 40.8% of women in the age group of 15-24, 28% of women in the age group of 25-34 and 14.3% of women in the last age group (35-45) have received ANC from health facilities.

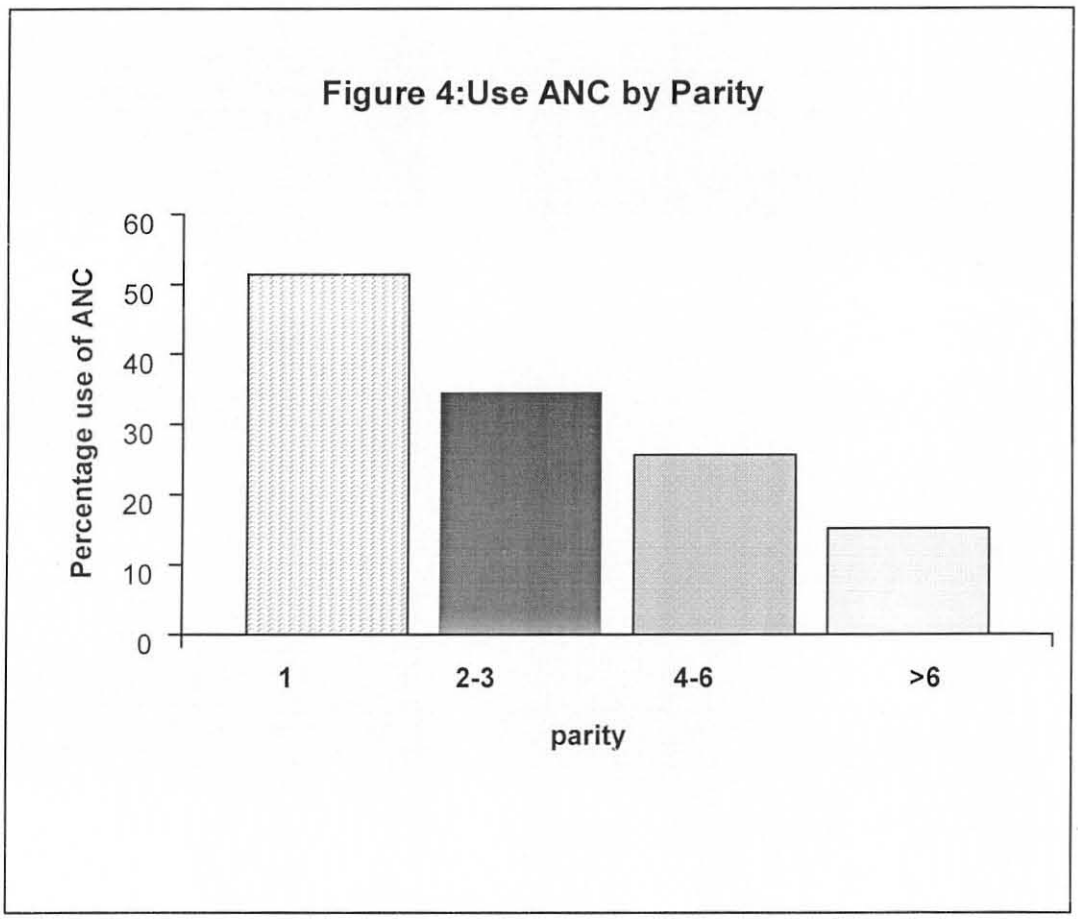
Figure 3 Use of ANC by Age of Mothers.



Source: Own Survey, 2008

Similar pattern have been exhibited in analysis in case of women life time birth (parity). Accordingly,51.4% of women who had one life birth had used the

service while it declined to 25.7% and 15.1% for women who had number of children four-six and more than six , respectively, indicating that a decline in utilization of ANC as parity increase.



Source: Own Survey, 2008.

The was also significant variation (p= 0.05) in the use of ANC with physical distance travel. Use of the service decreases as distance travel on foot increase, as it was indicated, in this study, 43.5% of the respondents who travel on foot for less than an hour use the service as compared to 23.9% of the respondent who travel for two to three and half hours.

4.3 Contents of Antenatal Care

Pregnancy complications are important source of maternal and child morbidity and mortality, and teaching pregnant women about the danger signs associated with pregnancy and the appropriate action to be taken is an essential component of antenatal care (CSA, 2000: 113). In this survey, women who visited health professional for antenatal care in five years preceding the survey were asked whether their weight is measured, whether their height is measured, whether their urine sample analysis made and blood pressure measured. Accordingly, weight and height measurement was made on 78.9 percent and 73.4 percent of mothers, respectively. Blood pressure measurement was part of antenatal care for 66.4 percent of mothers and urine sample analysis was performed for 72.6 percent of the respondents. Similarly, 76.6 percent of women had received tetanus toxoid injection (TTI) from health professionals.

Table 4: Service obtained during ANC visits.

Service	Frequency		Total
	Yes	No	
Weight measured	101(78.9%)	27(21.1%)	128(100%)
Height measured	94(73.4%)	34(26.6%)	128(100%)
Urine sample analysis	93(72.6%)	35(27.4%)	128(100%)
Blood	85(66.4%)	43(33.6%)	128(100%)
TTI	98(76.6)	30(23.4)	128(100%)

Source: Own Survey, 2008

4.4 Number and Timing of ANC

Antenatal care is more beneficial in preventing adverse pregnancy out comes when it is sought early in pregnancy and continuous through to delivery (CSA, 2005:113). Health professionals also recommended that the first antenatal visit should occur within the first three months of pregnancy and continuous on monthly base until birth. However, in this study, it is found out that most of ANC attendants (49.2%) made their first prenatal visit in the second trimester(4-6 months) of pregnancy whereas 13.3% in their third trimester and only the remaining 37.5% of women had make use of the service in first trimester(1-3 months) of pregnancy.

4.5 Amount of ANC visit

WHO recommend at least five visits for women in developing countries starting early in the first trimester (as cited in Mangistu and James, 1996:174). However, in this study, majority of the prenatal users (56.3%) made 2-4 times of contacts and 32% had only more than four prenatal check up as indicated in the table 5.

Table 5: Use of ANC by trimesters and number of visits.

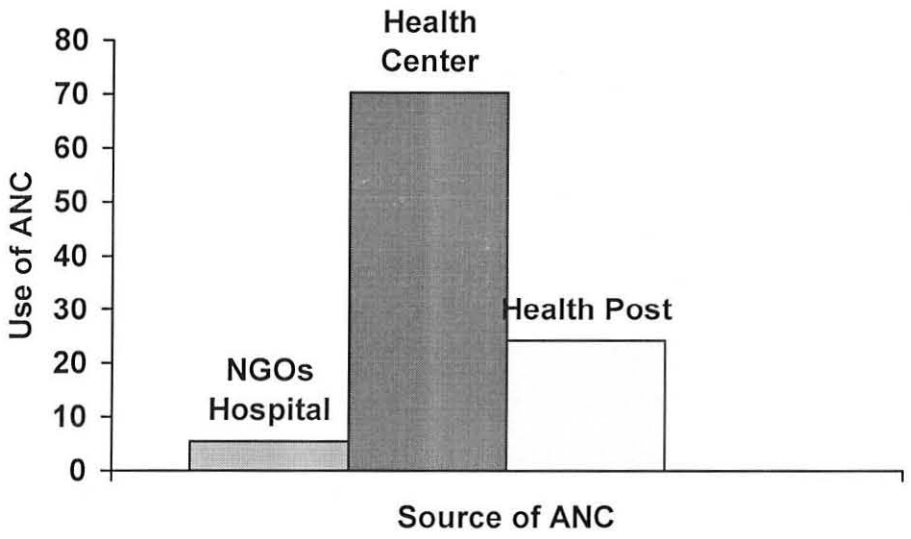
Month	Number of women	Percent
First trimester	48	37.5
Second trimester	63	49.2
Third trimester	17	13.3
Total	128	100
Number of visit		
Number	**Frequency**	**Percent**
Only once	9	7
2-4 times	72	56.3
Above 4 times	41	32
Don't know	6	4.7
Total	128	100

Source: Own Survey, 2008

4.6 Site of ANC and Reason of Selection

Among women who obtained antenatal care from health facilities, information was gathered to know where they get prenatal care and the reason why they prefer that particular health facility. Accordingly, 70.3% of the respondents had attended their prenatal check up at government health center, 24.2% at government health post and the remaining 5.5% of the respondents had attended the service at non – government hospital by traveling more than 30 kilo meters out of the woreda.

