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COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCES
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**TIMING OF FIRST ANTENATAL CARE BOOKING AND ASSOCIATED
FACTORS AMONG PREGNANT WOMEN ATTENDING PUBLIC HEALTH
FACILITIES IN ARBAMINCH TOWN AND ARBAMINCH ZURIA WOREDA,
GAMO-GOFA ZONE, SOUTHERN ETHIOPIA**

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TIMING OF FIRST ANTENATAL CARE BOOKING AND ASSOCIATED
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HEALTH FACILITIES IN ARBAMINCH TOWN AND ARBAMINCH
ZURIA WOREDA, GAMO-GOFA ZONE, SOUTHERN ETHIOPIA

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Abstract

Background: - Antenatal Care booking is used to prevent adverse pregnancy outcomes and maintain new born life, when it is sought early in pregnancy. Women who attend antenatal care late miss the opportunity of early detection of human immune virus, sexually transmitted diseases, malaria, anemia prophylaxis, health education and treatment or prevention of complications. However, existing evidence from developing countries including Ethiopia indicate that few women seek Antenatal care at early stage of their pregnancy.

Objectives: - To assess timing of first Ante natal care booking and associated factors in Arbaminch town and Arbaminch Zuria Woreda.

Methods: - A facility based cross-sectional study employing both quantitative and qualitative methods was conducted from February to March, 2014 in Arbaminch town and Arbaminch zuria Woreda. Data were collected from 409 pregnant women who were attending ANC clinics in nine public health facilities selected by systematic random sampling. Data was collected through exit interviews with antenatal care attendees, and in-depth interviews with pregnant women, health care providers and health extension workers. The data were collected by trained female Nurse using semi-structured and pretested questionnaire. Binary and Multivariable logistic regression analysis was performed at level of significance of p value 0.25 and 0.05 respectively.

Result: - A total of 409 pregnant women were interviewed. The mean age of the respondents was 26 ± 5.5 years. 82.6% of pregnant women were booked late. Most of the reasons given by respondents who booked late were due to perception of appropriate time and shortage of time. This study indicated that pregnant women with low monthly income (AOR=4.9, CI (1.713, 14.076)), women who received advise when to start ANC visits not on recommended time (AOR=3, CI (1.476, 6.244)), household food insecurity (AOR=4.66, CI (1.007, 21.589)) and pregnant women with unplanned pregnancy (AOR=4.49, CI (2.162, 9.353)) were factors associated with late first Antenatal care booking.

Conclusion: - The study showed that more than three fourth of the pregnant women booked late for first antenatal care. Hence, at health facility and community level intensify health education for pregnant women and information education communication intervention is very important.

Key words: - timing, Antenatal care, Arbaminch town and Arbaminch zuria Woreda

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Acronyms and abbreviations

AOR	Adjusted Odds Ratio
ANC	Antenatal Care
CI	Confidence Interval
COR	Crude Odds Ratio
CSA	Central Statistical Authority
DRC	Democratic Republic of Congo
ETB	Ethiopian Birr
EDHS	Ethiopia Demographic and Health Survey
HC	Health Center
HCPs	Health Care Providers
HEWs	Health Extension Workers
HFIAS	Households Food Insecure Access Scale
HIV	Human Immunodeficiency Virus
HIV/AIDS	Human Immune Virus/Acquired Immune Deficiency Syndrome
IPTp	Intermittent Preventive Treatment For malaria during Pregnancy
LMP	Last Menstrual Period
MDGs	Millennium Development Goals
MMR	Maternal Mortality Ratio
MPH	Master of Public Health
MOH	Ministry of Health
NGO	Non-Governmental Organization
PhD	Doctor of Philosophy
PMTCT	Prevention of Mother to Child Transmission
PNC	Post natal care
TB	Tuberculosis
SNNPR	Southern Nation and Nationalities Peoples Region
SPSS	Statistical Package for Social Sciences
STIs	Sexually Transmitted Infections
WHO	World Health Organization

1. INTRODUCTION

1.1 Background

Pregnancy is one of the most important periods in the life of a woman, a family and a society. Antenatal care (ANC) is special care for women during pregnancy through the public health services. The goal of ANC is to prevent health problems in both infant and mother and to ensure that each newborn child has a good start(1, 2). To achieve this objective, the service is organized into a booking first visit and a follow up clinic (3). For normal pregnancies WHO recommends only four antenatal visits. The major goal of focused antenatal care is to help women maintain normal pregnancies through: Identification of pre-existing health conditions, early detection of complications arising during the pregnancy, health promotion and disease prevention and birth preparedness and complication readiness planning (4, 5).

World Health Organization (WHO) recommended that pregnant women in developing countries should seek ANC within the first four months of pregnancy. For programme areas in particular, namely tuberculosis (TB), nutrition, immunization against tetanus, prophylactic treatment of malaria and human immune virus/Acquired immune deficiency syndrome (HIV/AIDS) and other sexually transmitted infections (STIs), the antenatal period represents an important opportunity yet it currently appears to be underexploited. Antenatal care can be a privileged entry point for counselling to prevent mother to child transmission of HIV. For malaria programmes it is important for women expecting their first child to present for antenatal care early in the pregnancy, to be offered preventive treatment and advice on the use of bed nets(6, 7).

Maternal death has declined substantially worldwide except in Sub-Saharan Africa. Of the 21 countries with the highest maternal mortality 15 are in sub-Saharan Africa, including Ethiopia(8). In 2010, the maternal mortality ratio marginally increased to 676 per 100,000 live births in Ethiopia (1, 9). Most of these complications occur unpredictably during labor, delivery and the immediate postpartum period(10).

