ADDIS ABABA UNIVERSITY

MEDICAL FACULITY

DEPARTMENT OF COMMUNITY HEALTH

ASSESSMENT OF FACTORS AFFECTING UTILIZATION OF MATERNAL HEATH CARE SERVICES IN AYSSAITA AND DUBTI TOWNS, AFAR REGIONAL STATE, NORTH EAST ETHIOPIA

BY

MELKAMU FENTA (BSC)

A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PUBLIC HEALTH

June 2005

Addis Ababa, Ethiopia

Addis Ababa University
School of Graduate Studies

Assessment of factors affecting utilization of maternal heath care services in Ayssaita and Dubti towns, Afar Regional State, North East Ethiopia

By:-

Melkamu Fenta (BSc.)

Department of Community Health

Faculty of Medicine, Addis Ababa University

Approved by examining board

Prof. Yemane Berhane _____
Chairman, Department Graduate committee

Dr. Fikfu Tesfay _____
Advisor

_____ _____
Examiner

_____ _____
Examiner

Declaration

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

Name: Melkamu Fenta

Signature:_____

Date: June, 2005

This thesis work has been submitted for examination with my approval as university advisor.

Name: Dr. Fikru Tesfaye (MD, MPH)

Signature: _____

Date: _____

Acknowledgement

First and for most I would like to express my deepest gratitude and appreciation to my primary advisor Dr. Fikru Tesfaye for his unreserved all rounded, support and enriching comment throughout the study period. I will extend my thanks to Addis Ababa University for sponsoring.
My sincere thanks go to Prof. Yemane Berhane, and Dr. Mesganaw Fantahun for their valuable comment on the proposal development. My sincere thanks also extend to Dr. Alemayehu Worku for comments on the methodology were very important. My sincere thanks also go to Dr. Ahmed Ali, Dr. Abera Kume, and Mr. Wakgari Deressa for taking their time to read the first draft and providing with valuable comments.

I thank also the Afar regional health bureau, Ayssaita, and Dubti District health office, especially Mr. Berhanu Ckekol and Sr. Sofia Said who facilitated the data collection activities. I am also grateful the staffs of Ayssaita health centre for logistic supply and good commitment. My special thanks also go to my innocent classmate Mss. Zebideru Zewde; she treated me as her lovelying brother in every aspect. My heartfelt thanks should also go to my intimate friends; Hassen Abdulkadire, Abewa Getenet, Osman Yiha, Worku Berhe, Berhanu Genet and my younger brother Zelalem Fenta who provided continuous motivation and encouragement with the necessarily logistic support making this study possible.

My appreciations go to all community health departments' staffs for their unreserved support throughout the course work. My sincerely thanks go to Mrs Mulu Tefera, and Sada Mohammed from Afar Regional health Bureau and Genzeb Demessie from Ethiopia telecommunication authority for providing necessary supports for my thesis work.

Special thanks to my family; my father Fenta Chekol, my mother W\ro Enate Azene and my brothers for their continuous encouragement, moral and material support throughout my academic life, wouldn't have been possible without their support.

Lastly my thanks got to data collectors, supervisors and all research participants who took part in the study, without whom this research wouldn't have been into existence.

TABLES OF CONTENTS *PAGE*

1.	*Acknowledgements…….*	*i*
2.	*Table of contents……*	*ii*
3.	*List of tables……...*	*iii*
4.	*List of figures……...*	*iv*
5.	*List of abbreviations……...*	*v*
6.	*List of annexes……...*	*vi*
7.	*Abstract……..*	*vii*
8.	*Introduction……*	*1*
9.	*Literature review……*	*4*
10.	*Objectives of the study……...*	*21*
11.	*Materials and Methods……...*	*22*
12.	*Results……*	*34*
13.	*Discussion……..*	*61*
14.	*Strengths and limitations of the study……*	*69*
15.	*Conclusion……...*	*70*
16.	*Recommendations……...*	*71*
17.	*References……..*	*73*
18.	*Annexes……..*	*79*

LIST OF TABLES **Page**

Table1: Socio-demographic characteristics of respondents in Ayssaita and Dubti towns, Afar Region, north east of Ethiopia Oct.-nov.2004…… 34

Table 2: Obstetrics characteristics of the respondents in Ayssaita and Dubti towns, Afar Region, north east of Ethiopia Oct.-Nov.2004……... 35

Table 3: Maternal health care utilization in Ayssaita and Dubti towns, Afar Region, north eater of Ethiopia Oct.-Nov.2004……. 38

Table 4: Respondents' knowledge on antenatal care services in Ayssaita and Dubti towns, Afar Region, north east of Ethiopia October –November 2004 ……. 40

Table 5: Percentage distribution of health services factors in ANC users in Ayssaita and Dubti towns, Afar Region, north east of Ethiopia Oct.-Nov.2004…… 45

Table 6: Perception on the quality of ANC and delivery care service in Ayssaita and Dubti towns, Afar Region, north east of Ethiopia Oct.-Nov.2004…… 47

Table 7: Selected Socio-demographic determinants of ANC attendance in Ayssaita and Dubti towns, Afar Region, north east of Ethiopia Oct.-Nov.2004…… 51

Table 8: Selected obstetric and health related determinant of ANC use in Ayssaita and Dubti towns, Afar Region, north east of Ethiopia Oct.-Nov.2004…… 53

Table 9: Socio-demographic determinants of place of delivery in Ayssaita and Dubti towns, Afar Region, north east of Ethiopia Oct.-Nov.2004……..…….. 55

Table10: Selected obstetric and related determinant of place of delivery in Ayssaita and Dubti towns Afar Region, north east of Ethiopia Oct.-Nov.2004……. 57

LIST OF FIGURES PAGE

Figure 1.	Conceptual framework on maternal health care utilization…..	20
Figure 2:A.	Schematic presentation of the sampling procedure……..	26
Figure 2:B.	Schematic presentation of the sampling procedure……...	26
Figure 3.	Percentage distribution of respondents' knowledge on danger Signals of pregnancy, and childbirth……	42
Figure 4.	Reasons for ANC non- attendance……	43
Figure 5.	Reasons for home delivery……	49

LIST OF ABBREVATIONS

AOR Adjusted Odds Ratio

ANC Antenatal Care

CI Confidence Interval

CSA Central Statistics Authority

DHS Demographic and Health Survey

FGD Focus Group Discussion

HI Health Institution

IEC Information, Education and Communication

HW Health Worker

MMR Maternal Mortality Ratio

MCS Maternity care services

MCHS Maternal and child health services

FMOH Federal Ministry of Health

OR Odds Ratio

PID Pelvic Inflammatory Disease

PNC Postnatal Care

SSA Sub-Saharan Africa

SD Standard Deviation

SPSS Statistical Package for Social Sciences

SNNPR South Nations Nationalities and Peoples Region

TBA Traditional Birth Attendance

UNICEF United Nations Children Fund

WHO World Health Organization

LIST OF ANNEXES **PAGE**

Annex 1. Map of the study area……... 79

Annex.2. Structured English questionnaire……. 80

Annex 3. Structured English questionnaire for FGD……... 86

Figure 4. Structured Amharic questionnaires…….. 89

Abstract

A community based cross sectional study was conducted from October to December 2004 in Ayssaita and Dubti towns in Afar Regional state to assess factors affecting utilization of maternal health care services among women during their third trimester of pregnancy and with in 12 months post delivery preceding the survey. Data were collected using a pre-tested and standardized questionnaire in 642 eligible women from four kebeles by clustered random sampling technique.

Analysis revealed that close to 80% of the women had at least one prenatal visit during their recent pregnancy. Most of the antenatal care (ANC) attendants made their first visit during their second trimester of pregnancy. Among ANC users 53% of had less than four antenatal care contacts. Majority of deliveries took place at home, of which 93.7% were attended by TBAs. Absences of a health problem, lack of awareness, work overload and distant health service were the main reasons for no ANC attendance. Presence of relatives nearby, more trust on TBAs, lack of privacy, and male professionals assistance during labor at health facilities, were the main reasons cited for resorting to home delivery. Of the total, 45% of the women had knowledge on danger signals of pregnancy and childbirth related health problems. The majorities were able to name the danger signs of pregnancy related health problems. Most of the women neither perceived pregnancy related morbidity nor experienced illness in the recent pregnancy.

Bivariant and multivariate analysis showed significant association between ANC attendance and maternal age, occupation, wanted pregnancies, illness experience and perceived susceptibility to dangerous health problems related to pregnancy and childbirth. Education (OR=5.26,95%

CI=3.12,8.92), religion (OR=2.77,95% CI=1.80,4.27), income (OR=2.59,95% CI=1.55,5.00) and ANC attendance (OR=0.21,95% CI=0.13, 0.35) were associated with choice of delivery site. Orders of pregnancy and husbands' attitude were found to be strong predictor of both antenatal care and skilled attendance at birth.

In conclusion, the study revealed low maternal health care utilization in the area. Demographic and socio cultural factors were found to be barriers to utilization of maternal health care services. Increasing maternal health service coverage and promotion of IEC in the community are recommended.

Key words: *Maternal health care, antenatal care, preferred place of delivery, Afar Region.*

1. INTRODUCTION

Pregnancy and childbirth are natural and often eventful processes many women are at risk for developing complications during pregnancy and childbirth. Complications of pregnancy and childbirth are the leading causes of disability and death among women in the reproductive age (15-49) years in developing countries (1,2).

Of the nearly 600,000 women who die each year due to pregnancy-related causes, over 99% of these deaths occur in sub-Saharan Africa (SSA) (3). Additionally 300 million women suffer from short and long-term illness related to childbearing. The ratio of maternal mortality in the region is one of the highest in the world, reaching to the levels of 2000 deaths per 100,000 live births. Direct obstetric causes (hemorrhage, obstructed labour, hypertensive disorders, unsafe abortion, and infection) contribute for up to 80% of maternal deaths with increased fetal loss, prenatal mortality and poor survival of small children (1-6).

Antenatal care is placed as the basic intervention in reducing maternal and newborn mortality in "safe motherhood package" which has been developed by World Health Organization (WHO) as a guide for the interventions in maternal and child health (1, 4). Antenatal care is the monitoring of mother and fetus by trained health personnel throughout the whole pregnancy with the necessary examination and recommendation by regular intervals. According to World Health Organization (WHO) recommendation, a minimum of four antenatal visiting (at least 20 minutes duration for each) is needed to accomplish the essential level of ANC (3). If for any reason the women cannot make the recommended number of visits, then a minimum of four visits are to be made at 10^{th}, $20^{th,}$ 30^{th}, and 36^{th} week of pregnancy. Since recent empirical evidence has shown that four visits suffice for uncomplicated pregnancies, and more visits are only recommended in case of pregnancy complications (1, 2,3,7).

The standard recommended number of antenatal visits in Ethiopia is still according to previous protocols and concern Monthly visit up to 28th weeks of pregnancy, followed by bi-weekly visits to the 36th weeks of pregnancy, and weekly visits afterwards to delivery for uncomplicated pregnancies, are the usual recommendation (1-4,7). Apart from these routine visits, the protocol recommends that a pregnant women report to the clinic any time she feels unwell or has any complication (1-4,7,8).

Studies across the world demonstrate that there is a high level of maternal mortality and morbidity in developing countries due to the unavailability of maternal and child health care services within a reach of women is also one of the basic problems in areas of low health service coverage and research identifying causes of maternal deaths have repeatedly emphasized the need for antenatal care and availability of skilled personnel to attend women during delivery. The importance of tetanus toxoid injections given prior to birth to reduce neonatal mortality has been documented as well. Since a large proportion of maternal and neonatal deaths occur with in few days after delivery (3,5,7). Previous studies in Ethiopia have clearly shown that 27% of Ethiopian women received antenatal care, and less than 10% received professionally assisted delivery care (3, 4, 5, 7, 9-12,).

According to the Federal Ministry of health (FMOH) Ethiopia report in 2004, the antenatal and delivery care coverage in Afar region was 24.6% and 2.10%, respectively, which was the least compared to other regions in the country (13). These figures indicate the routinely collected data mainly from public health facilities to ascertain ANC and delivery care services have never been conducted so far in the Afar Region. Therefore, the purpose of this study is to assess the current status of ANC and maternity care services, and factors that influence utilization of these services,

and to find out the possible reasons for underutilization of maternal health care services in Ayssaita and Dubti towns, Afar Regional state. It is hoped that results of this study will improve policy makers understanding of the determinants of maternal health care services in the Region and may serve as an important tool for any possible interventions aimed at improving the low utilization of the antenatal care and delivery care services in the Region.

2. LITRATURE REVIEW

2.1.Magnitude of the problem

2.1.1.Maternal mortality

Over 99% of the nearly 600,000 women who annually die due to pregnancy-related causes occur in sub-Saharan Africa (1). The majority of these deaths occur after childbirth mostly within 24hours. Maternal deaths during pregnancy and at the time of delivery contribute about 25% and 15%, respectively.

In a review of 17 hospital-based studies from Sub-Saharan Africa (SSA) with at least 100 maternal deaths, the maternal mortality ratio (MMR) ranged from 190 to 1236 per 1000,000 live births (9,10). Maternal mortality in developing countries is a neglected tragedy: a tragedy in terms of magnitude of the problem, equity, and social justice (11,12). In SSA little is known about the level of maternal mortality at the community level although some efforts have been made to use Demographic and Health Survey (DHS) data and indirect methods of estimation levels. Wherever studies have been conducted, the levels appear to be quite high by international standards (up to 200 times the levels in Western countries (14,15).

2.1.2.Determinants of maternal mortality

There is evidence that access to skilled assistance and well-equipped health institutions during delivery can reduce maternal mortality, reproductive morbidity, and improve pregnancy outcomes. Studies have found that care during pregnancy, delivery and postnatal period can positively improve the health of both the mother & infant. For instance, analysis of DHS data from Morocco and Tunisia demonstrated that high levels of health care are associated with better reproductive outcome (16). Although the effectiveness of routine ANC and postnatal care is less

clear, there are certain conditions for which early detection can reduce maternal mortality and reproductive morbidity.

Few hospital-based studies have provided quantitative evidence of risk factors specific to maternal mortality. A study conducted in Zimbabwe identified that lack of ANC and lack of timely transport were major risk factors. Another study conducted by the same team in the same country identified diminished or absent social support (divorced, widowed, several wives, and self support) as well as age (>35 years), high parity (>6), and earlier experience of stillbirths, or abortion as a significant risk factors for maternal mortality (4,7).

A study conducted in Uganda identified parameters which were predictors of maternal survival: caesarian section rate, distance to hospital, lack of antennal visits and time of date of admission for delivery, and severe blood loss (7,10). According to a report of Mexican DHS socio-economic and other factors are linked to which differentials in maternal mortality and provide with indirect way of determining the extent to which women's needs for maternal care are being met. For instance, women with no formal education are nine times more likely to die than those women who have finished high school; and women who live in highly marginalized areas are three times more likely to die than those who live in least marginalized areas (16).

2.1.3. Impact of maternal mortality

Studies have shown that newborns whose mothers die are less likely to survive. Inadequate maternal care during pregnancy and delivery is largely responsible for the estimated eight million stillbirths and newborn deaths that occur around the world each year. Older children's survival is also affected the loss of their mothers (10). A study in Bangladesh showed that children under the

age of 10 years were up to 10 times more likely to die following the death of their mothers were alive. When a maternal death occurs, the women's community loses a productive member and her paid or unpaid labor. The country loses its investment in the women's health and education, forgoes her contributions to the economy (7,8,12,15).

Maternal mortality as a global problem has received increased attention since the 1980.The World Health Organization (WHO) has set Global strategies by member countries to significantly the reduce level of maternal mortality and morbidity, particularly in the developing countries. The major elements of the common current initiatives by all countries are directed at the readdressing the social inequalities confronting women, ensuring access to family planning, community based maternity care, and providing back up and support at first referral for those women who require skilled obstetric care (9,12,14,15).

2.1.4.Maternal morbidity

The tragedy of maternal mortality in developing countries is further compounded by a high incidence of morbidity among women who survive delivery. It has been estimated that for every maternal death in SSA, another 16 to 100 women are disabled or permanently crippled by incontinence, uterine prolapses, fistula, pelvic inflammatory diseases (PID), and infertility related to childbirth (17). As many 30 million (more than one quarter) women now living in developing world suffer from short, or long-term illness related to childbirth. This adversely affects the quality of their lives and those of their families. Additionally, some women who survive delivery become chronically ill and eventually die from chronic or infectious diseases.

2.2.Maternal health service utilization

2.2.1. Delivery service utilization

There is evidence that access to skilled assistance and well-equipped health facilities during delivery can reduce maternal mortality and morbidity, and improve pregnancy outcome. Skilled attendants at delivery are the most widely adopted process indicator that closely correlated with maternal and perinatal mortalities (6,9,15). Many studies found that there is a strong correlation between skilled care attendance at delivery and lower levels of maternal mortality (10,18). Similar studies have found that care during pregnancy, delivery, and postnatal period can positively improve the health of the mother and infant (10,14). This is provided that adequate supplies, equipment, and infrastructure as well as an efficient system of communication for transport, and referrals support for the skilled attendant.

In Bangladesh among women delivered at home, half the deliveries were attended by TBAs and nearly 40% by female relatives (19). In Egypt, nearly 80% delivered at home, while TBAs attended 40%, and 27% delivered in the hospital attended by doctors and\or Midwives (18). In India, on other hand, only 41.5% delivered at home 55% delivered in hospital; doctors or midwives attended only 35.6% while TBAs attended 61.2% of the deliveries (19,20). In Indonesia more than 90% delivered at home (or someone else's home), and more than 90% were attended by TBAs (21).

Institutional delivery is very low in Ethiopia. According to the report of Safe Motherhood need assessment conducted in 1996, only 4.5% of women gave birth at health facilities (22). Ethiopian Demographic and Health Survey (2000) reported similar figure (23). Studies conducted in rural Butajira and Admitulu revealed that 88% and 83% mothers preferred to give birth at home

(24,25). The study conducted in South West Ethiopia reported 83% delivered at home and 66%of the deliveries were attended by untrained attendants (26,27,28). The study in Gulele District, Addis Ababa, revealed that one fourth of women preferred to deliver at home. The risk of preference to deliver at home was higher for those whose husbands' or partners' attitude toward ANC attendance was negative and for those who did not attend ANC clinics (4).

2.2.2 prenatal care utilization

Antenatal care might theoretically reduce maternal morbidity and mortality directly through detection and treatment of pregnancy related or intercurrent illness or indirectly through detection of women at increased risk of complication of delivery and ensuring that they deliver in a suitable equipped facility (29). In addition to lack of sufficient maternity care services; low utilization of those services that are available to pregnant women in developing countries have been recognized as a problem. Recent studies indicate that less than one-third of women in developing countries receive ANC and only about 20% of births occur under the supervision of trained attendants (15,30). The average number of visits among women who sought prenatal care was more than five in India and Indonesia, two in Bangladesh and 3.5 in Egypt. The provider of ANC varied substantially among the four sites. In Egypt and India the government health center was the most important sources antenatal care services (21,29).

In Ethiopia, in addressing this high priority health problem in women, the Safe Motherhood initiatives and health policies that are directed to reduction of deaths in women are being implemented (31). The ANC coverage ranges from 10% in some rural areas to 39% of women in the third trimester never had a prenatal visit at the time of the survey (4,19). The community-based study in South West Ethiopia revealed antenatal care attendance of 48%(32). The

difference in health service utilization between urban and rural was explained to be attributable to the fact that the urban mothers have more access to the different health services and better education levels.

2.3.Determinants of maternal health care services

2.3.1. Socio-demographic variables

There is a general consensus that the use of maternal health care services reduces maternal and child mortality, and improve the reproductive health of women. The considerable variation in maternal and child health in the developing world is believed to be partly due to differences in the availability of and access to health services. Although several studies have been carried out to identify and understand why maternal health care services are underutilized in developing countries, there is no universal explanation that applies to all places and time the determinants of utilization of maternal health care services are not the same across socio-demographic and cultural contexts (33).