Figure 5 use of ANC by Facility Type



Source: Own Survey, 2008

Similarly, woman was also asked to know why she prefers that particular institution, and found out that, 30.5% of the respondents had selected that health facility because of its proximity to their usual place of residence. 25.8% of women said because of quality of care of the facility and about 15.6% of the respondents had selected that institution because of the presence of female providers as indicated in table 6.

Table 6: Reasons for selection of particular Health Facility by the respondent..

Reason	Number	Percent
Close to where she lives	39	30.5
Behavior of health worker	17	13.3
Convenient time of service	19	14.8
The presence of female providers	20	15.6
High quality of care	33	25.8
Total	128	100

Source: Own Survey, 2008

4.7 Reason for Non-use of Antenatal Care Service

Out of the total number of women who did not use maternity care service in general and antenatal care in particular, an attempt was made to know the possible reason why they did not make use of service. And, thus, found out that 41.4% of the respondents attributed to responsibilities in the household, 32.2% of the respondents declared that absence of illness as main reason for not attending the service and the third identified possible reason (11.2%) was lack of transportation to access the service.

Table 7: Reason for not use modern maternity care service

Reason	Number	Percent
Responsibilities in the household	122	41.4
Lack of trust in its quality	24	8.1
Lack of transport	33	11.2
Financial constraint	21	7.1
Absence of illness	95	32.2
Total	295	100

Source: Own Survey, 2008

4.8 Knowledge of Modern Maternity Care Service

In this survey, question on knowledge of health facilities which have been provided maternity care services was forwarded for both service users and non-users. Accordingly, 85.1% of the respondents know where to get the service, however, majority of them fail to use it because of various reasons stated above.14.9% of the respondents fail to know the place where to get the service.

Table 8: Knowledge of maternity care service

Knowledge	Frequency	Percent
Yes	360	85.1
No	63	14.9
Total	423	100

Source: Own Survey, 2008

4.9 Bivariate Test for Service Preference

The aim of the present section is to assess and examine the differentials in preference of maternity care services by selected socio-demographic and physical factors.

Table 10 shows the percentage distribution of women with wanting/non-wanting of services according to some identified predictors. The bivariate result depicts significant variation ($p<0.0001$) in service preference by age of mother at recent birth, indicated that 47.8% of mothers in the age group of 15-24 had preferred modern maternity care service while only 20.8% of mothers in the age group of 35-49 preferred the service, illustrating that a decline in service preference with the increase in the age of mothers. Similar pattern was exhibited by parity ($x^2=15.57$). 56.9% of women with one life birth had preferred the service whereas the preference reduced to 26.7% by women who had more than six children. 59.6% literate women had preferred maternity care service as compared with illiterate mothers; only 35% had preferred the service.

The attitude of husbands on service utilization has also affect service preference among women. In this study, women whose husbands attitude is supportive, service preference was twice more likely greater than those husbands who do not support or react against service utilization (see table 10). However, there is little difference in service preference by physical distance. Accordingly, 44.9% of women who travel on foot for less than an hour as compared with 41.2% and 37% of women who travel for one-two hours and two hours-three and half hours have a service preference.

Table 9: Percentage distribution of women by service preference from health facility according to selected background characteristics

Background characteristic	Service preference		Total	X^2
	Yes	No		
Age at recent birth				
15-24	75(47.8%)	82(52.2%)	157(100%)	
25-34	80(42.3)	109(57.7%)	189(100%)	16.14***
35-49	16(20.8%)	61(79.2%)	77(100%)	
Parity				
1	41(56.9%)	31(43.1%)	113(100%)	15.57**
2-3	49(43.4%)	64(56.6%)	152(100%)	
4-6	58(38.2%)	94(61.8%)	86(100%)	
Above 6	23(26.7%)	63(73.3%)		
Education				
Illiterate	115(35%)	214(65%)	329(100%)	18.4***
Literate	56(59.6%)	38(40.4%)	94(100%)	
Ethnicity				
Oromo	162(40.4%)	239(59.6%)	401(100%)	
Amhara	8(42.1%)	11(57.9%)	19(100%)	_
Gurahge	1(33.3%)	2(66.7%)	3(100%)	
Marriage duration				
1	9(64.3%)	5(35.7%)	14(100%)	
2-5	42(47.2%)	47(52.8%)	89(100%)	6.79
6-10	45(40.5%)	66(59.5%)	111(100%)	
Above 6	75(35.9%)	134(64.1%)	209(100%)	
Religious Affiliation				
Orthodox	161(41%)	232(59%)	393(100%)	
Protestant	9(50%)	9(50%)	18(100%)	5.86
Traditional	1(8.3%)	11(91.7%)	12(100%)	
Distance travel				
<one hour	31(44.9%)	38(55.1%)	69(100%)	
1 hour-2 hours	82(41.2%)	117(58.2%)	199(100%)	1.21
2 hours-3.30 hours	58(37.4%)	97(62.6%)	155(100%)	
Attitude of Husband				
Positive	137(48.1%)	148(51.9%)	285(100%)	
Not support or react	34(24.6%)	104(75.4%)	138(100%)	21.20***
Total	171(40.4%)	252(59.6%)	423(100%)	

Source: Own Survey, 2008. *(P<0.05), **(P<0.001). *** (P<0.000)

There was also variation in service preference by marriage duration even thought it is not significant across the duration. Fore example, women with marriage duration of one year show greater preference (64.3%) than with the duration between two and three years (47.2%). Further more, only 35.9% of women with marriage duration of more than ten years had preferred the service, indicating the decline in service preference as the marriage duration increase.

4.9.1 Preference of Assistance during Pregnancy

The health care that the mother receives during pregnancy, at the time of delivery and soon after delivery is important for the survival of both mother and the child (CSA, 2005:110). Therefore, putting this important point in to account, an attempt was made to know preference of maternity care service by the study population. To proceed with it, questions were forwarded in three steps. In first step, all respondents were asked whether they prefer assistant for check up during pregnancy or not. Accordingly, 72.5%, 17.3%, 7.8% and 2.4% of the respondents had preferred health professionals, trained traditional birth attendant, traditional birth attendant and relatives to be seen when they become pregnant for any complication.

Table10: Preference of Assistance during Pregnancy

Person	Number	Percent
Health professionals	307	72.5
Trained traditional birth	73	17.3
Traditional birth attendant	33	7.8
Relatives	10	2.4
Total	423	100

Source: Own Survey, 2008

4.9.2 **Preference of Site and Assistant during Delivery**

In the second step, all the respondents were asked where and by whom they would prefer to be assisted during delivery, and found out that majority of the respondents, 77.3% had preferred to deliver at their own home while only 22.7% of mothers preferred to deliver at health facilities.