The Government of Ethiopia is committed to achieving Millennium Development Goal 5 (MDG5), to improve maternal health, with a target of reducing the maternal mortality ratio (MMR) by three-quarters over the period 1990 to 2015 and also ANC coverage in Ethiopia is 34% in 2011(1).

1.2 Statement of the problems

Planning for a safe delivery is an integral part of ANC. Early antenatal care attendance during the first three months of gestation plays a major role in detecting and treating some complications of pregnancy and forms a good basis for appropriate management during delivery and after childbirth. Failure to attend antenatal care early results in the potential for complications during pregnancy, delivery and puerperium (2, 11). However, existing evidence from developing countries including Ethiopia indicate that few women seek antenatal care at early stage of their pregnancy (2).

Several factors affecting the utilization of antenatal care have been identified in developing countries. These include: maternal education, husband's education, and marital status, availability of health service, cost, household income, women's employment, media exposure and having a history of obstetric complications (12). Although there is evidence, late booking of antenatal care has repeatedly been associated with young age, premarital status, unwanted pregnancies, high parity, lack of formal education, low socio-economic status and ethnicity(13-16).

Pregnancy also had an influence on antenatal care use; this may lead mothers to attend antenatal care late or not attending at all. The quality of antenatal care might have an influence on utilization of antenatal care, leading to infrequent or late first visits to antenatal care or due to women's age or religious beliefs(17).

According to EDHS 2011, 19% of women with a live birth in the five years before the survey made four or more ANC visits during the length of their pregnancy while 11% of women made their first ANC visit before the fourth month of pregnancy. The median duration of

pregnancy at the first visit is 5.2 months, while urban women made the first ANC visit earlier (4.4 months) than rural women (5.5 months)(1). In urban settings where the health services are physically accessible and ANC at the governmental health facilities is provided free of pay. The study carried out in Addis Ababa revealed that respondents who received advice on recommended time were more likely to book timely compared to others(18). And also study in Bahirdar the likelihood of delivering at home was greater among mothers those who started attending ANC after 24 weeks of gestation(19).

Food insecurity has been associated with poor pregnancy outcomes, including number of ANC visits ,low birth weight, behavior change and gestational diabetes (20, 21). There is an indicator of the quality of antenatal care, medical services and general health services to the mother and the children. Follow up studies based on ANC visits is important to detect the magnitude of the problems. Ethiopia including Arbaminch town and Arbaminch Zuria Woreda has a problem of vital registration system. Moreover, there are no attempts to estimate the problems in the community where unhygienic home deliveries and late for first ANC visit are widely practiced due to different factors. So that, the aim of this study is to answer the following basic research questions Why pregnant women delay to attend first ANC booking?

2. LITERATURE REVIEW

2.1 ANC coverage in the World

Despite a significant reduction in the number of maternal deaths – from an estimated 543,000 in 1990 to 287,000 in 2010, the rate of decline is just over half that needed to achieve the relevant MDG target. Between 1990 and 2010, the global rate of decline was 3.1% per annum, with lower rates in the WHO African Region, WHO Region of the Americas and WHO Eastern Mediterranean Region. Approximately one quarter of the countries with the highest maternal mortality ratio in 1990 (≥ 100 maternal deaths per 100,000 live births) have made insufficient or no progress. To reduce the number of maternal deaths, women need access to good quality of reproductive health care and effective interventions. The proportion of women receiving antenatal care at least once during pregnancy was about 81% for the period 2005–2011, but for the recommended minimum of four visits or more the corresponding figure drops to around 55%. The proportions of births attended by skilled personnel are crucial for reducing perinatal, neonatal and maternal deaths is above 90% in three of the six WHO regions. However, increased coverage is needed in certain regions, such as Africa where the figure remains less than 50% (22). A study done in Nigeria study showed 81% of pregnant women entered ANC after 12 weeks of gestations(14).

In Ethiopia 34% of pregnant mothers who gave birth in the five years preceding the survey received antenatal care from a skilled provider, that is, from a doctor, nurse, or midwife, for their most recent birth 28% from a nurse or midwife and 5% from a doctor. Another 9% of women received ANC from a health extension worker (HEW). By comparison, in 2005, 28% of pregnant women received antenatal care from a skilled providers(1).

2.2 Socio-demographic factors and ANC utilization

The urban poor in sub-Saharan Africa are, on average, 1.4 times more likely to initiate antenatal care late in pregnancy (during the second or third trimester) or to make an inadequate number of antenatal visits (three or fewer) during pregnancy than the urban non-poor. The results identified significantly poorer antenatal care among teenage mothers, less educated women, and women having higher order births, compared with their counterparts who are older, more educated, or having lower order births. In general, the probability of home delivery declines with increasing maternal education and age, but increases with increasing parity. The country level variances show that there is a significant variation in delivery care and in residential inequalities in delivery care across countries of sub-Saharan Africa (23). In Ghana, pregnant women with more schooling have a higher propensity to seek sufficient ANC from all providers (24).

The most important reasons for not seeking health care in Ethiopia was found to be concern that there may be not a health providers (81%), concern about getting money for treatment, concern that there may not be a female health provider, concern that having to take transport, and concern that there may be not one to complete the household chores were cited by about seven in ten women(9). A study in Hadiya Zone revealed that mothers who are in the age group of 25-29 years were less likely to utilize ANC service than women who are 35 years and older. Mothers with primary educational level were more likely to attend ANC than women who are unable to read and write. Mothers who live within a household size less than three people were eight times more likely to utilize ANC than those living in a household size greater than five(25). Other study done in Yem special Woreda found that residence and age at first pregnancy, living less than 60 minutes' walk from health facility, and planned last pregnancy are significantly associated with ANC utilization in the area (26). In Tigray region study showed that married and divorced women were more likely to use ANC than single and widowed women(27).