A review of the literature suggests that in developing countries, the use of modern health care such as maternal health care services can be influenced by the socio-demographic characteristics of women, the cultural context, and the accessibility of these services (14). A number of socio-demographic characteristics of the individual affect the underlying tendency to seek care. In this regard, good examples are maternal age, parity, large family size, lower educational attainment, and family income, which have been repeatedly examined as determinants of health care use. The greater confidence and experience of the older and higher parity of women, ignorance, together with greater responsibilities within the household and for childcare, have been suggested as explanatory factors for their tendency to use services less frequently (6,34).

Female education is a strong predictor of maternal health care services, but the extent and nature of the relationship between the two is not uniform across social settings. In Bangladesh, and Thailand women with primary education did not differ from women with no schooling in receiving delivery assistance (19). In Peru and Guatemala, women with primary level education were more likely to have received delivery assistance from health personnel (1,7). Similarly, urban women were more likely to use antenatal care in Thailand, but there was no difference in the use of ANC between urban and rural women in Turkey and in the state of Karnataka in India (15, 16, 18, 24,33, 35,).

Although, in general, women in higher socioeconomic groups tend to exhibit patterns of more frequent use of maternal health care service than women in the lower socioeconomic groups, factors such as education appear to be important mediator (12, 15, 35). Similarly, a few studies in Ethiopia revealed that, education is a major factor determining utilization of antenatal care services. According to Ethiopian DHS 2000, which was the first of its kind conducted in the country, found that about 72% of women with at least secondary schooling receive ANC from health professionals. A study conducted on factors influencing utilization of maternal health care services in Ethiopia found that 72% women with at least secondary schooling receive antenatal care. Similarly, a study conducted on determinants of antenatal care utilization in Arsi Zone, central Ethiopia found that 71% women with at least secondary schooling receive antenatal care (13,36, 37).

2.3.2 Cultural practices and Women's decision making power

Another important factor in the utilization of maternal healthcare services, especially in Africa, is the cultural background of the women. Women's powerlessness and their unequal access to

material and other resources, and their inabilities to make informed choices are the fundamental causes of maternal death and disability. A range of barriers related to women's powerlessness could harm their health directly or by limiting their access to the services. This includes ignorance of good health practices, as well as lack of awareness of danger signs during pregnancy or misinterpretation (for instance that obstructed labour is associated with women's infidelity) (10,38).

The cultural perspective on the use of maternal health services suggests that medical need is determined not only by the presence of physical disease but also by cultural perceptiveness of the illness. In most African rural communities maternal health services coexist with indigenous health care services, therefore, women must choose between the options (15, 34,35, 38, 39,40). When obstetric complications are seen as the reflection of the "will of God" or the influence of evil sprits, families often resort to traditional healers and diviners for care, and only take women to health facility at last resort when it may be too late (7,14,15). Studies in rural Bangladesh showed the vast majorities believed that childbirth is an act of God and is a natural event. For this reason, they do not expect delivery complication or problems and therefore use TBAs for childbirth. Villagers also select TBAs because of tradition, convenience and special attention they receive. Traditional birth attendants (TBAs) are trusted, highly accessible and affordable members of the community (24,34,40).

Women's lack of control over their own life means that other family members (husbands, mother-in law) often make decisions about where a woman should deliver (20,41). In Pakistan, for example, a study found that two-thirds of women delivered at home because the husbands or other family members forbade hospital delivery (14,19,42).

Many women in developing countries need a husband's permission to visit a health facility, or must be accompanied, particularly when the husbands are away from home. This tradition can severely limit women's ability to use even nearby health facilities (19,24,33). Women have very little control over their own or the family income; their ability to use the services especially when fees are involved is further constrained. Studies in Swaziland and Kenya, for example, found that many women who did not deliver in a facility cited their husbands' refusal to meet expenses as the main reason (9,10). In many parts of the world women's power to make decision is limited even matters directly related to their own health (38). In Bangladesh, it is usually the mother- in law and the husbands who make decision to seek (or not seek) care (33). They are often the least likely to know about pregnancy related complications and their possible fatal consequences.

Moreover, in many parts of Africa, women's decision-making power is extremely limited, particularly in matters of reproduction and sexuality. In this regard, decisions about maternal care are often made by husbands or other family members (7). Availability of women's time is also important. In developing countries, women spend more time on their multiple responsibilities for care of children, collecting water or fuel, cooking, cleaning, growing food, and trade than on their own health (8, 29).

2.3.3 Psychosocial and personality factors

The use of modern health services is often influenced by individual perception of the quality of modern health services and the religious beliefs of individual women. A women's attitude to wards her pregnancy, and the presence of social support have been found to influence ANC use in developing countries (43). A study revealed that women with low social support, who were younger, more often single, who had lower level of education, and income who smoked more as

have higher biochemical risks than women with adequate social support (44). In developing countries, the presence of social support during pregnancy has been shown to provide psychological benefits and influence ANC use. For example, in Jamaica, pregnant adolescents identified the support of close friends as a prerequisite to the initiation of ANC (12, 43).

Rural women, particularly in Muslim countries such as Bangladesh, do not usually converse with unknown persons, particularly males. This behavior is particularly pertinent because male physicians attend most deliveries at rural health centers. This situation acts as an important social and religious barrier to use health care services. Additionally, many rural residents exposed to modern health services have negative perceptions about the quality of the services offered by the rural health facilities and medically trained personnel. Some reasons suggested for this negative perception include: inattentive or discourteous staff behavior, lack of qualified or skilled staff cooperation and privacy. Such negative perceptions are widely considered as important factors for under utilization of rural public health facilities in developing countries (24,34,40).

In Ethiopia, studies addressing the factors influencing the utilization of maternity care services are scanty. Few studies that do exist focused predominately on major cities and highland areas. An earlier community based study in Addis Ababa on maternal mortality found that women who did not have ANC were often those of high risk, i.e. illiterate, had low level awareness of problems of child bearing, had low income and were unmarried (4).

The study also showed the risk of non- attendance was high for pregnant women, whose income was low, whose husband's attitude was negative or unknown who were pregnant at the age of 10 to 18 years. In a nationally representative sample survey in Ethiopia, receipt of maternity care

was found to vary by age, residence, and other socio-demographic factors (26,38). The study also indicate preference to place of delivery at home was high for these who were illiterates, who did not attend ANC clinics and whose husband's attitude towards ANC attendance was negative\unknown (4, 45,46).

Another study in Addis Ababa showed that lack of time, absence of illness, and lack of awareness are the major reasons for non-attendance of antenatal care (4). Similar study done in the Arsi Zone of central Ethiopia, found maternal age, parity, and lack of time, education, marital status, and women's economic status to be significant predictors of utilization of maternity care services (37).

Another study in Yirgalem town and in the surrounding Southern Nations, Nationalities, and People's Region (SNNPR) of Ethiopia showed that women's education, inadequate household income, and unwanted pregnancy were important predicators of antenatal care utilization (32). A large-scale community and family survey in SNNPR concluded that although a number of socio-demographic factors are important in the urban areas, they are less relevant in the rural part of the study area. Socio-demographic factors including parity, age, and education appeared to influence the use of maternity care services in urban areas. In contrast, distance and travel time were identified as important factors in the rural part of the country (14,18).

2.3.4 Accessibility and quality of health services

2.3.4.1 Accessibility of health services

Accessibility of health services have been shown to be an important determinant of utilization of health services in developing countries. In most areas in Africa, one in three women lives more

than five kilometers from the nearest health facility (3). The scarcity of vehicles especially in remote areas cost of transport, poor road conditions and the difficulty of walking for hours to the nearest health facility may also pose problems for pregnant women (1). Walking is the primary mode of transportation, even for women in labour. In rural Tanzania, for example, 84% of women who gave birth at home intended to deliver at a health facility but did not do due to distance and lack of transportation (12, 38, 47).

A study in Jordan has shown that women and health services access variables were compared among women using and not using maternal health care services; there were a marked difference between the two groups. Distance of place of residence from the services and time and cost involved in traveling to services were all highly significantly associated with non-use of the maternal healthcare services (41). According to a household survey in Southern Iraq, the relationship between utilization and distance between health unit and place of residence has shown that utilization rates decline sharply with increasing distance traveled (48).

It is often those at highest risk of adverse outcome who are least likely to have access to health services, particularly preventive services. Risk factors such as very young, lack of education, and poverty are associated with low use of the services. This was also demonstrated in recent study in India; found that women with more risk factors were less receptive to ANC services (49). In developing countries distance from and ignorance of the existence or purpose of the health services may compound this. The other important factor determining utilization is family income. Some studies have shown that utilization rates increases substantially with increasing income (29, 41,48, 50).

2.3.4.2. Quality of health services

Quality of care is an important consideration in the decision to seek care. A study in the Guatemalan highlands, revealed that, government health posts seemed to be conveniently located, yet that proximity did not guarantee utilization, probably the facilities understaffed and under equipped and thus unable to provide quality care (1). The role that quality of care plays in the decision to seek care is related to people's own assessment of service delivery, which largely depends on their own experiences with the health system and those of people they know.

The two mechanisms through which quality of care affects the decision to seek care are satisfaction or dissatisfaction with the outcome (e.g. effectiveness of the treatment and remedies prescribed), and satisfaction or dissatisfaction with the service received (e.g. staff attitude, long waiting time, hospital procedure, and availability of supplies, efficiency)(17,18, 51). These factors will act as inhibitors of future utilization, thus affecting the decision to seek care. As several studies from developed and developing countries indicate, health services barriers and women's perception of quality of ANC were important factors affecting women's attendance during pregnancy (49). Studies on quality of ANC are scarce in Ethiopia and other developing countries.

2.3.5 Financial cost of service

Fees reduce women's use of maternal health care services and keep millions of women from seeking care even when complications arise. Even when formal fees are low or non-existent; there may be informal fees or other costs that pose significant barriers to women's use of services. These may include costs of transportation, drugs, food, or lodging for the women or for family members who help care for her in the hospital (12, 50).

To our surprising studies indicates that compared to other factors, the financial cost of the receiving care is often not a major determinant of the decision to seek care. A survey conducted in Nigeria revealed five factors that influence people's decision to seek traditional or western medical care: Respondents ranked cost and distance fourth and fifth, respectively (43). A report in Ethiopia, cost of services was often a less important consideration in utilization than were the quality of services and perceived efficacy of treatment (17,18,51).

2.3.6 Need and perceived morbidity

Health-care seeking behavior is strongly influenced by the characteristics of the illness as perceived by the individual. The perceived severity and etiology of the disorder will shape the decision to seek care. King has noted perhaps the most important factor for all is the severity of patient's disease or need (20). In addition, the international collaborative study (in selected areas of seven developed countries) found that behavioral and social factors had modest predictive on the overall patterns of use as compared with the substantial influence of various forms of perceived morbidity and hence demand for medical services (43).

Perceived severity and need alone are not enough for health service to be utilized. Many other factors must be favorable for an individual to use a health services. In developing countries most women lack knowledge on risk of pregnancy and childbirth, which inturn influence the felt need for ANC. In Jamaica, for instance, while most women surveyed were able to name obstetric complications they had experienced themselves, fewer than 10% identified any other specific risk, danger or problem of pregnancy and previous pregnancies or births attached greater importance to the availability of medical back up than those who had uncomplicated births (13,16, 43, 52, 53, 54).

Other studies in developing countries showed that not only do women's knowledge of risks affect the use of ANC, but also do their knowledge of the severity of risks and their feeling of susceptibility to those risks. In India, it has been demonstrated that lack of recognition of health problems were significant reasons for not seeking out health care, which account for half of maternal deaths (13,41). A household survey in Iraq showed the level of perceived sickness to be the most important factor affecting utilization of health services (48).

RATIONAL OF THE STDUY

Though women comprise a large proportion of a given society, still many women in developing countries are at greater disadvantage. A large number of women are needlessly dying due to factors related to pregnancy and childbirth. Experiences from both developed and some developing countries have shown that these deaths could have been prevented if women had access to basic maternity care services. However, in less developed world particularly in SSA countries availability and utilization of maternal healthcare services are low (9,14,38).

In Ethiopia, the levels of maternal and infant mortality and morbidity are among the highest in the world. According to 2000 Ethiopian DHS the maternal mortality rate was 871 deaths per 100,000 live births, and infant mortality rate was 97 deaths per 1000 live births (23). One explanation for poor health outcomes among women is the non-use of modern health service by a sizable proportion of women in the country. Studies in the highland major urban towns of Ethiopia have shown that about 25% of Ethiopian women received antenatal care, and less than 10% received professionally assisted delivery care (23).

The utilization of health services in Afar Region, in general, and maternal healthcare service in particular is low as many other parts in the Country. However, it has never been assessed so far in Afar, where 90% of the population is leading nomadic and semi-nomadic pastoralist life style, have a very low economic status, and harmful traditional practices are widely prevalent (37). Ayssaita and Dubte are the two main towns in Afar regional state in the northeastern Ethiopia, relatively better equipped and access to health facilities. In this study area there are one Zonal hospital, one primary health care unit and two health stations. These two towns, though they are found in pastornalist region they have relatively settled population.

Despite the fact that maternal health care utilization is essential for further improvement of maternal and child health and researchers have devoted considerable attention to the importance of accessibility to health services on health outcome in the country. Little is known about the status and factors influencing the use of maternal healthcare services in Ethiopia in most regions in general, and Afar Region in particular. This paper, therefore, aims to address this gap by attempting to explore the factors that are assumed to be barriers to antenatal care and delivery care services. A conceptual framework was used to describe interrelated factors and maternal health care utilization (See Figure 1).

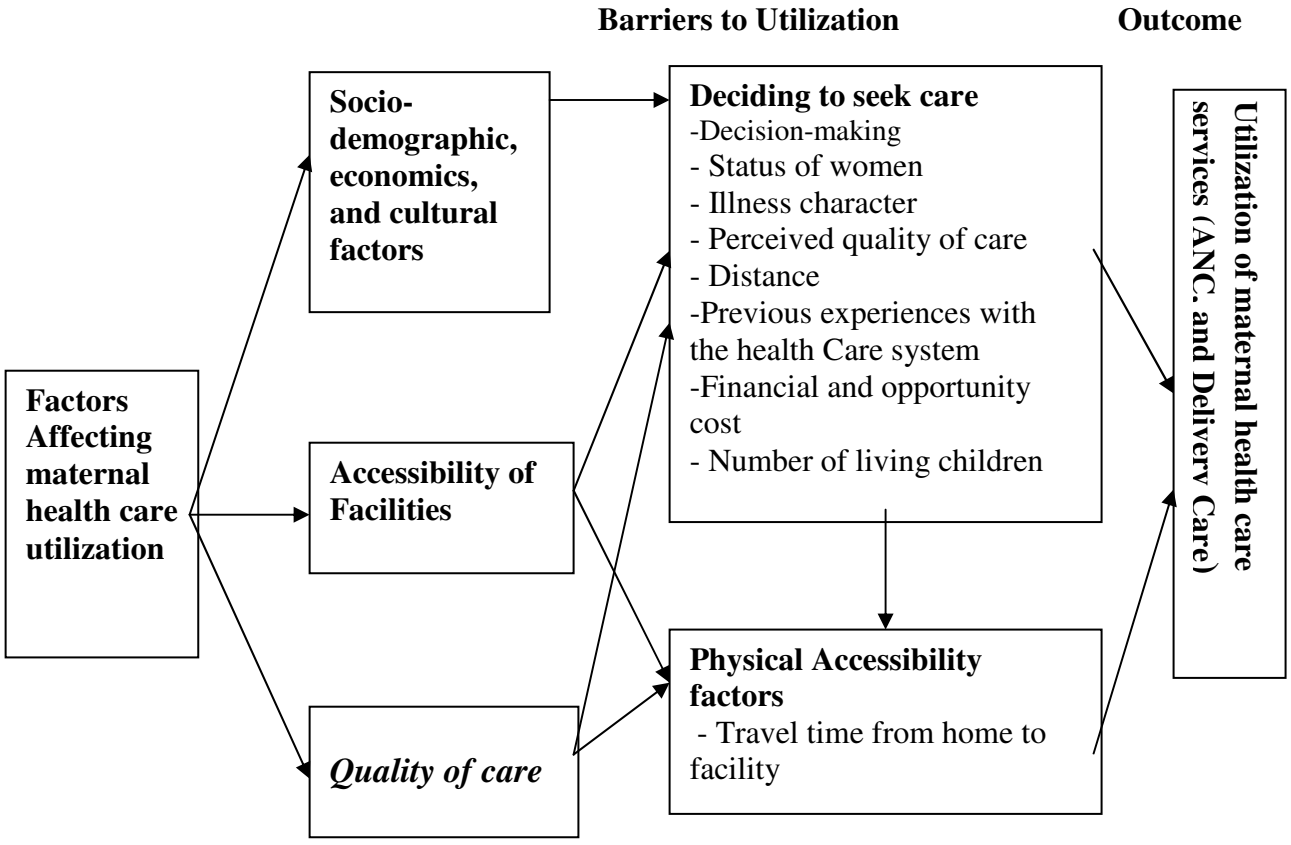


Figure1. *Conceptual framework for factors affecting maternal health care utilization Adapted from too far to walk maternal mortality in context* (65).

3. Objectives of the study

3.1. General objective

To assess factors influencing the utilization of maternal healthcare services in Ayssaita and Dubte towns Afar Regional state in northeast Ethiopia

3.2. Specific objectives

1. To assess the knowledge, attitude and practices of pregnant women regarding antenatal care.

2. To identify factors that influence women's attendance of antenatal and institutional delivery care services in Ayssaita and Dubti towns.

3. To identify the sources and place of delivery care available in the study areas

4. Materials and Methods

4.1 Study design

A community based cross-sectional study design that employed both quantitative and qualitative data collection methods was carried out to assess factors influencing utilization of maternal health care services in Ayssaita and Dubte towns.

4.2 Study areas

Afar Regional State is one of the nine Regional States, administratively divided in to five Zones and 29 Woredas, Semera being its new administrative capital. The Region is located bordering Eritrea in the North, Djibouti in the East, Tigray, and Amhara, in the West Oromia and Somali regional state South and South East respectively. The Region lies in the Great Rift Valley of East Africa about 120meters below sea level around the Dahlol Depression (Annex. I). It has an area of 97,256km^2 with an estimated 1,394,361 population according to the 1998 census and projection. The Region is generally characterized by desert climatic condition with stony and sandy crust lands and harsh climate for most of the year with annual temperature between 26 and 52 degree Celsius in the Dalol Woreda. Afar ethnicity is the dominant native of the region particularly in the rural area, with the Muslim dominant religion followers.

The study was carried out in Assaita and Dubti towns of in Afar Region, North Eastern of Ethiopia. Ayssaita and Dubte towns are located at 610 and 570 kms from Addis Ababa and 70 and 12 kms from the Afar Regional capital Semera, respectively. The estimated projected populations for 2004 in these towns were about 34,693 with 20,622 in Ayssaita and 14,010 in Dubte town of which 1,734 are expected number of pregnant women (55).

Administratively, the two towns are subdivided in to nine kebeles. Assaita has four kebeles while Dubte has five kebeles. Concerning the major infrastructures and social facilities about 44.1% of the total population has access to piped water; there is a 24 hours generator power supply, land transportation services and modern digital microwave telephone system in both tows. There is one Zonal hospital backup with emergency obstetric care service, two health center and two clinics. The population of Assaita obtains health services from a health center and health station while Dubte town from Zonal hospital and health station. All these facilities run integrated maternal health services routinely staffed with senior and junior midwives particularly for hospital and health center. There are also three private clinics and12 rural drug venders.

4.3. Study population:

The study population

All pregnant women and women who gave birth in the last 12 months in Ayssaita and Dubte towns.

The study participants

Pregnant women in their third trimester of pregnancy, and those with in12 months of post delivery, irrespective of the outcome pregnancy were included in the selected kebeles.

4.4 Inclusion and exclusion criteria for the study population

Inclusion criteria

- All women in their third trimester of pregnancy
- All women with in 12 months of post delivery and those who terminated pregnancy beyond six months preceding the date of interview regardless of outcomes of pregnancy.
- Women, who were mentally and physically capable of being interviewed
- Permanent resident of the study area
- Living with in 5 kilometers radius from a health facility (8)

Exclusion criteria

- Women, who were not in their third trimesters, critically ill, could not talk or listen, and those who lived less than one year at the time of the interview were excluded from the study.