Obstetric care from a trained provider during delivery is recognized as critical for the reduction of maternal and neonatal mortality. Births delivered at home are usually more likely to be delivered with out assistance from health professional (CSA, 2005:114). In this survey, woman asked whom she want to be assisted during delivery. Accordingly, 38.3% had preferred health professional whereas 23.4% traditional birth attendant and 20.6% and 17.7% by trained traditional birth attendant and relatives, respectively.

Table11: Preference of place and assistance during delivery.

Place	Number	Percent
Health institution	96	22.7
Home	327	77.3
Preference of assistance		
Assistant	**Number**	**Percent**
Health professionals	162	38.3
Trained traditional birth	87	20.6
Traditional birth attendant	99	23.4
Relatives	75	17.7
Total	423	100

Source: Own Survey, 2008

4.9.3 Preference of Post-partum Care

In third step, information was collected on preference of health care for recent child birth. And the result from this survey indicates that about 84.9% of the

respondents had never preferred post natal care whereas only 15.1% had preferred the service from health professionals.

Table 12: Preference of post-natal care

Response	Frequency	percent
Yes	64	15.1
No	359	84.9
Total	423	100

Source: Own Survey, 2008

4.10 Multivariate Analysis

In this section the individual effect of independent variables on utilization of antenatal care has been examined one by one by applying logistic regression analysis. Here, the relative importance independent variables identified. In order to handle the relative importance of predictors and controlling the confounding effects, multivariate analysis (logistic regression) was employed.

Logistic regression used when the dependent variable is dichotomous (binary). In dichotomous out-come there are two forms 'Yes' or 'No'. For this study, as stated earlier, the dependent variables are utilization of antenatal care. Therefore, there are only two possible response, i.e. for antenatal care, either "use" for those who have utilized the service ('1' if use) and "non-use" for those not utilized the service ('0'if not use).

The equation of Logistic Regression Model given as:

$$P/1\text{-}P=e^{B_0 x_0}*e^{B_1 x_1}*e^{B_2 x_2}* \text{ --- } *e^{B_n x_n}$$

Or equivalently

$$\ln (p_i/1\text{-}p_i)=B_0+ B_1X_1+B_2X_2 + \text{ --- } + B_nX_n$$

Where, pi = chance using ANC

1-pi = chance of not using ANC

ln $(p_i/1-p_i)$= is the risk or the probability of event occurring, which is the odds of utilization of ANC

X_i= independent variable

β_i= regression coefficients

β_0= constant

In logistic regression model estimation of relative risk has been computed based on odds ratios (in this study the ratio of proportion of antenatal care users to those who are non-users is explained as the function different independent variables (predictors). The odds ratio greater than one show an increase in likelihood for the out comes while if its value less than one indicates decrease risks for the out-come.

In this study, for each variable, there is a reference category against which all other values are compared. By default, the values of these reference categories were given a regression estimation of 1.00 and the enter step wise method was used to select the variables entered in the equation. The result of other variables will either be higher or lower than the reference category.

The logistic regression analysis examined the probability of utilization of antenatal care by assessing independent strength of demographic variables in model 1, socio- physical factors in model 2 and the effect of the whole variables in model 3.

Since an independent variable can affect another independent variable, which again can produce a deceiving result, multicollinearity is assessed in the variables which are suspected to have such characteristics. Thus, a value less than zero indicate that the association between two variables is negative. A positive value indicated that an increase in one variable results in an increase in the other variable. A zero value indicated no association between variable (Hubert and Blalock, 1988:397)

According to Gujarati (2004) multicollinearity has adverse effect on the model if the value of contingency coefficient 0.7 and above. In this particular study, Women's age life time birth (party) is positively correlated with marriage duration. But there is a moderate correlation with the value of 0.58. Therefore, it is possible to include both the variables in to the model at a time. There is also positive correlation between parity and marriage duration with the value of 0.6 and also possible to include both variables in the model at a time.

Table 13: Parametric estimation for binary logistic regression model by using selected predictors.

Characteristics	Model 1			Model 2			Model 3		
	β	S.E	EXP(β)	β	S.E	EXP(β)	β	S.E	EXP(β)
Age at recent birth									
15-24[RC]			1.00						1.00
25-34	-0.713	0.492	0.597*	-	-	-	-0.554	0.536	0.909
35-49	-0.515	0.429	0.490*	-	-	-	-0.095	0.465	0.575*
Parity									
1 birth[RC]	-	-	1.00						1.00
2-3 birth	-1.538	0.586	0.667	-	-	-	-1.440	0.665	0.501
4-6 birth	-0.820	0.492	0.440*	-	-	-	-0.754	0.549	0.470*
Above 6 birth	-0.405	0.412	0.215**	-	-	-	-0.691	0.454	0.237**
Marriage duration									
1 year[RC]	-	-	1.00						1.00
2-5 years	-0.162	0.713	1.073**	-	-	-	-0.278	0.779	1.194**
6-10 years	-0.160	0.453	1.433**	-	-	-	-0.173	0.523	1.188
Above 10 years	-0.070	0.333	0.850	-	-	-	-0.177	0.374	0.757
Education									
Illiterate[RC]	-	-	-			1.00			1.00
Literate	-	-	-	1.673	0.266	5.329	1.794	0.282	6.011
Attitude of husband									
Positive[RC]	-	-	-			1.00			1.00
Not support and react	-	-	-	-1.525	0.305	0.218	-1.456	0.324	0.231
Distance in terms of time travel									
< 1 hour[RC]	-	-	-			1.00			1.00
1-2 hours	-	-	-	-0.467	0.338	0.743	-0.396	0.352	0.716
2-3.30 hours	-	-	-	-0.297	0.226	0.627	-0.334	0.334	0.673*
Constant	0.903	0.203	2.467	0.781	0.167	2.184	0.778	0.254	2.177

N=423

(*) $p<0.05$, (**) $p<0.01$

RC= reference category.

4.10.1 Demographic Variables and Utilization of ANC

The multivariate analysis assessed the probability of utilization of antenatal care by examining the independent strength of demographic variables alone indicated in table 13 (model 1). In this model , age of mother at recent birth, parity, and marriage duration are found to be negatively related with the use of antenatal care service as presented in table 13(β-values). There is significant variation in the use of ANC by age of women at recent birth. Accordingly, women in the age group of 35-49 were 49% less likely to receive the service than women in the age group of 15-24. But the variation not significant as compared the reference category (the age group of 15-24 with the age group of 25- 34 in use antenatal care. Regarding parity, there is also significant variation in use of ANC service with parity of women. The odds using antenatal care is 21.5% less likely for women who had more than six children as compared to women with one live birth.

Marriage duration also depicts difference in the use of antenatal care as presented in table 13 (model 1), but the variation is not statistically significant as the duration increases from one year to more than ten years in use of AN service.

4.10.2 Social and physical Variables

Education of women is also an important determinant of utilization of antenatal care, as indicated in model 2 literate women (women with primary and secondary education) five times more likely to receive antenatal care from health professionals than women with no education. The attitude of husband has on service utilization also exerts significant impact on utilization of antenatal care use. Accordingly, in this study, women whose husbands not support or react against service utilization was 0.218 time less to receive ANC than women whose husbands' initiate or support service using.

Regarding physical distance, there is a negative relationship between use of antenatal care and distance travel on foot as indicated by (β-value) in model 2. However, the variation exhibited as one travel for less than an hour and between one and two hours not statistically significant.