A study conducted in Nether land showed that the main outcome measure was late entry into antenatal care (gestational age at first visit after 14 weeks). The Study found that non-Dutch mothers were more likely to enter antenatal care later than Dutch mothers(15). A study in Tanzania revealed that the majority of pregnant women initiated antenatal care attendance with an average of 5 gestational months. perceived poor quality of care, late recognition of pregnancy and not being supported by the husband or partner were identified as factors associated with a later antenatal care enrollment(28).

In urban Vietnam a study showed low economic status were main factor associated with risk for overall inadequate ANC use(29). In Democratic Republic of Congo (DRC) most of them started their antenatal visits only when they had the financial means or time, or felt unwell(30). In Nigeria study showed that those who earned lesser income and more unemployed were more likely to book late compared to those who earned more and employed women respectively(14).

In Holeta town the study showed that the likelihood of utilizing ANC decreased, as the family income gets lower(31). women who had daily access to public transportation to the nearest ANC service were 4.5 times more likely to visit the ANC than women without such frequent access to public transportation in Kham district (32).

2.3 Antenatal care service and client satisfaction

A Study conducted in rural Zambia found no effect of distance on timing of ANC or number of visits and better level of provision at the closest facility was not associated with either earlier ANC attendance or higher number of visits. However, there was a strong influence of both distance to a facility, and level of provision at the closest ANC facility on the quality of ANC received (33). The study in Ghana showed that the number of visits falls below the recommended

number of four shows that living standard, cost of consultation and in particular travel distance to the provider have significant impact on the demand and sufficiency of ANC(24).

A study in Zambia found that only 45 antenatal facilities (3%) fulfilled their developed criteria for optimum ANC service, while 47% of facilities provided adequate service, and the remaining 50% offered inadequate service(34). In Ethiopia a study confirmed the advantages of proximity of health facility for using ANC services, but not for institutional delivery(27). In Bahirdar respondents whose privacy was maintained were about two times more likely to score above the mean satisfaction score than those whose privacy was not maintained. Duration of consultation time (40 minute) and explaining the procedure before ANC examination were predictor variables for client satisfaction on antenatal care. The probable reason that high proportion of pregnant women were not satisfied in the study might be related to lack of qualified health professionals like midwife, nurses, lack of training for providers and absence of ANC guidelines in health facilities(35). Distance to a health facility and not wanting to go alone are perceived as big problems by more than three in five women. Only one in three (35%) women perceived getting permission to go for treatment to be a big problem. 80% of women in rural areas perceived having to take transport as a big problem, compare with only 34% of women in urban areas(9).

2.4 Knowledge of pregnant women related to ANC visits

A study done in Zambia found that lack of knowledge significantly increase the odds of late ANC attendance and Being living in rural residence is significantly increase the odds of late ANC presentation. The perception of no benefits derived from commencement of ANC early was associated with late attendance(36).

In Kampala Uganda, the results showed that 291(72.7%) of the study participants did not know the right gestation age at which a pregnant woman should start attending antenatal care. 53.3%

of respondents were reported that they did not have any problem with their current pregnancy and so they saw no reason to come early for antenatal care, even though some of these knew the right gestation age at which they should make their first antenatal care visit and to avoid multiple visits(37, 38).

A study conducted in Benishangul Gumuz showed that lack of awareness 268(51.4%) and absence of health problems during pregnancy 213(40.9%) were the main reasons mentioned for not attending the service (39). The study conducted in Addis Ababa showed that Past experience on antenatal care service utilization did not come out as a predictor for timely booking of antenatal care but who received advice on recommended time of booking, their pregnancy was planned and first pregnancy were more likely to book timely compared to others respectively (18). Positive husband attitude towards ANC was significantly related to antenatal care service utilization(25). In DRC Lubumbashi City only 20% of the women started with antenatal visits according to a planned schedule(30). The utilization of ANC was almost 9 times more likely for women reported their husbands approve ANC than women with those whose husbands did not approve ANC service(31).

2.5 Number and timing of first ANC visits

94% of pregnant women mothers reported at least one ANC visit with a skilled health worker and 60% attended at least four visits, only 29% of mothers received good quality ANC, and only 8% of mothers received good quality ANC and attended in the first trimester (34). In Malawi, the finding indicated inadequate resources for ANC provision. Most women started visiting ANC in second trimester(40). The study conducted in three districts Tanzania showed that although 49.3% of the women intended to become pregnant, 50.7% (34.9% mistimed and 15.8% unwanted) became pregnant unintentionally. While ANC initiation in the 1st trimester was

18.5%, so was 71.7% and 9.9% in the 2nd and 3rd trimesters respectively. ANC initiation in the 2nd trimester was 1.68 times more likely for mistimed and unwanted pregnancies respectively compared to intended pregnancies. These estimates rose to 2.81 and 4.10 respectively in the 3rd trimester(41).

In rural Kenya revealed, of 635 participants, 90% visited the antenatal clinic at least once during their last pregnancy (median number of visits four). Most women (64%) first visited the ANC in the third trimester; a perceived lack of quality in the ANC was associated with a late first ANC visit with odds ratio of 1.5(42). The study in Bahirdar zone 140 (37.9%) women started their ANC visit within their 1st trimester, 223(59%) of the women initiated their first ANC visits within 4-6 months and after 6 months of gestation respectively(35).