4.5 The sample size determination

Sample size was calculated using EPI-Info version 6.04 statistical software program for two-population proportions formula:

$$n_1(\text{for each group}) = \left[\frac{Z\alpha/2\sqrt{(1+1/r)\,p(1-p)} + Z\beta\sqrt{P_1(1-P_1) + \frac{P2(1-P_2)}{r}}}{(P_1 - P_2)^2} \right]^2$$

To determine the sample size the following assumptions were made: Education is a major factor determining utilization of Antenatal care in Ethiopia (13,26,37).

Where,

n_1= Sample size of educated women attended ANC

n_2= Sample size of women with no education attended ANC

$r=n_1/n_2=2$ for the population allocation ratio

$Z\alpha/2=1.96$ for the standard scale of 95% level of confidence**,** $Z\beta$=standard scale of 0**.**84 corresponding to an 80% for power to detect a difference of (P_1-P_2) 18%

P1=Proportion for educated women attended ANC, 72%(37)

P2=Proportion of women with no education attended ANC, 54% were taken for uneducated women attended ANC arbitrarily for lack of study in the region.

P (pooled population proportion)= $\frac{P1+rP_2}{1+r}$

The sample size were 93 for educated and 186 for uneducated women attended ANC. Considering a design effect of two for the variation due to clustering and non-response rate of 15%(62). The total calculated sample size was 642 women.

4.6. Sampling procedures

Ayssaita and Dubti towns were purposefully selected for logistical reasons and to represent accessibility of health services in the region. From the total of nine kebeles (clusters) in both towns a random sample of four kebeles (clusters) were selected using population allocation ratio. Then to obtain 642 study subjects cluster sampling techniques were used until the required sample sizes were achieved. The first households were chosen near the Kebele Council as a starting point by drawing a number. Households with no eligible women were excluded from the study. After a successful interviewed of each household the interviewer continued to the right side of the next household until the required sample size were achieved (See Figure 2.A next page). For the qualitative design non-probabilistic convenient sampling technique was used to obtain homogenous groups for each categories (See Figure 2.B next page).

Figure 2.A. Schematic presentation of sampling procedure for Quantitative method

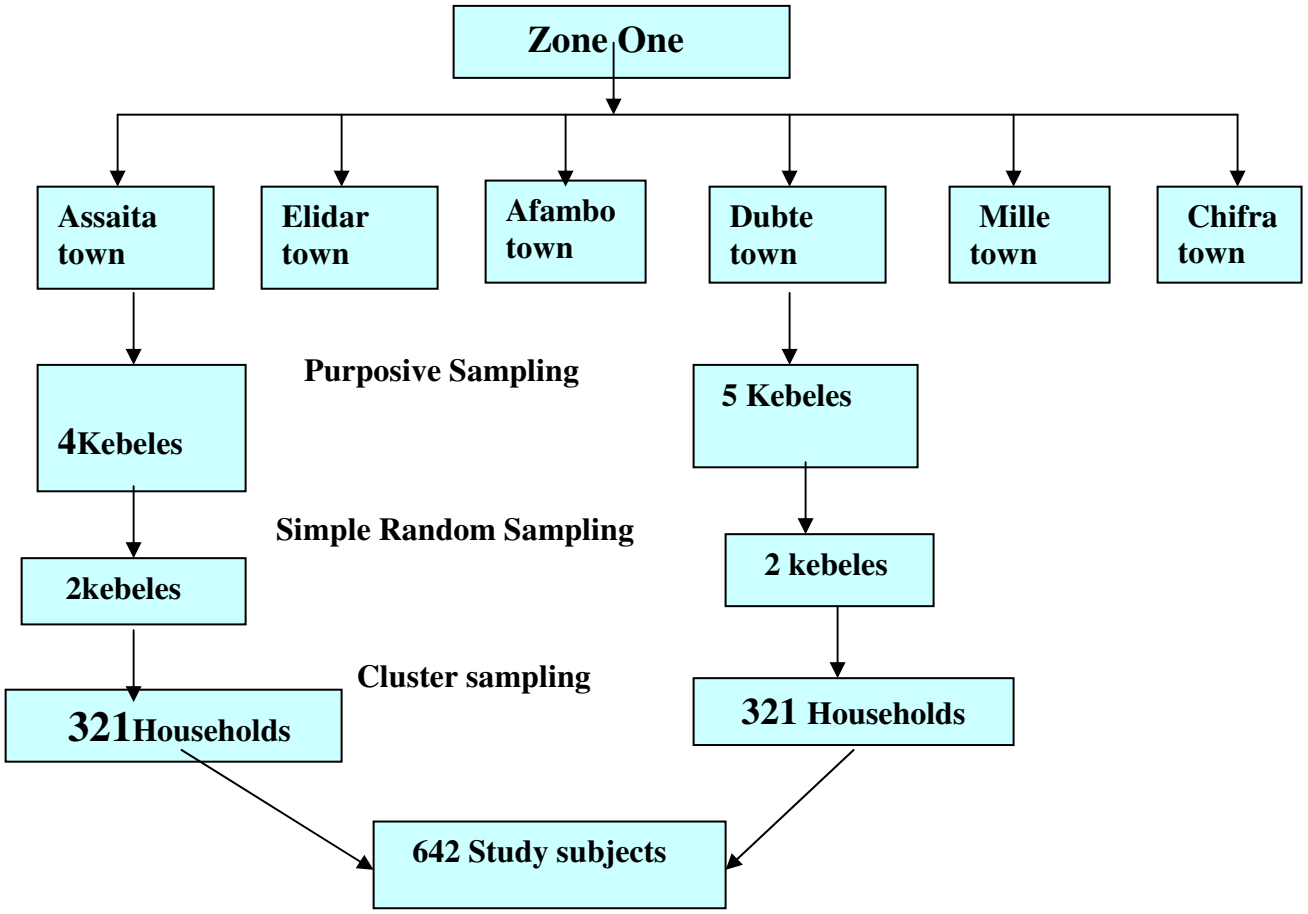
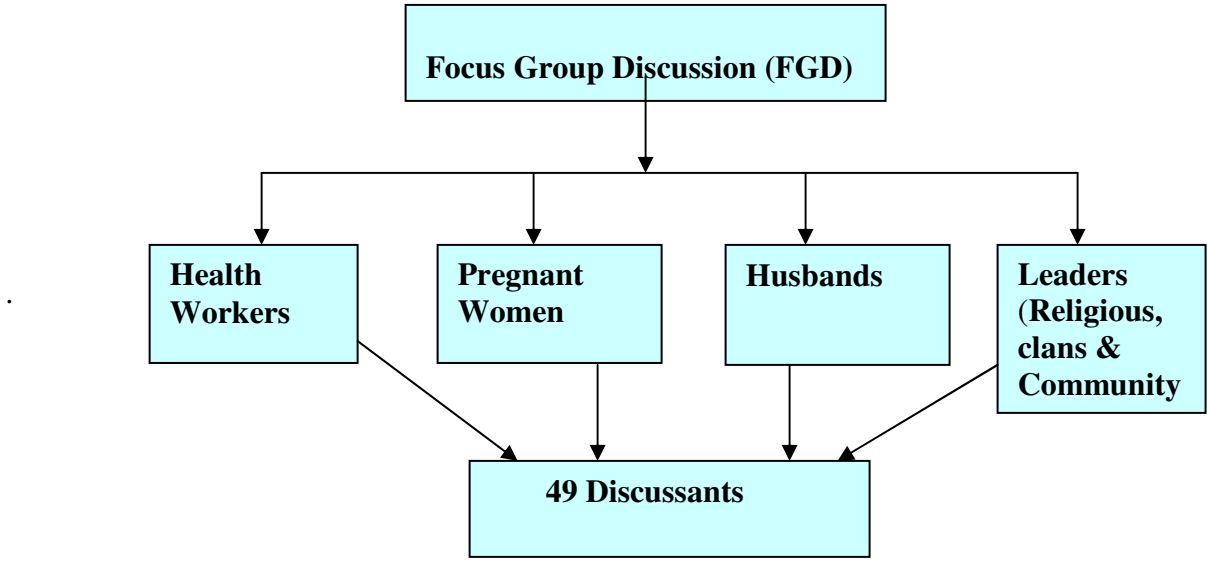


Figure 2.B Schematic presentation of sampling procedure for qualitative method



4.7 Measuring instruments

4.7.1 Quantitative

4.7.1.1 Interview:

A face- to- face interview was conducted by using structure questionnaire specially developed for this purpose having the information on socio-demographic characteristics, economic status, and maternal healthcare utilization (ANC and delivery) by door-to-door interviewing the respondents (Annex iii).

4.7.1.2 Questionnaire Development

After reviewing of relevant literatures, many that could address the objectives of the study were gathered and adapted from previous similar studies and other materials. The questions and statements were grouped and arranged according to the particular that they can address. After extensive revision, the final version of the English questionnaire was developed. An individual who have a very good ability of both English and Amharic languages translate the English version to Amharic. Another individual of similar ability then translated the final or the agreed Amharic version of the questionnaire back to English with the first to check for any inconsistencies or distortion in the meaning of words in the content of the instrument.

4.7.2 Qualitative

Semi-structured open ended and non-directive focus group discussion (FGD) guide (Annex iii) was designed having seven sections in order to triangulate responses obtained by the structured questionnaire on the knowledge of maternal healthcare utilization (specifically antenatal care and delivery care, knowledge of danger signs of pregnancy and delivery, primary reasons for ANC non-attendance, and type of assistances during delivery). Among the major variables thought to affect the harmony of the discussion were sex, husbands' attitude and local leaders (community, religious, and elderly men) were taken as categorizing criteria. Accordingly, a total of seven

FGDs were formed in a group of pregnant women, husbands, and local leaders including health workers. Each of the groups consisted six to eight members as recommended by the WHO.

4.8 Study variables

4.8.1 Dependent variables

- Antenatal care attendance, and place of delivery

4.8.2 Independent variables

- Socio-demographic factors (age of mother, religion, ethnicity, marital status, occupation, education, monthly income, previous bad obstetric history, gravidity, parity, and family size).
- Individual factors (attitude to wards pregnancy & delivery, husbands attitude).
- Knowledge of dangerous health problems related to pregnancy, perceived susceptibility to those problems, and illness experience for the recent pregnancy.
- Health service barriers (cost of health service, distance, women's opinion about the quality of care).

4.9 Data Collection process

4.9.1 Recruiting and training

4.9.1.1 Quantitative

Ten female data collectors, who completed grade 12 and could speak local language were hired. Two nurses with diploma for supervision were selected from Ayssaita District Health Office and health center. Both the interviewers and supervisors were given three days training before the actual work about the aim of study, study procedures, and data collection techniques go through the questionnaires question by question, art of interviewing, ways of collecting the data and clarification was given on each doubt. Practical exercise was made through peer interviewer.

They also provided an interview guide prepared in Amharic, which was developed before the training.

Criteria for selection of data collectors:

- Being female and had previous experience were priority, Grade 12 completed, knew the local language
- Known to be honest and diligent, willing to face difficulties that may arise during the process of interviewing
- Know the study area very well and successful performance during the training

Pre-testing

The pre test of the questionnaire was carried out in one of the kebeles in Ayssaita outside of the selected kebeles that has similar socio-demographics characteristics with the people in both towns. A total of 30 respondents were interviewed. On average, it took 45minutes(range from 35 to 60) to complete the interview. Both the interviewers and supervisors assessed clarity, understandability, and completeness of the questions, and then the results were edited and coded.

Data collection

After completing the result of the pre-tested, discussion was made with supervisors, and data collectors and care was taken not to include the kebele where the pretest was made. Then, the data were collected using house-to-house interview questions, which consists of 59 variables, categorized into five parts. A maximal effort has been made to insure privacy during interview. Supervisors were around every day to control as well as to support data collectors. The actual data collection process was carried out from October to November 2004.

Supervision

During the actual data collection data collectors were assigned for each supervisor. The supervisors had checked the activities of each data collectors by walking with them in each kebele and some times-random spot-checking of the households to ensure reliability of the data collected. Each night the supervisors had checked all the filled questionnaires for completion, clarity and proper identification of the respondents. Then, the principal investigator randomly checked at least 10% of the supervisors' work each day for completeness and relevancies. Incomplete and unclear questionnaires were returned back to the interviewers to the next morning to get it corrected.

4.9.1.2 Qualitative

The principal investigator moderated the discussion of the male group, while the female groups were by an experienced female nurse with diploma holder with respect to note takers and\or assistances during the discussion were identified. A one-day training and practical exercise carried out at Ayssaita District Health Office. Group discussions with their respective discussants were conducted in a quiet Kebele hall and District health office. Each discussion was tape recorded not to miss all issues discussed, and finally the principal investigator transcribed the tape recorded after each section, translated and interpreted. Although, divers opinions were expressed with in each group, preliminary coding of transcripts was done and consists theme that are directly related to the objective this study were identified.

4.10 Operational Definitions

Pregnant woman in the third trimester: -a woman who claims to be seven, eight, and nine months of pregnancy.

Access to health facility: the pregnant women being no more than an hour from health facility by local means of transportation, or availability of health facility with in one hour's walk or travel (47).

Antenatal care attended: Pregnant women who had attended antenatal clinics during the recent pregnancy at least once.

Antenatal care non-attended: A pregnant women who had not attended antenatal care clinics at all during the recent pregnancy.

Skilled attendance: to people with midwifery skills (doctors, midwifes, nurses and TTBAs) who have been trained in the skills necessary to manage normal delivery, diagnose and refer obstetric complications.

Traditional birth attendants: A birth attendant who initially acquired the ability by delivering babies herself or through apprenticeship to other TBAs.

Trained Traditional birth attendants: those TBAs who have undergone subsequent training and are integrated in the formal healthcare system.

Towns: are localities in which urban kebele administrations that have 1000 or more people whose inhabitants are primarily engaged in non-agricultural activities as town irrespective of whether urban administration has been established or not

Permanent residence: lived in the study area more than one year at the time of the survey.

4.11 Data Quality Assurance

The quality of data was assured by properly designed and pre-tested of the questionnaire, proper training of the interviewers and supervisors of the data collection procedures, proper categorization and coding of the questionnaire. Everyday, 10% of the computed questionnaires were reviewed and checked for completeness and relevance by the supervisors and principal

investigator and the necessary feedback offered to data collectors in the next morning before the actual procedure. For the qualitative the kebeles administrator, the head of the District desk, and the supervisors, with principal investigator were used to identify eligible discussants.

4.12 Data processing and analysis

After data collection, each questionnaire checked visually for completeness and end coding at the right margin of the questionnaire followed by almost all variables in the questionnaire. The corresponding code number was written carefully at each margin. The template scheme for data entry was developed and pre-tested for ranges, skipping patterns and allowed legal values by entering 30 questionnaires. After this validation the principal investigator entered the data using EPI INFO version 6.04 and was exported to SPSS version 11.0 statistical software packages for data cleaning and analysis. Computer frequencies and summary statistics (mean, standard deviation, percentage, and rang) were used to describe the study population in relation to relevant variables and outlines. Any errors identified at this time were corrected after revision of the original data using the code numbers and statistical commands.

Frequencies and measures of variation were used to describe the study population in relation to socio-demographic and other relevant variables. The degree of association between independent and dependent variables were assessed using crude odds ratio with 95% confidence interval. Binary logistic regression analysis was performed using SPSS version 11.0 statistical software program to control the potential confounding variables. Logistic regression was considered the more appropriate statistical method to apply here because most of the dependant variables are categorical and dichotomous. Calculating odds ratio were to measure strength of association, 95% CI, and p-values for statistical significance with the determinant factors were assessed. The qualitative data was compiled and summarized manually.

4.13 Ethical clearance

The proposal was reviewed by the Department of Community Health and Faculty of Medicine ethical clearance Committee. The survey was commenced after written consent obtained from Afar Regional Health Bureau and District council. Informed verbal consent was secured for each study subjects. Each respondent were informed about the objective of the study and assurance of confidentiality. At the end of each interview session, respondents who were non-attendants of ANC were advised to attend prenatal and delivery care services for the present (next) pregnancy.

4.14 Communication of the result

The final report will be presented as partial fulfillment of the degree of Masters of Public Health to Department of Community Health, Faculty of Medicine Addis Ababa University, and a copy of it will be offered to FMOH Family health department, to Afar regional health Bureau, Ayssaita and Dubte Health Offices and Dissemination through publication (local or international journals), presentation on annual Scientific meeting, conferences, etc.

5. Results

In this study a total of 642 women in their third trimester of pregnancy and women with in 12 months post delivery were interviewed from four kebeles of Ayssaita and Dubte towns. All eligible women in the selected samples responded to the questionnaire.

5.1 Socio-demographic characteristics of the respondents

Four hundred eighty six (76.7%) of the respondents were in the age group of 20-34 years, with a mean age of 25.3±(5.6) years and the mean number of people living in a household was 4.4± (2.00). Almost half 313(48.8%) of the respondents were unable to read and write, 225 (35%) attended primary school and 104(16.5%) had completed secondary high school and higher education. Out of the total respondents 519(80.8%) were Muslims and 123(19.2%) were Christians. The majorities were Amhara 426(66.4%) followed by Afar ethnic group 161(25%) (Table 1)

Regarding the respondents' occupation most were housewives 520(81%), followed by government employee 64(10.0%). The majorities, 560 (87.2%) were married and 82(12.8%)were single. Two hundred thirty nine (37.2%) of the respondents had monthly income above (≥500Birr per month), while only 55(8.6%) reported <100Birr per month. The average monthly income was 450.30±(441.90) Birr and the mean numbers of people living in a household were 4.4±(2.00)(Table 1).

Table 1 Socio-demographic characteristic of respondents in Ayssaita and Dubti towns Afar Region, northeast, of Ethiopia October –November 2004

Variables	Number (n=642)	Percentage
Age		
15-19 years	90	14.0
20-34 years	486	76.7
35-49 years	66	10.3
Mean $\pm$ SD		(25.28$\pm$5.6)
Educational status		
Unable to read & write	313	48.8
Primary school	225	35.0
Secondary and above	104	16.2
Ethnicity		
Afar	161	25.0
Amhara	426	66.4
* Others	55	8.6
Occupation		
Housewife	520	81.0
Civil servant	64	10.0
** Others	58	9.0
Religion		
Muslim	519	80.8
Christian	123	19.2
Marital Status		
Married	560	87.2
Single	82	12.8
Income\month		
<100 Birr	55	8.6
100-499 Birr	348	54.2
$\geq$500 Birr	239	37.2
Mean $\pm$ SD		(450.30$\pm$441.90)
Family Size		
1-2	68	10.6
3-4	336	51.6
$\geq$5	246	37.8
Mean $\pm$ SD		(4.42 $\pm$ 2.00)

N.B * *Arab, Argoba, Guraghe and Somali*
**CSW, daily labourer, living with family*

5.2 Obstetric characteristics of the respondents

Almost half, 309(48.1%) of the women were pregnant before the age of 20 years and 333(51.9%) were above 20 years of age when they were first pregnant with mean age at first pregnancy being 20.3±(3.7). Of all the respondents 62(9.7%) women had five or more children. Moreover, a sizable proportion 76(11.8%)of women had five or more pregnancies. Majority of the women 510(79.4%) reported that their last pregnancy or delivery has been planned, where as 132 (20.6%) said that it was not planned (Table 2.)

