

FACTORS INFLUENCING UTILIZATION OF ANTENATAL AND DELIVERY CARE SERVICES AMONG WOMEN OF CHILD BEARING AGE (15-49 YEARS) IN BURJI SPECIAL WOREDA, SNNPR, ETHIOPIA.



By

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Abstract

Background: Every year, approximately 536,000 maternal deaths occur in the world due to pregnancy related complications; of which over 95% occur in sub-Saharan Africa and Asia. One explanation for poor health outcomes among women in these countries including Ethiopia is the low utilization of ANC & delivery care services by a large proportion of women.

Objective: This study was aimed to assess factors influencing utilization of antenatal and delivery care services in Burji special woreda, SNNPR, Ethiopia.

Methods: A community-based cross sectional study that used both quantitative and qualitative methods of data collection was conducted in Burji special woreda from March 1-30, 2011. The study included 1 urban and 8 rural kebeles with a total sample size of 773 respondents that were selected by multistage (two stage) sampling and purposive sampling was used to select 40 discussants (men and women) for four FGDs. Quantitative data was edited, coded and entered in to SPSS version 16 by which also analysis was done. For qualitative, data was analyzed manually.

Results: The study revealed that the proportion of women who received ANC was 55.6%. Only 16.4% mothers delivered at health institution and only 15 % of total delivery was attended by skilled birth attendants. Residence (AOR=4.657; 95% CI=1.937, 11.198), monthly income and maternal education were major determinants of ANC service utilization and residence (AOR=8.061; 95% CI=4.145, 15.675), maternal education and ANC attendance (AOR=0.199; 95% CI=0.108, 0.365) were determinants for delivery care service utilization after adjusting for other variables. The findings were also supported by FGD results where economic constraints, transport problems and inaccessibility of health facilities were important factors for low utilization of maternal health care services.

Conclusion: This study confirmed that the proportion of ANC and delivery care services users was very low. Economical, health facility related and socio-demographic factors were the most frequently identified contributors to the low maternal health care services utilization. More effort should be made to improve formal education for mothers & girls, boost accessibility to and strengthening maternal health care services.

Key words: utilization, Antenatal care, Delivery care services, Burji, Southern Ethiopia

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Acronyms

ANC	Antenatal Care
EDHS	Ethiopian Demographic and Health Survey
FMoH	Federal Ministry of Health
HEP	Health Extension Program
HEW	Health Extension Worker
HF	Health Facility
HSDP	Health Sector Development Program
IMR	Infant Mortality Rate
MCH	Maternal and Child Health
MDGs	Millennium Development Goals
MMR	Maternal Mortality Ratio
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
SNNPR	Southern Nations, Nationalities, and People's Region
TBA	Traditional Birth Attendant
TTBA	Trained Traditional Birth Attendant
UNFPA	United Nations Population Fund Agency
UNICEF	United Nations Children Fund
WCBA	Women of Child Bearing Age
WHO	World Health Organization

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Chapter One: Introduction

1.1 Background Information

Childbearing is one of the most special events in women's life. In developing countries like Ethiopia, the birth of a child is considered a blessing to the mother, the family in particular and society at large. However, pregnancy, labour, and delivery complications in these countries constitute the greatest share of female morbidity and mortality in the childbearing age groups (15-49 year). Women in developing countries often face serious health risks during pregnancy either for herself or her child or both. In the world, approximately 536,000 maternal deaths occur annually, of which over 95% occur in sub-Saharan Africa and Asia (1).

Africa has the highest burden of maternal mortality in the world and sub-Saharan Africa is largely responsible for the dismal maternal death figure, contributing approximately 98% of the maternal deaths for the region. The lifetime risk of maternal death in sub-Saharan Africa is 1 in 22 mothers compared to 1 in 210 in Northern Africa, 1 in 62 for Oceania, 1 in 120 for Asia, and 1 in 290 for Latin America and the Caribbean (1).

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. It is estimated that for every women who dies from pregnancy – related cause, 16-17 women suffer complications that seriously affect their health, often permanently. Maternal morbidity comprises temporary, mild or sever conditions as well as permanent /chronic conditions that persist beyond the puerperium (such as obstetric fistula, urinary or fecal incontinence, scarred uterus, pelvic inflammatory disease, palsy etc.).

Ethiopia is among highly contributors to the maternal death in sub-Saharan Africa: the maternal mortality ratio is 590 deaths per 100,000 live births, and has also the highest infant mortality rate of 45 deaths per 1000 live births (2, 3). Fortunately, most of these deaths are preventable. High quality accessible health care has made maternal deaths a rare event in developed countries. The risk for a pregnant North American woman is only 1 in 3,200. However, the risk of maternal death for a pregnant woman in developing countries like Ethiopia is 1 in every 48 deliveries (4). At the Safe Motherhood Initiative (SMI) Conference Kenya in 1987 the participating countries agreed to decrease maternal mortality by 50% by the year 2000. Despite all the initiatives to reduce maternal deaths in Ethiopia, MMR remains persistently high.

Adequate antenatal care (ANC) and skilled obstetric assistance during delivery are important strategies that significantly reduce maternal mortality and morbidity. ANC provides avenue to provide pregnant women with information, treat existing social and medical conditions and screen for risk factors. The World Health Organization (WHO) recommends four antenatal care visits for women whose pregnancies are progressing normally, with the first visit in the first trimester (ideally before 12 weeks but no later than 16 weeks), at 24-28 weeks, 32 weeks and 36 weeks. Each visit includes care that is appropriate to the woman's overall condition and stage of pregnancy, and helps her prepare for birth and care of the newborn. If problems or potential problems that will affect the pregnancy and newborn are detected, the frequency and scope of visits are increased (5). However it is not enough to receive ANC, since majority of the fatal complications occur during or shortly after delivery. It is therefore important that pregnant women have skilled obstetric attendance during delivery (4).

1.2 Statement of the problem

Women in developing countries often face serious health risks during pregnancy either for herself or her child or both. One explanation for poor health outcomes among women and children is the non-use of modern health service by a sizable proportion of women in these countries including Ethiopia. Health experts agree that the interventions needed to avert much of the burden of maternal and perinatal death and disability are known. However, it has become increasingly clear that the success of these interventions depends on the capacity of the health system in each country to deliver quality care as well as factors in other sectors such as girls' education, good roads, and available transport for emergencies (6). Both maternal and infant mortality are considered sensitive indicators of whether or not the health system as a whole is functioning effectively, and they can indicate general progress on other health indicators as well (6).

While an estimate of 97% of the pregnant women in developed countries receive ANC and 99% use skilled obstetric service at delivery, only 65% and 53% of women in developing countries use ANC and skilled obstetric care respectively (4).

And scientific evidence has clearly established the inverse relationship between skilled attendants at birth and the occurrence of maternal deaths.

Thus, the considerable variation in the maternal mortality estimates between different locations within the same region can be attributed, to a large degree, to the differences in the availability of and access to modern maternal health services. The use of maternal health services also contributes to neonatal health outcomes as the health of the mother and the newborn is closely linked (7).

Just as many other governments of developing countries, the Ethiopian government has been paying great attention to maternal health care. It has developed strategies to improve access to primary health care, but the maternal mortality ratio (MMR) in Ethiopia remains high. Following the launch of 'Making Pregnancy Safer' in 2001, substantial investments have been made to improve access and quality of maternal health services.

Ethiopia's Health Policy (1993) has been translated into a comprehensive Health Sector Development Program (HSDP) - a 20-year strategic roadmap for the health sector aligned with the cross-sectoral PASDEP - which has been implemented in three successive phases starting in 1996/97.

These successive programs have introduced important reforms such as the Health Extension Program (HEP), aiming to ensure universal primary health care coverage and institutionalize community health services (2). The health extension workers (HEWs) have basic skills in clean delivery, essential newborn care and recognition and referral of maternal and newborn complications. So far, the total number of HEWs trained and deployed has reached 30,193 accounting for 98.07% of the total national requirement of 30,786 HEWs (3). The priorities of the current third phase - HSDP- III (2005/6 - 2009/10) have been directly aligned with the health-related MDGs, and focus on high-impact Health systems strengthening (HSS) interventions needed to scale-up coverage of key health services. The fourth phase - HSDP-IV is currently being finalized (2). Following this, although national ANC coverage has improved in recent years, it remains low: ANC coverage was 68% in 2008/9 up from 46% in 2004/5 (2).

There have also been substantial investments to improve access and quality of maternal health services in terms of the procurement of equipment for clean delivery and basic and comprehensive emergency and obstetric care which also result in improvement in the coverage of deliveries assisted by skilled health personnel even if it is very low yet; reaching 34% in 2009 from 15% in 2004/5 (2).

Despite the fact that maternal health care services utilization is essential for better improvement of maternal & 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 service in rural area of the country particularly in SNNPR. From previous study conducted in the region in 2003, only 26.1% of SNNPR women received antenatal care and 3.3% received professional assisted delivery care (8) which was lower than the national coverage level. And the other study conducted in rural woredas of SNNPR including Burji special woreda in 2008/9 indicates that ANC coverage was 62% and the coverage of delivery assisted by health professional was only 8.8% (9) which was also far lower than the national coverage.

In Burji special woreda, no studies have been undertaken concerning the factors affecting utilization of maternity services. Therefore, the purpose of this study was to assess the current status, and factors that influence utilization of maternal healthcare services in Burji Special Woreda, SNNPR, Ethiopia.

Chapter Two: Literature Review

2.1 Introduction

The Health Behavioral Model of health services use proposed by Andersen is composed of three main sets of characteristics, namely, predisposing, enabling, and need. The predisposing characteristics include demographic factors (age, sex, number of children), and social characteristics (education, ethnicity). The enabling factors are those that may promote the use of the health care facility, which include knowledge of and access to modern health care. The third set of characteristics includes perception of the severity of an illness, and is therefore a stimulus to utilize health care services (10).

In the Model, Andersen discusses the socio-demographic factors, health center characteristics, and perceptions of illness severity that might influence an individual's health seeking behavior (10).

2.2 Socio-demographic characteristics of women

Residence

The relationship between utilization of maternal health care and socio-demographic factors of pregnant women is partly affected by residence. Many studies found that the residence of mothers correlates significantly with their use of prenatal and delivery care (7, 11, 8). For example, urban mothers are more likely to utilize maternal health care services than rural mothers are. The residence of mothers is considered as the strongest predictor of maternal health care utilization in a study conducted by Babalola and Fatusi (7). Study conducted by Elo (12) in Peru also found that urban and rural regions are geographical indicators to predict utilization of health care services.

In study conducted in Ethiopia in 2003, there is a significant variation in use of antenatal care services by residence. Women from Addis Ababa tended to exhibit the highest use of antenatal care (83.1%), followed by women from other urban (63.4%) and rural areas (21.6%) (13).

In conclusion, socio-demographic factors such as residence of women were significantly associated with the use of maternal health care services. Women who live in urban areas are more likely to avail themselves of adequate maternal health care services than those who live in rural areas. The importance of place of residence in determining women's use of maternal health care can be explained through the availability of health facilities.

It is undeniable that generally, medical facilities are more readily accessible in urban than rural areas. In addition, urban women tend to be more educated and therefore, have greater knowledge about the benefits of maternal health care.

Maternal Age

Since older and younger women have different experience and influence, their behavior on seeking health care also varies. Commonly, younger women are more likely to utilize modern health care facilities than older women, as they are likely to have greater exposure and knowledge to modern health care, also more access to education. Older women, on the other hand, have accumulated knowledge on maternal health care and therefore likely to have more confidence about pregnancy and childbirth or they may be less comfortable with modern medicine and more reluctant to take advantage of available services; consequently, they may give less importance to obtain institutional care (8, 14). In contrast, experience and skills acquired by older women should have a positive influence on the use of health services.

Many researchers argued that older women are more likely to use maternal health care than their younger counterparts and younger women are most likely to miss appointments or attend late (11). In short, some studies imply that women's age is not an important factor in influencing the use of maternal health care services.

However, numerous researches have documented that socio-demographic characteristics of pregnant women, such as age, are in fact associated with utilization of prenatal care service and, in addition, relates to choosing the place of delivery.

There is still debate about how women's age influences utilization of maternal health care services even though women's age is considered as an important predictor regarding to the use of antenatal and delivery care services.

Maternal education

Beside age and residence of women, maternal education is considered as the most important factor in determining women's antenatal and delivery care seeking behavior in order to reach adequate maternal care services (11).

Findings of Ethiopian demographic and health survey (EDHS) 2005 in depth analysis shows, a strong association between women's education and the use of antenatal care services.

Women with at least primary education are 1.92 times more likely to receive ANC services than women with no education. Likewise, the odds of receiving antenatal care for women with secondary and higher education was 5.41 times higher than women with no schooling.

Irrespective of the geographical setting, age and ethnic composition of the population, female education was indicated as an important factor in affecting utilization of antenatal care services. Key informants as well as focus group discussion participants from almost all regions underlined the importance of female education as it makes women aware of the benefits of health care services (15). As is the case for antenatal care, utilization of delivery and postnatal care services appears to be strongly linked to female schooling. Women with secondary education and above were about 7.1 times more likely to deliver their children at a health facility than women with no education. Likewise, the odds of seeking delivery care at health institutions for women with some primary education are two times (2.09) higher than for women with no education.

The probability of seeking postnatal care for women with secondary education and above is 4.2 times higher than women with no education. By the same token, women with some primary education are 1.74 times more likely to give birth at health institutions than women with no education (15).

The findings from three rounds of Rwanda Demographic and Health Survey (RDHS) data (1992, 2000, and 2005) also shows strong association between maternal education and utilization of maternal health care service i.e. In 1992, 18 percent of women with no education gave birth at health facility compared with 30 percent of women with primary education and 66 percent of women with above primary education who delivered at a health facility (16).

There is also evidence indicating that education alone may not be sufficient to improve health care-seeking behavior. For example, despite a favorable and enabling policy environment, universal primary education and decentralization of health services, there has not been an increase in the utilization of emergency obstetric care by women in Uganda, because women's care-seeking behavior was not the result of individual preferences or choices but it was conditioned by community poverty, norms and tradition (14).

Number of living children

There are many studies that have investigated the relationship between the number of living children of a mother and the use of maternal health care services (8, 17, 18).

In study conducted in Philippines, mothers with one live birth are more likely to use maternal health services for first births than for second and higher order births. Utilization of maternal health services is generally lower among mothers of birth order five and higher (17, 18).