Note that in the models above, ethnicity and religion are not included because the largest proportion i.e. more than 90 percent is concentrated to one category and does not allow for any comparison as shown in table 1.

4.10.3 The overall Model

Model 3 is established to see the effect of the whole variable on utilization of antenatal care. And the result depicts that age of mother at recent birth, parity, attitude of husband, marriage duration, and physical distance traveled are negatively related to antenatal care utilization as indicated in model 1 and model 2. In contrary, education of mother is positively related to antenatal care service. Model 3 indicates the adjusted odds of utilization of antenatal care. The model ought to be compared with model 1 for antenatal care use with relation to the effect of each of the demographic variables. And also model three compared with model 2 for the use of antenatal care by elaborating the independent effect of education, husband attitude and physical distance. Accordingly, the effect of odds of utilization of ANC for the age groups of 35-49 is 0.575 times less than that of the age group of 15-24. Model 3 also reveals that the use antenatal care decline with the increase of parity of women. As indicated by the model the use of ANC for mothers with parity greater than six is 23.7% less likely to receive the service than women with one child.

It was also found out that there is statistical significant difference in the use of ANC service with marriage duration. The odds of utilization of ANC for marriage duration of 2-5 years are 1.194 times higher than that of the marriage duration of one year. But, it declines to 0.757 times less for marriage duration more than 10 years as compared with marriage duration of one year.

In model 3 also education continues to bear strong and independent influence on utilization of antenatal care. After controlling the effect of other variables, comparing, and women with at least primary education were six times more likely to use antenatal care than women with no education. Similarly, there is statistically significant differences ($p<0.01$) in use of antenatal care with husband attitude. Thus, women whose husbands have not support or react against service utilization are

23.1% less likely to receive ANC service than women whose husbands support use of modern maternity care service.

Similar to model 2 in model 3, as distance travel on foot increase, the use of ANC decline as indicated in the table (EXP (β)).

CHAPTER FIVE

5 Discussion on major Findings

The over all impression given by this study is that examining factors affecting utilization of antenatal care and service preference in Bacho woreda. As various studies confirmed in Ethiopia, this study also indicates that the coverage of antenatal care is low in the study area. The over all coverage for ANC was 30.3% for currently married women of reproductive age. Thus, the level of ANC services coverage is better as compared with the 2005 total service coverage of the county (28%) and Oromiya (25%) where the study area is found. (CSA and ORC macro, 2005:113). Therefore, the existing situation of use the service is progressive in rural districts of Bacho woreda. However, still majority of the study population, i.e. about 70 percent were not in position of receiving ANC.

In addition to low coverage of the service, the pattern of utilization also was inadequate. The amount of receiving the service and the stage of pregnancy at which a woman recommended to obtain the first check up are below the recommendation of health professionals to protect the adverse effect of pregnancy out come. In this study, as stated earlier more than 50 percent of women made only 2-4 times of prenatal contact and also 49.2% of them were making use of their first prenatal care in the second trimester of pregnancy.

There are certain basic reasons identified for non-attendance of the service. Among these reasons responsibilities in the household took the lion share in this study. One report elaborated the responsibilities of pregnant women within household as: Pregnant women may have to bring older children with her to prenatal care appointment, if there are no child services nearby or if waiting time for the visit are long; the burden of taking children may out weigh the perceived benefit of prenatal visit. Studies that ask women about reason for delayed or no prenatal care confirm that responsibilities for other children an interfere with keeping appointment (Sahara S. Brown, 1988:77). Not only is this, as stated in the literature part, there multiple responsibilities that triggers women from seeking modern maternity care service.

The second main reason for non-attendance presented in this study was that absence of illness during pregnancy. Other reports also consistent with this finding, for instance, Mangistu and James, (1996) and Sahara S. Brown, (1988) found out that not all women believe that prenatal care is important and worth the effort to seek out. Some believe that pregnancy is a normal event not needing medical supervision, or that care is needed only if a pregnant woman feels ill (Sahara S. Brown, 1988:77).

The other commonest reason for non attendance the service was lack of transport as health service barrier to antenatal care for 11.2 percent the study population. And financial constraint also associated with non attendance of the service for 7.1 percent of women, despite the fact that antenatal care service is free of charge.

Preference of maternity care by currently married women in the study area also very low. The overall preference of modern maternity care service was 40.4 percent. This is a contrast with the prevailing knowledge of modern health care of the study population i.e.85.1 percent of them know where and when to get the service.

Preference of maternity care was seen in three different phase in this study in order to know the intention of women how of seeking service during pregnancy, at the time of delivery and just after child birth. Majority of the women (72.5%) have preferred health professionals (doctors, nurses or midwifes) to be seen by during pregnancy. On the other hand, an overwhelming majority of women have preferred home delivery. Home delivery is conducted in unhygienic conditions and out of the supervision of medical practitioners. In addition, about 85 percent of women in the study area have not preferred post natal care which is also important to protect the adverse effect of maternal and neonatal mortality. In practice, the EDHS (2000) confirmed this realty. Thus, post natal care coverage is extremely low in Ethiopia. Nine in ten mothers received no post natal care at all. Of those who received post natal care half (50%) are women who delivered in a health facility (CSA and ORC Macro, 2000:121).

It should be noted that, in this study, selected predictors that determine utilization of antenatal care have been identified and these variables are consistent with variables used in other studies elsewhere. These include: age of mother at recent birth, parity, and marriage duration, education of mother, husband attitude and physical distance. Most of these variables are negatively associated with the dependant variables and some are positively related with.

Model 3 is set up in order to see the over all effect of the independent variables on utilization of antenatal care. As indicated in model 1 and model 3, the three demographic variables identified (age of mother, parity and marriage duration) are negatively related with utilization of antenatal care.

The odds of utilization of ANC decline with the increase of age of mother at recent birth. It was found out that women in the older age group (35^{+}) were less likely to use antenatal care service from health professionals.

Regarding of effect parity on utilization of antenatal care, the finding in this study is consistent with the other finding, Misganaw (1992), Mangistu and James (1996), Yared and Asnaketch (2002). Accordingly, there is an inverse relationship between parity and antenatal care utilization. The possible reason for this could be as stated earlier, lack of time due to responsibilities for the older children and also due to multiple responsibilities within the household. The same pattern exhibited by marriage duration. As marriage duration increase, the number children ever born also increase and the burden responsibilities come in to being as a result the intention for using maternity care is deteriorated.

In this study, education of mother found to be a key determinant of utilization of antenatal care. As indicated in model 3 there is significant differences in use of antenatal care with educational level of mothers. Women with educational literacy six times more likely to receive antenatal care service than women with no educational background. The importance of education for women mentioned in different reports not only with respect to maternity care but also in other aspect of their mode of life. Education of women is a deriving force for a better and healthy reproductive life.

Educated women less likely to have teenage pregnancies, more able to space their pregnancies, have better access to reproductive health information, take better care for their children, and make better use of health care service (Bogalech, 2003:61). Education is likely to enhance female autonomy so that women develop greater confidence and capability to make decision about their own health (World Bank, 1996).