2.6 Obstetric history of pregnant women and first ANC visits

A study conducted in England and Wales revealed that Primiparous women of high obstetric risk were 13.4% more likely to initiate antenatal care after 10 weeks of gestation than a low risk reference group 34.3% more likely to initiate antenatal care after 18 weeks of gestation. This association between high obstetric risk status and late initiation of antenatal care was not replicated among multiparous women(17). Prim parity and previous experience of a miscarriage or stillbirth were associated with an earlier antenatal care attendance. Adolescent pregnant women started antenatal care no later than adult pregnant women despite being more likely to be single (28). Women who fell pregnant unintentionally had higher odds of starting ANC late in both rural 4.2 times and urban 3.1 times respectively(36). The study in Turkey showed that unwanted pregnancy was barriers to use of prenatal care services. Additional barriers were negative attitudes toward pregnancy and attitudes toward prenatal care. These barriers decreased frequency of use and delayed early initiation of prenatal care(43). A study carried out in Tigray

region has shown no association between parity and the use of ANC services. 58% of pregnant women did not receive advice about birth preparedness and signs of pregnancy complications during a pregnancy check-up visit at the health facility(27).

2.7 Food insecurity and pregnant women

Among pregnant women, food insecurity is associated with higher levels of perceived stress, anxiety, and depression and lower levels of self-esteem and mastery(44, 45). Food insecurity has been shown to affect several health outcomes or it is associated with decreased self-rated health status(21, 46). Another study found that household food insecurity was associated with greater gestational weight gain compared with gestational weight gain in pregnant women from food-secure households(45). The number of antenatal visits a mother had was inversely related with stunting or number ANC visits during pregnancy of the child and age at weaning are linked to chronic malnutrition or food insecurity(47). Among women with prenatal household food insecurity with hunger, odds of any post-partum household food insecurity was reduced with first or second trimester of entry versus third entry(48).

Conceptual frame work of the study

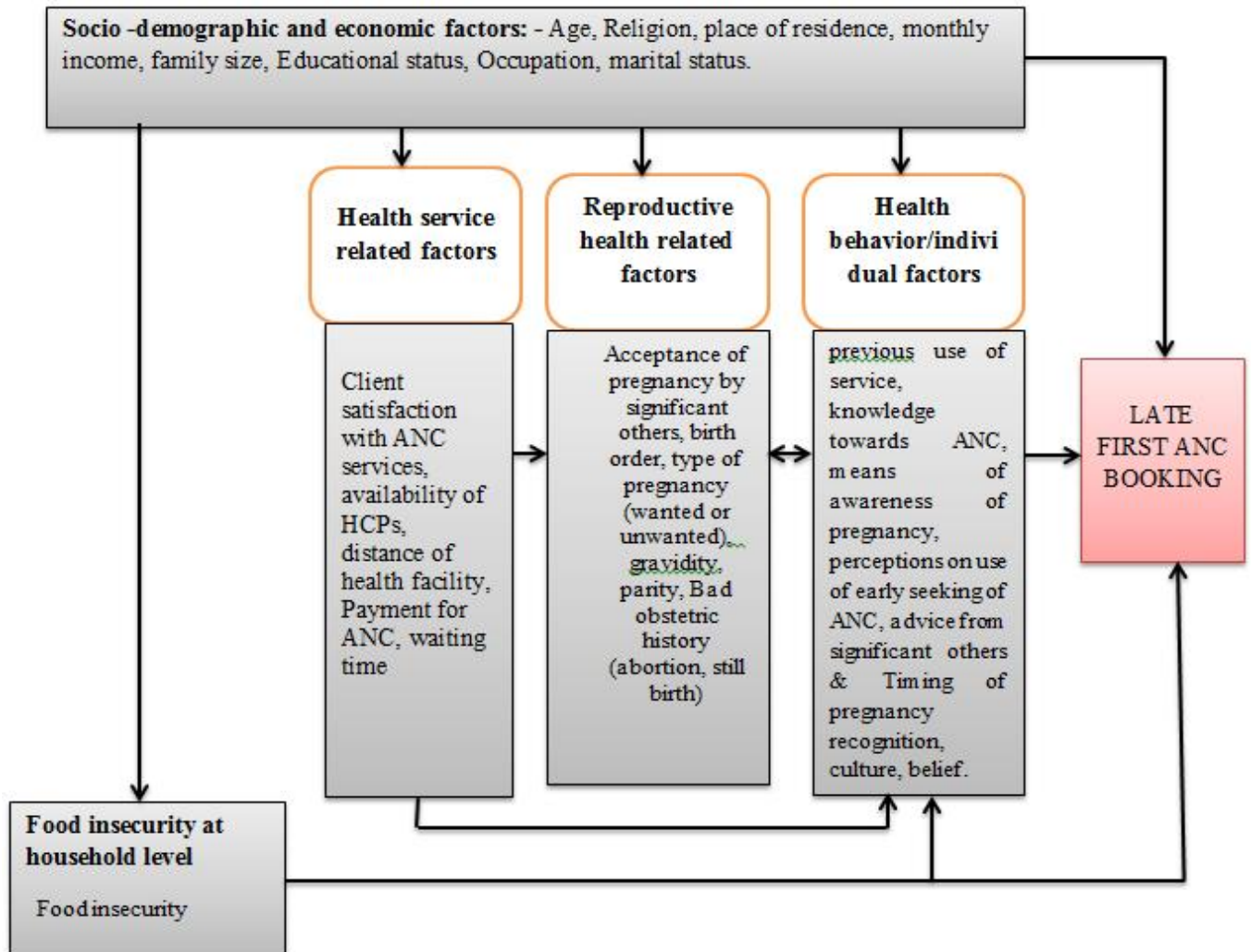


Figure 1: Conceptual frame work of the study was developed based on different literature review among pregnant women in Arbaminch town and Arbaminch Zuria Woreda public health facilities, SNNPR, Southern Ethiopia, February – March 2014.