From Study across different social setting in south India: in the states of Andhra Pradesh, Karnataka and Tamil Nadu, the order of birth was found to be an important predictor of receiving antenatal care in Andhra Pradesh. If the order of birth was 4 and above, the probability of a woman receiving antenatal care was reduced by 60 per cent compared to births of second order. Women who had first order births were about one-and-a-half times to two-and-a-half times more likely to have delivered their babies at a health care institution (e.g. hospital) than women who had their second order births in all three states. On the other hand, women with births of order 4 and above were less likely to do so.

And women who had their first baby were more likely, and those with 4 or higher order births were less likely, to have been assisted by health professional at the time of delivery (19). On the other hand some others argued that women with higher parity understand the high risk of pregnancy-related complications and are more likely to go for antenatal care. The more children women have the more they pay attention to taking care of their health during pregnancy (11).

However, there is still debate about how the number of a woman living children have relates to utilization of maternal health care. Antenatal care as well as delivery care may depend on the interest and anxiety of each mother.

2.3 Knowledge of women about maternal health care

Knowledge is the first factor that affects attitude, intention, and behavior. Knowledge relates to behavior, and behavior produces change toward service utilization. The process by which decisions are made about utilization of maternal health care services is related to a complex mixture of knowledge, attitude, and behavior (10).

The main reasons leading to poor use of health care services include the personal beliefs, knowledge, attitudes and lifestyle of pregnant women (10).

Some women only go to clinics for checkups during pregnancy if they have some special problems. But the more knowledge about the importance of dangerous signs women receive, the more they go for antenatal care (11).

Studies found that knowledge of family planning and ANC has a positive and statistically significant effect on ANC use. Similarly, ANC was not seen as essential unless there was physical discomfort during pregnancy and complications in previous pregnancy or childbirth. Women's perceptions of the risk factors associated with adverse obstetric outcomes were significantly related to the probability of seeking ANC (20, 21).

Knowledge of pregnant women, therefore, regarding maternal health care, such as knowledge of danger signs during pregnancy and delivery, plays a major role in influencing utilization of maternal health care services.

2.4 Characteristics of health facilities

Distance/Travel time

Distance from health facilities increases the cost of access to professional care; in that the time spent reaching the nearest facility may represent a significant negative opportunity cost. This is especially the case for those living in remote and isolated rural areas where distance tends to isolate the household from the benefits and externalities of access to information. Even in the urban settings, where transportation is more readily available, distance seems to matter (22, 21). In a study conducted in southern Tanzania, the proportion of women with skilled attendants at delivery was also seen to decrease with increasing distance to the health facility which provide delivery care from 50.1% among women residing within 5 km of a health facility to only 20.2% among those residing more than 5 km from a health facility (21). From the study in Kenya, Teso district it has been said that access to health facility was the main factor in the choice of place of delivery. Modern health services were either not available or were not accessible to the majority of the study population. Hence most of the child deliveries take place at home.

Among 1200 respondents, the average travel distance to nearest health facility that offered both antenatal and delivery care was 10.2 kilometers (23).

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 (24,4).

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.

One of the factors used to measure quality of maternal health care is the number of skilled health personnel. Good quality of care is not a substitution for emergency obstetric care but it promotes women's seeking care during pregnancy and delivery when facing problems.

From Nigerian study it has been reported that the poor staffing of the health facilities, particularly the primary health care facilities, which makes it difficult to guarantee 24-hour availability of services had also been reported as a factor that discourages women in Nigeria, even when they had received antenatal care services, to seek medical services when labor commences (7).

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. From the study conducted in developing countries to study factors affecting antenatal care, financial constraint was the most important factor in non-use of ANC services. The costs of the service including transportation and necessary Laboratory tests were major factors prohibiting service utilization (20). In the same study, women who Perceived ANC from private hospitals to be superior were Prevented from using these services because of the high cost and free or subsidized services improved uptake of ANC among urban slum-dwelling Women (20).

The study conducted in SNNPR previously also shows that, the low delivery service utilization was attributable to the relative high cost of delivery care (8).

Conceptual framework

The conceptual framework of this study is developed based on the Health Behavioral Model of health services use (10). The main components of this model include predisposing, enabling, and illness need factors. According to the Model, an individual's health seeking behavior is likely to vary by demographic and socio-cultural predisposing factors. Women with good socio-demographic attributes are more likely to use health care services than others. Socio-cultural factors such as health beliefs may also play a role in determining whether women attend health care services. In addition, enabling factors is perceived as social support in which health availability may play important role in changing individual's choice. The Health Behavioral Model of health services use also suggests that illness need is not only perceived according to individual's knowledge of disease symptomatology, but also according to one's beliefs about the disease and perceptions of severity.

Accordingly, the predisposing and enabling components establish the conditions within which a pregnant woman is likely or unlikely to attend maternal health care services in commune health centers when stimulated by an illness need such as having abnormal signs (10).

The conceptual framework as follow is developed based on literature reviews and the Health Behavioral Model of health services use in the status of maternal health care services utilization in Burji Special woreda.

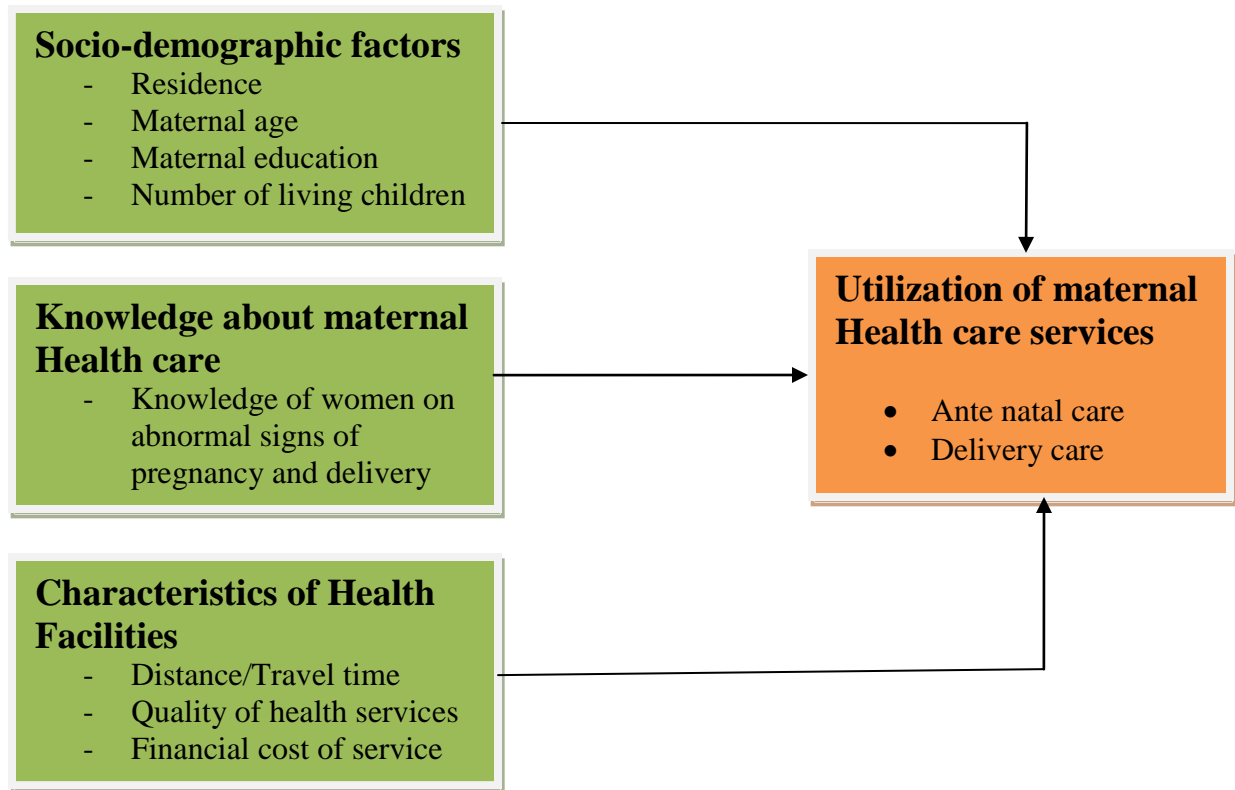


Figure 1. Conceptual frame work for the study on factors influencing utilization of antenatal and delivery care services among women of child bearing age (15-49 years) in Burji special woreda.

Significance of the study

In Ethiopia, studies addressing determinants of maternity care services utilization are scarce, and these studies have been mainly focused on urban areas. Despite the fact that maternal health care services utilization is essential for better improvement of maternal & child health, there are a lot of factors specially in rural parts of the country like Burji that leads to low utilization. Therefore it was important to explore and describe determinants of maternal health care services utilization in rural areas.

An analysis of factors that influence the utilization of maternal health care services will provide planners and policymakers with useful information so that actions could be taken towards the problems to improve maternal health care services utilization and to further preserve maternal and child health.

This study, therefore, aimed to identify the factors that influence the utilization of maternal health care services in Burji special woreda and will furnish important directions for intervention which help local health planners to critically look at the problem during their planning process.

In addition, this study may be useful to other researchers as reference material while conducting further studies.

Chapter three: Objectives of the study

3.1 General objective

To assess factors influencing utilization of antenatal and delivery care services in Burji special woreda, SNNPR, Ethiopia, 2011.

3.2 Specific objectives

- To determine the magnitude of ANC, delivery attended by skilled birth attendant and delivery in health facility in Burji special woreda.
- To identify factors that influence women's attendance of Antenatal care service in Burji special woreda.
- To identify factors that influence women's attendance of institutional delivery care service in Burji special woreda.

Chapter four: Methods and Materials

4.1 Study area and period

Southern Nations, Nationalities, and People's Region (SNNPR) has 13 Zones and 8 special woredas. Based on the 2007 Census conducted by the Central Statistical Agency of Ethiopia (CSA), 89.72% of the populations are estimated to be rural inhabitants; this makes the SNNPR Ethiopia's most rural region. Burji special woreda is one of 8 special woredas in the Southern Nations, Nationalities, and Peoples Region (SNNPR) of Ethiopia. Because Burji is not part of any Zone in the SNNPR, it is considered a Special woreda, an administrative subdivision which is similar to an autonomous area. It is located 518 km far away from Addis Ababa and 211 km from the regional capital Hawassa. The study area has 2 urban and 24 rural total of 26 kebeles with a total population of **63,370** (Male 30,993; Female 32,377). Around 89% of the population lives in rural areas and an estimated proportion for reproductive age women (15 - 49 years) in the woreda is 23.75% .Burji is bordered on the East and South by the Oromia Region, on the West by the Konso special woreda, and on the North by the Amaro special woreda.

The woreda has Kola, Dega and Woinedega agro ecological zone (25% Kola, 13.11% Dega and 61% Woina Dega). It is situated at 810-2560 meters above sea level and has an average temperature ranging from 15^oc to 27^oc. The annual rain fall is 801-1000 mm per year. There are 22 primary schools (grade 1-8) and one high school (grade 9-12). In addition to this, the woreda has 26 governmental health institutions (24 health posts and 2 health centers), 3 private clinics and 2 rural drug vendors (25). The study was conducted from March 1-30, 2011.

4.2 Study design

Community based cross-sectional study design with both quantitative and qualitative method of data collection was used.

4.3 Study population:

4.3.1 Source population

The source populations of this study were all women of childbearing age in Burji special woreda.

4.3.2 Study population

The study populations were women of childbearing age who gave birth at least once in the last five years preceding the survey, irrespective of place and outcome of delivery and who were permanent residents of the study area. In case where a woman had given birth more than once, the most recent birth was considered for the present study.

4.3.3 Inclusion criteria

- All women of childbearing age who gave birth at least once in the last five years preceding the survey, irrespective of place and Outcome of delivery.
- Women, who were mentally and physically capable of being interviewed.
- Permanent resident of the study area (at least 6 months) (26).

4.3.4 Exclusion criteria

- Women, who had not gave birth at least once in the last five years preceding the survey, critically ill, could not talk or listen, and those who lived less than six months at the time of the interview were excluded from the study.

4.4 Sample size and Sampling Techniques

4.4.1 Sample size Determination

The assumptions for sample size calculation were by taking coverage of ANC for women in rural woredas of SNNPR including Burji special woreda in 2008/9 which was 62% and gives maximum sample size (9), giving any particular outcome to be within 5% marginal error, 95% confidence interval of certainty ($\alpha = .05$), 10% contingency for non response rate and a design effect of 2. Based on these assumptions, the actual sample size for study was computed using a single population Proportion formula.

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

Where, n = the total sample size required

d = margin of error of 0.05 with 95% confidence interval.

$\alpha = 0.05$ (level of significance)

$p = 62\%$ (ANC coverage for women in rural woredas of SNNPR)

$$\text{So, } n = \frac{(1.96)^2(0.62)(0.38)}{(0.05)^2}$$

$n = \underline{362}$ individuals

Considering 10 percent non response rate of 36 individuals and a design effect of 2; the final sample size was **796**.

4.4.2 Sampling Techniques

By using Stratified sampling technique, all kebeles were stratified into urban and rural kebeles. And then multistage sampling technique (two stages) was used to reach the needed study subjects. In both rural and urban kebeles from total of 26 kebeles 9 kebeles (1 from urban and 8 among rural) were selected by simple random sampling technique. The number of WCBA was calculated by taking the estimated proportion of WCBA (23.75 %) from total population of each kebele. All 9 kebeles have total of 4598 mothers of child bearing age (Soyama 02 kebele - 832, Billa- 533, Goche-732, Gude-335, Dinbacho-761, Otamalo-473, Harawonje-140, Tisho-308 and Mure - 484) and they were primary sampling unit (PSU). And then from each kebele, based on the proportionate allocation to size, women of child bearing age were drawn by simple random sampling technique to reach the final sample size and these were secondary sampling unit (SSU). The first household was chosen near the Kebele office as a starting point by drawing a number. Households with no eligible women were excluded from the study. If in case more than one eligible respondent found in the household, only one respondent was chosen by lottery method. After successfully interviewing each household, the interviewer continued to the right side to the next household till the required sample size was reached. (Figure 2A).

For the qualitative design, purposive sampling technique was used to select participants who were willing to participate from different kebeles. Four FGDs (two in urban and two in rural with men and women separately) were carried. Each FGD was consists of ten members and the members of each FGD were selected by supervisors and principal investigator (PI) together with kebele administrators. (Figure 2B).