Table.2 Obstetrics characteristics of the respondents in Ayssaita and Dubti towns, Afar Region, North East of Ethiopia Oct.-Nov.2004

Variables	Number (n=642)	Percent (%)
Age at 1st pregnancy		
<20 years	309	48.1
≥20 years	333	51.9
Mean ± SD		20.3 ± 3.7
Gravida		
1	262	40.8
2-4	304	47.4
≥5	76	11.8
Parity		
0-1	281	43.7
2-4	299	46.6
≥5	62	9.7
Number of live births		
0	37	5.8
1	252	39.3
2-4	294	45.8
≥5	59	9.2
Ever had abortion		
No	613	95.5
Yes	29	4.5
Ever had stillbirth		
No	620	96.6
Yes	22	3.4
Ever had infant death		
No	575	89.6
Yes	67	10.4
Was pregnancy planned?		
Yes	510	79.4
No	132	20.6

5.3 Maternal health care utilization

Out of the women included in the study 511(79.6%) had at least one prenatal visit during their last pregnancy while 131(20.4%) had none. Most 374(73.2%) of the women made their first prenatal visit in their second trimester of pregnancy, while 76(14.7%) in their first trimester and another 64(12.3%) women attended in their third trimester of pregnancy. Among the prenatal service users 270(52.8%) had less than four antenatal contacts and the rest 241(47.2%) reported to have four or more prenatal visits at the time of the interview (Table 3).

Concerning place of last delivery, 348 (54.2%) of the deliveries took place at home, and 294(45.8%) at health institution (Table 3). Three hundred twenty four (93.7%) of home deliveries were attended by TBAs (TTBAs, untrained TBAs, relatives\ neighbors) (Table 3).

At least two injections of tetanus toxoid were reported by the majority 325(72.9%) of antenatal care attendees. From ANC users the majority 377 (73.8%) had never received health education during any visit while only 134(26.2%) reported having attended some health education (Table 3).

Table.3. Maternal health care utilization in Ayssaita and Dubti towns, Afar Region, North Eastern, North East of Ethiopia Oct.-Nov.2004

Maternal healthcare services	Number	Percentage
Received ANC	(n=642)	
Yes	511	79.6
No	131	20.4
Timing of 1st ANC	(n=511)	
1st trimester	73	14.3
2nd trimester	374	73.2
3rd trimester	64	12.5
Mean±SD		2.00±0.52
Frequency of ANC	(n=511)	
< Four visit	270	52.8
≥ Four visits	241	47.2
Place of delivery	(n=642)	
Health institution	294	45.8
Home	348	54.2
Type of delivery assistance among home deliveries	(n=346)	
TBAs	324	93.7
*Others	22	6.3
Tetanus toxoid (TT) **vaccine**	(n=511)	
Yes	446	87.3
No	65	12.7
Number of Tetanus toxoid (TT) vaccine	(n=446)	
Single dose	121	27.1
≥ Two dose	325	72.9
Tetanus toxoid (TT) **vaccine card**	(n=446)	
Yes	383	85.9
No	63	14.1
Health education received during ANC	(n=511)	
Yes	134	26.2
No	377	73.8

*= *Health professionals, mother herself or no one assisted*

5.4 Respondents knowledge on antenatal care services

Among ANC users and non-users the majority 563(87.7%) reported that ANC check-up has benefits to the health of both the mother and children, while 33(5.1%) mentioned its benefit only for the health of the child, and another 16(2.5%)mentioned that it is beneficial for the health of mother only (Table 4).

Regarding sources of information about ANC services, 309(48.1%) mentioned health institution, and 163(25.4%) mentioned the radio\TV, while others like school, women's group, friends and neighborhoods account for 170(26.5%). ANC users gave different reasons for initiating ANC visit for the first time. Among the several reasons given, 433(84.7%) were for medical check up and regular follow up, while 76(14.9%) were for health problems, and 2(0.4%) were because advised by family. The majority 544(84.7%) of husbands had positive attitude towards ANC and maternity care services while only 98(15.3%) had negative attitude towards (Table 4).

Concerning the recent pregnancy the majority 425(66.2%) did not have any illness while 217(33.8%)had experienced some health problems. The majority 459(71.5%)did not perceive susceptibility to dangerous health problems during pregnancy and delivery while only 183(28.5%)had such perception (Table 4)

Table.4.Respondents' knowledge on antenatal care services, in Ayssaita and Dubti towns, Afar Region, North Eastern of Ethiopia October –November 2004

Variables	Number	Percentage
Benefits of ANC check up	(n=642)	
Maternal health	16	2.5
Child health	33	5.1
Both maternal and child health	563	87.7
Do not know	30	4.7
Place of ANC follow up	(n=642)	
Health institution	602	93.8
Other place	40	6.2
Sources of ANC information	(n=642)	
Health institution	309	48.1
Radio\TV	163	25.4
Others	170	26.5
Main reason to initiate ANC for the 1st time	(n=511)	
Health problem	76	14.9
To start regular check up	433	84.7
Others	2	0.4
Husband attitude	(n=642)	
Positive	544	84.7
Negative	98	15.3
Illness experienced for the recent pregnancy	(n=642)	
Yes	217	33.8
No	425	66.2
Perceived susceptibility to dangerous health problems	(n=642)	
Yes	183	28.5
No	459	71.5

5.5 Respondents' knowledge on danger signs of pregnancy &childbirth, and main reasons for ANC non-attendance

Out of the total women who said, "yes" regarding to the knowledge of danger signs of pregnancy related health problems, most of the respondents able to name most of the accepted danger signs: hypertension during pregnancy 268(92.4%), severe anemia 173(59.7%, persistent vomiting 131(45.2%), and severe headache 131(45.2%), mal-position of the foetus 58(20%), and prolonged labour 58(20%), vaginal bleeding 48(16.6%), and others (Figure 3).

On the other hand, women indicated the primary reasons for not attending ANC during their pregnancy to be that no illness had occurred during the recent pregnancy 84(63.2%, while 81(62.8%) of women lack of awareness\knowledge about ANC follow up, and 42(31.8%) distant health service, 41(30.8%) work overload, 17 (12.9%) and others (Figure 4).

Figure. 3: Percentage distribution of respondents' knowledge on danger signs of pregnancy, and childbirth in Ayssaita and Dubti towns, Afar Region, Ethiopia October-November 2004, (n=290)

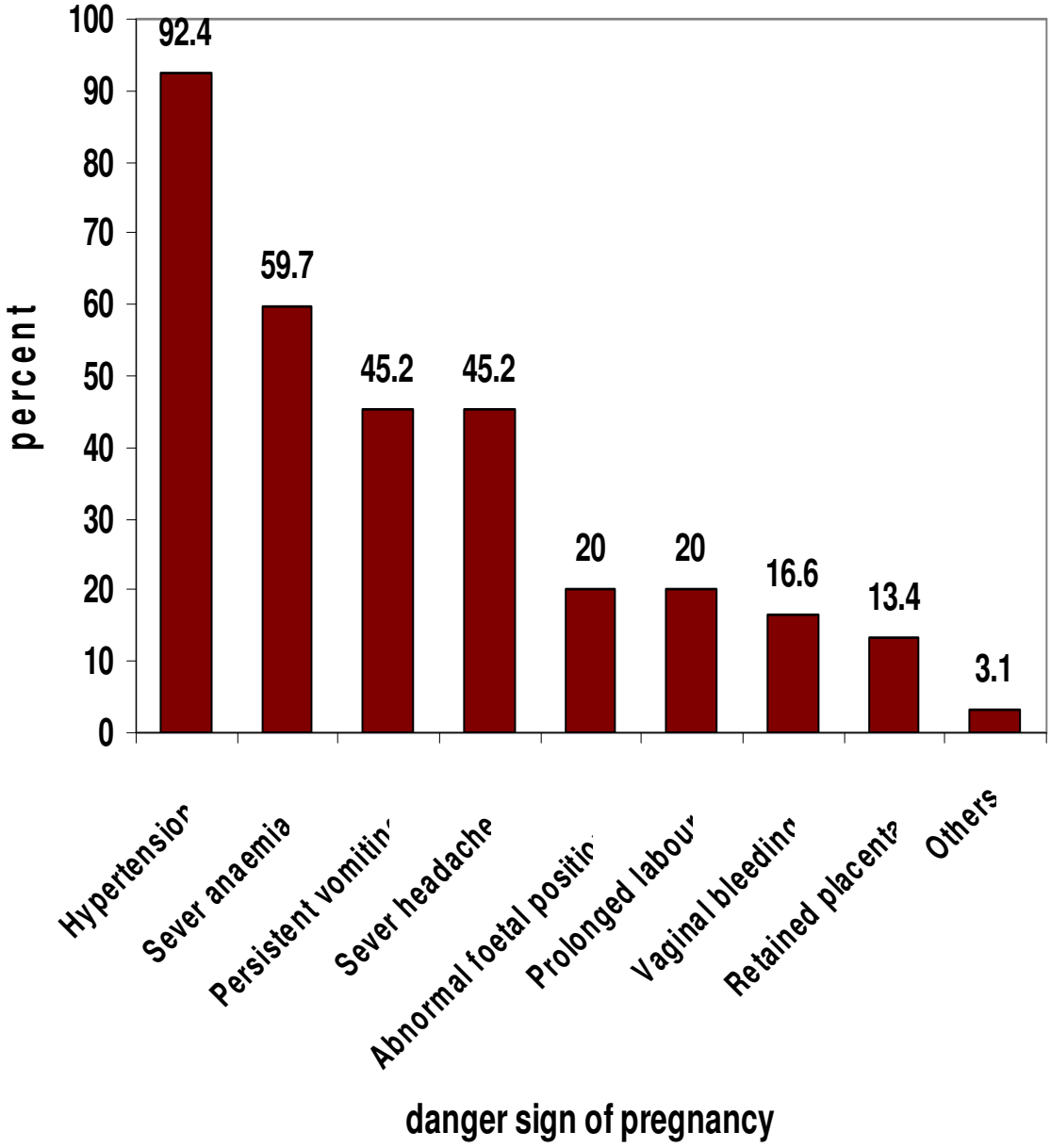
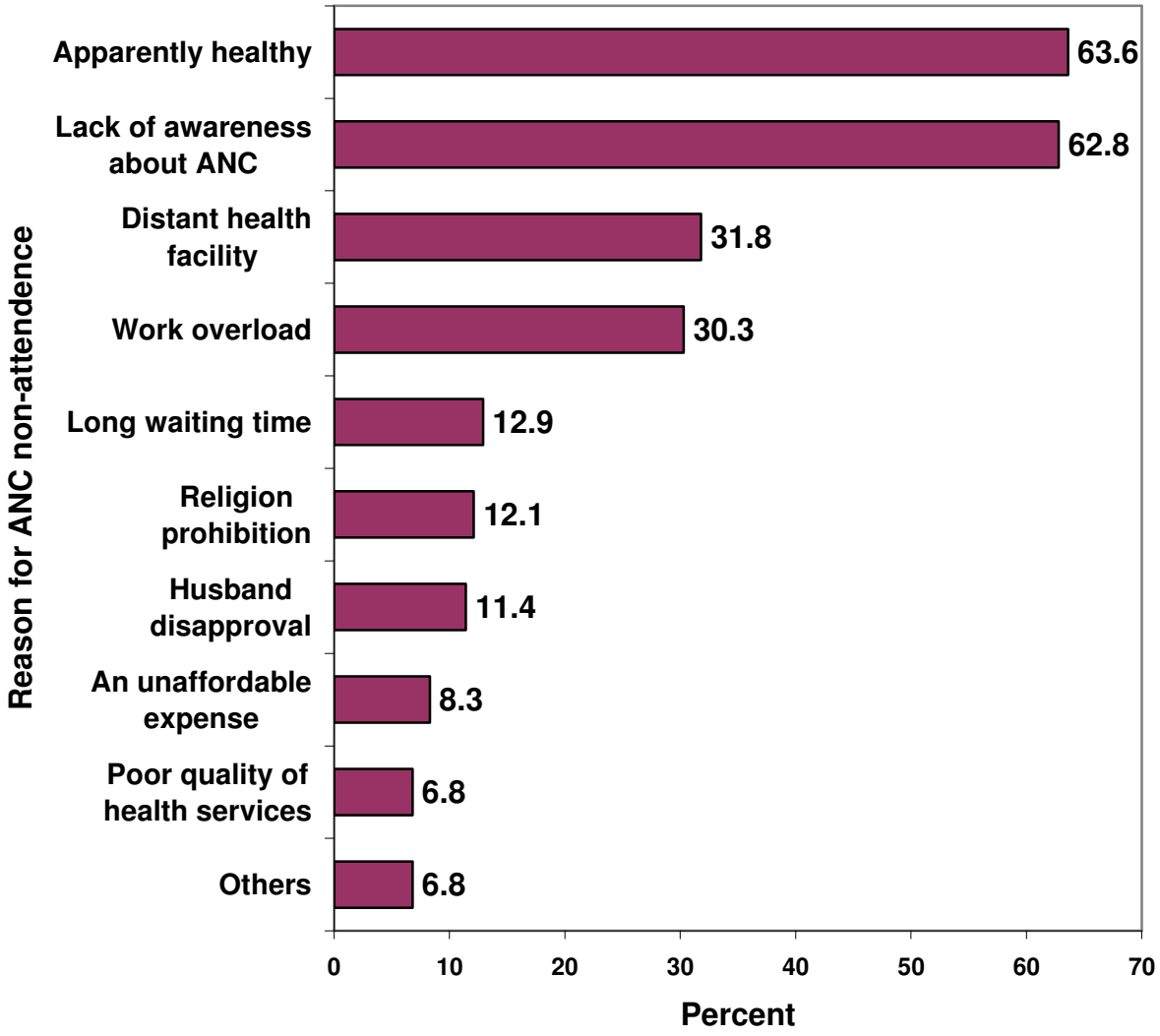


Figure. 4: Reasons for not attend ANC in Ayssaita and Dubti towns, Afar Region, north East of Ethiopia October- November 2004 (n=131)



5.6 Health service factors

Regarding the health service factors of all the ANC attendees 108(21.1%) women paid for ANC services and the majority 56(51.9%) said fair, and 43(39.8%) reported very small with the average payment of 15.60 ± (21.00). Forty five percent of women who mentioned waiting time as a problem, waited for mean time 1.50 ±(1.30) hours. Additionally both user and non-user were asked about the perception of distance from health facility, and majority of the respondents 349(67.4%) reported as an average distance. The mean travel time by the usual means of transport was 1.00 ± (0.70) hours (Table 5).

Table.5.Percentage distribution of health services factors in ANC users in Ayssaita and Dubti towns, Afar Region, North East of Ethiopia Oct.-Nov.2004

Variables	ANC attendance	Percent
Pay for ANC	(n=511)	
Yes	108	21.1
No	403	78.9
Mean± SD		(15.64±21.06)
Perceptions of payment for ANC	(n=108)	
An unaffordable	9	8.3
Fair	56	51.9
Very small	43	39.8
Amount paid for ANC	(n=108)	
<10.00 Birr	65	60.2
10-50 Birr	37	34.3
≥50 Birr	6	5.6
Mean± SD		15.60±21.00
Waiting time as a problem	(n=511)	
Yes	234	45.8
No	244	47.7
Do not know	33	6.5
Waiting time (in hours)	(n=511)	
<1	322	63.0
1-2	93	18.2
>2	96	18.8
Mean± SD		(1.50 ±1.30)
Perception of distance from health facility	(n=511)	
Very close	107	20.9
Average	343	67.2
Too far	61	11.9
Average time spent from home to health facility (hrs)	(n=511)	
<1	171	33.5
1-2	270	52.8
≥2	70	13.7
Men±SD		(1.00 ± 0.70)

5.7 Respondents perception on the quality of the ANC service

Out of the ANC users asked about the personal respect of health workers at ANC unit the majority 478(93.5%) reported that health workers were respectful for them. As to waiting time for ANC services 271(53.0%) said short time, 199(38.9%) said fair time while only 41(8.1%) reported long time. Women also asked about the situation of privacy at ANC unit 354(69.3%)believe that there was a problem of privacy, 65(12.7%) no problem, and 92(18.0%) do not know (Table 6).

Three hundred twenty four (63.4%) of women said there was good quality of services, 149 (29.2%) satisfactory, while only 38(7.4%) poor. Four hundred ninety (95.9%) confidence on the service provided and only 21(4.1) did not. Women also were questioned to rank the behaviour of health workers at ANC unit 140(27.4%)very good, 298(58.6%)good, 63 (11.9%) fair, and only 12(2.3%) reported badly (Table 6)

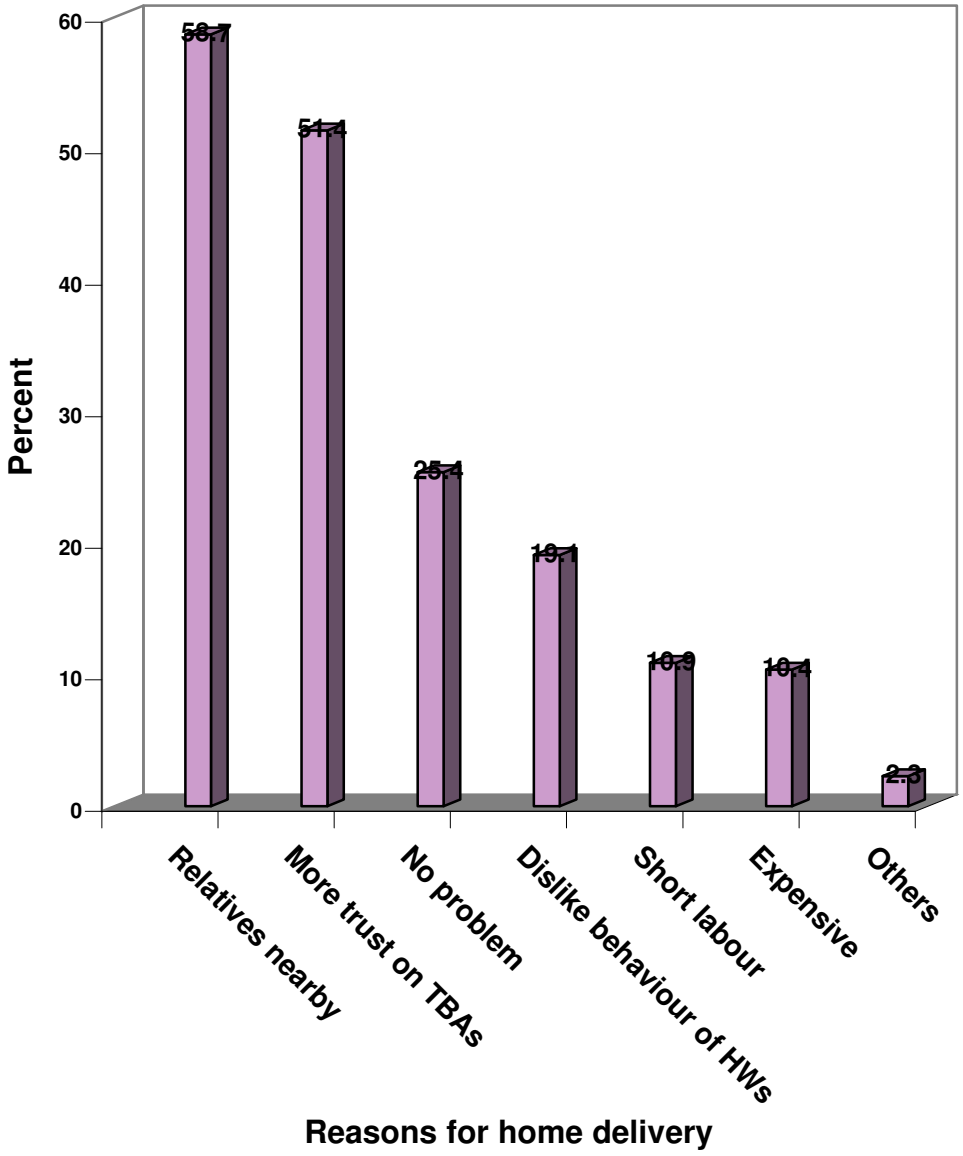
Table.6.Perception on the quality of antenatal and delivery care service in Ayssaita and Dubti towns, Afar Region, North East of Ethiopia Oct.-Nov.2004

Variables	ANC user (n=511)	Percentage
Personnel respect of health workers at ANC unit		
Yes	478	93.5
No	27	5.3
Do not know	6	1.2
Waiting time for ANC		
Short	271	53.0
Fair	199	38.9
Long	41	8.1
Lack of privacy at ANC unit		
Yes	354	69.3
No	65	12.7
Do not know	92	18.0
Quality of ANC services		
Good	324	63.4
Satisfactory	149	29.2
Poor	38	7.4
Confidence on ANC services		
Yes	490	95.9
No	21	4.1
Rank behaviour of health workers		
Very good	140	27.4
Good	298	58.3
Fair	61	11.9
Bad	12	2.3

5.8 Reasons for preferred to home delivery.

Most 203(58.7%) of pregnant women wished to deliver at home where close relatives nearby, 178(51.4%) of women more trust on TBAs or relatives than health professionals at health institution, and the other reasons were being apparently healthy 88(25.4%), dislike the behaviour of heath workers 66(19.8%), short labour 38 (13.9%), and others (no to be seen by male health workers, prohibition by religion, refusal by the hospital when labour too early, and women whose mother is TBAs constitutes about 8(2.2%) (Figure 5).