Significance of the study

This study might find out which factor influences timing of first ANC booking, and intended to identify focused areas for effective intervention programmes among pregnant women for programme makers. It might show the reasons for coming late initiation of ANC visits which are not identified in Arbaminch town and Arbaminch Zuria Woreda. The study might be contribute for malaria treatment and prevention programmes among pregnant women. The study might also generate area-specific information to be used as base line data for community health workers, local and national policy makers.

3. OBJECTIVES

3.1 General objective

- To assess timing of first antenatal care booking and associated factors among pregnant women attending public health facilities in Arbaminch town and Arbaminch Zuria Woreda, Gamo-Gofa Zone, SNNPR, Southern Ethiopia, 2014.

3.2 Specific objectives

1. To determine timing of first ANC booking among pregnant women
2. To identify factors associated with late first ANC booking among pregnant women

4. METHODS AND MATERIALS

4.1 Study area and period

The study was conducted from February 20-March 20/2014 in Arbaminch town and Arbaminch Zuria Woreda public health facilities, Gamo-Gofa zone, SNNPR, Southern Ethiopia. Arbaminch town located 505 Km away from Addis Ababa and 275 km south west of Hawassa, capital city of the region. The total population of the study area is 284,205 with 10,231 estimated pregnant women. In the study area there is one zonal hospital, 8 health centers. Besides 8 Nongovernmental organizations (NGOs) providing health service for the community, there are private health facilities including low level clinics, medium clinics, drug store and 2 pharmacies(49).

4.2 Study design

A facility based cross sectional study design was employed with both quantitative and qualitative methods.

4.3 populations

4.3.1 Source population

All Pregnant women attending ANC service in Arbaminch town and Arbaminch Zuria Woreda public health facilities during the study period.

4.3.2 Study population

Quantitative data

Sample Pregnant women attending ANC service in Arbaminch town and Arbaminch Zuria Woreda public health facilities during the study period.

Qualitative data

Purposively selected antenatal care providers those providers who have more experience and providing ANC services in health facility and health extension workers who are working in the kebele in order to provide rich information respectively.

4.3.3 Exclusion and inclusion criteria

4.3.3.1 Inclusion criteria

Pregnant women who are attending ANC and volunteer were included.

4.3.3.2 Exclusion criteria

Pregnant women who attended first ANC visits in other health facility were excluded.

Pregnant women were excluded; who are seriously ill and unable to respond.

Pregnant women who live in the area less than six months in the study area were excluded.

4.4 Sample size determination

The sample size was calculated using single population proportion formula as follows:-

58.9% is the proportion of pregnant women those who booked late for first ANC visits in Bahirdar zone(35). Significant level calculated at 95% confidence interval (CI).

Level of precision is 5%. $Z_{/2} = Z$ value at 95% CI.

$$n = \frac{(Z_{/2})^2 p(1-p)}{d^2} = \frac{(1.96)_{/2}^2 * 0.589(1-0.589)}{(0.05)^2} = 372$$

372 pregnant women with 10% of non-response rate, total of 409 pregnant women were included in the study.

4.5 Sampling technique and sampling procedure

For the quantitative study all public health facilities providing antenatal care services were included. To achieve the desired sample size, the number of pregnant women from each facility were determined by a proportional to size allocation based on the average number of ANC users in the most recent annual plan performance report of each health facility (72 from Arbaminch Hospital, 50 from Sikela Health center, 50 from Shecha, 49 from Lante, 40 from Gatse, 61 from Shelle, 21 from Zigitti, 47 from Maze Doysa, and 19 from Ganta Bonke Health centers). Individual study subjects at each health facility were selected by systematic random sampling during the data collection period until the required sample size at each health facility was obtained. The sampling interval ($k = 2$) was calculated by dividing the source population (852 during one month period) to the desired sample size (409) and this interval were used in all facilities to select study subjects. The first client was selected by simple random sampling among the first two ANC service users (Figure 2).