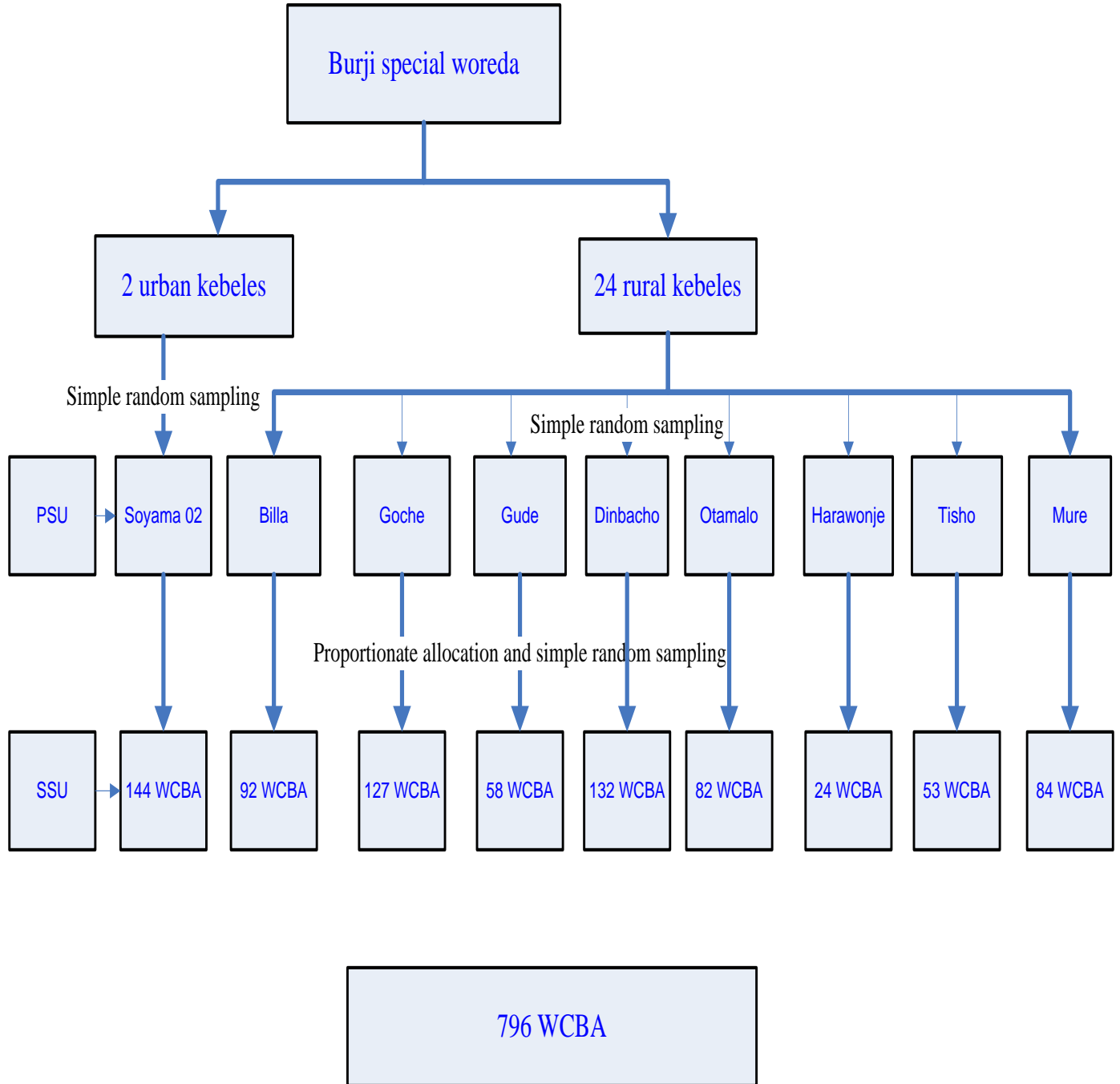


Figure 2A. Schematic presentation of sampling procedure for Quantitative method.

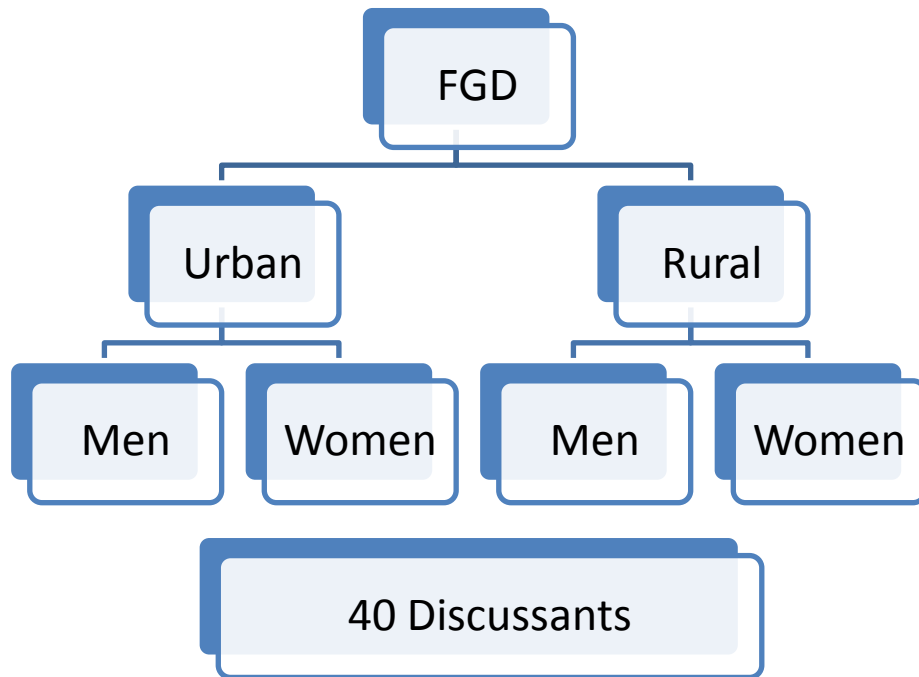


Figure 2B. Schematic presentation of sampling procedure for Qualitative method.

4.5 Data collection instrument and procedures

4.5.1 Quantitative method

The data was collected using structured questionnaire specially developed for this purpose by interviewing the respondents. The questionnaire was initially prepared in English and was translated into Burjigna. The Burjigna version was again retranslated into English to check for any inconsistencies or distortion in the meaning of words and concepts.

Ten female data collectors, who completed grade 10 and above and can speak Burjigna were hired. Two supervisors who are teachers and Bachelor holders were selected from the district. The responsibilities of the supervisors were checking whether the questionnaires were correctly completed or not.

The questionnaires had the information on variables such as socio-demographic characteristics; knowledge regarding maternal health care services particularly antenatal and delivery care services. During data collection, when the house was found to be locked, it was revisited three times next time.

4.5.2 Qualitative method

In order to complement the data obtained by structured questionnaires a total of four FGDs were undertaken in a group of women and men separately to maximize the data quality and identify the socio-cultural determinants. It was moderated by the principal investigator (PI) with the assistance of trained note taker and tape recorder. Open ended questions were used to guide the discussion.

4.6 Variables

4.6.1 Dependent variables

- ANC visits and delivery care

4.6.2 Independent variables

- Socio-demographic factors (age, education, income, marital status, parity, and number of children).
- Knowledge of dangerous health problems related to pregnancy and delivery, perceived susceptibility to those problems, and current illness experience.
- Health service barriers (cost of health service, distance and transport cost).

4.7 Data collection process

4.7.1 Quantitative

Recruiting and Training

Ten female data collectors, who completed grade 10 and above and can speak Burjigna language were hired. Two teachers who are bachelor holders were selected as supervisors from the worda. Both interviewers and supervisors were given one day training before the actual work about the aim of study, study procedures and data collection techniques. During training, it has been gone 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 were also provided an interview guide prepared in Burjigna which was developed before training.

Criteria for selection of data collectors

- Being female and previous experience were priority, grade 10 completed and above, knew Burjigna 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

Pre- testing

The pre test of the questionnaire was carried out in Soyama 01 kebele one of the kebeles in Burji special worda outside the selected kebeles that has similar socio-demographic characteristics with kebeles included in study. A total of 40 respondents were interviewed. On average, it took 20 minutes (range from 15 to 31) to complete the interview. Both the interviewers and supervisors assessed clarity, understandability and completeness of the questions and then results were edited and coded.

Data collection

After completing the result of the pre-test, discussion was made with supervisors and data collectors and care was taken not to include the kebele where the pre-test was conducted.

Then, the data were collected using house to house interview questions, which consist of 40 variables, categorized in to three parts. A maximum effort has been made to insure privacy during the interview. Supervisors were around every day to control as well as to support data collectors. The actual data collection process was carried out on March 1-30, 2011.

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 sometimes 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 to the interviewers for the next morning to get it corrected.

4.7.2 Qualitative

The principal investigator moderated the discussion of all FGDs and was assisted by trained note taker. Half day training and practical exercise was carried with note taker at the woreda health office. Group discussions separately for women and female were conducted in a quiet kebele hall and at woreda 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 and translated& interpreted all raised points of FGDs. Although diverse opinions were expressed within each group, preliminary coding of transcripts was done and consist themes that are directly related to the objective of the study.

4.8 Operational Definitions

1. **ANC visits:** - the frequency of antenatal care checkups by women during the last pregnancy.
2. **Delivery care:** - care for mothers in relation with place of delivery for the recent birth especially in health facility.
3. **Maternal health care services:**- ANC and delivery care services
4. **Antenatal care attending women:** - Pregnant women who had attended antenatal clinics at least once.
5. **Antenatal care non-attending women:** - pregnant women who had not attended antenatal clinics at all.

6. **Skilled birth attendant:** is an accredited health professional – such as a midwife, doctor or nurse – who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns (27).
7. **Traditional birth attendant:** A birth attendant who initially acquired the ability by delivering babies herself or through apprenticeship to other TBAs.
8. **Trained Traditional birth attendants:** those TBAs who have undergone subsequent training and are integrated in the formal healthcare system.
9. **Permanent resident:** the one lived in the study area for at least six months at the time of the survey.

4.9 Data Quality Assurance

The quality of data was assured by proper designation and pre test of the questionnaire, proper training of the interviewers and supervisors on data collection procedures, proper categorization and coding of the questionnaire. Every day, 10% of the filled questionnaires were reviewed and checked for completeness and relevance by the supervisors and principal investigator and the necessary feedback was offered to data collectors in the next morning before the actual procedure.

For the qualitative, the kebele administrators and the supervisors with principal investigator identified eligible discussants. Finally the data was cleaned and edited after it has been entered in to the soft ware.

4.10 Ethical considerations

The proposal was reviewed by the ethical committee of Jimma University. Formal letter of permission was produced from administrative bodies of the special woreda and was sent to all kebeles included in the study. And letter of cooperation was also obtained from kebele administrators.

Informed verbal consent was secured for each study subjects. Each respondent was informed about the objective of the study and their name was not written to assure confidentiality.

4.11 Data Analysis

After data collection, each questionnaire was checked visually for completeness. Then the data was edited, coded and entered in to SPSS version 16 statistical package. And using SPSS version 16, it was cleaned and analyzed by using descriptive statistics (frequencies, percentages, mean and standard deviation), bivariate and multivariate analysis.

The degree of association between dependent and independent variables was assessed using crude and adjusted odds ratio with 95% confidence interval. Bivariate analysis was performed to assess statistical association between dependent and independent variables and then multiple logistic regression was carried out to control potential confounding variables. For qualitative part, the data was analyzed manually by using log book prepared on the bases of the discussion guide. The data was edited, cleaned, color coded and organized using thematic framework.

4.12 Dissemination of findings

First, the study findings will be presented as a partial fulfillment of the degree of Masters of Public Health to Jimma University scientific community. After approval by university, it will also be communicated to local health planners and other relevant stake holders in Burji special woreda to enable them take recommendations in to account during their planning. The finding will also be published on a peer reviewed journals.

Chapter five: Results

5.1 Quantitative results

5.1.1 Socio demographic characteristics

A total of 773 women who gave birth at least once within the last five years before the survey were interviewed from one urban and eight rural kebeles. The overall response rate was 97.1%.

One hundred eighty one (23.4%) of respondents were in the age group of 25-29 with the mean age of 30.45 ± 7.53 ranging from 28.34 ± 6.22 in urban to 30.71 ± 7.64 in rural women.

Three hundred seventy three (48.3%), two hundred twenty nine (29.6%) and one hundred seventy one (22.1%) were followers of Orthodox, Muslim and protestant religions respectively.

Six hundred seventy three (87.1%) of study participants were farmers. Seventy (84.3%) of urban and only one hundred thirty one (19%) of their counter- parts had attended formal education.

Seven hundred eighteen (92.9%) of the mothers are currently living with their husbands. Four hundred eighty seven (72.4%) of farmer mothers were involved in safety net program (a program for the poor).Sixty four (64%) of mothers other than farmers earn monthly income of 500 to 1000 Ethiopian birr. Fifty six (67.5%) of urban participants and five hundred thirty four (77.4%) of their rural counter parts had family size of greater than or equal to five (Tab 1).

Table 1 Socio-demographic characteristic of respondents in Burji special woreda, SNNPR, Ethiopia, March 1-30, 2011

Variables	Number (n = 773)	Percentage (%)
Age		
15-19 years	38	4.9
20-24 years	143	18.5
25-29 years	181	23.4
30-34 years	136	17.6
35-39 years	156	20.2
40-44 years	96	12.4
45-49 years	23	3.0
Mean \pm SD		(30.45 \pm 7.53)
Educational status		
Unable to read and write	507	65.6
Primary school	232	30.0
Secondary and above	34	4.4
Ethnicity		
Burji	770	99.6
Others	3	0.4
Occupation		
Farmer	673	87.1
House wife	41	5.3
*Others	59	7.6
Religion		
Orthodox	373	48.3
Muslim	229	29.6
Protestant	171	22.1
Marital Status		
Married	718	92.9
**Others	55	7.1
Income /month (for other than farmers)		
Less than 500	23	23
500 to 1000	64	64
Above 1000	13	13
Involved in safety net (for farmers)		
Yes	487	72.4
No	186	27.6
Family Size		
1-2	11	1.4
3-4	172	22.3
\geq 5	590	76.3
Mean \pm SD		(6.89 \pm 2.76)

*civil servants, merchants, daily laborers, students; **divorced, separated, widowed, never married

5.1.2 Obstetric characteristics of the respondents

The obstetric history of the respondents revealed that 640(82.8%) of respondents had their first pregnancy before the age of twenty with the mean age at first pregnancy 17.65 ± 1.67 .

Out of the total respondents 35 (42.2%) of the urban and 362(52.5%) of the rural mothers had five or more children. From the total study participants, 446 (57.7%) had five or more pregnancies. Two hundred (25.9%) and one hundred seven (13.8%) of the mothers had history of abortion and still birth respectively. In a significant proportion of the respondents 329 (42.6%) the last pregnancy was unplanned (Tab 2).