Figure.5. Reason for preferred to home delivery in Ayssaita and Dubti towns Afar Region North East of Ethiopia October-November 2004 (n=146)



5.9 Socio-demographic determinants of ANC utilization

Mothers whose ages as 35years and above were less likely to utilize the ANC service than women whose age were 15-19 years (OR=0.39, 95%CI=0.19,0.79). The other socio-demographic variable was husbands' attitude towards ANC services. Women whose husbands have positive attitude towards ANC were more likely to utilize ANC than women whose husbands were negative towards ANC (OR=21.21,95% CI= 12.27,36.88) (Table 7).

Mothers whose educational levels were primary, and secondary and\or above were more likely to attend ANC than illiterate women (OR=2.28, 95% CI=1.43, 3.64) and (OR=3.68, 95% CI=1.76, 7.88). Similarly, women whose monthly income100-499Birr and above were more likely to attend ANC than women whose monthly income lower than 100Birr \month. Although mothers' educational level and household monthly income were identified to have an effect on antenatal care attendance (OR=2.71,95% CI=1.43,5.11) and (OR=4.19,95% CI=2.09,8.39). However, in this study both the respondents' educational level and household monthly income did not show statistically significant association with antenatal care attendance when they were entered in to the logistic regression model (Table 7).

Table.7 Selected Socio-demographic determinants of ANC attendance in Ayssaita and Dubti towns, Afar Region, North East of Ethiopia Oct.-Nov.2004

Variables	ANC attendance		Crude	Adjusted*
	Yes (n=511)	No (n=131)	OR 95% CI	OR 95% CI
Age at the interview				
15-19 years	72	18	1.00+	1.00
20-34 years	397	89	1.12(0.61,2.03)	**0.36(0.14, 0.93)***
35-49 years	42	24	**0.44(0.20,0.95)***	**0.39 (0.19, 0.79)***
Educational status				
Illiterate	225	88	1.00	1.00
Primary school	192	33	**2.28(1.43, 3.64)***	1.54(0.63, 3.78)
Secondary and above	94	10	**3.68(1.76,7.88)***	0.74(0.29, 1.85)
Ethnicity				
Afar	111	50	1.00	1.00
Amhara	354	72	**2.21(1.43,3.44)***	2.51(0.90, 7.02)
Others	46	9	2.30(0.99,5.49)	1.78(0.68, 4.62)
Occupation				
Housewife	477	111	1.00	1.00
Others	34	20	**0.40(0.21,0.74)***	1.03(0.38, 2.76)
Religion				
Muslim	410	109	1.00	1.00
Christian	101	22	1.22(0.7,2.09)	0.90(0.46,1.75)
Marital Status				
Married	461	99	1.00	1.00
Single	50	32	0.34(0.20,0.57)	0.95(0.39,2.30)
Income\month				
<100 Birr	32	23	1.00	1.00
100-499 Birr	275	73	**2.71(1.43, 5.11)***	**0.31(0.10, 0.95)***
≥500 Birr	204	35	**4.19(2.09, 8.39)***	0.70(0.39,1.26)
Family Size				
1-2	45	23	1.00	1.00
3-4	282	49	2.94(1.57,5.50)	1.76(0.73,4.26)
≥5	184	59	2.22(1.25, 3.94)	0.79(0.4,1.40)
Husbands attitude				
Positive	484	60	**21.21(12.27,36.88)****	**25.05(12.42,50.55)****
Negative	27	71	1.00	1.00
Average travel time from home to facility				
<1 hours	171	36	1.00	1.00
1-2 hours	270	57	1.00(0.61,1.62)	0.60(0.30,1.20)
≥2 hours	70	38	0.31(0.22,0.68)	0.54(0.29, 1.02)

Adjusted* =*for age, education, ethnicity, occupation, religion, marital status, income, family size, husbands attitude, and travel time.*

** =Significant results, +=Reference category, **=wide confidence interval*

5.10 Obstetrics and health related determinants of ANC utilization

The number of pregnancy five or more and being multi-gravida were found to be strong obstetric predictor of ANC utilization. As order of pregnancies decreases utilization of ANC is more likely than women whose order of pregnancy five or more (OR=2.25,95%CI=1.29,4.61). Women whose pregnancy were plan and wanted were more likely to utilize ANC than women whose pregnancy were both unplanned and unwanted (OR= 2.21,95% CI=1.40,3.47). Illness experience and perceived morbidity were statistically significant with ANC utilization (OR=4.66, 95% CI=2.61, 8.43), and (OR=2.60,95% CI= 1.52,4.48).

Mothers who had zero to one and two to four births had more likely to attend ANC than mothers whose birth order were five and above (OR=2.31, 95% CI=1.22, 4.38) and (OR=2.44, 95% CI=1.99, 4.61). Similarly, mothers who had order of pregnancy one and two to four had more likely to attend ANC as compared to mothers whose order of pregnancies five and above (OR=1.32, 95% CI=1.26,4.25).

The number of pregnancy and parity found to be as determinants of maternal health care utilization repeatedly. However, the result of the present study revealed that respondent gravidity and parity orders were not statistically significant when they entered in the logistic regression models (Table.8).

Table.8. Selected obstetric and health related determinant of ANC use in Ayssaita and Dubte towns, Afar Region, North East of Ethiopia Oct.-Nov.2004

Variables	ANC attendance		Crude	Adjusted *
	Yes (n=511)	No (n=131)	OR 95% CI	OR 95% CI
Age at 1st pregnancy				
<20 years	249	60	1.00+	1.00
≥ 20 years	262	71	0.89(0.59,1.33)	0.71(0.47,1.09)
Number of pregnancy	214	48	**1.32(1.26,4.25)***	2.73(0.89, 8.30)
1	247	57	**2.25(1.25,4.06)***	6.12(0.90, 41.37)
2-4	50	26	1.00	1.00
≥ 5				
Parity				
0-1	227	54	**2.31(1.22, 4.36)***	0.44(0.14,1.31)
2-4	244	55	**2.44(1.29,4.61)***	0.50(0.07, 3.51)
≥ 5	40	22	1.00	1.00
Ever had abortion				
No	488	125	1.00	1.00
Yes	23	6	0.98(0.37,2.75)	1.45(0.45, 4.66)
Ever had stillbirth				
No	494	126	1.00	1.00
Yes	17	5	0.87(0.29,2.74)	1.01(0.33,3.09)
Ever had infant death	457	118	1.00	1.00
No	54	13	1.07(0.55,2.14)	1.31(0.61,2.81)
Yes				
Plan pregnancy				
Yes	421	89	**2.21(1.40,3.47)***	**2.68(1.68, 4.30)***
No	90	42	1.00	1.00
Illness experience for the current\past pregnancy				
Yes	201	16	**4.66(2.61,8.43)***	**4.55(2.55, 8.12)***
No	310	115	1.00	1.00
Perceived susceptibility to dangerous health problems				
Yes	163	20	**2.60(1.52,4.48)***	**1.88(1.09,3.25)***
No	348	111	1.00	1.00

Adjusted* =*for age at first pregnancy, number of pregnancy, parity, ever had abortion, ever had stillborn, ever had infant death, plan pregnancy, illness experience, and perceived morbidity.*

** =Significant results*

+=Reference category

5.11 Socio-demographic determinants of place of delivery

Mothers whose educational status were secondary high school and\or above were more likely to give birth at health institution than women with other level of education (OR=5.55,95% CI=3.30, 9.38). The other socio-demographic variable was religion of the respondent. Women whose religion was Christian were more likely to prefer health institution delivery than women whose religion was Muslim (OR= 2.77,95% CI=1.80,4.27).

Husbands' attitude also a factor associated with utilization of skilled attendances at birth. Mother whose husbands positive to wards ANC services were more likely to deliver at the health institution than women whose husbands negative to wards ANC services (OR=3.96, 95% CI=2.29,6.89). Living standard of the household was an important predictor of institutional delivery. Women whose monthly incomes above ($\geq$ 500Birr per month) were three times more likely to deliver their babies in the health institution than those with lower than 100Birr per month (Table 9).

Table.9.Socio-demographic determinants of place of delivery in Ayssaita and Dubte towns, Afar Region, North East of Ethiopia Oct.-Nov.2004

Variables	Place of delivery		Crude	Adjusted *
	*HI (n=294)	Home (n=348)	OR 95% CI	OR 95% CI
Age				
15-19 years	46	44	1.00+	1.00
20-34 years	225	261	0.82(0.51,1.32)	0.61(0.28,1.32)
35-49 years	23	43	0.51(0.25,1.03)	0.73(0.39,1.35)
Educational status				
Illiterate	110	203	1.00	1.00
Primary school	107	118	1.67(1.16,2.41)*	2.84(1.53,5.27)*
Secondary and above	77	27	**5.26(3.12,8.92)***	**2.22(1.22,4.03)***
Ethnicity				
Afar	60	101	1.00	1.00
Amhara	206	220	**1.58(1.07,2.33)***	1.22(0.6,2.44)
Others	28	27	1.75(0.90,3.39)	1.32(0.71,2.47)
Occupation				
Housewife	220	304	1.00	1.00
Civil servant	45	19	**3.38(1.86,6.19)***	1.43(0.73,2.79)
Others	29	25	**1.76(1.06,2.91)***	0.93(0.39,2.22)
Religion				
Muslim	213	306	1.00	1.00
Christian	81	42	**2.77(1.80,4.27)***	**2.34(1.47,3.72)***
Marital Status				
Married	255	305	1.00	1.00
Single	39	43	**1.75(1.06,2.91)***	1.40(0.69,2.85)
Income\month				
<100 Birr	19	36	1.00	1.00
100-499 Birr	137	211	1.23(0.65,2.33)	1.60(0.70,3.65)
≥ 500 Birr	138	101	**2.59(1.35,5.00)***	**1.55(1.04,2.31)***
Family Size				
1-2	39	29	1.00	1.00
3-4	156	175	0.66(0.38,1.16)	0.47(0.23,0.95)*
≥ 5	99	144	0.51(0.29,0.91)	0.96(0.65,1.43)
Husbands attitude				
Positive	274	270)	**3.96(2.29,6.89)***	**4.76(2.41,9.40)***
Negative	20	78	1.00	1.00
Travel time from home to health facility				
<1 hours	108	99	1.00	1.00
1-2 hours	144	183	0.72(0.50,1.04)	0.98(0.57,1.70)
≥ 2 hours	42	66	0.58(0.35,0.96)	1.13(0.80,1.87)

Adjusted* =*for age, education, ethnicity, occupation, religion, marital status, income, family size, husbands attitude, and travel time.*

** =Significant results, +=Reference category, HI* =Health institution*

5.12 Obstetrics and related determinants of place of delivery

Order of pregnancy five or more and being grand multipara found to be strong obstetrics predictor of preference to place of delivery. As order of pregnancy and parity for the first time preferences to delivery at the health facility were four times more likely than those who have orders of pregnancy and parity of five or more (OR=3.66,95% CI=1.96, 6.77) and (OR=3.80, 95% CI=1.95, 7.48) respectively. However, orders of pregnancy and parity with preference to place of delivery had association in the bivariant analysis but were not statistically significant in the multiple logistic regressions.

As expected, prenatal visit was found to be a strong predictor of skilled attendance at birth. Women who did not have any register antenatal visit were less likely to give birth at health facilities (OR=0.21,95% CI= 0.13,0.35)(Table 10).

Table.10 Selected obstetric and related determinant of place of delivery in Ayssaita and Dubte towns Afar Region, North East of Ethiopia Oct.-Nov.2004

Variables	Place of delivery		Crude	Adjusted
	HI (n=294)	Home (n=348)	OR 95% CI	OR 95% CI
Age at 1st pregnancy				
<20 years	131	178	1.00+	1.00
≥20	163	170	1.30(0.90,1.80)	1.31(0.94,1.83)
Number of pregnancy				
1	144	118	**3.66(1.99,6.77)***	1.00(0.33,2.76)
2-4	131	173	**2.27(1.25,4.17)***	2.18(0.38,12.61)
≥5	19	57	1.00	1.00
Parity				
0-1	154	127	**3.80(1.95,7.48)***	1.80(0.66,4.90)
2-4	125	174	**2.25(1.16,4.42)***	1.53(0.25,9.31)
≥5	15	47	1.00	1.00
Ever had abortion	281	332	1.00	1.00
No	13	16	0.96(0.43,2.15)	1.63(0.70,3.83)
Yes				
Ever had stillbirth	284	336	1.00	1.00
No	10	12	0.99(0.39,2.49)	1.42(0.56,3.61)
Yes				
Ever had infant death				
No	271	304	1.00	1.00
Yes	23	44	0.59(0.33,1.03)	0.81(0.44,1.48)
Plan pregnancy				
Yes	244	266	1.50(1.00,2.27)	0.72(0.47,1.10)
No	50	82	1.00	1.00
Received ANC				
Yes	269	242	1.00	1.00
No	25	106	**0.21(0.13,0.35)***	**0.22(0.14,0.30)***

Adjusted* =*for age at first pregnancy, number of pregnancy, parity, ever had abortion, ever had stillborn, ever had infant death, wanted pregnancy, and received ANC.*

* =*Significant results*

\+ =*Reference category*

HI= Health institution

5.13 Focus group discussion Summary results

A total of 49 participants were involved in seven groups of pregnant women, husbands, and elderly men, religious leaders &Clans representatives in one group, including health workers. Twenty specific research questions were prepared under seven major headings.

The group discussion started with general questions whether they had the knowledge on antenatal and delivery care services or not. Almost all of the groups defined ANC as a care provided during pregnancy to prevent any problems related to pregnancy and childbirth. ANC was also important for the well being of both the women and the foetus. Regarding delivery care services, most of the discussants agreed that delivery care is the care provided for women by trained health professional in the health institution. Majority of the group discussants able to name the danger signs of pregnancy related health problems. Such as sever hypertension, sever headache, sever anemia vaginal bleeding, etc.

The group discussants were asked the barriers that affect the utilization of antenatal care services. The main reasons by the most of the focus group discussants were lack of awareness, apparently healthy, work overload either in the household or in the field looking after cattle, long waiting time, cultural reasons, and confidence on local TBAs. Some of the discussants agreed that most of the women do not go to health institutions for fear they might be seen by male health workers and this is unacceptable by their religions and is preferred to be seen by female's attendance only.

One of the discussants from pregnant women said," some of the pregnant women believed that attending ANC is useless, let our creator does up on us what ever he likes. She added if you go to health institution you would acquire disease." Similarly, another pregnant women expressed that," Muslim women in general have less autonomy to interact with males outside of their

immediate families. They feel shy and do not like their body to be touched and seen by male attendance because of this belief, usually they don't attend ANC."
One of the tribe representative said that," in the Afar community, there is male dominance usually female children are not encouraged to attend school."

The group were also interviewed the choice of delivery site. The majority of the discussants reflected mixing of opinions with no clear choice of place of delivery. Some of the discussants agreed that the best place to deliver a child is a health institution. The majority of the discussants preferred home delivery. According to participants, home delivery has adequate privacy and assisted by TBAs with no payment.

However, one of the discussant stated that, "if they go to the health institution they will be seen by male delivery assistances with no adequate privacy, and unfriendly of some of the staffs who are not committed to their work." So, that they feel shy and therefore unless there are life threatening conditions they do not prefer to deliver at health institutions. On the other hand, *One of the married man discussants said, "most women attend antenatal care throughout the whole pregnancy period but usually they deliver at home because labour is unpredictable and usually arises suddenly without warning."*

From local cultural and religion point of view, all the discussants agreed that from religion point of view attending modern health care services is not prohibited. The Koran or Sharia does not say anything about ANC and delivery care services. However, a *religious leader said, "according to Muslim religion it is prohibited to touch a women's body exposed except for her husband. He added, the Muslim religion says also women's genital organ should be examined by female only". A pregnant women said, "In our society, our husbands need more children than women*

and also have less freedom of movement on their own outside the household. Husbands hesitate to send their wives to health institutions alone since one hand they feel that the women may abort and on the other husbands are not comfortable when male health workers see their wives.

Health workers were also invited to discuss the main reasons for low utilization of ANC and delivery care services in the study area. All discussants agreed that the main reasons for under utilization of maternal health care services were due to cultural influence from generation to generation, and existence of male dominance that led women to feel shy and to decreased utilization of maternal health care services. The majority of discussants commented that there is also a language barrier between the health care providers and the users. The majority of health workers assigned in the health institutions are not fluent in the local language.

They recommend the most feasible way to increase maternal health care utilization are to educate the community by their own language and ethnicity using local leaders, priority to train female midwifes, training and refreshment of traditional birth attendants and use the ***"Dague"*** system to disseminate information easily in Afar community. ***Dague*** is a local and traditional means of oral communication to disseminate new information in the local community.

6. Discussion

This community based cross-sectional study tried to assess factors affecting utilization of maternal healthcare services specifically ANC and delivery services in accessible kebeles in Ayssaita and Dubte towns of the Afar Region. In addition, the study tried to investigate sources of delivery care and types of delivery assistances. So far most studies on this subject have been limited to the highland areas of the country with little information on the lowlands and emerging regions like Afar Region.

In this study, it was learnt that close to 80% of women sought at least one ANC from modern health care providers. However, a considerable number do not make the minimal number of visits (four) as recommended by the WHO (3). This study finding is not consistent with the DHS (2000) in Ethiopia in the respective region, which showed that women received professionally assisted antenatal care only about 27%(23). This might be the fact that DHS (2000) Ethiopia was conducted in both rural and urban areas where as our study was exclusively urban environment to control distant from health services. The study conducted assessment of safe delivery utilization in Gondar and pregnancy outcome in Dire Dawa town showed similar findings, which was 79.1% and 78.0% respectively (40,56).

ANC is more effective in preventing adverse pregnancy outcomes when it is sought early in pregnancy and is continued throughout pregnancy (64). Only 14.3% of the pregnant women in this study made their first prenatal visits before the fourth month of pregnancy. This indicates that, women in the study area start ANC at relatively late stage of pregnancy. About 73 % of the mothers who attend ANC received at least two injections of tetanus toxoid during one year preceding the survey. The difference with that of ANC service coverage may be attributed to

miss opportunity at the health facility. Use of at least one requested antenatal care visit positively predicts use of institutional delivery services (4,7,41). The results of this survey revealed that women who have not had antenatal visits were less likely to seek institutional delivery than women who had the visits.

Maternal age is strongly correlated with maternal health care utilization (57,58). Since the younger and the older women differ in their experience and influence of the health seeking behaviour is likely to vary between younger and older women. In general, younger women is more likely to accept modern health care as they are likely to have greater experience to modern medicine and have greater amount of schooling than older women. Another possible explanation for this is that women pregnant with their first child were more cautious about their pregnancies and therefore sought out trained professionals. Older women on the other hand, tend to believe that modern health care is not as necessary due to experiences and accumulated knowledge from previous pregnancies and births and therefore likely to have more confidence about pregnancy and childbirth and thus may give less importance obtaining ANC (4,26,57,58).

Occupation of the mother is an important predictor for the utilization of ANC services in this study. In general, women with no formal job were less likely to use ANC services as compared to housewives. This result is consistent with previous studies in Ethiopia and South Indian States (2,37,49). Not working women were expected to have lower control over resources in the household. They are less likely to have knowledge about pregnancy and childbirth due to lesser freedom of movement outside the household and less likely to seek information on services available for pregnancy care. To the contrary, it is also argued that women's works in developing

countries are often poverty induced and therefore likely to have negative impact on the use of their health care services as it involves opportunity and monitory costs.