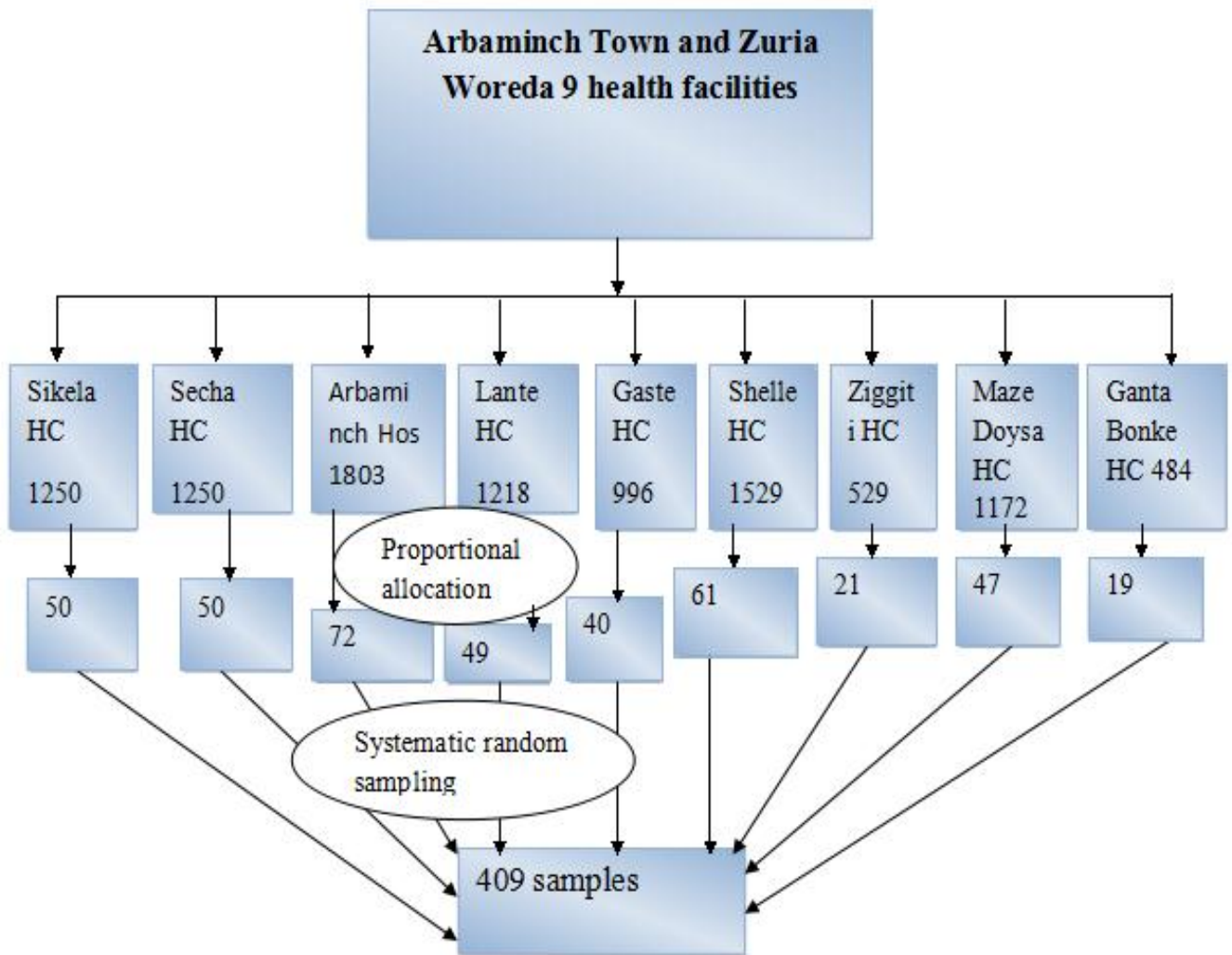


Figure 2: Schematic representation of sampling technique among pregnant women in Arbaminch town and Arbaminch Zuria Woreda public health facilities, SNNPR, Southern Ethiopia, March 2014.

For the qualitative component of the study, Purposive sampling was used to select pregnant women, antenatal care provider and health extension worker and the sample was considered adequate when saturation of data was reached. A total of six pregnant women, four health care providers and four health extension workers participated. (i.e. pregnant women who booked late, the providers who have more experience based on the number of years he/she work in antenatal clinic and providing ANC services and health extension workers who are working in the kebele respectively). The providers were interviewed about the available service, schedule of ANC visits and adequacy of resources for antenatal care service provision.

4.6 Study variables

4.6.1 Dependent Variables

Late first ANC booking

4.6.2 Independent variables

- **Socio demographic and economic factors** such as: - age, educational status, occupation, marital status, religion, ethnicity, place of residence, monthly income and family size.
- **Health service related factors:** - client satisfaction with ANC services, availability of HCPs, distance of health facility, payment for ANC, waiting time.
- **Health behavior/maternal factors:** - Previous use of service, knowledge towards ANC, means of awareness of pregnancy, culture, belief, perceptions on use of early seeking of ANC, advise from significant others and timing of pregnancy recognition.
- **Reproductive health related factors:** - acceptance of pregnancy by significant others, birth order, type of pregnancy, gravidity, parity, Bad obstetric history (abortion, still birth).
- **Household Food insecurity status:** - household food insecure

4.7 Data collection instrument/procedure and methods

4.7.1 Data collection instrument

For Quantitative data

The Quantitative data was collected from respondents using semi-structured and pretested questionnaires developed after review of relevant literatures(1, 18, 50). The questionnaire contains information about: socio-demographic and economic characteristics, obstetric history of the pregnant woman including date of last normal menstrual history, knowledge and perception on ANC use, past history of ANC utilization, current pregnancy and ANC utilization and House hold food insecure access scale to measure food insecure status(50). The interviews were carried out in a private and calm environment so as to ensure confidentiality. For qualitative data open ended interview guide were used.

4.7.2 Data collection methods

Data collection was made by using semi-structured interviewer administered questionnaires for quantitative data. In-depth interview was carried out with pregnant women, ANC clinic workers and health extension workers.

4.7.3 Data collection procedures

First data collectors were trained about tools-procedures of data collection and they can spoke the local language of study participants. Nine Trained female Diploma Nurse Interviewers were conducted exit interview with pregnant women using a pre-tested questionnaire on the day of data collection. Following interviews if respondents who are not recalling their gestation age, further informed consent are requested to access medical records. Medical records of interviewed women were reviewed in respective of their card number, on the same day to collect further information on gestational age during their first ANC visit with respect to their coded card number in antenatal clinic.

For qualitative data

In-depth interview with six pregnant women, four antenatal care providers and four health extension workers were also carried out in the study area until the information is saturated. The interview was done after quantitative data collection. The principal investigator was took note and tape recorded on basic information during in-depth interview.

4.8 Operational definitions and definition of terms

ANC attenders: - all pregnant women who visited the antenatal care clinic once or more.

Early ANC booking:-pregnant women who are attending first ANC before 16 weeks of gestation(1).

Extremely poor/Below poverty: - a family income \leq \$1.25 USD/day according to MDG 2013 report(51).