Further more, husband attitude on utilization of ANC also assessed in this study. The result from multivariate analysis showed that there is variation in use of the service among women whose husbands approve service utilization positively and/or not react against attending the service. With respect to women in the study area in particular and the country in general where the decision making power is very low, health care utilization depends on good will of their husbands. Other report also confirms this reality in such away that: majority of women in Ethiopia do not have much control over the number of children they want to have and on the frequency of births. This is a major indication of low reproductive status of women. And most women in the country also can not use health care service with out the approval of their husbands and this is an indication of women's lack of reproductive health decision making power (Bogalech, 2003:61). The problems more exacerbated in rural area where traditional customary practices subordinate women's socio-economic rights. For instance, in the study area, 94.5 percent of women recognized themselves as house wives, and most of key decision making power rested in their husbands. Therefore, seeking maternity care services for any complication most of the time approved by husbands.

Studies also indicated that physical distance from health facility is a major factor for not accessing antenatal care services (Gesler and Meade, 1988 as cited in Hibrate, 2007:50). In this study also distance travel on foot by service seekers bears a significant impact on utilization of antenatal care service. As the result from multivariate analysis indicates women who travel for two to three and half hours less likely to seek the service as compared with those who travel for less than an hour.

CHAPTER SIX

Summary, Conclusion and Recommendations

6.1 Summary

One the most effective health intervention for prevention of maternal and infant morbidity and mortality is antenatal care, particularly in rural areas where the general health status of women is very poor. The overall prenatal care coverage of the study area is found to be 30.3 percent. This service coverage is very low because majority of the study population not access to the service. The study also assessed the general maternity care preference among currently married women in Bacho woreda found out that 40.4 percent of mothers have the intention to be served at modern health facility for any maternity heath problem.

This study indicates that antenatal care utilization rate and service preference was low in Bacho woreda. In addition, the pattern of use of ANC service is inadequate. Only 37.5% of women have made their first antenatal visit during the first three months of pregnancy and only 32% of them have made more than four contacts which was below the minimum recommendation by WHO for developing countries. Similarly, preference of modern maternity care service also analyzed. And found out that majority of women (72.5%) had preferred health professionals for pregnancy check up rather than traditional birth attendants. 77.3 percent of women have preferred to give birth at their own home whereas only 22.7 percent have preferred to deliver at health facility. Besides, the overwhelming majority of women (85%) in the study area never preferred any postnatal care indicating that the severity of the problem.

The objective of the study was to assess factors that influencing utilization of ANC and service preference among currently married women in Bacho woreda of South West Showa Zone. The major predictors were identified under demographic, socio-cultural and geographic factors to carry out analysis.

The finding the study varies from the simple unvariate analysis of the general background characteristics, followed by bivariate cross-tabulation to the complex multivariate analysis of logistic regression.

Multivariate analysis examined the likelihood of utilization of antenatal care by assessing independent strength demographic variables in model 1, social and physical factors in model 2 and the effect of the whole variables have seen in model 3. Model 1 depicts the result of demographic variables and no other independent variables included except demographic indicators. The variables included here are age of mother at recent birth, parity and marriage duration which have negative impact on use antenatal care service. In model 2, social and physical factors have been analyzed. In this model the independent strength of education, husband attitude and the distance impact on utilization of antenatal care have been examined with out controlling the effect of other variables.

The effect of the demographic and social and physical factors together was assessed in model 3, indicating the adjusted odds of antenatal care utilization.

As multivariate result shows in analysis, the effect of odds of utilization of ANC for the age group of 35-49 is 0.57 time less than the odds of utilization of ANC for the age group of 15-24. Similarly, utilization of ANC also decreases with the increase of women life time birth (parity).

It was also found out that there is statistical significant difference in the use of ANC service with marriage duration. The odds of utilization of ANC for marriage duration of 2-5 years are 1.194 times higher than that of the marriage duration of one year. But, it declines to 0.757 times less for marriage duration more than 10 years as compared with marriage duration of one year.

Education of women also bears significant impact on use antenatal care services. After controlling other demographic and social and physical factors, the odds of

utilization of ANC for literate women is 6.011 time higher than that of illiterate women.

The attitude husband had on women's attending of modern health care service also has its own influence on use ANC. Women whose husbands support use of the service were more likely to receive antenatal care from health professional than women whose husbands not support or react service utilization.

6.2 Conclusion

In conclusion this study demonstrates that the utilization of antenatal care as well service preference is inadequate in Bacho woreda, despite the fact that progressive trend has been seen as compared with the region (Orimiya) and the whole county's level of antenatal service coverage. Similar to the other findings, this study also indicates that the most important factors influencing antenatal care in this study area demographic, socio-cultural and geographic in nature. These determinants include age of mother at recent birth, parity, and marriage duration, education of mother, husband attitude, ethnicity, religion and physical distance which are similar with other findings documented elsewhere.

Utilization of antenatal care and strong intension of service preference are the powerful intervention for reducing maternal morbidity and mortality. Hence, antenatal care service coverage is considered as a good indicator of health service utilization at individual level.

Various studies found out that there is strong correlation between women's education and utilization of maternity care service. The more educated women is, the more likely to decide here own health seeking the non-educated women. Better educated women probably have higher expectation of safe pregnancy out come and hence plan to have appropriate antenatal care. Educated women also more likely to seek health care earlier at the time of illness than illiterate women. In this study education of women is found to have a significant impact on utilization of ANC, this implies that improving educational opportunity for women may have decisive role on improving

maternity care service. With the current effort undergoing by government, there is a great prospect in the future to increase use of maternity care service.

Women with higher parity were found to be less likely to have ANC service indicating that fertility reduction through educational campaign may leads to better antenatal care utilization. Moreover, physical distance to the health facility is an important determining factor that affects use of the service. Similar to other finding, this study also confirm that locating health facility at accessible distance is vital since majority of the rural women travel on foot to attend the service.

6.3 Recommendation

- The Woreda Educational Bureau, Non-governmental organization and the local community should give priority attention to improve the educational status of women through informal education and verify gender wise equitable accessibility of formal schooling in rural districts.

- The older age group ($35^{+)}$ is at disadvantageous position to access ANC service. Therefore, age of mother should be taken in to consideration in the campaign of antenatal care service coverage.

- Rural women should be free from traditional customary practices that subordinate their economic and social rights and also they should be well aware of their equal right over resources and independently decide how to exercises their health care utilization with out the good will of their husbands.

- Health facility should be accessible at nearby location for clients and the current government endeavor to deploy two health extension workers per kebele should be strengthened

- With limited access of maternity care service in rural area, majority of women have preferred home delivery which is conducted in unhygienic and non sterile

delivery procedure. Therefore, promotion work should be done by health personnel to encourage delivery at health institution to reduce maternal and neonatal mortality.

- The quality of maternity care services should be improved in rural vicinities through discussion on the matters with the local community to alleviate the problem of relative high maternal and infant mortality and morbidity in the area.

- The presence of female health care provider one of the main reason for preferring maternity care service in particular health institution in this study. Thus, female provider should be enhanced in health facilities to increase utilization of ANC service.

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APPENDIX-1

Gaaffilee caasseffaman surveeyii waa'ee waantota itti fayyadama hordoffii fayyaa da'uumsa duraa to'ataniifii tajjaajila fayyaa fedhuu dubartoota heerumanii dhirsa jala jiran kan aanaa Bachoo; K/L/Shawaattif dhiyaatedha.