Table 2 Obstetric characteristic of respondents in Burji special woreda, SNNPR, Ethiopia, March 1-30, 2011

Variables	Number (n =773)	Percentage (%)
Age at 1st pregnancy		
<20	640	82.8
≥20	133	17.2
Mean ± SD		17.65 ± 1.67
Gravida		
1	58	7.5
2-4	269	34.8
≥5	446	57.7
Parity		
0-1	77	9.9
2-4	299	38.7
≥5	397	51.4
Ever had abortion		
Yes	200	25.9
No	573	74.1
Ever had still birth		
Yes	107	13.8
No	666	86.2
Was pregnancy planned?		
Yes	444	57.4
No	329	42.6
Walking time to the nearest HF		
<1 hour	720	93.1
≥1 hour	53	6.9

5.1.3 Antenatal care

Among the women included in the study, 430(55.6%) had at least one antenatal visit during their last pregnancy while 343(44.4%) had none. Out of mothers who had antenatal visit, 264(61.4%) of the women made their first antenatal visit in their second trimester of pregnancy, while 91(21.2%) in their first trimester and 75(17.4%) women in their third trimester of pregnancy. Among antenatal service users 207(48.2%) had less than four antenatal contacts and 151(35.1%) reported to have four or more antenatal visits at the time of the interview (Table 3). From those who attended ANC service, 4(5.3%) of the urban and 126(35.6%) of the rural mothers visited a health institution because they were feeling sick, while 74.4% of the urban and 47.8% of the rural mothers visited a facility for regular check up. Among them 315(73.3%) of the attendants had received advice where to deliver while 115(26.7%) of them had never (Tab 3). Among the reasons given by non attendants for not attending ANC, 185(53.9%) were said they had no health problem to seek the care (fig 3). About the knowledge of the danger signs of pregnancy, 590(76.3%) of the mothers know at least one sign where as 183(23.7%) know none (Tab 4).

Table 3 Antenatal care utilization in Burji special woreda, SNNPR, Ethiopia, March 1-30, 2011

ANC services	Number	Percentage (%)
Received ANC	(n = 773)	
Yes	430	55.6
No	343	44.4
Timing of 1st ANC	(n=430)	
1 st trimester	91	21.2
2 nd trimester	264	61.4
3 rd trimester	75	17.4
Mean \pm SD		5.01 \pm 1.7
Frequency of ANC	(n=430)	
< Four visit	207	48.2
\geq Four visit	151	35.1
Do not remember	72	16.7
Advice received during ANC	(n=430)	
Yes	315	73.3
No	115	26.7

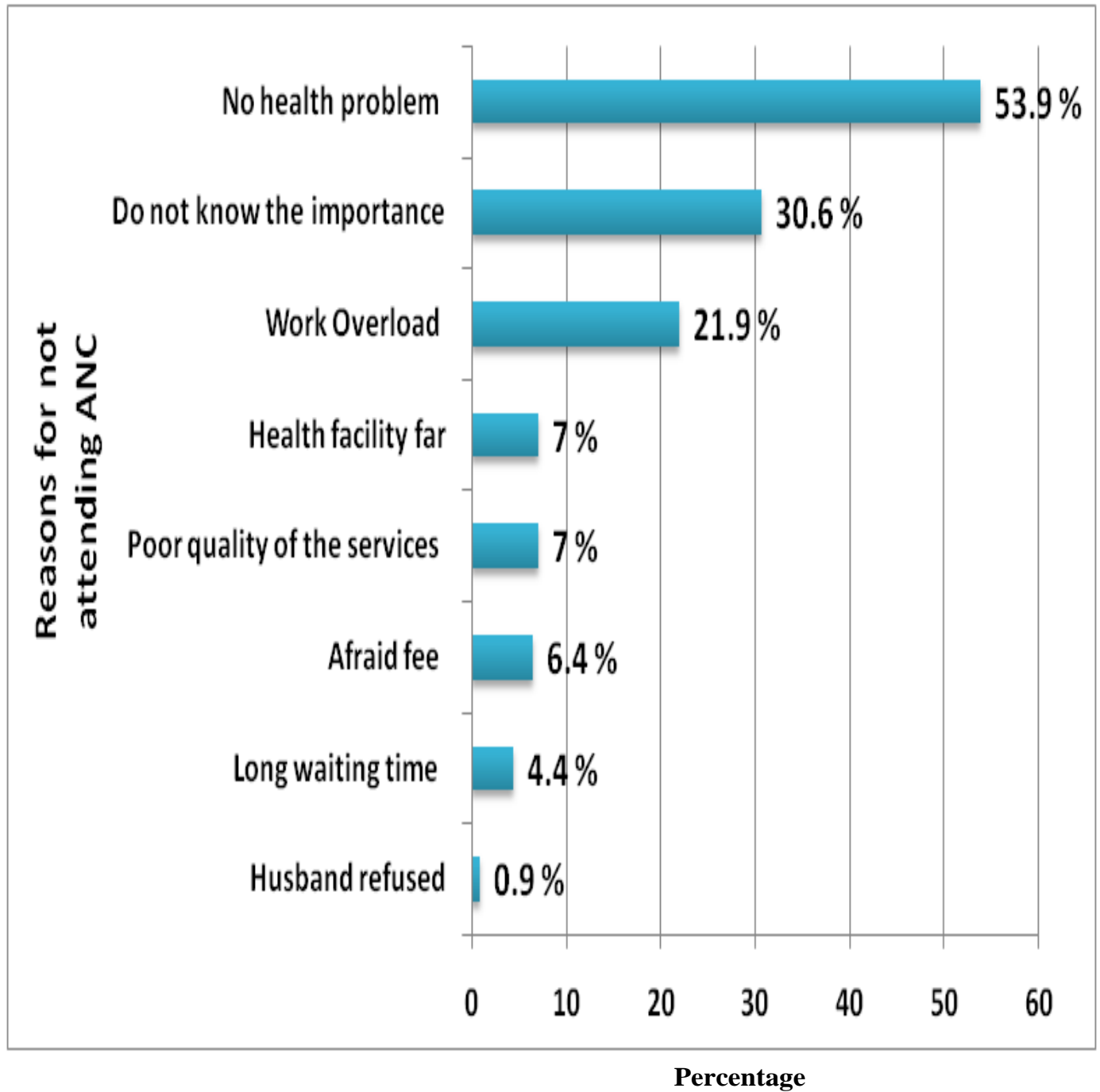


Figure 3: Percentage distribution of respondents' reasons for not attending ANC in Burji special woreda, SNNPR, Ethiopia, March 1-30, 2011 (n=343)

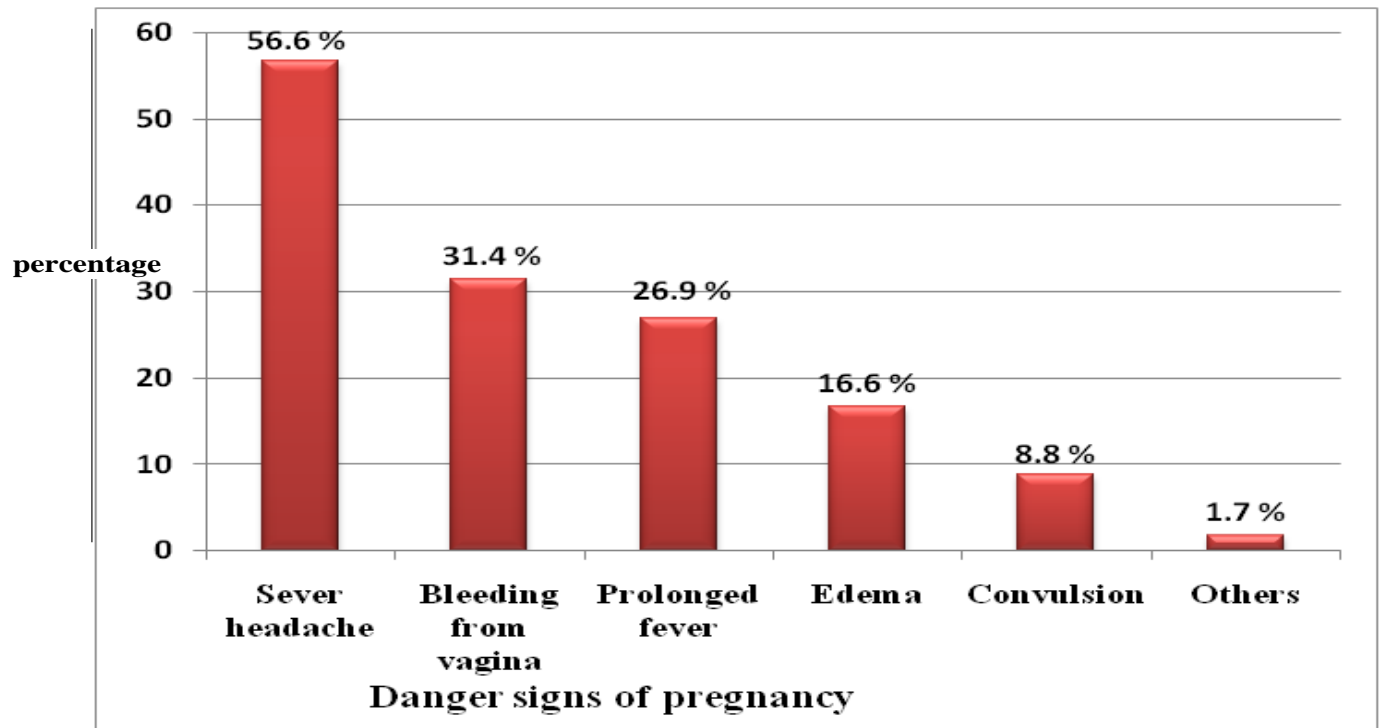


Figure 4: Percentage distribution of respondents' knowledge on danger signs of pregnancy in Burji special woreda, SNNPR, Ethiopia, March 1-30, 2011 (n=590)

Further analysis shows that there were enormous variations on use of ANC use among mothers. Residence, education and income were significant determinants of ANC utilization. The other variables were not statistically significant (Table 4).

Residence was an important determinant on use of ANC. 91.6% of mothers residing urban use ANC service while only 51.3% of mothers residing rural use ANC service. Urban mothers utilize ANC service 5 times more likely than rural mothers (AOR=4.657; 95% CI= 1.937, 11.198).

The other important determinant factor for ANC use was education. While ANC utilization was 94.1% among mothers who have educational status of secondary and above and 70.7% for mothers completed primary school, it was only 46.2% for mothers unable to read and write. Mothers with at least primary education utilize ANC service 2 times more likely than mothers with no education (AOR=2.227; 95% CI= 1.571, 3.156).

Likewise, the odds of utilizing antenatal care for mothers with secondary and above education was 6 times higher than mothers with no education (AOR= 5.565; 95% CI= 1.147, 27.007).

Family income was also another determinant for ANC use. While ANC utilization among mothers who had monthly family income of above 1000 Ethiopian birr was 92.3% and 93.8% among mothers who had monthly family income of 500 to 1000 Ethiopian birr, it was 65.2% among mothers who had monthly family income of less than 500 Ethiopian birr. So mothers who had monthly family income of 500 to 1000 Ethiopian birr utilize ANC service 10 times more likely than mothers who had monthly family income of less than 500 Ethiopian birr (AOR=10.273; 95% CI= (2.160,48.867)).

Though the knowledge of danger signs of pregnancy and walking time to the nearest health facility have shown significant association during bivariate analysis, multiple logistic regression has revealed that these variables were not true determinants of ANC utilization (Table 4).

Table 4 Determinants of ANC service use in Burji special woreda, SNNPR, Ethiopia, March 1-30, 2011

Determinants	n (%)	Received ANC n (%)	Crude Odds ratio (95% CI)	Adjusted odds ratio (95% CI)
Residence				
Urban	83 (10.7)	76 (91.6)	10.305(4.684,22.670)*	4.657(1.937,11.198)*
Rural	690 (89.3)	354 (51.3)	1	1
Educational status				
Unable to read and write	507(65.6)	234(46.2)	1	1
Primary school	232(30.0)	164(70.7)	2.814(2.018,3.923)*	2.227(1.571,3.156)*
Secondary and above	34(4.4)	32(94.1)	18.667(4.426,78.722)*	5.565(1.147,27.007)*
Income /month				
Less than 500	23(23)	15(65.2)	1	1
500 to 1000	64(64)	60(93.8)	8.000(2.122,30.155)*	10.273(2.160,48.867)*
Above 1000	13(13)	12(92.3)	6.400(0.700,58.522)	6.385(0.544,74.975)
Walking time to the nearest HF				
< 1 hour	720(93.1)	410(56.9)	1	
≥1 hour	53(6.9)	20(37.7)	0.458(0.258,0.814)*	
Know danger signs of pregnancy				
Yes	590(76.3)	344(58.3)	1	
No	183(23.7)	86(47.0)	0.634(0.454,0.885)*	

*= significant results

5.1.4 Delivery care

The study demonstrated that institutional delivery service utilization was very low. In the last five years only 16.4 % of mothers gave birth in health facility for their recent baby.

83.6% of births took place at home. Out of the total institutional delivery 1.4% was at health post and 15% was at health center. There for delivery attended by skilled birth attendant was only 15%.

52.2% of home deliveries were assisted by neighbor and only 1.9% and 3.1% of home deliveries were assisted by TTBA and health extension workers respectively (Tab 5). Among the reasons given for home delivery, 467(75.3%) were said easy labour (fig 6A). Around 74% of institutional deliveries were assisted by midwives and the remaining was assisted by HEW, nurses and health officers (Tab 5). About the reason for delivering in health facility 39.4% said because they had received health education during their ANC visit (fig 6B). Concerning the knowledge of the danger signs during delivery, 696 (90%) of the mothers know at least one sign whereas 77(10%) know none. 61.1% of mothers decide by themselves where to deliver and by whom (Tab 5). Of the total study participants, 603(78%) said that there is a difference in giving birth at home and at health facility where as 57(7.4%) said no difference and 113(14.6%) said they did not know. Out of those who said there is a difference 294(48%) said health facility is better than home and 309(51.2%) said home is better. Of the mothers who said health facility is better, 39.5% said because there is no problem of placenta retention and of the mothers who said home is better, 90.9% said because there is privacy at home (fig 7A & 7B).

Of the mothers included in study, 64.6% preferred to deliver at home for their next delivery where as only 35.4% preferred to deliver at health facility for their next delivery and 36.9% preferred to be assisted for their next delivery by health workers (Tab 5).