Household Food : - the households was classified as food secure if the family does not reported experiencing of any of the food insecurity conditions in the past four weeks(50).

Household security : - those house hold member who sleep under the same roof and take meals together at least four days a week(50).

High satisfaction of ANC services: - those pregnant women who responded for five questions below mean score in terms of staff approach ,laboratory service, privacy ,waiting time and service charge.

Planned pregnancy: - a pregnancy which is consciously desired and planned by a couple.

Late ANC booking: - pregnant women who came for ANC at/after 16 weeks of gestation. This reference is taken from the last menstrual period of the pregnant women(1).

Illiterate: - those people who are unable write and read in the study.

Waiting time: - the time when the client arrived at the health facility through the services until the exit. The standard expected time is 30-40 minute(7).

4.9 Data processing and analysis

Data were entered by using Epidata3.1 and exported to SPSS version 20 for analysis purpose. Frequency distributions were used to organize the data and present the responses obtained. Measures of central tendency, standard deviation, proportion, range and cross tab were calculated and utilized for appropriate variables to describe the data. Binary logistic regression analysis was used to see the association between one explanatory variable and outcome variable at $p \text{ value} \leq 0.25$ and based on biological plausibility of the independent variables with outcome variable. Multivariable logistic regression analysis was performed to predict factors which affect the dependent variable for the variables were statically significant in binary logistic regression. Multicollinearity and interaction were checked among explanatory variables in the final model. Those variables with a $p \text{ value} \leq 0.05$ with AOR 95% confidence interval were considered as statistically significant in multivariable analysis. Backward stepwise regression method was used to test the model fitness. This statistical analysis method is preferred because the outcome variable is dichotomous, that is early or late first ANC booking and the independent variables are metric or categorical. Finally, the result was displayed using chart, graphs and tables. Data from in-depth interviews were audio taped, transcribed, translated and coded in to larger themes and categories, analyzed thematically by open code version 3.4 and triangulated with quantitative data.

4.10 Data quality management

In order to assure the quality of data the following measures was done:-

- A questionnaire was prepared in English and was translated to Amharic and local language (gamo-gha) and retranslated back to English for consistency of questionnaire.
- Pretests of tool were done at Chenchu Hospital about 5% of total sample which is not part of the study area before conducting the main study. The lessons obtained from the pretest were included in the final tool.
- Intensive Training of data collectors for two days on information about the research objective, respecting culture and confidentiality of the participants', data collection tools, procedures and interview methods.
- The data was collected by trained female diploma nurses, one data collector at each site. The female nurse is not an employee of the health centers/hospital. They did not appear in uniform. This is preferred for facilitation of interaction between the respondents and data collectors which is important to generate accurate information.
- The collected data were carefully checked for completeness, outlier and missing value as well as consistencies
- Double data entry was applied to control errors.
- Supervision of data collectors were made two times at each health facility by the principal investigators. Any confusion on the data collection procedure and/or responses was handled timely.

4.11 Ethical consideration

The proposal was approved by Ethical Review Committee of College of Public Health and Medical sciences of Jimma University before the start of the study. Ethical clearance was initially obtained from post graduate research office, College of Public Health and Medical Sciences, Jimma University. Further written consent was secured from department of population and family health. Permission letter was written to each health institution from zonal health

department, and then informed verbal consent from study participants (both clients and providers) were sought often brief explanation of the purpose of the study before the interview. The respondents had the right to refuse participation or terminate their involvement at any point during the interview. The information provided by each respondent was kept confidential. Furthermore, report writing did not refer a specific respondent with identifiers.

4.12 Dissemination plan

The study might be presented at the end in the Department of Population and Family Health, College of Public Health and Medical Sciences, Jimma University. The result of the study may disseminate to the relevant organization that can use the findings, including the Gamo-Goffa zone health bureau, health facilities, community leaders & relevant non-government organizations. Furthermore an effort may be made to make publish the study on either national or international journals.

5. RESULT

5.1 Sociodemographic characteristics of the study participants

Four hundred nine pregnant women were interviewed in this study, yielding 100% response rate.

Out of 409 respondents who responded to the interview 59(14.4%) were in the age range between 15 -19 years, 110(26.9%) were in the age range between 20-24 years, 127(31.1%) were in the age range between 25-29 years, 81(18.9%) were in the age range between 30 -34 years. The mean age of respondents was 26 years with standard deviation (SD±5.5).

The ethnic composition of the respondents was Gamo, Welaita, Amhara, and Others, 311(76%), 44(10.8%), 68(6.8%), 26(6.4%) respectively. Respondents of Orthodox and Protestant religion were found to be 193(47.2%) and 192(46.9%) respectively. Majority of respondents 384(93.9%) were married. The occupational status of most respondents were house wife 293(71.6%) followed by self-employed 59(14.6%). The respondents were illiterate 117(28.6%) and primary school 134(32.8%) respectively.

Majority of respondents 234(57.2%) were rural residents. One hundred eighty four respondents (45%) had 1425 ETB and above monthly household income followed by less than or equal 712.5 ETB 118(28.9%) and between 712.5 and 1425 ETB 107(26.2%) (Table1).

Table 1:- Sociodemographic characteristics of study participants in Arbaminch town and Arbaminch Zuria Woreda public health facilities, SNNPR, Southern Ethiopia, February – March 2014.