Fuul dure waraqaa gaaffileen ittiin dhiyaatanii

ICCITI FI WALIIGALTEE WAA'EE QO'ANNOO KANAA

[Nama oddeeffannoo funaanuuf: Keeyyata armaan gadii nama deebii sii kennuuf dubbisi]

Kabajamtuu gaaffilee deebistu;
Akam bulte/akkam oolte. Galatoomi, gaaffilee armaan gaddii dhiyaatan deebisuuf fedhii horachuu keetif.
Ani maqaan koo ---------- jedhama. Yeroo ammaa kana ani oddeeffannoo kanan funaanaa jiru qorannoo Walqixee Birhaanuu barataa digirii lamaffaa universiitii Addis Ababaatiin gaggeefamuufi

Kaayyoon ani har'a isin dubbisuu barbaadeeff gaaffileewwan waa'ee waantota hordofii fayyaa da'uumsa duraa to'atan tajjaajila fedhuu dhaabilee fayyaa irraa isin barbaadan baruufi. Kunis immoo odeeffannoo fayida qabeessa kan fayyaa haadholii fi daa'immanii fooyyessuuf akkasumas karooraafii tarsiimoo sirrii ta'e mootummaan baasee akka rakkoo kana hiiku ni gargaara.
Kaayyoo kana fiixaan baasuf hirmaanaa dhugaadhaan isin gaafilee kana deebisuuf gootan baa'yee fayida qabeessaa fi kan dinqisifamudha. Asiratti waan isin shakkuu hin qabne odeefannoon isin waa'ee mataaa keessanii himtan fedhii keessan malee enyuumatti iyyuu dabarsamee kan hin kennamane ta'uu isaa isinf mirkaneessina.

Qo'annoo kana irratti hirmaachudahaaf fedhii ni qabduuree?

Galatoomaa!!

	Bakka Jirreenya	
1	Naannoo_____	
2	Godina_____	
3	Aanaa_____	
4	Ganda_____	
5	Itti waamama Bakka/Gooxii_____	
6	Maqaa Abbaa Warraa_____	
7	MaqaaGaaffii deebstuu_____	

.akk.	Gaaffilee fi Cuunfitoota	Ramaddiiwan koodii	Irra utaali
:amaddii I: Amaloota Waliigalaa Nama Gaaffiilee Dhiyatan Deebstu.			
01	Umuriin kee Meeqa	Umurii wagga guutu_____	
02	Bakka amma jiraachaa jirtu kana walti fufiinsaan hangam jiraatte?	Waggaa_____ Asuman ture_____	
03	Ji'a kamii fi bara kam keesa dhalatte?	Ji'a_____ Ji'a hin beeku_____ Bara_____ Bara hin beeku_____	
04	Eegga heerumtee ykn dhira fana jiraachuu edda jalqabdee inni kun isa duraat moo kabraan jiru?	Takkuman heerume Tokkoo ol	
05	MIRKANEES 104 HEERUMTE/ DHIIRA FAAN A[ ] TOKKO QOFAA JIRAATTE Ji'a kamii fi bara kam Keessa abba manaa kee isa DURA faana Jiraachuu eegalte? HEERUMTE/ [ ] DHIIRA FAANA TOKKO OL JIRAATTE.. Amma waa'ee abba manaa kee isa dura hasa'aa jirra. Ji'a kamii fi bara kam keessa Walfuutani?	Ji'a_____ Ji'a hin beeku_____ Bara_____ Bara hin beeku_____	
06	Mucaakee ishee/isa dhumaa yeroo deesse umuriin kee meeqa ture?	Umurii wagaa guutuu_____	
07	Dubbisuu fi barreessuu dandeessa fakkeenyaaf xalayaa, barruulee fi gazexaa?	1.Eeyye 2.Lakki	
08	Barnoota idlee hordofteeta?	1.Eeyye 2.Lakki	
09	Kutaan ol aanaa ati xumurtee hangamii?	1. Hin barannee 2. Barnoota bu'uura 3.Sadarkaa tokkoffaa 4.Sadarkaa lammaffaa 5.Dhabata leenjii/ colleejii	

		6.Kan biro_____ (ibis)	
10	Amantaan kee maali?	1. Ortoodokisii 2. Pirootestaantii 3. Musliima 4. Kan biroo_____ (ibis)	
11	Sabni kee maali?	1. Oromoo 2. Amaara 3. Guraagee 4. kan biroo_____ (ibis)	
12	Yeroo ammaa kana jiraachuuf maal hojjeettaa?	1. Qanna 2. Hojii Mootummaa 3. Daldala 4. Hijii Guyyaa 5. Kan biroo_____ (ibis)	
13	Deebi'iin kee Lakk.112"Qonna" yoota'ee, qonna akkamii gaggeessa jirtaa?	1. Midhaan Oomishuu 2. Horii Horsiisuu 3. Qonna walmakaa 4. Kan biroo_____ (ibis)	
14	Oomisha qonna irra argattu gurgurtee beekta?	1. Eeyyee 2. Lakki	
15	Yoo deebi'iin kee Lakk.114 'Eeyyee' ta'e galiin maatin kee gurgurtaa kana irraa waggaa darbee argate hangamii?	Qarshii_____ Hin beeku_____98	

Ramaddi II: Gaaffilee wa'ee Seenaa Da'umsa Hadhoowwan waggaa shanan darban Sarveey kana dura.

01	Jireenya kee keessati mucaa deessee beekta?	1.Eeyye 2.Lakki →	301
02	Ijoollee deesse keessa meeqatu lubbu dhaan jiru?	Dhiirri_____ Dubarri_____	
03	Ijoollee jiran kana keessa meeqatu sifaana jiraacha jiru?	Dhiirri_____ Dubarri_____	
04	Ijoollee deesse keessa kan jiraacha jiran, garu sifaana kan hin jiraanne jiru?	1.Eeyye 2.Lakki	
05	Dhiira meeqatu jiru garuu kan sifaana hin jiraanne? Akkasumas dubaraa meeqatu jiru kan mana kana keessa hin jiraanne?	1.Dhira bakka bira jiran_____ 2.Dubara bakka bira jiran_____	
06	Ijoollee deessee keessaa kan lubbuu dhaan	1.Eeyye	

	darban jiru?	2.Lakki	
07	Dhiira meeqa fi dubartii meeqa si jalaa du'an(midhanan)?	Dhiirri_____ Dubarri_____	
08	Deebi'ii armaan ol kan 203,204 fi207 walti ida'ii,ida'ama isaan galchi	Ida'ama_____	

Ramaddii III: Gaffileen armaan gaditti argan waa'ee hordoffi fayyaa da'umsa duraa dubartoota ulfaa fi hadhawwan wagga shanan as yoo xiqaate mucaa tokko kan qabaniif dhiyaate dha.

01	Da'usa dura mana yaalaatti ilaalamtee beekta?	1.Eeyyee 2.Lakki	
02	Debi'iin kee armaan ol 'Eeyyee' yoo ta'e yeroo duraatiif Ulfa ji'a meeqa tatetu deemte?	Ji'a_____ Hin beeku_____98	
03	Da'umsa kee isa yeroo dhiyoo kanaf hordoffi eegumsa fayyaa Ulfaatiif mana bira deemte qabdaa?	1.Eeyye 2.Lakki	
04	Gaffii Lakk.303 fi deebi'iin kee yoo'Eeyyee'ta'e EENYU bira deemte?	1. Ogeessa Fayyaa. 2.Deessistuu Aadaa leenjii qabdu. 3. Deessistuu Aadaa leenjii hin qabne. 4.Ogeessa fayyaadhuunfaa ganda keessa jiru bira. 5.Ekisiteenshinii fayyaa bira. Kan biraa_____ (ibis)	
05	Da'umsa dura ulfa kee ilaalchisuuf ala meeqa gara mana Yaalaa deemtee?	Bayi'ina adeemte_____ Hin beeku_____	
06	Isa dhumaatiif ulfa sana ilaalchisuuf ji'a meeqaffaatti mana Yaalaa adeemte?	Ji'a_____ Hin beeku_____98	
07	Tajaajila fayyaa da'umsaa duraa argachuudhaaf dhaabbata Fayyaa aitti dhiyyoo jiru ga'uuf lukaan sa'aatii meeqa deemta?	Sa';aatii_____ Daqiiqaa_____	
08	Hordoof fayyaa da'umsa duraa ulfa kanaaf ykn da'umsa kee isa dhiyootiif eessatti tajaajilamte?	1. Hospitaala Mootummaa 2. Hospitaala Miti Mootummaa 3. Kilinika Mootummaa 4. Buufata Fayyaa 5. Dhaabbata Fayya kan ganda/keellaa 6. Kilinika miti Mootummaa 7. .Kan biroo_____ 8. (ibis)	
09	Maaliif Dhaabbaataa Fayyaa ykn mana	1. Bakka ani jiraadhutti dhiyoodha	