Table 5 Delivery care service utilization in Burji special woreda, SNNPR, Ethiopia, March 1-30, 2011

Delivery care services	Number	Percentage (%)
Place of birth	(n=773)	
Home	646	83.6
Health post	11	1.4
Health center	116	15.0
At home assisted by	(n=646)	
Neighbor	337	52.2
Mother in low	100	15.5
HEW	20	3.1
TTBA	12	1.9
Others	177	27.4
At health facility assisted by	(n=127)	
Mid wife	94	74
Nurse	12	9.4
Health officer	7	5.5
Health extension worker	12	9.4
Do not remember	2	1.6
Who decide where you deliver and by whom?	(n=773)	
Myself	472	61.1
Health professional	43	5.6
TTBA	6	0.8
*Others	252	32.6
Where do you prefer to give birth for your next deliver?	(n=773)	
Home	499	64.6
Health facility	274	35.4

**By whom do you prefer to be (n=773)
 assisted for your next
 delivery?**

Health professional	285	36.9
TTBA	16	2.1
Mother in low	124	16
**Others	348	45

*my husband, both of us, TBA, I do not know, **TBA, mother, neighbor, I do not know

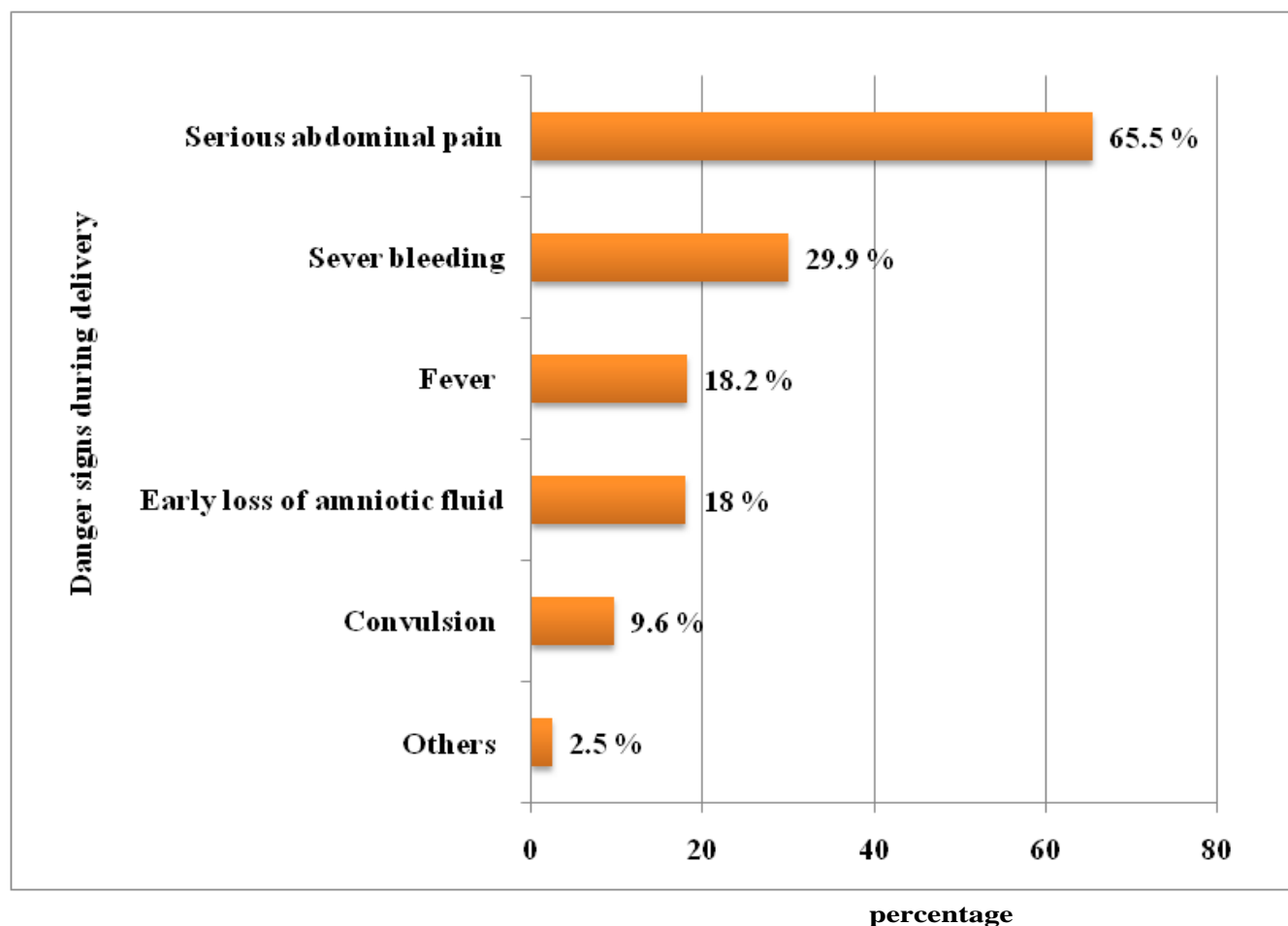


Figure 5: Percentage distribution of respondents' knowledge on danger signs during delivery in Burji special woreda, SNNPR, Ethiopia, March 1-30, 2011 (n=696)

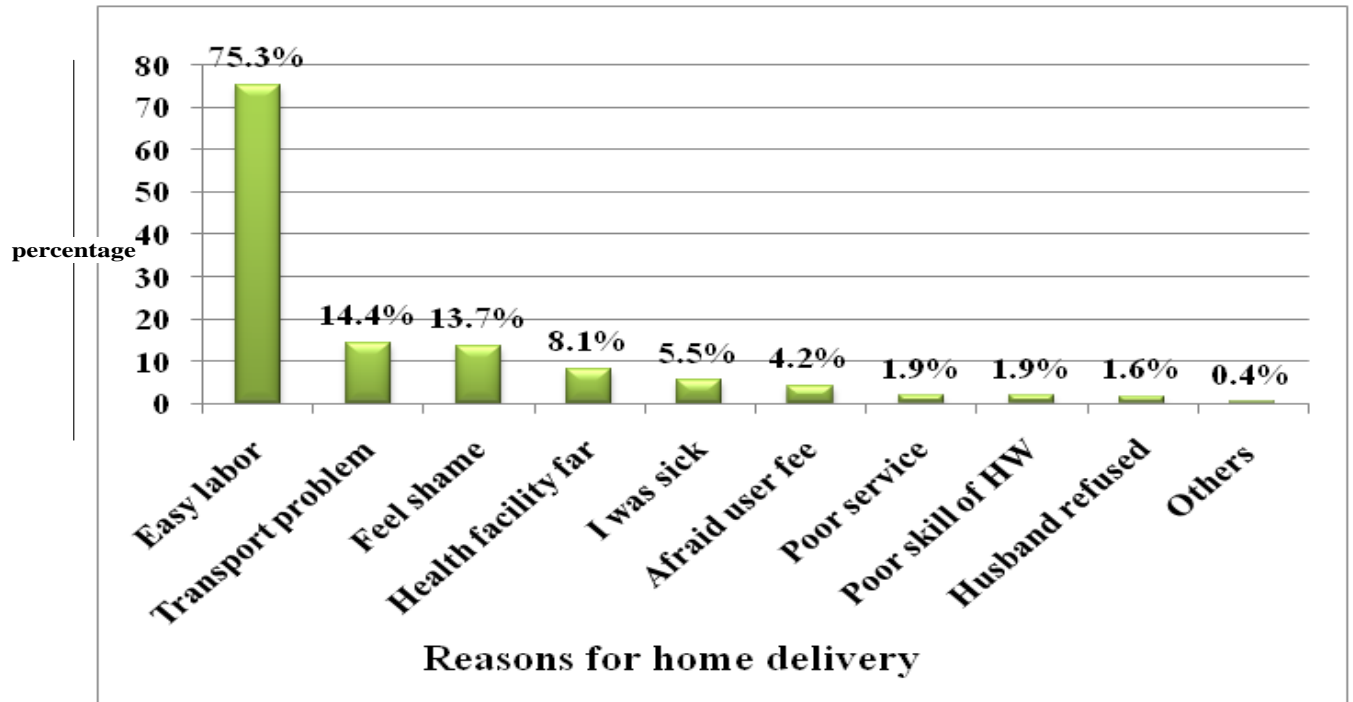


Figure 6A: Percentage distribution of respondents' reasons for home delivery in Burji special woreda, SNNPR, Ethiopia, March 1-30, 2011 (n=646)

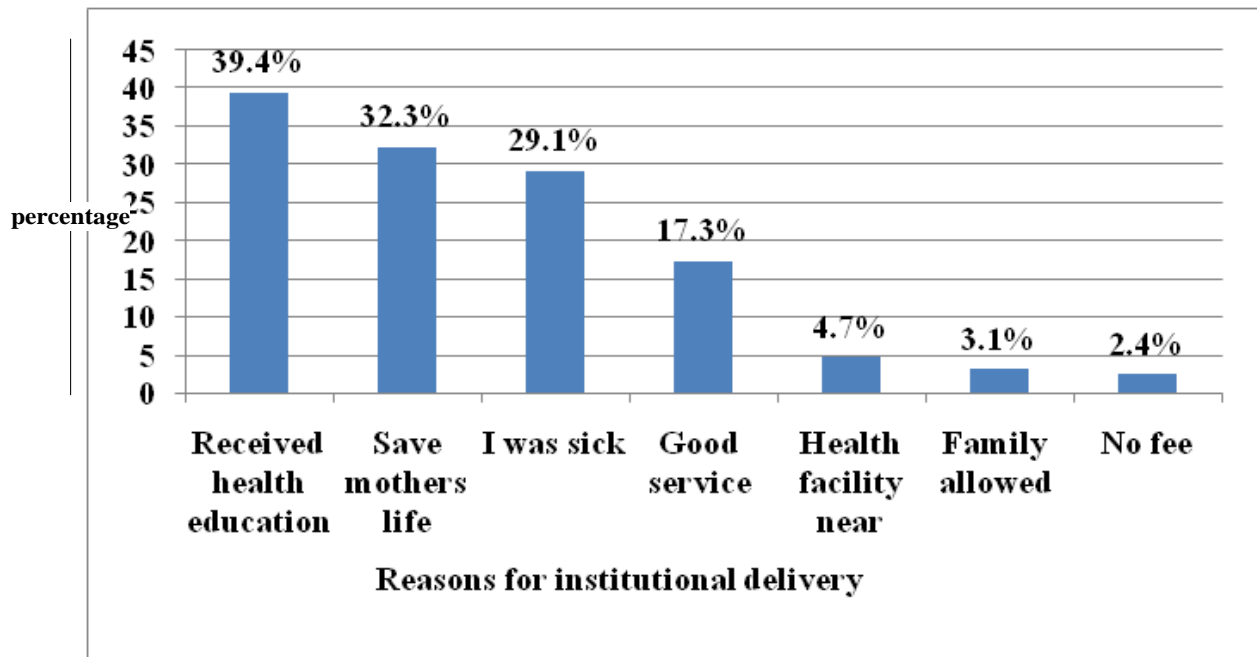


Figure 6B: Percentage distribution of respondents' reasons for institutional delivery in Burji special woreda, SNNPR, Ethiopia, March 1-30, 2011 (n=127)

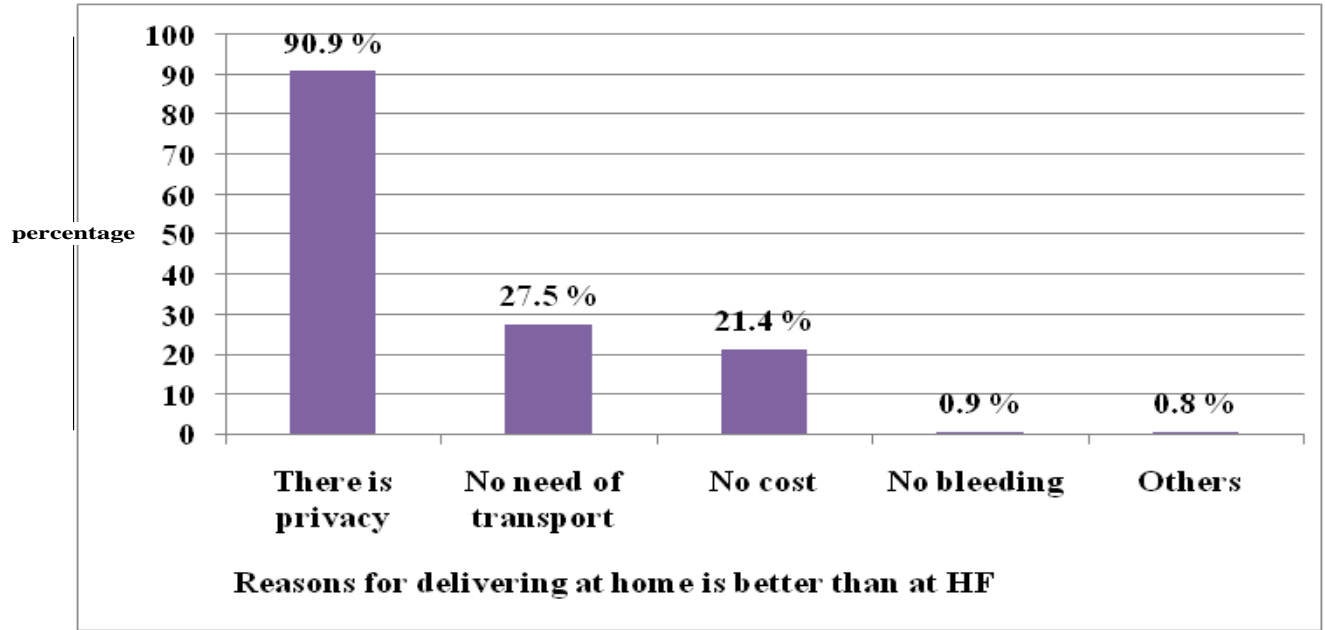


Figure 7A: Percentage distribution of respondents' reasons for delivering at home is better than at HF in Burji special woreda, SNNPR, Ethiopia, March 1-30, 2011 (n=309)