Positive husband or partner's attitude was significantly related to maternal health care utilization (in both ANC and institutional delivery). Involving husbands made a significance difference in the use of modern contraceptive use in other study. The result agreed an earlier study in Addis Ababa and Dire Dawa town (4,59). Therefore, efforts to improve husband or partner's attitude would probably increased utilization of health services by women.

Results of this study revealed that use of skilled birth attendants were significantly associated with the level of education. There is strong evidence from the analysis of the data to validate the prevailing association that many with some higher level of education (secondary and above) were five times more likely to use safe delivery services than those with lower education levels. Most maternal and child health studies conducted in developing countries strongly agree with this findings (26,57,60,61,). This may be the fact that, education is likely to enhance female autonomy so that women developed greater confidence and capacity to make decisions about their own health.

Psychological factors that include women's attitude towards their current pregnancy and weather or not the pregnancy was planned were found to affect maternal health care services here and elsewhere. There was a higher probability attendance among those mothers whose pregnancy were planned and wanted. The results of the present study are found to be similar with previous studies in Ethiopia and other developing countries. The uses of ANC were significantly more among women with wanted and plan pregnancies (4,6, 13).

Christian religious afflation has emerged as an important factor in the use of skilled attendance at birth. This study is consistent with study done in Ghana (63). The Church's role in the provision of health services in member communities in the country may explain the observed higher tendency to solicit antenatal check up and institutional delivery among mothers of this faith. Similar study in Indian state Kerala also showed that Muslim women were less likely to deliver their babies in the health institutions and to be assisted by the health professionals (57).

The number of previous pregnancies is an important determinant for utilization of ANC services in this study and it is consistent with study done in India (61). Higher gravidity decreased the likelihood of using the ANC services in the study areas. Lower utilization of maternal care services among higher gravidity (multi parious) women could be due to time and resource constraints faced by those with large families, and greater experience of higher parity women with pregnancy and childbirth.

This study also assessed women's reasons for ANC non-attendance. The most frequent reasons given by the individual and through FGD regarding for non- attending of ANC and delivery care services were lack of awareness about ANC, apparently healthy, distant health services, work overload, male health workers attendant, lack of privacy and unfriendly of health workers at who were not committed to their work at health facilities etc. This indicates that lack of understanding of the nature and the importance of ANC and delivery care services. The findings of the quantitative part of this study were consistent in the focus group discussion & previous studies in Ethiopia and elsewhere. Another interesting finding came up during the focus group discussion on factors related to non- attendance for ANC. Previous studies in Ethiopia indicate that the primary reasons for non- attendance were too busy, lack of awareness and being apparently of

healthy, which was the case in the quantitative part of this study. To the contrary in all the seven focus group discussions, the main reasons for non- attendance were due to bad beliefs, male assistances and lack of privacy at the health facility. Surprisingly, male health worker in the rural kebeles staff all the health institutions and there were no ANC attendance at health stations so far. Some of the pregnant women perceived that attending ANC is useless, let our creator does up on us what ever he likes. Muslim women in general have less autonomy to interact with males outside of their immediate families. If women know that a male health worker is available in the health institution Muslim women are generally, less likely to attend ANC and seek delivery assistances. Because they feel shy, and do not like their body to be touched & seen by male attendance, in addition Muslim women also believe that seen by male health worker is unacceptable by their religion. This bad belief is due to lack of knowledge about antenatal and delivery care services. This suggests the need for an intervention that may ameliorate this situation.

In this study Socio-demographic factors were found to be related to ANC attendance. It was found that women in the older aged grouped (35^{+}) years were less likely to use the service. The impact of age on ANC utilization was also found in other studies (3,4,26,57). In addition women in the older age group are more likely to have more children to care fore. The presence of many children to care for during pregnancy was the primary reason for not having care in 30.3% of the non-attendances. This study is similar with previous studies in the country as well as other developing countries (4,13,26, 56,57).

While widowed\divorced women were found to be more likely to be non-attendances as compared to with married women, the impact of unmarried during pregnancy on ANC utilization

is hard to assess in this study, since the vast majority of the study subjects (87.2%) were married and the sample size in other categories were very small. However, several studies on ANC in relation to psychosocial factors indicated that women who were single were less likely to use ANC than who were married (26). Moreover, women with unwanted or unanticipated pregnancies may initially attempt to deny their pregnancies to themselves and to conceal them from others. As the result women become less motivated to seek ANC compared with their married counter parts.

Respondents' knowledge of potential danger signs of pregnancy is an important predictor of ANC services (26,56). Women who experienced concern about any health problems (whether or not the health problem mentioned were indeed a risk to mother) were more likely to be ANC user. In this study surprisingly most of respondents could able to name the acceptable danger signs of pregnancy such as sever hypertension, sever anemia, persistent vomiting, sever headache, mal-position of the foetus, prolonged labour, retained placenta and others. Women's knowledge of any of the risk was found to be an important factor in their attendances at ANC clinics, and attendees were more likely to know of the danger signs of pregnancy related health problems. This finding is also consistent in the qualitative part of this study; illness experience and perceived seriousness of the health problems were a strong predictor of maternal health care utilization in this study and elsewhere.

On the other hand contact with healthcare, particularly respondents' current and past attendances in ANC might have given them an opportunity to gain more knowledge on dangerous signs of pregnancy related health problems. The positive impact of better health knowledge on ANC has been shown in other studies (4,26,56). Increasing awareness of women regarding the potential

hazards of childbearing might improve their ANC use. Health education related to the potential danger signs of the major causes of mortality in women could have an important input in improving their utilization of care during pregnancy.

Health service barriers to ANC have been documented both in developing and developed countries (4, 26,56). In this survey, health services cost associated with ANC attendance was unaffordable to 8.5% of the study population, despite the fact that the service is provided with free of charge. Although statistically not significant a number of women complained cost and distance as the main problems. Since this study was carried out in accessible population (5kms), the relevance of these variables as barriers to health service utilization is expected to be minimal. This was not the case perhaps due to the fact that they did not know that services were free of charge. In any case, since it was found that these factors were barriers in this population, their importance in less accessible population is undoubtedly much greater.

Quality of ANC services has been demonstrated to be an important barrier to ANC, particularly in developing countries (49). The result of this study revealed that, women who perceived the quality to be ANC services poor were more likely to be non-attendees 7.4% of women. Long waiting time, behaviour of health workers, personnel respect of health workers, and lack of confidence in the service provided, though not a problem to the majority of the respondents in this study, were significantly related to ANC attendance elsewhere.

Home delivery is still a norm in many developing countries; maternal mortality tends to be highest where this is the case. In this study, 54.2% of births took place at home. This finding is not in agreement with the previous studies from Butajira (88%), Adamitulu (83%), Gondar

(86.5%), report of Safe motherhood Need Assessment of Ethiopia (1996), and DHS (2000) (22, 37, 45,57). This large difference is explained by the fact that the present study is exclusively urban population based. The urban women tend to have better access to health facilities, education, and information about maternal health care services that showed to have effect on the preference to institutional deliveries. In addition, health promotion programs, which use urban, focused mass media, may work to the advantage of the urban residents. All of these studies reported that large numbers of women are delivering at home being assisted by untrained traditional birth attendants.

Other reports from Bangladesh and India came-up with similar findings (21). About 55.3% of mothers preferred to give birth in the presence of relatives, trust TBAs, cultural reasons and lack of money as reasons for non-use of the services. Another finding in the present study is that utilization of ANC is three to four times those mothers who experienced illness and perceived susceptibility to dangerous sign of health problems during pregnancy. This study finding is consistent with a study conducted in Ethiopia (26,56). This implies significant proportion of women seek for help from skilled birth attendants after developing obstetric complications and other traditional interventions failed. Studies in India and Iraq showed lack of recognition of perceived serious of health problems as a significant reasons for not seeking out healthcare that accounted for half of maternal deaths (37,48).

7. Strength and limitation of the study

7.1 Strength of the study

The reliability of the data maintained by:

- Selection bias was minimized since it was community- based study with probability sampling technique and similar sex interviewers were used who were non-health workers and largely unaware of the desired answers.
- It is generalizable to urban areas where there is access to the health service
- Further more, qualitative design was used to complement or triangulate the findings.

7.2. Limitation of the study

- This study did not include the rural population, which might affect its generalizability.
- As the study included one year retrospective cross-sectional, the possibility of recall bias misreporting of events was likely
- In this study, selected variables that determine maternal health care utilization have been investigated, and their importance was determined by comparing attender and non-attender at a specific point in time. So that the results could be interpreted with caution. Since, both dependent and independent variables are determined at one point in time. For instance, some factors (religion, parity, ethnicity, etc) obviously preceded ANC attendances or choice of delivery where as knowledge on maternal health care services could either follow or precede the outcomes of interest.

8. Conclusion

- In conclusion, this study demonstrated that utilization of maternal health service is inadequate in general, as clearly depicted by the major maternal health indicators (antenatal and delivery services) during the period of one year preceding the survey. The most important factors influencing utilization of antenatal and delivery care services were demographic and socio-cultural in nature.
- The present study revealed that the majority of women sought at least one prenatal visit from modern health care providers during their recent pregnancy. However, more than half of the women who attended antenatal care were delivered at home and almost all of these deliveries were attended by TBAs (TTBAs, untrained TBAs, Close relatives\neighbors).
- The main reasons given by the individual women for not ANC attend were lack of awareness, apparently healthy, distant health facility, and work overload.
- The main reasons given by the individual and through FGD resorting to home delivery by women were presence of relatives nearby, more trust on TBAs, apparently healthy, male health workers assistance, lack of privacy and unfriendly of some of the staffs who were not committed to their work at health facility.
- Number of previous pregnancies and parities were found to be positive predictors of antenatal care attendance and the choice of delivery site while ANC non- attendance and age of the women 35^{+} years were found to be barriers of institutional delivery care services.
- Muslim women were generally less likely to attend ANC check up and seek delivery assistance.

9. Recommendation

Based on the above finding of the study the following recommendations were made: -

1.Improving the status' of women

- As women's education is an important factor for the institutional delivery, improving education among girls, beyond the primary school, needs to be strongly encouraged.
- Increase women's autonomy with in the family, enhancing their ability to earn and control income and decide on their own health.

2. Information, education and communication on:

- Multi-gravidity and higher maternal age where less likely to attend ANC and delivery care services implies that these group should be one of the priorities criteria for targeting education campaigns on the benefits of safe motherhood programs.
- Since pregnancy related complications are the main reasons for utilization of health facilities, community awareness program must focus on the danger signs surrounding pregnancy and childbirth.
- Improving family planning and child spacing
- Improve male involvement to maternal health issue
- Muslim women should be oriented towards modern culture and more open to accept maternal health care services.

3. Training and supervision

- Improving training and/or refreshment of TBAs, with the new role they should play in handling pregnancy and childbirth and integrate with in the formal health care system.
- Provide supportive supervision and monitoring of TBAs post training, help them publicize their improved skills and receive compensation for their services.
- Priority training for female skilled delivery attendants

10. References

1. Dana A., Noreen G., and German R. Utilization of care during pregnancy in rural Guatemala: does obstetrical need matter? Soc. Sci. and Med. 2003; 57:2447-2463.

2. Maternal health and safe motherhood progress report update, WHO, Geneva, 1991.

3. Overbosch G., Nsowah-nuamah J., Vanden B., and Damnyag L. Determinants of antenatal care use in Ghana. Center for world food studies. Staff working paper workshop, 02-13,Novermbe 2002.

4. Fantahun M. Determinants of antenatal care attendances and preference of site of delivery in Addis Ababa, Ethiopia J health Dev 1992:6(2) 17-21.

5. Sevkat B., Ayse A. Utilization of antenatal care services in Turkey. Turkish Demographic and health survey-TDHS in 1998.

6. Talia M. An issue of culture: the effect of daily activities on prenatal care utilization patterns in rural South Africa. soc. sci.& med. 2004,59 :1843-1855

7.UNICF\FMOH. Safe motherhood action agenda: priorities for the next decade, 1987-1998.

8.World Bank. Better health in Africa: Experience and lessons learned. Washington, D.C. World Bank, 1994 (Development in practice).

9.WHO, UNCEF, and UNFPA. Maternal mortality in 1996; Estimates developed by WHO and UNICEF. Geneva 2001.

10.WHO, Mother-package: Implementing of the Safe Motherhood in developing countries, Geneva, 1994.

11.Omar M. Women' health in rural Somali. Licentiate Dissertation; 1994.

12.Mahler H. The Safe motherhood initiative; A call action. Lancet. 1997; 1:668-670.

13. MekonenY. and Mekonen A. Factors influencing the use of maternal health care services in Ethiopia.J.health popul Nutr, 2003,21(4): 374-384,.

14.World Health Organization\UNICEF. Revised 1990 estimates of Maternal Mortality: A new approach by World Health Organization, Geneva, 1996.

15.WHO. Coverage maternal care: A listing of available information, Geneva, 1997

16.Mexican Demographic and Health Survey (DHS), Social science and economic and other factors are linked to the differentials in maternal mortality, 1998.

17.Kloos H. et al. Illness and health behaviors in Addis Ababa and rural central Ethiopia. soc. sci. and med. 1987, 25(1003).

18.WHO. Perinatal mortality. A listing of available information, (WHO\FRH\MEM\96.7), Geneva, 1996.

19. Bachman et al. District health system; user preference for services in Benin health policy and planning.1997,6(4): 361-370.

20.WHO. Factors influencing prenatal care use among low-income countries report, Geneva, 1990.

21. Fortney J.A, Smith. The base for Ice-berge: prevalence and perception of maternal morbidity in four developing countries, FHI, Dec.1996.

22.MOH, Safe Motherhood Need assessment of Ethiopia, Addis Ababa, 1996.

23. Central Statistical Authority [Ethiopia] 1994, Addis Ababa, Ethiopia.

24. Bihata J. Study on maternal mortality in Ananteapur district Andrapradesses, India, Institute of management and WHO, Sept. 19986.

25.Kebede Y. Traditional practices during pregnancy, labour, and delivery in Adamitulu Woreda. A thesis presented to school of graduate studies Addis Ababa University, 1997.

26. Mesfin M.and Farrow J. Determinants of ANC utilization in Arsi Zone, Central Ethiopia. Ethiopia J.Health Dev.1996, (10):171-180

27. Tessema B. Correlates of ANC attendance among women in Yirgalem Town and surrounding peasant associations, Southern Ethiopia, 1997 (unpublished Msc.-thesis submitted to AAU).

28. Mekonen M. Barriers to utilization Maternity care services and user factors, 1998.Ethiopia J.HealthDev.1997, 17(1).

29.Guilleromo C, Clean R, and Jose V. How effective in ANC in preventing maternal mortality and morbidity? Bulletin of World Health Organization, 1992.

30.Akala CO. Utilization of maternity services and pregnancy outcome in rural Northern Nigeria, East African Medical Journal, 1993, 70(4).

31.MOH. Strategies for the implementation of the national program for the health sector, 1992-1996.

32. Celik Y. and Hotchkeriss D. The socioeconomic determinants of maternal health care utilization in Turkey. soc. Sci.and medicine, 2000; 50(12): 1797-1806.

33.Nancy P, Ubaidur R, and Khan M.E. M en in Bangladesh, India and Pakistan: Reproductive issues (Dhaka: kharsha publishers, 1999).

34.Bimal Kanti paul, Deborah J. Rumsey. Utilization of health facilities and trained birth attendants for childbirth in rural Bangladesh:(an empirical study). soc. sci.& med.2002, 54, 1755-11765.

35.Shen L. John W. Maternal mortality Women's economic dependency in less developed countries: across-national analysis, Sci. Sci.& Med. 49(1999).

36. WHO. Report on the safe motherhood technical consultation Oct.1997, Colombia

37. Central Statistical Authority. Ethiopian, Demographic and Health Survey 2000. Addis Ababa, Ethiopia.

38.UNICEF. Progress on maternal mortality, Geneva, 1996.

39.Jepson C, Haest Potter B, Asnake M, and Abdosh N. A study of women's practices relating to pregnancy and childbirth in Wombera Aweraja, 1992.

40.Bimal Kanti Paul. Maternal mortality in Africa: 1980-1987. Department of geography, Kansas State University, Manhattan, U.S.A. soc. sci.& med.(1993, 37(54):1755-1765.

41.Abbas H. Determinants of utilization of maternal and child health services in Jordan Int. J.Epidemiomology.1986.

42.Kwast BE. Safe motherhood: a challenge to midwifery practices, World Health Forum, 1992,12(1).

43. Stock R. Distance and utilization of health facilities in rural Nigeria. Soc. Sci.&Med.1983, 17:563-570.

44.Jerker L. care for Adolescent s' pregnancy and childbirth. Int.J. Obs & Gyn.

45.Berhane Y. Women's' reproductive outcomes in rural Ethiopia, Umea, 2000.

46.UNICEF, Children and women in Ethiopia. A situation analysis Addis Ababa, Ethiopia, 1985.

47.WHO, Maternal and child health regional estimates of perinatal mortality weekly epidemiological record, Geneva, 1993.

48.Habib SO, and Vaugan P.J. Factors affecting maternal healthcare Int.J. Epidemiology 1986; 15:394-402.

49. WHO\ UNICEF: Antenatal care in developing countries; promises, achievements and missed opportunities. An analysis of trends levels and differentials, 1990-2001.

50. Yuster EA. Rethinking the role of the risk approach and antenatal care in maternal mortality reduction, International Journal of Gynecology and Obstetric, 1995

51. Nnadi E.E and Kaba H.F. Choosing health care services in Nigeria: A developing nations. J.Trop. Med. Hyg. 1987, 87(47).

52.Bhardawji N. High risk pregnancy and relation with maternal care receptive: A rural study from India Journal of the Royal Society of Health, 1991,11(1): 43-46.

53.King M. Medical care in developing countries. Oxford University press, Nairobi, 1993.

54.FMOH. Health and Health related indicators, 2004. Planning and Programming Department, Health information Processing and Documentation Team MOH. Addis Ababa, Ethiopia.

55.The Afar National Regional Government. Afar health service data-base-directory, 1995-2000. Planning and programming service, Ayssaita, Afar, Jan. 2001.

56. Nigussie M., Hailemariam D. and Mitike G. Assessment of safe delivery utilization among women of childbearing age in north Gondar Zone, north west Ethiopia. Ethiop J.health Dev. 2004,18(3): 145-152 .

57.Navaneetham K., Dharmalingam A. Utilization of maternal health care services in Southern India. soc.sci.& med. 2002,55(20) 1849-1869.

58. Yusuf Celik ,and David R.Hotchkiss. The socio-economic determinants of maternal health care utilization in Turkey. soc.sci.& med. 1797-1806, 50(2000).

59.Yaekob Tedela T. Assessment of pregnancy outcome in Dire Dawa town. (Thesis unpublished 2003, submitted to School of graduate studies Addis Ababa University).

60.Mavalanker DV, Trivedi CR, and Gray RH. Levels and risk factors for perinatal mortality, India, Bulletine of World Health Organization, 1991,69(4): 435-442.

61. Addai I. Demographic and socio- cultural factors influencing use of maternal health services in Ghana. Afr.J Reported Health 1998, 2(1): 1379-1387.

62. Lwango S.and Lemeshow S. Sample size calculation in health studies. A Practical manual World Health Organization, 1992.