	Yaalaa asii olitti ibsite kana filatte?	2. Amalli ogeessota fayyaa achi jiranii bayy'ee gaarii dha. 3. Yeroon itti tajajila kennan mija'aa dha. 4. Dubartoonni Ogeeyyi fayyaa ta'an waan achi jiraniif. 5. Hojiin Isaan qulqullina ol'aana waan qabuuf. 6. Kan biroo_____ (ibis)	
10	Akkaa qaama hordoffii fayyuumaa da'umsa dura, yeroo mucaa garaatti baattu kanneen armaan gadii keessa yoo xiqqaate al tokko siif godhameera? Ulfiinni kee ilaalameera? Dheerni kee lakka'ameera? Finnicaan kee laatteeta? Dhiginni kee ilaalameera?	Eeyyee .Lakki . Ulfina 1 2 Dheerna 1 2 Fincaan 1 2 Dhiiga 1 2	
11	Yeroo Ulfa kee isa dhuma kana talaalliin siif keennameera?	1.Eeyyee 2.Lakki	
12	Yeroo Ulfa kee isa dhuma kana,ala meeqa talaalli kana fudhatte?	Si'a_____ Hin beaky_____	

Ramaddii IV: Gaffillee waa'ee sadarkaa hojii dubartoota, Galii maatii isaan fi ilaalcha abbaa mana isaan irratti keename dha

401	Hjiin keemaali?	1.Haadha mana 2.Qottee bultuu 3. Hojjetuu mana keessa 4. Kan biroo_____ (ibis)	
402	Maddi galii maatii kee kan wagaa maal irraati?	1. Qonna dhuunfaa irraa. 2. Dhaabbata maatii koo irraa 3. Keenna fi dhaala irraa. 4. Soorama ykn bu'aa hawwaasumma bira irraa. 5. Madda biraa_____ (ibis)	

403	Galiin maatii kee kun gidduugaleessaan waggaatti hangam ta'a ?	Qarshii_____ Hin beeku_____98	
404	Itti fayyadama mana yaalaa ammayyaa hordofuu kee irratti ilaalchi abba manaakee akkami?	1. ilaalcha gaarii qaba. ——→501 2. ilaalcha badaa qaba. 3. hin deeggarus hin mormus.	
405	Yoo deebi'iin kee lakkofsa 404 'ilaalcha badaa' dha ta'e sababni inni qabu maal?	1.qulqullina isa irraa amantaa dhabuu . 2. ilaalcha hitaanewaan qabuuf/ warra ogeessa fayya dhiraatti na shakka. 3. waan hordoofiin fayyumma da'umsa dura kun walti fufinnisaan ji'a ji'aan ilaalamuuf,yeroo hojii achitti gubda jedha. 4. kan biraa_____ (ibis)	

Ramaddi V: Gaaffileen kana gaditti kennaman waa'ee tajaajila fayyaa hadhawwaniif kennamu barbaachuu dubartoota heerumaniif abbaa warraa jala jirani gafachuuf.

501	Yeroo mucaa kee isa amma kana ulfooftee man yaalaa ammayyaatti tajajilamuu barbaaddeetu turte?	1.Eeyyee 2.Lakki ——→	504
502	Eegumsa fayyaa ammayyaa argachuuf eessa akka deeman beekta?	1.Eeyyee 2.Lakki	
503	Yoo tajaajila fayyaa ammayyaa hadhooliif kennamu hin argaannee ta'e sababni kee maal?	1.Abbaan manaakoo naaf hin eeyyamne. 2. itti gaafatammumma baay'ee waantan mana keessaa qabuuf. 3. Qulqullina isaa irra amantaa waanan hin qabneef. 4. Amantaa/aadaan koo waanta naaf hin eeyyamneef. 5 Geejjibni gahaa waan hin jirreef ,maaliif maddi isaas fagoo waan ta'eef. 6. Rakkoo maallaqaa waantan qabuuf. 7 kan biraa_____	

		(ibis)	
504	Yeroo ulfaa eenyuun ilaalamuu barbaadda?	1.Ogeessa Fayyaa 2. Deesistuu Aadaa leenjii qabdu. 3. Deesistuu Aadaa leenjii hin qabne. 4. Firaan 5.kan biraa_____ (ibis)	
505	Yeroo da'umsa eessaatti da'u barbaadda?	1. Mana yaalaatti 2. Mana keetti 3. Mana nama biraatti 4. Dhaabbilee fayyaa dhunfaatti. 5. kan biraa_____	
506	Da'umsa irratti eenyu akka sideesisu barbadda?	1. Ogeessa Fayyaa. 2.Deessistuu Aadaa leenjii qabdu. 3. Deessistuu Aadaa leenjii hin qabne. 4.Fira 5. Eenyuunuu hin barbaadu.	
507	Erga (maqaa) dhalatee, fayyaa kee mirkaneesachuuf ogeessa fayyaa ykn deessistuu aadaa bira deemtee beekta?	1.Eeyyee 2.Lakki	
508	Da'umsa booda miidhaa qama kee irra yooga'e ykn yoo ukkubsatte eessatti yaalamuu barbaadda?	1. Mana keetti. 2. Mana yaalaa Mootummaatti. 3.Mana yaalaa miti Mootummaatti. 4.kan biraa_____ (ibis)	

RamaddiiVI: Odeeffannoo Abbaa Warraa irratti.

601	Umuriin abbaa warra kee meeqa?	Waggaa_____ Hin beek_____98	
602	Abbaan manaakee barreessuu fi dubbissuu danda'aa?	1.Eeyyee 2.Lakki 3.Hin beeku_____98	
603	Abbaan manaakee barnoota idlee hordoofeetu turee?	1.Eeyyee 2.Lakki ——→	605
604	Kutaa meeqa xumreera?	Kutaa_____	

		Kan biraa_____ (ibis)	
605	Hojiin abbaa manaakee maal ykn irra caalaa maal hojjeta?	_____	
606	Hojii isaatiif ni kanfalaamaaf?	1.Eeyyeen 2.Lakki	
607	Qarshii hangamiitu kanfalamaaf?	Qarshii_____	

Galatooma!!!