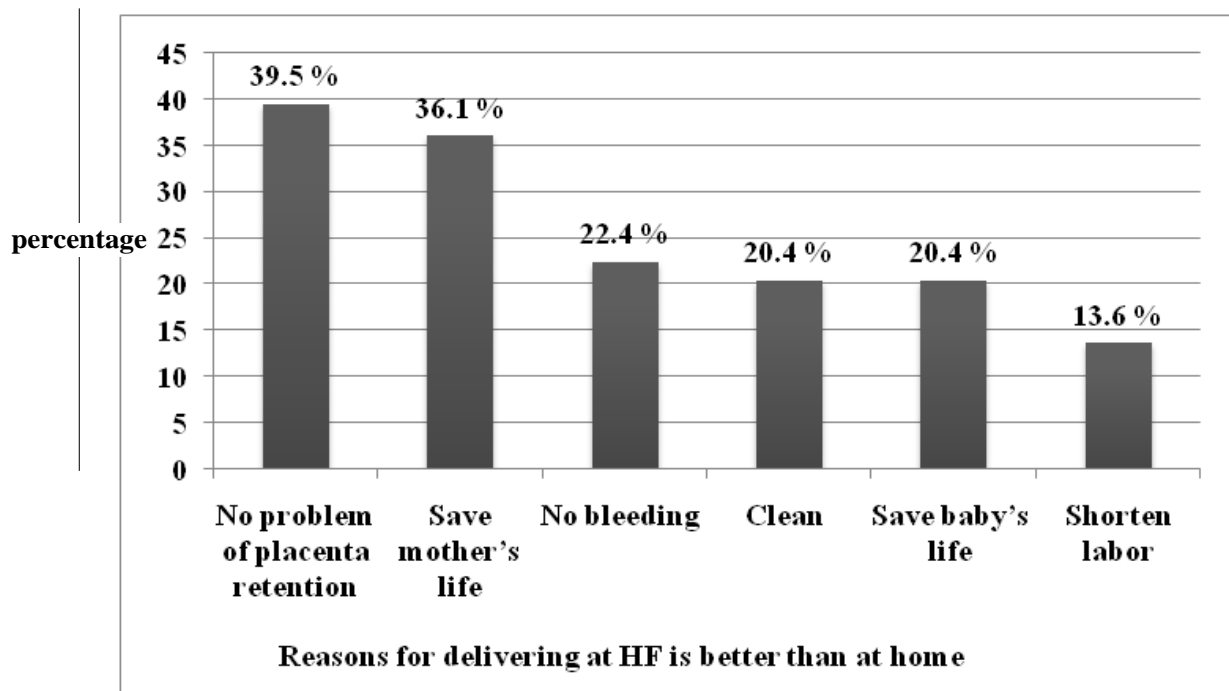


Figure 7B: Percentage distribution of respondents' reasons for delivering at HF is better than at home in Burji special woreda, SNNPR, Ethiopia, March 1-30, 2011 (n=294).

Further analysis for determinants of delivery care had shown residence, educational status and ANC attendance were the significant variables and the other variables were not statistically significant.

Residence was an important determinant for mothers to deliver at institution. 67.5% of urban mothers had delivered their recent baby at health institution while only 10.3% of rural mothers had delivered at health institution. Urban mothers deliver at health institution 8 times more likely than rural mothers (AOR=8.061; 95% CI= 4.145, 15.675).

The other important determinant for institutional delivery was education. While 64.7% of mothers who completed school of secondary and above delivered at health institution and 27.6% of mothers who completed primary school delivered at health institution, only 8.1% of mothers who were unable to read and write delivered at health institution. Mothers with primary education deliver at health institution 2 times more likely than mothers with no education. (AOR=1.901; 95% CI=1.146, 3.152).

ANC attendance was also another determinant variable for institutional delivery. While 26.3% of mothers who had attended ANC service delivered at health institution only 4.1% of mothers who had not attended ANC delivered at health institution. Mothers who had not attended ANC service were less likely to deliver at health institution than mothers who had attended ANC service (AOR=0.199; 95% CI=0.108, 0.365).

Though history of abortion has shown significant association during bivariate analysis, multiple logistic regression has revealed that the variable was not true determinant of institutional delivery (Table 6).

Table 6 Determinants of delivery care service use in Burji special woreda, SNNPR, Ethiopia, March 1-30, 2011

Determinants	n (%)	Delivered at health institution n (%)	Crude Odds ratio (95% CI)	Adjusted odds ratio (95% CI)
Residence				
Urban	83(10.7)	56(67.5)	18.082(10.742,30.438)*	8.061(4.145,15.675)*
Rural	690(89.3)	71(10.3)	1	1
Educational status				
Unable to read and write	507(65.6)	41(8.1)	1	1
Primary school	232(30.0)	64(27.6)	4.330(2.817,6.656)*	1.901(1.146,3.152)*
Secondary and above	34(4.4)	22(64.7)	20.837(9.624,45.114)*	2.108(0.770,5.772)
Ever had abortion				
Yes	200(25.9)	43(21.5)	1.594(1.059,2.400)*	
No	573(74.1)	84(14.7)	1	
Attend ANC				
Yes	430(55.6)	113(26.3)	1	1
No	343(44.4)	14(4.1)	0.119(0.067,0.212)*	0.199(0.108,0.365)*

*= significant results

5.2 Qualitative results

Four FGDs (2 for women and 2 for men) were conducted involving a total of 40 participants , 10 in each group, with the age range of 18-66 years old and all having at least one child. In presentation of the results, quotes originated from the FGDs are indicated from women or men.

5.2.1 Why is antenatal care not used?

The majority of the participants had a positive perception of antenatal care in both women and men group discussions. They believed it was good for the health of the mother and the baby. In practice however, significant number of mothers did not attend ANC. The reasons for this were absence of health problem, unknowing the importance of ANC, work over load among mothers and lack of money.

“How could one mother go to health facility while she is feeling well and her baby is playing well inside her womb?”(Married women of 35 years old)

“It is possible to give birth safely without going health facility for check up, so what is the importance of going there? I don’t think it is important.”(Married women of 45 years old)

“most of the time women have many responsibilities inside home when we left home for work; like caring for our children, cooking food for us and other house hold activities, so they have no enough time to go to health facility: for example we have 8 children and cattle & goats inside home, so how it is possible to my wife to go to health facility ?”(Married man of 40 years)

“Even if we like to go to health facility, we have no money; we cannot pay all the costs of transport and medication, so the only option we have is to stay at home and pray to God” (widowed woman of 41 years old)

5.2.2 Why it is better to deliver at home?

Most of the respondents mentioned that they preferred home as delivery place and majority of them had given birth at home their most recent birth. According to the participants of the FGDs, easy labor, transport problem, privacy and poor access to health facility were the main reasons for not using health facility to deliver at.

“Why it is necessary to go to health facility if one can give birth home without problem: for example when I gave birth for my second child the labor started in the morning and I gave birth before lunch”(married women of 28 years old)

“we preferred home for delivery because it is difficult to carry a laboring mother , it may take 2 or more hour to transport them to health facility and since the labor was not difficult I preferred my wife to gave birth at home” (married man of 50 years old)

“it is not good to deliver at health facility because how can a baby come out while everybody in the health facility looking at her widely opened legs apart , I have seen this when we take my neighbor laboring mother to health facility , really I don’t like to give birth at health facility, in my home no one looks at me except my husband or my mother”(married women of 35 years old)

The major points raised by FGD participants about the reason for low utilization of maternal health care services are grouped in to three themes.

- Lack of knowledge about the serves and their importance
- Socio-economic factors and
- Health sector factors

Chapter six: Discussion

The community based cross-sectional study with both quantitative and qualitative methods of data collection tried to assess factors affecting ANC and delivery care services utilization in Burji special woreda of SNNPR.

WHO recommends a minimum of four ANC visits initiated during the first trimester (5). In this study, the coverage of mothers who received antenatal care for their most recent births was 55.6%. At the same time 61.4% of the ANC attendants initiated the visit during the second trimester of pregnancy. Moreover, a significant proportion (48.2%) of the attendants had less than four visits which is less than recommended. This finding is almost consistent with the result of the study in Samre Saharti district, Tigray region which showed 54 % ANC attendance (28).

However, the finding of this study was lower than that of the study conducted in rural woredas of SNNPR including Burji special woreda in 2008/9 which was 62% (9). This might be because the finding of the study shows the average coverage of ANC for 30 rural woredas in SNNPR whereas my study was restricted to Burji special woreda. And the current finding is higher than that of EDHS 2005 which showed 30.3% attendance of ANC in Southern Region of Ethiopia (29). This could be attributed to the fact that DHS covered more remote areas where distance from health institution could be a major predictor of ANC utilization. It is also important to note the time gap between the EDHS and the current study.

Similarly delivery service utilization was low in the study woreda i.e. Only 16.4% of deliveries were attended in health institution even if it is higher than that of the study conducted in rural woredas of SNNPR (2008/9) which was 8.8% (9). This might be because of the time gap between current study and the study in rural woredas of SNNPR. But the coverage of institutional delivery was far lower than that of the national level which was 34% in the year 2009 (2). The reason for this might be the national study includes also more urbanized towns which have a good access to the service and where more educated mothers live; because as it is seen from this study as well as other studies, residence and educational status of mothers are important determinants of maternal healthcare service utilization. With regard to determinants of ANC and delivery care service, residence, maternal education and family monthly income were determinants of ANC service utilization while residence, maternal education and ANC attendance were determinants of institutional delivery.

Urban mothers utilize ANC service more likely than rural mothers. This finding is consistent with the finding of previous study conducted in Southern Ethiopia, EDHS 2005, Philippines and Rwanda (29, 8, 16, 17). The possible explanation for this could be access to maternal health care services and other promotional activities that are urban based for rural women is relatively low; women had to travel long distance to get the nearest health facility. In addition urban women tend to be more educated and therefore, have greater knowledge about the benefits of maternal health care services; this is supported by qualitative result: one rural mother said-

“It is possible to give birth safely without going health facility for check up, so what is the importance of going there? I don’t think it is important.”(Married women of 45 years old)

Level of maternal education was significantly related to ante natal care service. As the educational level of mothers increased, the probability of utilizing ANC service was also increased. This finding is consistent with previous study conducted in Samre Saharti district, Tigray region, Ethiopia nationwide (2002) and finding from EDHS2005 (29, 13, 28). The possible explanation could be educated women are expected to have knowledge and awareness about the advantage of maternal health care services and pregnancy related complications.

Family monthly income was another determinant for ANC service utilization. Mothers who had better monthly income utilize ANC service more likely than those who had less monthly income. This is supported by qualitative result:

“Even if we like to go to health facility, we have no money; we cannot pay all the costs of transport and medication, so the only option we have is to stay at home and pray to God” (widowed woman of 41 years old)

This is also consistent with the finding of study conducted in Tigray region and study in Sagamu, South Western Nigeria (4, 28). The possible explanation could be mothers with good monthly income can pay for necessary costs like transport costs and others.

Even though knowledge of danger signs of pregnancy which is related with educational status of mothers and walking distance to the nearest health facility were not statistically significant they had also association with ANC service utilization. Walking distance discourages women because of need of transportation that else needs time and cost.

This finding is consistent with the finding of study on factors affecting the utilization ANC in developing countries: systematic review of the literature (20).

As it was determinant for ANC service use, residence was again a determinant factor for mothers to deliver at health institution. Urban mothers deliver at health institution 8 times more likely than rural mothers. This finding is consistent with the finding of the study conducted in Gondar where urban mothers deliver more likely at health institution than rural mothers (30). The possible explanation could be that explained above.

In similar way to ANC service, maternal education was significantly related to institutional delivery.

Mothers with higher level of education more likely deliver at health institution than mothers with less or no education. This finding is consistent with the finding of previous study conducted in Ethiopia nationwide (2002), Tanzania, Nigeria and finding from EDHS2005 (29, 13, 21, 4). The possible explanation could be that explained above.

The other important finding from this study that determines institutional delivery was ANC attendance. Mothers who had not attended ANC service were less likely to deliver at health institution than mothers who had attended ANC service. This finding is consistent with the finding of the study conducted in Gondar and Rwanda (16, 30).

The possible explanation could be that women who had attended antenatal care receive advice and health education about pregnancy related complications and advantage of giving birth at health institution. Though history of abortion was not statistically significant it had also association with institutional delivery.

Chapter seven: Limitations of the study

In summary, this study was carried out by combining both quantitative and qualitative methods; that facilitated to get reliable data and strengthen the findings. Despite the strengths, the study had also limitations.

Firstly in the study, selected variables that determine maternal health care utilization had been investigated, and their importance was determined by comparing attendance and non-attendance at a specific point in time. So, the results should be interpreted with caution. Since, both dependent and independent variables were determined at one point in time.

Secondly, the study assessed the use of maternal health care services in the last five years preceding the survey which might have introduced recall bias in the use of the services.

Chapter eight: conclusions and recommendations

8.1 Conclusion

In general, the study revealed that mothers in Burji special woreda were not considerably utilizing ANC and delivery care services. Residence, maternal education, family monthly income, and ANC attendance were independent predictors for utilization of the services. Economic and transport problems, illiteracy and lack of knowledge were found as disabling factors.

The results from both bivariate and multivariate analysis confirmed maternal education was significant predictor variable for all the services, it is implicated that an enormous variation on use of maternal health care services among the educated and illiterate mothers. In addition, ANC attendance was an important predictor to increase delivery care service utilization.

8.2 Recommendations:

Based on the findings of the study, the following recommendations are forwarded:

For health care providers

- Health professionals should make effort to increase community based health education, awareness creation and improve better access to information for mothers regarding maternal health care services.

For local health planners

- Efforts should be made to educate mothers, strengthen community participation, boost accessibility to and strengthening maternal health care services.

For SNNPR government

- Efforts should be made to improve formal education for mothers and girls.

References

1. World Health Organization (WHO). Maternal mortality in 2005: estimates developed by WHO, UNICEF, UNFPA, and the World Bank, WHO: Geneva, 2007.
2. Federal Democratic Republic of Ethiopia, Ministry of Health. HIV/AIDS and the Health-related Millennium Development Goals: The Experience in Ethiopia .Sep 2010.
3. Ministry of Finance and Economic Development (MoFED): Ethiopia. 2010 MDGs Report: Trends and Prospects for meeting MDGs by 2015. Sep 2010.
4. Iyaniwura C A, Yussuf Q. Utilization of Antenatal care and Delivery services in Sagamu, South Western Nigeria. African Journal of Reproductive Health. 2009; 13 (3).
5. USAID (United States Agency International Development). Focused antenatal care: providing integrated, individualized care during pregnancy. Access to clinical and community maternal, neonatal and women's health services. Feb 2007.
6. Mills S, Chowdhury S, Miranda E, Seshadri S R, Axemo P. Reducing Maternal Mortality: Strengthening the World Bank Response. World Bank-Nether-lands Partnership Program. 2009.
7. Babalola S, Fatusi A. Determinants of use of maternal health services in Nigeria - looking beyond individual and household factors. BMC Pregnancy and Childbirth .2009; 9(43).
8. Mekonnen Y. patterns of maternity care service utilization in Southern Ethiopia: Evidence from a community and family survey. Ethiopia Journal of Health Development. 2003; 17(1): 27-33.
9. The Last Ten Kilometers Project. Trend in Reproductive, Maternal, Neonatal and Child Health Indicators, The Last Ten Kilometers Project Areas, Southern Nations, Nationalities and People's Region 2005-2009. JSI Research & Training, Inc., Addis Ababa, Ethiopia. 2009.
10. Andersen, R M. Revisiting the behavioral model and access to medical care: Does it matter? Journal of Health and Social Behavior. 1995 Mar; 36:1-10.
11. Ha N T. factors influencing utilization of maternal health care service in Northern Vietnam, Aug 2005 (Unpublished thesis, submitted to faculty of graduate studies of Mahidol University).
12. Elo I T. utilization of maternal health care service in Peru: the role of women's education. Health Transition Review. 1992; 2 (1): 49-69.