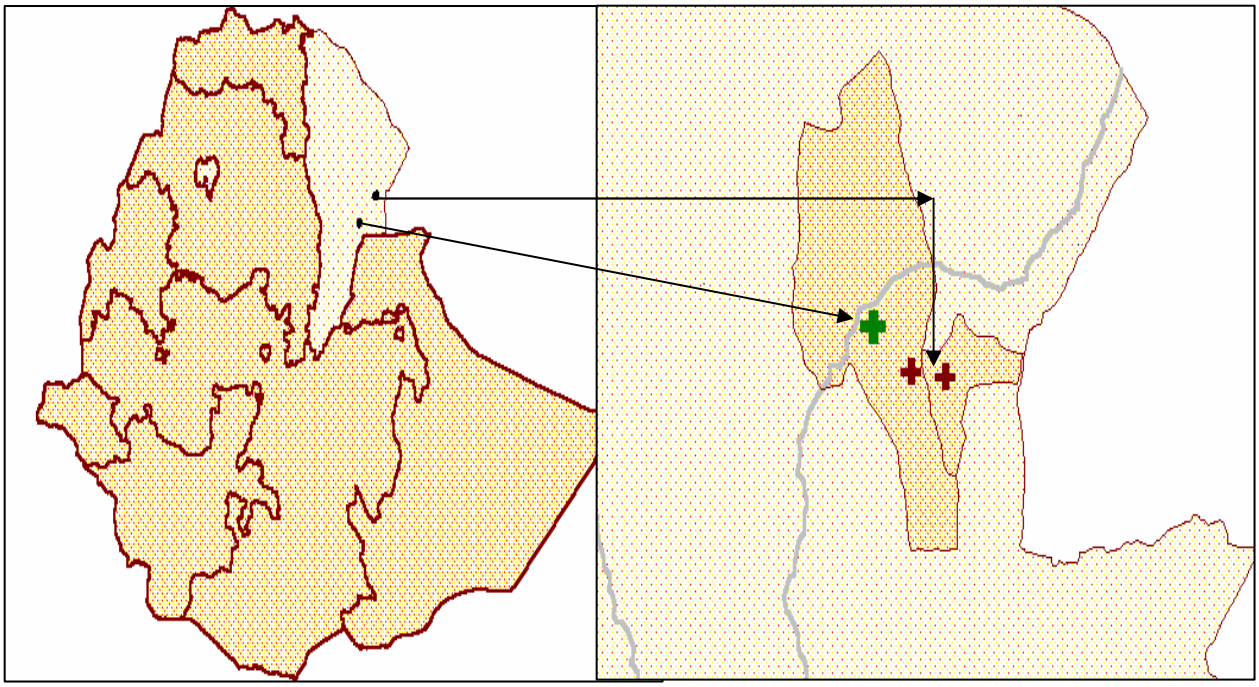
63. Addai I. Determinants of use of maternal-child health services in rural Ghana. Journal of Biosocial science 2000:32(1): 1-15.

64. Mwaniki P, Kambru E. and Mbugua G. Utilization of antenatal and maternity services by mothers seeking child welfare services in Mbeere District, Eastren province, Kenya. East Afr.Med.J.2002;(79):184187.

65. Sereen T. and Deborah M. Too far to walk: maternal mortality in context: Social science and medeicine, 1994: 38(8): 1091-1110

11.ANNEXES

Annex .1. Map of study area



Key =*Dubte Hospital*

=*Ayssaita Health Center*

=*Highway from Addis Ababa to Red Sea port*

ANNEX 2 Questionnaire for community based survey on factors influencing utilization of Maternal healthcare services in Assaita and Dubte town Afar Region

Verbal consent

Greetings

Hello! My name is _____ from Afar Regional Health Bureau. I am working in research team of Addis Ababa University Medical Faculty, Department of Community Health.

We are conducting a study of mothers Antenatal care attendances during pregnancy, place of delivery and assistances during delivery. You are kindly requested to be included in the study, which will have importance in improving maternal and child health services. The interview will take about 50 minutes. No information concerning you, as individual will be passed to another individual or institution without your agreement. Your participation is voluntary and you have the right to not participate fully or partially. If you agree to be included in the study I will start my questions by asking general identification points. Only honest answers would contribute to improvement of health planning.

The study has approval from Addis Ababa University. "My I continue?"

If yes, continue interviewing

If No, thank and stop interviewing

Name of the interviewer_____Sign. _____ Date of interview_____

Name of the supervisor. _____. Sign. _____ Date_____

1.Households Identification

001. Questionnaire Code_____

002. Afar Region

004. Residence 1.Assaita town 2. . Dubte town

005. House number _____

006. How long have been living in this town_____less than one years preceding the study ⟶ next house

007. When was your date of gave birth regardless of the outcome of pregnancy ----/-----/-----

Time table for visiting/revising a household

	First visit	Second visit	Third visit
Date			
Interviewer			
Result			

008.Results of visiting: 1.Completed, 2.Rejected, 3.No response, 4.partially responded, 5.other

N.B. Please fill on each answer sheet as follow:

- Time of start of interview_____
- Time of end of interviewed_____

Part one questionnaire on socio-demographic characteristics. It has been found that it is necessary to understand the socio-demographic history as to their contribution to attending ANC during pregnancy and choice of place of delivery. Therefore, I would like to ask you some questions in this respect.

No	Questionnaire on identification of thé respondents	Alternative choice for responses	Skip	Code
101	Present maternal age	_____Years		
102	What is the highest level of schooling you have ever attended?	1. Never attended 2. Only read & write 3. Elementary school 4. Secondary high school 5. 12+ 99. Other Specify		
103	What ethnic group do you belong?	1. Afar 2. Amhara 3. Oromo 4. Tigrie 99. Other specify		
104	What is your occupation?	1. Housewife 2. Maid servant 3. Civil servant 4. Merchant 5. Student 99. Other specify		
105	What is your religion?	1. Muslim 2. Orthodox 3. Catholic 4. Protestant 99. Other specify		
106	What is your marital status?	1. Married 2. Divorced 3. Widowed 4. Never married 5. Separated		
107	What is the average family income per months?	_____ Birr		
108	Age of mother at first pregnancy	_____		
109	Number of pregnancy	_____		
110	Number of delivery			
111	Number of live births	_____		
112	Number of abortions	_____		
113	Number of still births	_____		
114	Number of infant deaths	_____		

Part two questionnaire on ANC

No.	Questions		Skip	Code
201	What is the number of people who live usually in this household?	Total_____		
202	Did you plan your current pregnancy?	1. Yes 2. No		
203	From where do you think a pregnant woman could get ANC?	1.health institution 2.TBA 3.Relatives/friends 4.CHA 99.Others specify		
204	Where do you here about the sources of ANC services?	1.Heath institution 2.Radio/TV		

		3.TBA 4.CHA 5.Relatives 6.Women's group 99.othres specify		
205	What for do you think would be the benefits of ANC?	1. Maternal health 2. Child health 3. Both 88. Don't know 99. Others specify		
206	Did you go to health institution for ANC check up while you were pregnant?	1. Yes 2. No ⟶	Skip to Q.227	
207	If yes at what gestational age did you go	1. 1-3 months 2. 4-6 months 3. 7-9 months 88. Don't know		
208	If yes, what was the total number of visits	1. Once 2. Two 3. Three 4. Four and more		
209	If you went for ANC check-ups to which health institution did you go?	1. Hospital 2. Health center 3. Clinics 99. Others specify		
210	Why did you go to that particular health institution? (Multiple response is possible)	Yes No 1. Close to where I live-----1 2 2. Little or no expense-------1 2 3. B/r of health workers is best- 1 2 4. Convenient time of services----1 2 5. High quality of services--------1 2 99. Other specify----------1 2		
211	If you went for ANC check ups have you ever an injection on the arm to prevent against T	1. Yes 2. No ⟶	Skip to Q.213	
212	If yes, how many times have you received such injections?	1. Once 2. Two or more		
213	Did you have a vaccination card/paper where TT injections have been recorded? If yes, may I see it please?	1.Yes seen/ not seen 2. No card/paper		
214	What is the main reason you initiated for ANC follow up?	1. Health problem 2. To start regular check up 99. Other specify___		
215	If you attended ANC, was health education given during each visit?	1. Yes 2. Not l 88. Don't know		

216	If health education was given, on what topic?	Yes No 1.ANC- ----1 2 2.F/P---------1 2 3.Babycare--1 2 4.Breastfeeding….1 2 88.Don'tremember-…1 2 99.Otherspecify--1 2		
217	Was blood pressure measured each time you went for ANC?	1. Yes always 2. Not 88. Don't know		
218	If you attended ANC, have you been weighed during each visit?	1. Yes always 2. Not 88. Don't know		
219	Was laboratory examination done in the ANC clinic? (Blood, urine, stool…).	1. Yes 2. No 88. Don't know		
220	Was physical examination done in the ANC clinic during each visit?	1. Yes 2. No 88. Don't know		
221	Was your height measured at the ANC?	1. Yes 2. No 88. Don't know		
222	Did you ever pay for ANC?	1. Yes 2. No	Skip to Q.225	
223	If yes, how do you feel about the payment for ANC?	1. Unaffordable 2. Fair 3. Very small		
224	How much on average did you pay for ANC service per visit?	_____Birr		
225	Do you think that waiting time was a problem while you were attending ANC?	1. Yes always 2. No 88.Don't know		
226	On average how long did you wait for ANC clinic?	1. ____ Hrs		
227	If you did not attend ANC? Why not? (Multiple response) **(Don't read the choices)	Yes No 1. No or little knowledge about ANC clinics---------- 1 2 2. Being in a state of good health-1 2 3. Too busy to attend ANC clinics-1 2 4. Expenses for ANC clinics are Unaffordable ----------1 2 5. ANC clinic too far from my home----------1 2 6. Waiting time is too long		

		at ANC ---------- -----1 2 7. Husband disapproval ----- -----1 2 8. Poor quality of the services----1 2 9. Because of religion-------- -----1 2 10 .ANC attendance is useless --1 2 99.Others specify_____1 2		

Part three respondents knowledge, illness experiences, and perceived susceptibility to pregnancy related health problems

No	Questions	Alternative choice responses	Skip	Code
301	Should a healthy pregnant women attend ANC clinics	1. Yes 2. No →	Skip to Q.303	
302	If yes at what month/gestational age should a pregnant woman attend ANC?	1. 1-3 months 2. 4-6 months 3. 7-9 months		
303	Do you know dangerous health problems related to pregnancy?	1. Yes 2. No →	Skip to Q.305	
304	If yes, can you mention some of them? (More than one answer is possible)	Yes No 1.persistant vomiting-------1 2 2.Anemia----------1 2 3.Leg swelling----------1 2 4.Headache----------1 2 5.Vaginal bleeding---------1 2 6.Hypertension----------1 2 7.Seizurer----------1 2 8.Abnormal fetal position- 1 2 9.Obstraced /pronged labour----------1 2 10.Retained placenta---------1 2 99.Others specify----------1 2		
305	Did you experience a health problem during the last year pregnancy?	1. Yes 2. No 88. Don't remember		
306	Did you think of developing dangerous health problems during pregnancy?			

Part four Questions on the choices of delivery and assistances during delivery

No	Questions	Alternative choice responses	Skip	Code
401	Where did you deliver your last baby?	1. Hospital 2. Health center 3. Health station/clinic 4. Home, → 99. Others specify--------	Skip to Q.403	

402	Why did you want to deliver your baby in that particular place? (If in a health institution)	1. Close to where I live 2. High quality services 3. Good approach of health workers 4. Little expenses to deliver in this particular institution 99.Otherpecify_____		
403	If you delivered at home. Why? (More than one answer is possible)	Yes No 1.Expences for delivery at health institution is unaffordable--------1 2 2.Dilike behaviors of health workers at health institution----------1 2 3.Wishes to deliver at home where relatives are nearby---------1 2 4.More trust on TBAs/relatives than health workers a t health institution----------1 2 99.Others specify---------- --1 2		
404	If you delivered at home who assisted you during delivery?	1. Health workers 2. TBA 3. Close relatives/friends 4. Neighbors 5. No one 99. Others specify_____		
405	What were your husbands or partner's attitude towards ANC attendance?	1. Positive 2. Negative 88.Don't know		

Part five question on respond ants view on quality of Antenatal care

No	Questions **(Q.501—506 for ANC attended only)	Alternative choice responses	Skip	Code
501	Were the health workers respectful?	1. Yes 2. No,		
0502	How long was the time you spent in waiting to get ANC services?	1. Short 2. Fair 3. Long		
503	Did you think that lack of privacy was problem at ANC?	1. Yes 2. No 88. Don't know		
504	What is your feeling about the quality of ANC given?	1. Good 2. Satisfactory 3. Poor		
505	Do you have confidence on the service provided at that health institution?	1. Yes 2. No 88. Don't know		
506	How do you rank the behavior of health workers providing ANC services?	1. V. Good 2. Good 3. Fair 4. Bad		
507	How do you feel about the distance from your home to the nearest health institution? (Health center, Clinic)	1. Very close 2. Average 3. Too far		
508	How long does it take to travel from your home to the nearest health institution?	1. _____Hours		

ANNEX. 3 Focus group discussion guide

Introduction

Good morning and thank you all for coming.
My name is----------. My collogues near to me is----------. We came from the Regional Health Bureau.
Read the following as it is:
"After we conduct some brief introduction, we will be talking about several different issues. We will be asking you questions about your overall experience with the maternal healthcare services in your locality and questions pertaining to pregnancy related health problems, preferences to place of delivery and factors influencing utilization of the available health services. Then, we will conclude the session by asking you for your recommendations on how such program might be implemented in your community in any way in the future.
Would you be willing to participate in the discussion? If yes, proceed, if no, thank and stop the discussion.
Name of the moderator. ---------- ------- Sign----------.
(Signature of the moderator certifies that consent has been obtained verbally). Date----------Time----------.

Preparation
Topic; Community perception of Antenatal care utilization and preferences to place of delivery
Target audience: pregnant women, husbands, religious & community leaders and health workers.

Objective of the discussion

- To explore the community's understanding and perceptions of Antenatal care utilization and preference to place of delivery in Assaita woreda
- To assess factors affecting utilization of maternal health care services particularly Antenatal and delivery care, including TT vaccination.

Description of the participants
A total of five focus groups, each comprising a minimum of six and a maximum of eight participants will be involved.
The selection criteria and the targeted audiences.

Residence	Pregnant women	Health workers	Religious & community leaders	Husbands
Ayssaita town	Group1	Group1	Group 1	Group 1
	Group2	Group 2	Group 2	

Description of the focus group
The participant and the facilitator will sit in a circle or around a table for the discussion. The facilitator will begin the session by introducing himself and explain the purpose of the focus group. The focus group meeting will last about 60 to 90 minutes.
Potential use of data
The gathering of this information will have an effort to gain further insight about underutilization of maternal health care services among pregnant women in the District.
Ground rules
Issue of confidentiality
Please be assured that any information collected here is strictly confidential. The staff of research and other participants will not directly share the information in a way that would reveal an individual's personal identity.

Consent for participation and tape-recording
At this point it is important that we obtain your consent for conducting the session. Understand that this is more for your protection than any thing else.
Read consent form out loud to the group:
"Your remaining in the session indicates that you voluntarily agree to participate in this discussion program. You have the right to refuse to answer any questions and to end the discussion if you find it necessary to do so. For the sake of accuracy and efficiency, we will take notes and tape recording this sessions, unless any one has any objections."

Role of moderator and note taker

The moderator will be in charge of facilitating the discussion .The moderator will bring the discussion back to the topic at hand should it go beyond the main issues. The moderator will not give any indication (verbal or physical) that would encourage certain types of comments or discourage other types of comments.

In short, the moderator will guide the discussion when necessary, with carefully not to lead the discussion. It is our role to facilitate, but your role to tell us what you think. The note taker will have the sole responsibility of capturing the sessions accurately as possible. This will include not only participants' responses, but also nonverbal actions, physical environment, atmosphere of the session, as well as other vital characteristics of the session.

Importance of total group

In this group everybody should feel free to talk. Each and every opinion is important and wanted. It is very important that all the people in the group get a chance to express their opinions.

Agreement to disagree

In this group there are no right or wrong answers. Everybody should express the opinions or attitude pertinent to him or her. When you express your opinions you are encouraged to be honest in your views of the pregnancy and delivery related problems and preventive programs (especially antenatal and institutional delivery care services). We want you to focus your comments on the program and not toward each other or members of the staff.

FGD topic guide

Theme 1. Introduction

At this point, we would like to ask you to introduce yourself to the rest of the group.

Let us start with the research team (Name, age, education status) and each of you please tell me your name, how long you have lived in this area and your job.

Theme 2.Warm up questions

1. Next we would like to hear a little about your experience or knowledge about antenatal care and childbearing
   - 1.1. Who can tell us about is antennal care?
   - 1.2. Who can tell us about delivery care services?
   - 1.3. Who would like to tell us dangerous health problems related to pregnancy and childbirth?
   - 1.4 What are the causes?
   - 1.5 What are the consequences?
   - 1.6 What are the prevention methods?

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

Theme 3. Pregnancy related risks and antenatal care

2. Now we would like to ask you specific questions about health problems related pregnancy and childbirth.

2.1. Do you think that a healthy pregnant woman should attend ANC? 1.Yes 2.N0, why?

2.2. Where do you think is the best place for ANC? Why?
What are the advantages?

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

3. What are the primary reasons for pregnant women not attend ANC clinics?
What are the advantages and disadvantages?

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

4. What are the primary reasons pregnant women should attend ANC clinics?
What are the advantages and disadvantages?

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

5. Where do you think the best place for delivering a child? Why?
What are the advantages and disadvantages?

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

6. Who do think the best person to assist during delivery? Why?
What are the advantages and disadvantages?

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

7. What is your opinion about ANC, and preferences to place of delivery from local cultural and religion point of view?

Probe 1. Would you explain more?
2. Would you give me example an example?
3. Anyone else similar experiences
4. Is there anything else?
5."I don't understand."

Ending questions

Are there any issues, questions, comments that you would like to raise or points to you wanted to add?

Debriefing

I would like to thank you for your participation. I also want to restate that what you have shared with us is confidential. No part of our discussion that includes names or other identifying information will be used in any reports, displays or other publicly accessible media coming from this research**.** Finally, I want to provide you with a chance to ask any questions that you might have about this research. Do you have any questions for me?

"Thank You!!"