APPENDIX -2

	Area identification	
01	Region_____	
02	Zone_____	
03	Woreda_____	
04	Kebele_____	
05	Locality Name/Goxi_____	
06	Name of Household Head_____	
07	Name of the Respondent_____(To be filled by Researcher)	

NO	Questions and Filters	coding Categories	Skip to
Part I: Back ground Characteristics of the Respondent			
101	How old are you?	Age in complete years_____	
102	How long have you been living continuously in name of current place of residence	Year---------- Always----------99	
103	In what month and year were you born?	Month---------- Don't know month..... 98 Year ..... Don't know year ----------99	
104	Have you been married or living with a man only once, or more than once?	1. Once 2. More than once	
105	CHECK 104 MARRIED/ LIVED WITH A MAN ONLY ONCE ☐ → In what month and year did you start living with MARRIED/ WITH A MAN MORE THAN ONCE ☐ → Now we are talking about Your first	Month---------- Don't know month..... 98 Year ..... Don't know year --------99	

	husband. Your first husband? In what month and year did you start living with Your first husband?		
106	How old are you when you Had you last child?	Age in complete years ….	
107	Can you read and write for Example a letter a magazine News paper?	1. Yes 2. No	
108	Have you ever attended any Formal school?	1. Year……. 2. No……	
109	What is the highest grade You completed?	1.illitrate 2. basic education 3. elementary education 4. secondary education 5. institution / college 6. other_____ (Specify)	
110	What is your religion?	1. Orthodox 2. Protestant 3. Catholic 4. Muslim 5 Other-------- (Specify)	
111	What is your ethnicity?	1 .Oromo 2. Amhara 3. Guraghe 4. other_____6 (Specify)	
112	What are you doing for living?	1.Agriculture 2. Government employed 3. Trade 4. Daily laborer 5. other_____ (specify)	

113	If your answer for Q # 111 is agriculture, what kind of Agricultural activity are you performing?	1. crop production 2. animal husbandry 3. mixed farming 4. other---------- (specify)	
114	Have you ever soled agricultural product?	1. Yes 2. No	
115	If your answer for Q# 113 is 'Yes' how much your household earn from the sale of agricultural product in the last 12 month?	----------Birr Don't know----------98	

Part II: Questions on birth history of mothers five years prior to this Survey.

201	Have you given any live births in your life time?	1.Yes 2. No →	301
202	How many children have you ever born alive?	Sons_____ Daughters_____	
203	How many of these children are living with you?	Sons_____ Daughters_____	
204	Do you have any sons or daughters to whom you have given birth who are alive but don't live with you?	1. Yes 2. No	206
205	How many sons alive but do not live with you? And daughters are alive but do not live with you?	Sons else where_____ Daughters else where_____	
206	Have you ever given birth to any children who died later?	1.Yes 2 No	

207	How many sons and daughters have been died?	Sons_____ Daughters_____	
208	Sum answers to 203,204 and 207,enter total	Total _____	

Part III: The following questions are about antenatal care visit by pregnant women who had at least one child five years prior to this survey.

301	Did you go any health facility for antenatal check up?	1.Yes 2.No	
302	If 'yes' at what month of pregnancy did you first go?	_____months Don't know----------98	
303	Did you see any one for antenatal care for the recent birth?	1.Yes 2.No	
304	If 'Yes' whom did you see?	1. Health professional 2. Trained traditional birth attendant 3. Traditional birth attendant 4. Common health agent 5. Health Extension workers 6. Other_____ 7. (Specify)	
305	How many times did you receive antenatal care for your recent child birth?	Number of times_____ Don't know_____98	
306	How many months pregnant were you the last time you receive antenatal care?	Months_____ Don't know_____98	
307	What time does it take for you on foot to arrive at the nearest health facility to get antenatal care services?	Hours_____ Minutes_____	
308	Where did you receive antenatal care for this pregnancy or for your recent birth?	1. .Gov. hospital 2. NGOs hospital 3. Gov. clinic 4. Gov health center 5. Gov health post 6. NGOs clinic 7. Other (Specify)	
309	Why did you go to that particular health institution?	1: Close to where I live. 2: The behavior of health worker is best there. 1: 3:Convenient time of service 2: 4:There are female health provider	

		3. 5.High quality of care 4. 6.Other_____ (Specify)	
310	As part of your antenatal care during your pregnancy were any of the following done at least once? Were you weighted? Was your height measured? Did you give a urine sample? Did you give a blood sample?	Yes No Weighted 1 2 Height 1 2 BP 1 2 Urine 1 2 Blood 1 2	
311	During the last pregnancy, were you given an injection in the arm to prevent the body from getting tetanus, that is, convulsions after birth?	1. Yes 2. No	
312	During last pregnancy, how many times did you get this tetanus injection? If 7 or more times, record '7'.	Times _____ Don't know_____98	

Part IV: Questions on work status, household income and attitude of husband.

401	What is you occupation?	1. House wife 2. Farmer 3. maid servant 4. Other---------- (specify)	
402	What is the source of your household annual income?	1. 1.From own agriculture 2. From household enterprise 3. 3.Gift and remittance 4. Wages or Salaries 5. 5. Pension or other social benefit 6. Other sources_____ (Specify)	
403	What is your household average annual income in birr?	_____Birr Don't know_____	
404	What is your husband attitude to ward attending modern health care service?	1.Positive → 501 2.Negative 3.Not support or react	

405	1. If you're your for Q#405 is 'Negative' what is the reason he put down not to do so?	1 .Lack of confidence on the quality of care 2. His negative attitude/suspecting of male provider 3 .since ANC check up is continues on monthly base, he perceive it as time consuming 4.Other _____ (Specify)	**2.**

Part v: Question on Service Preference among Currently Married Women in the Study Area

5o1	Have you wanted any modern health care at the time of your last pregnancy?	1. Yes 2. No ——————→	→505
502	Did you know where to go to get modern health care?	1. Yes 2. No	
503	What was your reason for not wanting modern health care?	1. My husband did not allow me to use. 2. I had many responsibilities in the household. 3. I had no trust in its quality. 4. My religion/culture did not allow me to do so. 5. Lack of transportation because the source is too far. 6. Financial constraint. 7 .Absence of illness 8 Other (Specify)----------	
504	During your pregnancy whom do you prefer to be seen by him/her?	1. Health CARE Professional 2. Trained traditional birth attendant. 3. Untrained traditional birth attendant. 4. Relative. 5. Other_____ (Specify)	
505	Where do you want you deliver?	1. Health Institutions	

		2. Your Home 3. Other Home 4. private Health Facilities	
506	Whom do you prefer to assist you during delivery?	1.Health care professionals 2.Trained birth attendant 3. Untrained birth attendant. 4.Relative 5. Don't need any one.	
507	After (NAME) was born, did you want a health professional or traditional birth attendant check on your health?	1.Yes 2. No	
508	For any complication after delivery, where do you want to go to take check up?	**Home** 1. Your Home 2. other Home **Government** 3. Hospital 4.Health center 5. Health Station/clinic 6. Health Post 7.Other_____ (specify) **Non Government** 1. PVt Hospital 2. PVt Doctor/clinic 3. Other PVt_____ (Specify)	

Part VI: Husband Information

601	What is the age of your husband?	_____year Don't know----------98	⟶ **605**
602	Is your husband able to read and write a simple sentence?	1. yes 2. No 3. Don't know	
603	Did your husband attend any formal schooling?	1. yes 2. No	
604	What was the highest grade he completed?	Grade_____ Other_____ (specify)	
605	What is your husband occupation? Or what kind of work does he mainly do?	_____ _____	
606	Is he paid for his work?	1. yes 2. No	
607	How much is he paid for his work?	_____ ___Birr	

Thank you

Declaration

I, the undersigned, declare that the thesis is my original work, has not been presented for a degree in any other university and that all sources of materials used for the thesis have been dually acknowledged.

Declared by Welkite Berhanu Signature

Approved by (Advisor) Soward Kassahun Signature