13. Mekonnen Y, Mekonnen A. factors influencing the use of maternal health care services in Ethiopia: *J Health Popol Nutr.* 2003 Dec; 21(4):374-382.
14. Kistiana S. socio-economic and demographic determinants of maternal health care utilization in Indonesia, 2009. (Unpublished Thesis, submitted to faculty of Social Sciences, The Flinders University of South Australia, Adelaide).
15. Ethiopian Society of Population studies: Maternal Health Care Seeking Behavior in Ethiopia: Findings from EDHS 2005, Addis Ababa. Oct 2008
16. Jayaraman A, Chandrasekhar S, Gebreselassie T. Factors Affecting Maternal Health Care Seeking Behavior in Rwanda. *Demographic and Health Research.* 2008 Oct; No. 59.
17. Rogan S E B, Olvena M V R. Factors Affecting Maternal Health Utilization in the Philippines. 9th National Convention on Statistics (NCS) .EDSA Shangri-La Hotel. 2004 Oct 4-5.
18. Rahman K M M. Determinants of maternal health care utilization in Bangladesh. *Research Journal of Applied Sciences.* 2009; 4(3):113-119.
19. Navaneetham K, Dharmalingam A. Utilization of Maternal Health Care Services in South India. *Centre for Development Studies.*2000.
20. Simkhada B, Teijlingen E R V, Porter M, Simkhada P. Factors affecting the utilization of antenatal care in developing countries. Systematic review of the literature. *Jan Review paper.* 2007 Oct 12.
21. Mpenbeni R N, Killewo J Z, Leshabari M T, Massawe S N, Jahn A, Mushi D , et al. Use pattern of maternal health services and determinants of skilled care during delivery in Southern Tanzania: implications for achievement of MDG-5 targets. *BMC Pregnancy and Childbirth.*2007; 7(2):9.
22. Amponsah E N, Moses I S. Expectant Mothers and the Demand for Institutional Delivery: Do Household Income and Access to Health Information Matter? Some Insight from Ghana. *European Journal of Social Sciences.*2009;8(3).
23. Ikamari L D E. Maternal health care utilization in Teso District. *African Journal of Health Sciences.* 2004; 11:1-2.
24. Gleit D A, Goldman N, Rodriguez G. Utilization of care during pregnancy in rural Guatemala: does obstetrical need matter? *Soc. Sci. and Med.* 2003; 57:2447-2463.
25. Oral report from woreda health office manager (Jan 2011).

26. The Population Census Commission of Ethiopian. The 2007 Population and Housing Census of Ethiopia: Statistical Report for Southern Nations, Nationalities and Peoples' Region. 2007.
27. World Health Organization (WHO). Making pregnancy safer: the critical role of the skilled attendant. A joint statement by WHO, ICM and FIGO. Geneva,2004
28. Asfaw Y. Determinants of Antenatal Care, Institutional Delivery and Skilled Birth Attendant Utilization in Samre Saharti District, Tigray, Ethiopia, 2010. (Unpublished master thesis, submitted to Umeå International School of Public Health, Department of Public Health and Clinical Medicine, Epidemiology and Global Health, Umeå University, Sweden).
29. Central Statistical Authority (CSA) and ORC Macro. Ethiopia Demographic and Health Survey 2005, Addis Ababa, Ethiopia, and Calverton, Maryland, USA. CSA and ORC Macro. Sep 2006.
30. Nigussie M, H/Mariam D, Mitike G. Assessment of safe delivery service utilization among women of child bearing age in North Gondar Zone, North West Ethiopia. *Ethiop. J. Health Dev.* 2004; 18(3):145-152.

Annexes:

Annex 1. Structured English Questioner

**JIMMA UNIVERSITY COLLAGE OF PUBLIC HEALTH AND MEDICAL SCIENCES
DEPARTMENT OF EPIDEMIOLOGY AND GENERAL PUBLIC HEALTH**

Questionnaire for data collection on factors influencing utilization of maternal healthcare services in Burji special woreda, SNNPR.

Verbal Consent Form before Conducting the Interview

Greetings:

Hello, how are you?

My name is -----, I am working in the research team of Jimma University. I would like to interview you few questions about maternal health care services in Burji special woreda. The objective of the study is to assess factors influencing the utilization of maternal healthcare services in Burji special woreda, which will be important to improve the maternal health care services delivery in the woreda.

Your cooperation and willingness for the interview is very helpful in identifying the problems related to the issue. Your name will not be written in the form and I assure you that all information that you give will be kept strictly confidential. Your participation is voluntary and you are not obliged to answer any question you do not wish to answer. If you are not still comfortable with the interview, please feel free to stop it any time you like. Do I have your permission to continue?

1 – If yes, continue to the next page

2 – If no, thank and skip to the other participant

Interviewer’s name -----, signature-----

Date of interview-----, Time started _____, Time finished -----

Supervisor’s name -----, Signature -----.

Households Identification

001. Questionnaire Code _____

002. How long have you been living in this area _____, if less than six months preceding the study, skip to the next house.

003. Name of the kebele _____

004. House hold code _____

INSTRUCTIONS

It is very important to follow the following instructions while you are interviewing respondents and recoding their answers.

- Ask each question exactly as it is written on the questionnaire.
- Circle the response in the response column that best matches the answer of the respondent.

Part one: Questionnaire on socio-demographic characteristics

No	Questions	options for responses	Remark
101	Present maternal age	_____Years	
102	What is the highest level of schooling you have ever attended?	1. unable to read & write 2. able to read & write 3. 1- 4 grade 4. 5- 8 grade 5. 9 -12 grade 6. 12+	
103	What ethnic group do you belong to?	1. Burji 2. Other specify	
104	What is your occupation?	1. Housewife 2. Farmer 3. Government employee 4. Merchant 5. Daily labourer 6. Student	
105	What is your religion?	1. Protestant 2. Orthodox 3. Muslim 4. Other specify	
106	What is your marital status?	1. Married 2. Divorced 3. Separated 4. Widowed 5. Never married	
107	What is the average family income per month? For other than farmers	_____ Birr	
108	Are you involved in safety net program? For farmers	1. Yes 2. No	

Part two: Questionnaire on Obstetric History

201	Number of total pregnancies in lifetime	_____	
202	Number of under five children	_____	
203	Total number of children currently	_____	
204	Total family size	_____	
205	Age at first pregnancy	_____	
206	Do you have history of abortion?	1. Yes 2. No	
207	If yes for question (206), how many times?	1. Once 2. Twice 3. Three 4. More than three	
208	Do you have any history of stillbirth?	1. Yes 2. No	
209	If yes for question (208), how many times?	1. Once 2. Twice 3. Three times 4. More than three times	
210	Is your recent pregnancy planned?	1.yes 2.No	
211	What abnormal signs show that a pregnant woman may be facing the risks? (Multiple response) (Don't read the choices)	1.prolonged fever 2. headache 3. edema 4. bleeding from vagina 5. convulsion 6.other (specify)_____	
212	Did you attend ANC for your recent pregnancy?	1. Yes 2. No	If No, skip to Q 216
213	If yes for question (211), at what gestational age you start?	_____	
214	If yes for question (211), how many times	1.once 2.twice 3.three times 4.four or more times 5.I did go, but do not remember how many times	

215	If yes for question (211), why? (Multiple response) (Don't read the choices)	1. I was sick 2.health facility near 3. Good service 4. Husband encouraged 5.To know my health status 6. To know my fetus status 7.Other (specify)_____	
216	If you have attended ANC, during your visit did you receive any advice where to deliver?	1. Yes 2. No	
217	If you didn't attended ANC, why? (Multiple response) (Don't read the choices)	1. No health problem 2. Work load 3.health facility far 4. Husband refused 5.afraid fee 6. Poor quality of the services 7.long waiting time 8. Don, t know importance 9. Other (specify)_____	

Part three: Questionnaire on History of the Recent Delivery

301	How old is the recent baby?	_____	
302	Please list the dangerous signs, which a woman in her delivery may experience? (Multiple response) (Don't read the choices)	1.serious abdominal pain 2. severe bleeding 3.fever 4. convulsion 5.early loss of amniotic fluid 6. Other (specify)_____	
303	Place of birth for the recent baby	1.At home 2.Health post 3.Health center	
304	If at home, who assisted you?	1. Mother 2. Mother – in-law 3. TTBA 4. Neighbor 5. HEW 6. Others specify_____	

305	If at health facility, who assisted you?	<ol style="list-style-type: none"> 1. HEW 2. Nurse 3. Midwife 4. Health officer 5. Don't remember 	
306	<p>If you gave birth for the recent baby at home, why? (Multiple response)</p> <p>(Don't read the choices)</p>	<ol style="list-style-type: none"> 1. Easy labor 2. Transport problem 3. Health facility far 4. Husband refused 5. Afraid user fee 6. poor service 7. Feel sham 8. Poor skill of health workers 9. Don't know importance 10. I was sick 11. Other specify _____ 	
307	<p>If you gave birth at health facility for the recent baby, why? (Multiple response)</p> <p>(Don't read the choices)</p>	<ol style="list-style-type: none"> 1. I was sick 2. No fee 3. health facility near 4. Good service 5. Family allowed 6. Save mothers life 7. Received health education 8. Other (specify) _____ 	
308	Who decide where you gave birth and by whom?	<ol style="list-style-type: none"> 1. Myself 2. My husband 3. Both of us 4. HW 5. TTBA 6. TBA 7. Others specify _____ 	
309	Do you think there is a difference in giving birth at home and health facility?	<ol style="list-style-type: none"> 1. Yes 2. No 3. Don't know 	
310	<p>If you think health facility is better (question 309), how? (Multiple response)</p> <p>(Don't read the choices)</p>	<ol style="list-style-type: none"> 1. Clean 2. Save mothers life 3. No retain placenta 4. No bleeding 5. save child life 6. shorten labor 7. Other (specify) _____ 	
311	<p>If you think home is better (question 309), how? (Multiple response)</p> <p>(Don't read the choices)</p>	<ol style="list-style-type: none"> 1. No need of transport 2. No cost 3. No bleeding 4. There is privacy 5. Other (specify) _____ 	

312	Where do you prefer to give birth for your next delivery?	1.Home 2.health facility	
313	By whom do you prefer to be assisted for your next delivery?	1. Mother 2. Mother –in- low 3. TTBA 4. Neighbor 5. HW 6. Others specify _____	
314	How far is the nearest health facility from your home?	_____ Hrs.	

Annex 2. Focus Group Discussion Topic Guide

Target audience: women and men.

Name of moderatorName of Note taker

Date..... Place of discussion

Time discussion started.....Time ended.....

Number of Participant

Age of participants.....

Introduce moderator, not takers, participants and introduce the objective of the discussion and topics.

I am interested to know about the practice, experience, concerns and problems of the community about maternal health. I am especially interested to understand the issues of ANC, delivery and birth assistance. I hope that your answers to my questions will be important to understand the situation and it will be help full to improve maternal health care in this area.

I expect our discussion to last about 40-60 minutes. Thank you. Agree on group norms and confidentiality.

First, I would like to ask you some general questions about your community:

1. What are the major maternal health care problems of the community? Can you give some examples of the problems?
2. What kinds of problems do mothers have here? Has the problems gotten worse, better, or remained the same in the last year?
3. How does the community help a laboring mother when they have problems? Do you know mothers who have faced delivery problems? How does the community respond to this?
4. How do men deal and participate in maternal health care issues?
5. Do the mothers seek care on pregnancy and delivery? When mothers are pregnant, do they usually see a health worker? Traditional birth attendants (TBAs)? What do women do when they are pregnant? Why?
6. Where is the preferred place of delivery? Why?
7. What are the practices and experiences of the mother on selection of delivery place? Why do you think most of mothers who are pregnant do not seek any skilled assistance during child birth?

8. What are the factors influencing selection of assistance during delivery and place of delivery- home/health facility? Why? Can you give some examples?
9. What are your opinions on quality of health care? Do the existing services are helping mothers during pregnancy and child birth?
10. What are the religious, traditional and cultural practices of the community during pregnancy and child birth?
11. How can and how should this community prevent maternal death during pregnancy and child birth? What is the role of mothers and the community in reduction of maternal morbidity and mortality?
12. Before we finish, I would like to hear what did you think about the subjects we have discussed: were they important? Do you think that this group covered issues that are important to mothers? What has been done here to improve mother's health? Is there anything the government can do?

Do you have any questions for me? If anyone would like to speak with me in private, I will stay here after we end.

Thank you all for your time and ideas. This has been extremely helpful. As I said in the beginning, the purpose of this discussion was to know about the situation of maternal health care and the problems you are facing. I hope this study will be help full to address the problems and improve the service in this area.

Thank you for your participation.

Annex 3. Structured Burjigna questionnaire

ዎርሳዳማ ሜናካ ካጥናትድ ቆዳዳያ ቆዳዳዎአ ዎርሳዳ ፎርም

ዳንሳ ዩታ? አኒቃ እያማ:: ጅማ ዩንቨርስትድ ጎዳማ ካንእ ጥናትድ አኒን ቆዳዳ ላምቃ::ቡርጂንካ ዎረዳድ አዩናንካ ምርእ ኤጋ ሀንጋንስ ሀንጋዳ እላልታ ዎርሳቴቃ ጭንኦታ ሽ ዎርሳዳ ሀዩ::

ኩ ጥናት ሀስሳኖ ባስ ቡርጂንካ ዎረዳድ አዩናንካ ምርእ ኤጋ ሀንጋንስ ሀንጋዳጋ ራኮ አምባ ባስ እላላጋያ ሀንጋስ ካንሃ ዎግሳጋ ጎዳማ ባስ ቡብንካ ቃርቃራጋቃ::ካ እሃ ማሩ ካጥናትጋ ዩራ የቅቃ ሽ ሀስና::ኩን ቃድ ካ ሀንጋስች ጋርማደዳ ራኮ ቃጀልስንክ በሃጋቃ ቃርቃራ::

ታ ዎርሳቴንካ ዎርቃታድ ሽያ ማቀይሁ 94.መይእ፤ ሀጋሽ ቃድ ካ ጥናትድ ቆጣዳሽያ ቆጣዳዎአሽ ሽያ ሀይንችቃ፤ ዋንቶና ታነም ቃድሳቃ ዳንቶ::

ቆዳዳ ቆዳታ?