Annex 4 structured Amharic questionnaires

በአዲስ አበባ ዩኒቨርስቲ ህክምና ፋክልቲ በህብረተሰብ ጤና ት/ክፍል
የነፍስ ጡሮች ጤና ክትትል አጠቃቀምን እና በአገልግሎቱ ላይ የሚያጋጥሙ ችግሮችን ለማጥናት የተዘጋጀ መጠየቅ በአይሣኢታ እና በዱብቲ ከተማ

<u>የሚስጥር አጠባበቅ ስምምነት</u>

ጤና ይስጥልኝ ፤ እኔ _____ እባላለሁ በአዲስ አበባ ዩኒቨርስቲ ህክምና ፋክልቲ የህብረተሰብ ጤና የጥናት ቡድን አባል ነኝ፡፡
የዚህ ጥናት አላማ በአካባቢው የነፋሰጡር እናቶችን የጤና ክትትልና የሚወልዱበትን ቦታ በተመለከተ ጥናት እያካሄድን ነው፡፡ በዚሁ ጥናት እንዲሣተፉ በትህትና ይለመናሉ፡፡ ይህም ለእናቶችና ሕፃናት የሚሰጠውን የጤና አገልግሎት ለማሻሻል ይረዳል፡፡ ያለ እርስዎ ስምምነት ምንም ዓይነት መረጃ ለሌላ ሰው ወይም ድርጅት የማይተላለፉ /የማይሰጥ/ መሆኑን አረጋግጣለሁ፡፡ በዚህ ጥናት ለመሣተፍ ፍቃደኛ ከሆኑ ጥያቄዎችን ከአጠቃላይ ነጥቦች በማነሣት እጀምራለሁ፡፡ ትክክለኛውን መረጃ መስጠት ለጤና አገልግሎት መሻሻል እንደሚረዳ ለማሣሰብ እወዳለሁ፡፡ ጥናቱ በአዲስ አበባ ዩኒቨርስቲ ተቀባይነት አግኝቷል፡፡በጥናቱ ለመሳተፍ ፈቃደኛ ነዎት?
1.አዎ ----- መልሱ አዎ ከሆነ ወደሚቀጥለው ጥያቄ እለፉ /ፊ/
2.የለም ------መልሱ የለም ከሆነ አመስግነህ/ሽ/ ጥያቄዉን አቋርጥ /ጭ/
ፈቃደኝነት ያረጋገጠው መረጃ ሰብሳቢ፣
ስም ----------መጠየቁ የተደረገበት ቀን ----/-------/------ፊርማ -------
በተቆጣጣሪው ስለመረጋገጡ ስም----------ቀን ---/----/-----ፊርማ ---------

1. አጠቃላይ የቤተሰብ መረጃ
001. የመጠይቁ መለያ ቁጥር :/----------/
002. ክልል / <u>አፋር /</u>
003. ዞን / <u>አንድ /</u>
004. አይሣኢታ ከተማ **1.** ቀበሌ አንድ **2..**ቀበሌ ሁለት
005. ዱብቲ ከተማ **1.** ቀበሌ አንድ **2..** ቀበሌ ሁለት
006. የቤት ቁጥር /----------/
007. በዚህ ወረዳ በቋሚነት ለምን ያህል ጊዜ ኖረዋል?----------ዓመት
008. የወለድሽበት ቀን (ከ6 ወር በለይ የሆነው እርግዝና በህይወት የተወለደ ወይም ሞቶ የወለደተ ወይም ከተወለደ በኃላ የሞተ ለባለፉት 12 ወራት ዉስጥ)-----/----/--

ቤቶችን ለመጐብኘት የወጣ የጊዜ ሰሌዳ

	የመጀመሪያ ጉብኝት	ሁለተኛው ጉብኝት	ሦስተኛ ጉብኝት
ቀን			
መረጃ ሰብሳቢ ስም			
ውጤት			

009. የጉብኝቱ ውጤት 1. ተሟልቷል 2. ተቃውሞ 3. መልስ የለም 4. በከፊል ተመልሳል
99. ሌላ ይገለፅ ---------- /------/

ክፍል፡ አንድ፡ የተጠያቂው አጠቃላይ የማህበራዊ ኢኮኖሚያዊ መረጃ በተመለከተ መጠይቅ				
ተ.ቁ	ጥያቄ	አማራጭ መልስ	እ ለ ፍ	ኮድ
101	አሁን እድሜዎ ስንት ነዉ?	---------- ሙሉ ዓመት		/------/
102	የትምህርት ደረጃ	1. ያልተማረ 2. ማንበብና መፃፍ ብቻ 3. አንደኛ ደረጃ 4. ሁለተኛደረጃትምህርት ያጠናቀቀ 5. ከፍተኛ ትምህርት 99. ሌላ ይገለፅ ----------		/------/
103	ብሔረሰብ /ጐሣ/	1. አፋር 2. አማራ 3. ኦሮሞ 4. ትግሬ 99. ሌላ ይገለጽ ----------		/------/
104	ሥራ	1. የቤት እመቤት 2. የቤት ሠራተኛ 3. የመንግስት ሠራተኛ 4. ነጋዴ 5. ተማሪ 99. ሌላ ይገለፅ----------		/------/
105	ሃይማኖትዎ ምንድነው?	1. እስላም 2. ኦርቶዶክስ ክርስቲያን 3. ካቶሊክ 4. ጴንጤ 99. ሌላ ይገለጽ ----------		/------/
106	የጋብቻ ሁኔታ	1. ያገባች 2. የተፋታች 3. ባል የሞተባት 4. ያላገባች 5. ተለያይተዉ የሚኖሩ		/------/
107	በአማከኝ የቤተሰብ ገቢ በወር	---------- ብር		/------/
108	እድሜዎ በመጀመሪያ እርግዝናዎ	----------ኣመት		/------/
109	የእርግዝና ቁጥር	----------		/------/
110	የወሊድ ቁጥር	----------		/------/
111	በሕይወት የተወለዱት ቁጥር	----------		/------/
112	የውርጃ ብዛት	----------		/------/
113	ሞተው የተወለዱ ቁጥር	----------		/------/
114	ከአንድ ዓመት በታች እድሜ ህፃናት ሞት ቁጥር ካለ	----------		/------/

ክፍል፡ ሁለት፡ የነፍሰጡሮች ጤና ክትትል ጥናት በተመለከተ

ተ.ቁ	ጥያቄ	አማራጭ መልስ	እለፍ	ኮድ
201	የቤተሰብ ብዛት	---------- ጠቅላላ		/------/
202	እረግዝናዉን ትፈልጊዉ ነበር?	1. አዎ 2. የለም		/-----/
203	የነፍሰጡር እናቶች የጤናምመራ ክትትል አገልግሎት የሚያገኙት የትነዉ ብለዉ ይገምታሉ?	1 .ከጤና ድርጅት 2. ከልመድ አዋላጅ 3. ከቢተዘመድ/ጋደኛ 4. ከጤና ተጠሪ 99. ከሌላ ይገለፅ----------		/------/
204	የቁጥር 203 መልሱን እነዴት አወቁ?	1. ከጤና ድረጅት 2. በራዲዩ/ ቲቢ 3. ከልምድ አዋላጅ 4.ከጤና ተጠሪ 5. ከቤተዘድ/ ጋደኛ 6. ከሴቶች ማኅበር 99. ሌላ ይገለፅ----------		/------/
205	የነፍሰጡር ምርመራ ክትትል ማድረግ ጥቅሙ ምንድን ነው ብለው ያስባሉ?	1. ለእናቶች ጤንነት 2. ለፅንስ/ለልጅ ጤንነት 3. ለሁለቱም 88. አላውቅም 99. ሌላ ይገለጽ----------		/------/
206	ለነፍሰጡር ምርመራ ክትትል ወደ ጤና ድርጅት ይከታተሉ ነበር?	1. አዎ 2. የለም ⟶	ወደ ጥያ ቄ.ቁ .227	/------/
207	የነፍሰጡር ምርመራ የሚከታተሉ (አዎ) ከሆነ መልሱ በመጀመሪያ ወደ ጤና ድርጅት የሄዱት በስንተኛው ወር ነበር?	1. ከ1--3 ወር ሲሆነኝ 2. ከ4--6 ወር ሲሆነኝ 3. ከ7--9 ወር ሲሆነኝ 88. አላውቅም		/------/
208	ለነፍሰጡር ጤና ክትትል የሚያደርጉ ከሆነ በአጠቃላይ ስንት ጊዜ ሄደው ነበር?	1. አንድ ጊዜ 2. ሁለት ጊዜ 3. ሦስት ጊዜ 4. ከአራት ጊዜ በላይ		/------/
209	ለነፍሰጡር ጤና ክትትል የሚሄዱ ከሆነ ከየትኛው የጤና ድርጅት ነው ሲከታተሉ የነበረ?	1. ሆስፒታል 2. ጤና ጣቢያ 3. ክሊኒክ 99. ሌላ ይገለጽ ----------		/------/
210	ለነፍሰጡር ጤና ክትትል ወደዚህ ጤና ድርጅት የሄዱበት ምክንያት ይግለጽ? (***ምርጫዎች አይነበቡም***) **(ከአንድ በለዘይ መልስ)**	<u>አዎ</u> <u>የለም</u> 1. ለምኖርበት ቦታ ቅርብ ስለሆነ----------1 2 2. ክፍያ ስለሌለ---------- 1 2 3. የጤና ባለሙያዎች አቀራረባቸው ጥሩ ስለሆነ--1 2 4. አገልግሎቱ በአመቺ ጊዜ ስለሚሰጥ----------1 2 5. የአገልግሎቱ ደረጃ ከፍተኛ ስለሆነ----------1 2		/------/ /------/ /------/ /------/ /------/

		99. ሌላ ይገለጽ ----------1 2		/------/
211	ለነፍሰጡር ምርመራ ክትትል ሲያደርጉ የመንጋጋ ቆልፍ ክትባት ከክንዶት ላይ ተወግተው ያውቃሉ?	1. አዎ 2. የለም ⟶	ወደ ጥያቄ ቁ.---214	/------/
212	መልሱ አዎ ከሆነ የመንጋጋ ቆልፍ ክትባት መርፊ በክንድዎ ስንት ጊዜ ተሰጥቷል?	1. አንድ ጊዜ 2. ሁለት እና ከዛ በላይ		/------/
213	የክትባት ካርድ የመንጋጋ ቆልፍ የተመዘገበበት አለዋት? አዎ ከሆነ ሊያሳዩኝ ይችላሉ?	1. አዎ ታይቷል 2. አዎ አልታየም 2. ካርድ የለም		/------/
214	የነፍሰጡር የጤና ክትትል ለማድረግ ለመጀመሪያ ጊዜ ያነሣሣዎት ምንድን ነበር?	1. የጤና ችግር 2. መደበኛ ክትትል ለመጀር 99. ሌላ ይገለጽ ----------		/------/
215	የነፍሰጡር ምርመራ በሚያደርጉበት ጊዜ የጤና ትምህርት ይሰጥ ነበር?	1. አዎ 2. የለም ⟶	ወደ ጥያቄ ቁ..217	/------/
216	የጤና ትምህርት ተሰጥቶት ከሆነ በምን አርዕስት ነበር? (***ምርጫዎች አይነበቡም***) ***(ከአንድ በላይ መልስ)***	አዎ የለም 1.በነፍሰጡሮች ምርመራ--1 2 2.በቤተሰብ፡ምጣኔ---------1 2 3.የህፃን፡አያያዝ----------1 2 4.እናትጡት፡ጥቅም-------1 2 88.አላውቅም----------1 2 99.ሌላይገለጽ ----------1 2		/------/ /------/ /------/ /------/ /------/ /------/
217	የደም ግፊቶት ተለክቶ ያውቃል በነፍሰጡር ምርመራ ወቅት?	1. አዎ 2. የለም 88. አላስታውስም		/------/
218	በነፍሰጡር ምርመራ ወቅት ክብደቶ ይለካ ነበር በእያንዳንዱ ምርመራ ወቅት?	1. አዎ 2. የለም 88. አላዉቅም		/------/
219	የላብራቶሪ ምርመራ በነፍሰጡር ምርመራ ወቅት ተደርጎለት ያውቃል? (የደም የሽንት የሰገራ...)	1. አዎን 2. የለም 88. አላዉቅም		/------/
220	በነፍሰ ጡር ምርመራ ወቅት አጠቃላይ የአከል ምርመራ ተደረግሎ'ት ነበር ?	1. አዎ 2. የለም 88. አላዉቅም		/------/
221	ቁመቶት ተለክቶ ያውቃል በነፍሰጡር ምርመራ ወቅት?	1. አዎ 2. የለም 88. አላስታውሰውም		/------/
222	በነፍሰጡር ምርመራ ወቅት ለምርመራ ከፍለው ያውቃሉ?	1. አዎ 2. የለም ⟶	ወደ ጥያቄ ቁ.-	1------/

			225	
223	አዎ ከሆነ ስለ ክፍያው ሁኔታ ምን ይሰማወታል	1. ከአቅም በላይ 2. መካከለኛ ነው 3. በጣም ትንሽ ነው		/------/
224	በአማካይ ለነፍሰ ጡር ምርመራ አገልግሎት ምን ያህል ከፈሉ	---------- ብር		/------/
225	በነፍሰ ጡር ምርመራ ወቅት ብዙ ሰዓት መጠበቅ እንደ ችግር ብለው ያምናሉ?	1. አዎ 2. የለም 88. አላውቅም		/------/
226	በአማካይ ለምን ያህል ጊዜ አስጠበቀዎት?	-------- ሰዓት		/------/
227	በነፍሰጡር ዎቅት ለምርመራ ወደ ጤና ድርጅት ካልሄዱ ምክንያትዎን ይግለፁ? (*ምርጫች አይነበቡም*) (ከአንድ በላይ መልስ)	አዎ የለም 1. ስለ ነፍሰጡር ምርመራ ሥለማላውቅ----------1 2 2. ጤነኛ ስለሆንኩ----------1 2 3.በጣም ስራ ስለሚበዛብኝ------1 2 4. ለነፍሰ ጡር ምርመራ አገልግሎት የሚከፈለው ክፍያ ከፍተኛ ሥለሆ---------1 2 5. በጣም ሩቅ ሥለሆነ----------1 2 6. ብዙ ጊዜ ስለሚያቆይ--------1 2 7. ባለቤቴ ስለማይፈቅድ---------1 2 8. የአገልግሎት ደረጃው ዝቅተኛ ስለሆነ ----------1 2 9. ሀይማኖት ስለማይፈቅድ-----1 2 10. የነፍሰጡር ምርመራ ጥቅም ስለሌለው ----------1 2 99. ሌላ ይገለፅክልል ----------1 2		/------/ /------/ /------/ /------/ /-----/ /------/ /------/ /------/

ክፍል፡ ሦስት ተጠያቂዎች ከወሊድ ጋር ተያይዘው ለሚመጡ የጤና ችግሮች ያላቸው ግንዛቤ የነበረባቸው የህመም ገጠመኝና ለችግሩ መጋለጥ የሚያስከትለው ስሚት

ቁጥር	ጥያቄ	አማራጭ መልስ	እለፍ	ኮድ
301	አንዲት ጤነኛ ነፍሰጡር ሴት ለነፍ ሰጡር ምርመራ ወደ ጤና ድርጅት መሄድ አለባት ብለዉ ያምናሉ?	1. አዎ 2. የለም ⟶	ወደ ጥያቄ ቁ. 303	/---/
302	አዎ ከሆነ መልሱ አንዲት የነፍሰጡር እናት ወደ ጤና ድርጅት መሄድ የሚገባት በስንተኛ ው ወር ነው?	1. ከ1--- 3 ወር ሲሆናት 2. ከ4---6 ወር ሲሆናት 3. ከ7----9 ወር ሲሆናት		/---/
303	ከእርግዝና ጋር በተያያዘ ሊመጣ የሚችል አደገኛ የጤና ችግሮችን ያውቃሉ?	1. አዎ 2. የለም ⟶	ወደ ጥያቄ ቁ.--- 305	/---/
304	አዎ ከሆነ መልሱ እባክን የተወሰኑትን ይጥቀሱ? (*ምርጫዎች አይነበቡም*)	አዎ የለም 1. የማያቋርጥ ትዉከት--- 1 2 2.ከፍተኛ ደም ማነስ---------1 2 3.የእግር ማበጥ----------1 2 4. ራስ ህመም----------1 2		/---/ /--/ /---/ /---/ /---/

	(ከአንድ በላይ መልስ)	**5.ከማህፀን ደም መፍሰስ----1 2** **6. የደም ግፊት ----------1 2** **7. አቅልን መሣት----------1 2** **8. ያልተለመደ የፅንስ** **አቀማመጥ----------1 2** **9.የምጥ መራዘም---------- 1 2** **10.የእንግዴ ልጅ መቅረት---1 2** **99. ሌለ ይጠቀስ----------1 2**		**/---/** **/---/** **/---/** **/---/** **/---/** **/---/** **/---/** **/---/**
305	**በእርግዝናዎ ወቅት የጤና የመታወክ ችግር አጋጥሞት ነበር?**	**1. አዎ** **2. የለም** **88. አላውቅም**		**/--/**
306	**በእርግዝናዎ ወቅት የጤና የመታወክ ችግር ይገጥመኛል ብለው አስበው ያውቃሉ?**	**አዎ** **የለም** **88. አላዉቅም**		**/--/**

ክፍል፡ አራት ፡ተጠያቂዎች ለመውለደ የሚመርጡት ቦታና የሚረዷቸው ሲወልዱ

ቁጥር	**ጥያቄ**	**አማራጭ መልስ**	**እለፍ**	**ኮድ**
401	**የመጨረሻ ልጅዎትን የወለዱት(የሚወልዱት) የትነዉ?**	**1. ሆስፒታል** **2. ጤና ጣቢያ** **3. ክሊኒክ** **4. ቤት ⟶** **99. ሌላ ይገለፅ----------**	**ወደ ጥያቄ ቁ. 403**	**/-----/**
402	**ለምን ከዚህ የጤና ድርጅት ለመወለድ ፈለጉ?(ከጤና ድርጅት ከሆነ የወለዱት)** **(*ምርጫዎች አይነበበም*)**	**<u>አዎ</u> <u>የለም** **1. ከምኖርበት ቦታ ቅርብ ስለሆነ----------1 2** **2.የተሻለ ብቃት ያለው አገልግሎት ስለሚሰጥ ---------- 1 2** **3.የጤና ባለሙያዎች ጥሩ አመለካከት ስላላቸው ---------- 1 2** **4.ክፍያው በጣም ቅናሽ ሥለሆነ ----------1 2** **99. ሌላ ይገለፅ----------1 2**		**/-----/** **/-----/** **/-----/** **/----/** **-----/**
403	**ከቤት ከወለዱ ለምን በቤት መወለድ ፈለጉ?** **(*ምርጫዎችን አታንብብ*)** **(ከአንድ በላይ መልስ)**	**<u>አ</u> <u>የለም** **1. ወደ ጤና ድርጅቶች ለመጓጓዝ የትራንስፖርት /ገንዘብ/ ችግር ምክንያት----------1 2** **2. የጤና ባለሙያዎች ለወላዶች ያላቸው አቀራረብ ተስማሚ ሥላልሆነ----------1 2** **3 .ዘመዶቼ ባሉበት መወለድ ሥለምፈልግ----------1 2** **4. በአካባቢ ያሉ የልምድ አዋላጆች የተሻለ ሥለሆኑ ---------- 1 2** **99. ሌላ ይገለጽ ----------1 2**		**/-----/** **/-----/** **/-----/** **/-----/** **/-----/**
404	**በቤት የወለዱ ከሆነ ማን አዋለድዎ? (ከቤት መዉለድ ከፈለጉ ማን እንዲዋልዶ**	**1. የጤና ባለሙያ** **2. የልምድ አዋላጅ** **3. የቅርብ ዘመድ** **4. ጎረቤት** **5. ማንም አላዋለደይ**		**/-----/**

	ይፈልጋሉ)	99. ሌላ ይገለጽ ----------		
405	የነፍሰጡር ምርመራን በተመለከተ የባለቤትዎ አመለካከት ምን ይመስላል	1. ይደግፋል 2. አይደግፍም 88. አለዉቅም		/----/

ክፍል አምስት ተጠያቂዎች የነፍሰጡር የጤና አገልግሎት ጥራት ላይ ያላቸው አመለካከት ለመገምገም የተዘጋጀ መጠየቅ

ቁጥር	(ከጥያቄ 501-506) ለቅድመ ወሊድ ምርመራ ላደርጉ እናቶች ብቻ)	አማራጭ መልስ	አልፍ	ኮድ
501	የጤና ባለሙያዎች የነፍሰጡር እናቶችን ያከብራሉ? (በቅድመ ወሊድ ምርመራ ወቅት)	አዎ የለም 88. አላዉቅም		/-------/
502	የቅድመ ወሊድ ምርመራ ለማግኘት የወሰደበት ጊዜ?	1. አጭር ጊዜ 2. ደህና ጊዜ 3. ረጅም ጊዜ		/-------/
503	በቅድመ ወሊድ የምርመራ ክፍል የተሟላና በቂ የምርመራ ክፍል አለ ብለዉ ይገምታሉ?	አዎ የለም አላዉቅም		/-------/
504	ስለነፍሰጡር ምርመራ አገልግሎት ጥራት ምን ይሰማዎታል?	ጥሩ በቂ ነው ደካማ		/--------/
505	ጤና ድርጅቱ በሚሰጠው የቅድመ ወሊድ የምርመራ አገልግሎት ያምኑበታል?	አዎ የለም		/--------/
506	በቅድመ ወሊድ ምርመራ የሚያገለግሉትን የጤና ባለሙያዎች እንዴት ደረጃ ያወጡላቸዋል?	በጣም ጥሩ ጥሩ 3.ምንም አይደሉም 4. መጥፎ		/--------/
507	በአቅራቢያዎ ባለው የጤና ድርጅት እና በቤቶ መካከል ሥላለው እርቀት ምን ይሰማዎታል?	1. በጣም ቅርብ 2. አማካኝ 3. በጣም ሩቅ		/--------/
508	ከቤቶ አንስቶ እስከ አቅራቢያዎ ካለው ጤና ተቋም ምን ያህል ሰዓት ወስዳል?	--------- ሰዓት		/--------/

ለትብብርዎ በጣም እናመሰግናለን