- 1.ሀኢ.....ታ ፋና እንተይታ ዎርሳቴጋ ፋለይ
- 2.አቦኡ.....ኤብስ ህጋ ዎርሳዳማ ላምጋ ፋለይ

ዎርሳቴ

ዎርሳዳኖ ላም ማቃብሻኢ.....

ዎርሳቴንታ ላሳ.....ዎርሳቴሽ አቻኖ ሳተ.....አሎባኖ ሳተ.....

እላላ ላም ማቃ.....ብሻኢ.....

ደክጎዱ ማተንታ ዎርሳቴ

- 001. ዎርሳቴንካ ዎርቃተይንታ ድጎ.....
- 002.ታ ቦሄ ማንኤይ ታይዳቸቶ?.....ልይያ አጉንቻጋ ጀሉ እሃኖና ቃሩ የዳ ጆርሆ ፋለይ
- 003.ታ ቦሄንካ ማቃ.....
- 004. ምኒንታ ድጎ.....

ዎርሳቴ ሁሳንካ አጃጃ

- 1.ቡብንታ ዎርሳቴ ዎርሳቴንካ ዎርቃታድ ሽቻቸታሃናም ዎርሳን::
- 2.ዎርሳዳማ ላም ድርቃ ድርቃቴና የታ ድርቃቴ ዎርሳቴንካ ዎርቃታደይ ሾሺ ቃሬለይስ::

አቻች: ዎርሳዳማ ላምንታ የድዮ እላልታ ዎርሳቴ			
ድጎ	ዎርሳቴ	ግደይ ሾድንኮ ድርቃቴ	ህጋባስ
101	ታነ ሽያ በሩ ምስታ?በር	
102	ምስ ጋባላ አካለናቸቶያ?	1.ደክን አካለንደይ 2.ሽድሳያ ሽቻማ በሆ 3.ደካ አች ፎላንካ ጋባላ 4.ኡሙታ አች ህዲታንካ ጋባላ 5.ዎንፋ አች ታና ላማንካ ጋባላ 6.ታና ላማያ ጋጋ	
103	ሽያ ዛር ምታ?	1.ቡርጅ 2.ህጋህ (ዋርይ).....	
104	ሽታ ሁጂሽ ምታ?	1.ምንንታ አዬ 2.ጋባረ 3.ማንግስትጋ ሁጂያህ 4.ነጋዴ 5.አንጉላክ ሁጂ ሁጂያህ 6.አካንናህ	
105	ሽያ እምነቴ ምታ?	1.አማኝ 2.አርቶዶክስ 3.ሙስሊም 4.ህጋህ (ዋርይ).....	
106	ማደንታ ዎርሳቴ	1.ማዳንቸታታ 2.ህርቸታታ 3.ምች ምች የድንኮሃ 4.አነይሁ ጋብ በዬዳታ 5.ማዳንቸተይታ	
107	ማቴ ሽች አጉንቻድ ማንነይ አንጉላታያ?ብሬ	
108	ሴፍትነትድ የዳ የቴያ?	1. ሀክ 2. የደይእ	
ላሜች: ሳሉ ጎያ እላልታ ዎርሳቴ			
201	ካይዱ ጋባላ ምስና ሳሉ ጎይሽቶያ?	
202	ኡሙታ በርጋ ጀሉ የዳ ቃሮ ምስ ቃቶያ?	
203	ቡባም ምስ ቃሮ ቃቶያ?	
204	ቡባ ማተሽ ምስታ አሽኑ?	
205	አቻታ ቃሳ ሳሉ ጎንቶ ዎጋ ሽያ በሩ ምስ እሃዳኖያ?	

206	ቃላት ሽ ጋብ ባሽ ቤሃ ቤተያ?	1.ቤተይኔ 2.ቤሃበታ	
207	ቤታ ዎጋ ምክነያ?	1.ደይንክ 2.ላማንክ 3.ፋድያንክ 4.ፋድያጋ ጋብኤ	
208	በይሽታ ቃላ አልልሽ ቤሃ ቤቱ?	1.ቤሃ ቤሆ 2.ቤሄይኔ	
209	ቤቶዎጋ ምክነያ?	1.ደይንክ 2.ላማንክ 3.ፋድያንክ 4.ፋድያጋ ጋብኤ	
210	ታ ቃላ ሃያችም በሃካቶም ሳሉ ሆቃኖያ?	1.ሃያዳ 2.በሃካዶማ	
211	ደታ ሳሉ ቃታ አማክንኮ ጋጋ እሼ ምዳ ራክ ዳቃባድየዳየቄ በሀሳሁ ምታ?	1.ሃርጫነዎጋጋ ናፋንታ ጡዋ 2.ሙግንካ ቦጧክ 3. ናፋንታ አይታ 4.ሳለይች ጨጅ ያክ 5. ናፋንታ ሱጋ 6.ሀጋሀ (ዋርይ)..... 7.ቤሄይኔ	
212	ታ ቃላ ሳሉ ጎይንቶ ዎጋ ምርመራጋ ሀክምንካ ምናድ ማርሻ የዳንቱያ?	1.ማራ የዳንክ 2.ማራንይኔ	ማራንተይኔ ዎጋ ዎርሳተ ድጎ 216ጋ ፋለይኔ
213	ማርሻቶዎጋ ሳሉ ጎይሽ ምእሰክክ አጉንቻድ ማራንቶያ?	
214	ማርሻቶዎጋ ቡባም ምክንክ ማራንቶያ?	1.ደይንክ 2.ላማንክ 3.ፋድያንክ 4.ፎላንክያ ጋጋ 5. ማራ ማለ ምክንክ ማራኖ የቀ ሄዳደይኔ	
215	ማርሻቶዎጋ ምያጋ ማራንቶያ? (ድርቃቱ ዋርያሽ) (ዴት ቡርታ ድርቃቱ ዳናኖና)	1.ዱኩብዳንክ ማራ 2.ሀክምንካ ምኩሁ ቃሩ እሃንክ ማራ 3.ቃጀልሰንክ ሀክምንኮ ማራ 4.አነይሁ ማር እኖ ማራ 5.እታ ናፋ እላልሳዱዋ 6.ሳሉ ዩታ ቃላንታ ናፋ እላልሱዋ 7.ሀጋሀ (ዋርይ).....	

216	ማርሻቶዎ ሀባላ ቃልታ የቀ ሽ ጎርስንካ የደንንኩያ?	1.ጎርስንካ የድንኮ 2.ጎርሳንንካይኦ	
217	ማራንተይ ዎጋ ምያጋ? (ድርቃቴ ዋርያሽ) (ዴት ቡርታ ድርቃቴ ዳናኖና)	1.እታ ናፋጋ ዳቃበዳ ራክ ዩደይኦ ማሩ 2.ሁጀሽ ኤሳጋ ላባታ ማሩ 3.ሀክምንካ ምኑሁ ባያ እሃ ማሩ 4. አነይሁ ኤ ዶራ ማሩ 5.ሾምንኮ ብሬ ናኢ 6.ቃጀልስንክ ሀክማ በሀንካይ ማሩ 7.ላሚ ዎልስንኮ ማሩ 8. ኡሙ ማራንካ ሀንጋንስ በሄይ ማሩ 9.ሀጋሀ (ዋርይ).....	
ፋድሰኩ፡ ታ ዎርታታ ቃላሞ እላልታ ዎርሳቴ			
301	ታ ዎርታ ቃልማዳኖ ቃላንካ በሩ ምክታ?	
302	ዴች አይ አልልታ ዎጋ ጋጋ ዳቃባጋ ዳና ሀጀንካ ራክ ምያታ? (ድርቃቴ ዋርያሽ) (ዴት ቡርታ ድርቃቴ ዳናኖና)	1.ሀጀንካ ሳለይንካ ጭሳ 2.ዩራ የቀካ ጨጅ ያኣ 3.ናፋንታ ጡዋ 4. ናፋንታ ሱጋ 5.ዎገይሁ ዳቃባካዳም ካሳካሴሽ ያኣ 6.ሀጋሀ (ዋርይ)..... 7.አን በሄይኦ	
303	ታ ዎርታ ቃልማዳኖ ቃላ ሀባልኦ አላንቶያ?	1.ጀ 2.ጤና ከላድ 3.ጤና ጣቢያድ	
304	አላንቶሽ ጀ እሃኖና አይታ ሽ አልልሳኖ?	1.እታ አዩ 2.እታ ቦላ 3.አካአናቸታ ቃልስታ አማ 4.ኦልላ 5. ጤና ኤክስተንሽንቴ 6. ሀጋሀ (ዋርይ).....	
305	አላንቶሽ ሀክምንካ ምናድ እሃኖና አይታ ሽ አልልሳኖ?	1.ጤና ኤክስተንሽንቴ 2.ነርስቴ 3.አልልስታ ነርስቴ 4.ጤና መኮንን 5.ሄዳደይ አን	

306	<p>አላንቶሽ ጆ እሃኖና ምያጋታያ? (ድርቃቴ ዋርያሽ)</p> <p>(ዴት ቡርታ ድርቃቴ ዳናኖና)</p>	<ol style="list-style-type: none"> 1.ላዳሙሁ ድባኒይ ማሩ 2.ድኛ ማራ ባስ ዳብ 3.ሀክምንካ ምኑሁ ባያ እሃኖ ማሩ 4. አነይሁ ኤ ዶራ ማሩ 5.ሾምንኮ ብሬ ናኢ 6. ሀክምንካ ምናድ ቃጀልስንክ አልልሳ በሀንክይ ማሩ 7.ኤ ሻልሳ መሩ 8.ሀክሙሁ ቃጀልስ አልልሳ በሄይ ማሩ 9. ሀክምንካ ምናድ አልላንካ ሀንጋንስ በሄይ ማሩ 10.ዱኩባዳኖ ማሩ 11. ህጋሀ (ዋርይ)..... 	
307	<p>አላንቶሽ ሀክምንካ ምናድ እሃኖና ምያጋታያ? (ድርቃቴ ዋርያሽ)</p> <p>(ዴት ቡርታ ድርቃቴ ዳናኖና)</p>	<ol style="list-style-type: none"> 1.ዱኩባዳኖ ማሩ 2.ሾምስንክይ ማሩ 3.ሀክምንካ ምኑሁ ቃሩ እሃኖ ማሩ 4.ሀክምንካ ምናድ ቃጀልስንክ ላም ቆርቃርንኮ ማሩ 5. ጆርኩ ሀክምንካ ምናድ አልላ የቅ ሀያዳኖ ማሩ 6.አዬናንታ ሉቦ ረያደይ ኤጋ ማሩ 7. ሀክምንካ ምናድ አልላሽ ሀስስታ የቅ ኤ ታማርሳንኮ ማሩ 8. ህጋሀ (ዋርይ)..... 	
308	<p>ሀባላ አልላሽ ሀስስታ የቀያ አይ ሽ አልልሳ ሀስሳ የቀ አይታ ጎዳ?</p>	<ol style="list-style-type: none"> 1.ኤ 2.እያ አናኦ 3.ላምንኩ 4.ሀኪም 5.አካአናቸታ አልልስታ አማ 6.ኦላአደ አልልሳታ አማ 7. ህጋሀ (ዋርይ)..... 	
309	<p>ጆ አልላሽያ ሀክምንካ ምናድ አልላሽ ዎል ጋብ ላጣ ላጠያ?</p>	<ol style="list-style-type: none"> 1.ላጥጣ ላጥጣ 2.ላጠይኦ 3.አኒ በሄይኦ 	

310	<p>ሀክምንካ ምናድ አልላና ወይታ እንቶና ማንጉ ወይታ? (ድርቃቴ ዋርያሽ)</p> <p>(ዴት ቡርታ ድርቃቴ ዳናኖና)</p>	<p>1.ጨሬ ቃፈይ ማሩ 2.አዬናንታ ሉቦ ረያደይ ኤጋ ማሩ 3.አከያአራሾንካ ሆቃንካ ራክ የደይ ማሩ 4.ጨጅ ያኣንካ ራክ የደይ ማሩ 5. ቃልማዳ ቃርንታ ሉቦ ረያደይ ኤጋ ማሩ 6. ላዳም ሆይጥሳ ማሩ 7. ህጋሀ (ዋርይ).....</p>	
311	<p>ጆ አልላና ወይታ እንቶና ማንጉ ወይታ? (ድርቃቴ ዋርያሽ)</p> <p>(ዴት ቡርታ ድርቃቴ ዳናኖና)</p>	<p>1.ድች ማርንኮ ባስ ሀስሰይ 2.ሾምንኮ ባስ የደይእ 3.ጨጅ ያኣንካ ራክ የደይ 4.ላምንታ ሻላሽ እላልማተይእ 5. ህጋሀ (ዋርይ).....</p>	
312	<p>ታ ፋና ቃልታ ቃላ ሀባላ ቃላ ሀይቶያ?</p>	<p>1.ጆ 2.ሀክምንካ ምናድ</p>	
313	<p>ታ ፋና ቃልታ ቃላጋ አይ ሽ አልልሳ የቅ ሀይቶያ?</p>	<p>1.ኦላከደ አልልሳታ አማ 2.አካእናቸታ አልልስታ አማ 3. ሀኪም 4.እታ አዬ 5.እታ ቦላክ 6.ህጋሀ (ዋርይ).....</p>	
314	<p>ሽያ ምናደይ አች ሽሳ ሆይጣዳ ሀክምንካ ምን ጋባላ ማነይ ሳተ ጎያ?</p>	<p>.....ሳተ</p>	

Declaration

- I. This Thesis is my Original Work, and all those Sources of Material are used for the Thesis has been duly Acknowledged.

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Date of Submission: 13/10/2003 E.C

- II. This Thesis has been submitted for Examination under my Approval as a University Advisor.

Advisor's Name: Chernet Haileu
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- III. This Thesis has been evaluated under my Approval as a University Internal Examiner.

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Signature: [Signature]
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Date of Submission: 13/10/2003