Variables(n=409)		Frequency(n)	Percentage (%)
Age group	15-19	59	14.4
	20-24	110	26.9
	25-29	127	31.1
	30-34	81	19.8
	35 and above	32	7.8
Ethnicity	Gamo	311	76.0
	Welaita	44	10.8
	Amhara	28	6.8
	Other ¹	26	6.4
Religion	Orthodox	193	47.2
	Protestant	192	46.9
	Other ²	24	5.9
Marital status	Single	11	2.7
	Married	384	93.9
	Other ³	14	2.4
Occupational Status	Government .w	48	11.7
	Self-employed	59	14.4
	House wife	293	71.6
	Other ⁴	9	2.3
Educational	No education	117	28.6
	primary school (1-8)	134	32.8
	secondary school (9-10)	88	21.5
	college diploma & above	70	17.1
Residence	Urban	175	42.8
	Rural	234	57.2
HH income	712.5 ETB	118	28.9
	712.5-1425 ETB	107	26.1
	1425 ETB	184	45.0
Family size	had four and less	285	69.7
	had more than four	124	30.3

Key¹:Other¹.konso, Oromo, Selte, Gurage, Malee, Tigray Other²-Muslim, Catholic,Ahizab

Other³ –Cohabitation, Separated, Divorced, Windowed Other⁴-Student, Daily worker

5.2 Obstetric history of the study participants

One hundred fifty two (37.1%) of respondents were gravida one, while the rest (62.9%) were two and above. One hundred seventy two (42%) of respondents were zero parity and the rest 237(58%) were one and more children. Sixty one (15%) of respondents had history of at least one abortion and the rest 248(85%) had no a history of abortion. Regarding the causes of the abortions among sixty one pregnant women, 48(78.6%) of the abortions were self-induced and 13(21.4%) were spontaneous abortion. Three hundred fourth four (84%) of pregnant women had no history of child died, while the rest sixty five (16%) had history of at least one child died (Table 2).

Table 2:- Obstetrics experience of study participants among pregnant women in Arbaminch town and Arbaminch Zuria Woreda public health facilities, SNNPR, Southern Ethiopia, February – March 2014.

Variables (n=409)	Number (n)	Percentage (%)	
Number of gravida	prime gravida	152	37.1
	Multi gravida	257	62.9
Number of children	no children	172	42
	one or more children	237	58
No of abortion	had no history of abortion	348	85
	had history at least one abortion	61	15
No of child died	had no history of child died	344	84
	had history at least one child	65	16

5.3 Timing of first ANC booking of the study participants

Information on timing of first ANC was collected from the women's recall or client's card if they couldn't remember the exact dates. Accordingly, the proportion of respondents who made their first ANC booked with in recommended time (before 16 weeks of gestational age) were 71(17.4%) while those who delayed for first ANC booking (at or after 16 weeks of gestation) were 338(82.6%) (Figure3).

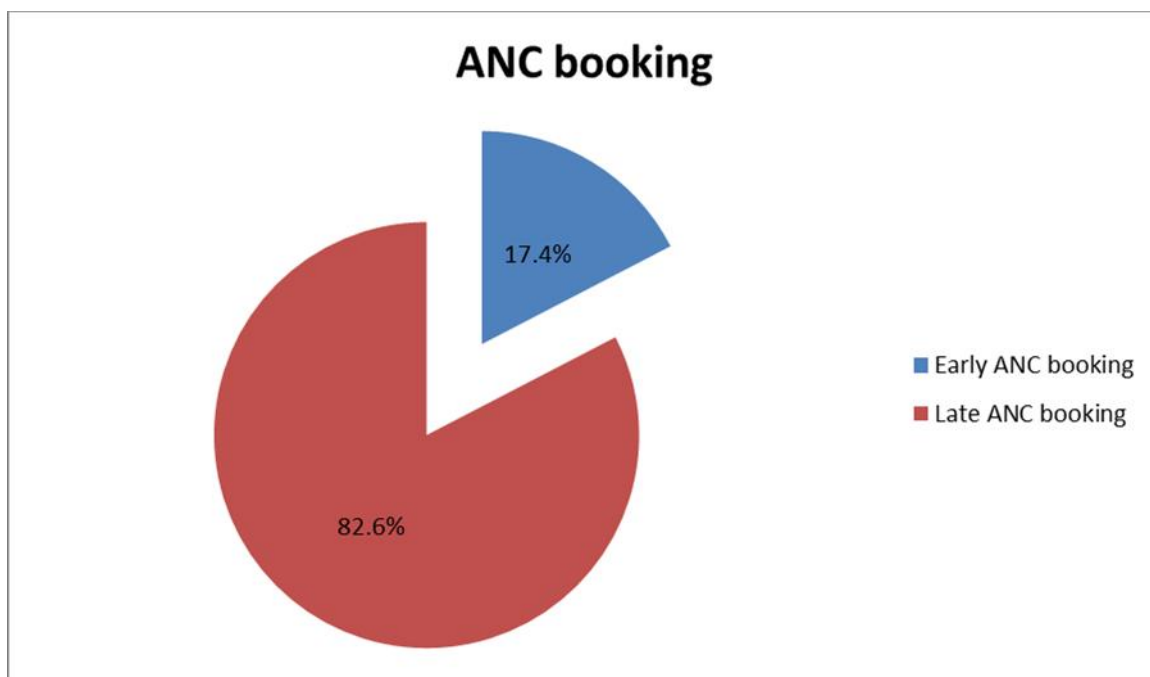


Figure 3: Timing of first ANC booking among pregnant women in Arbaminch town and Arbaminch Zuria Woreda public health facilities, SNNPR, Southern Ethiopia, February – March 2014.

Timing of first ANC booking ranges from 1st months to 9th months during their pregnancy. 29.9% of respondents were attended first ANC visits at four month of gestations. The mean of first ANC booking was 5 months with (SD± 1.5) (Figure 4).

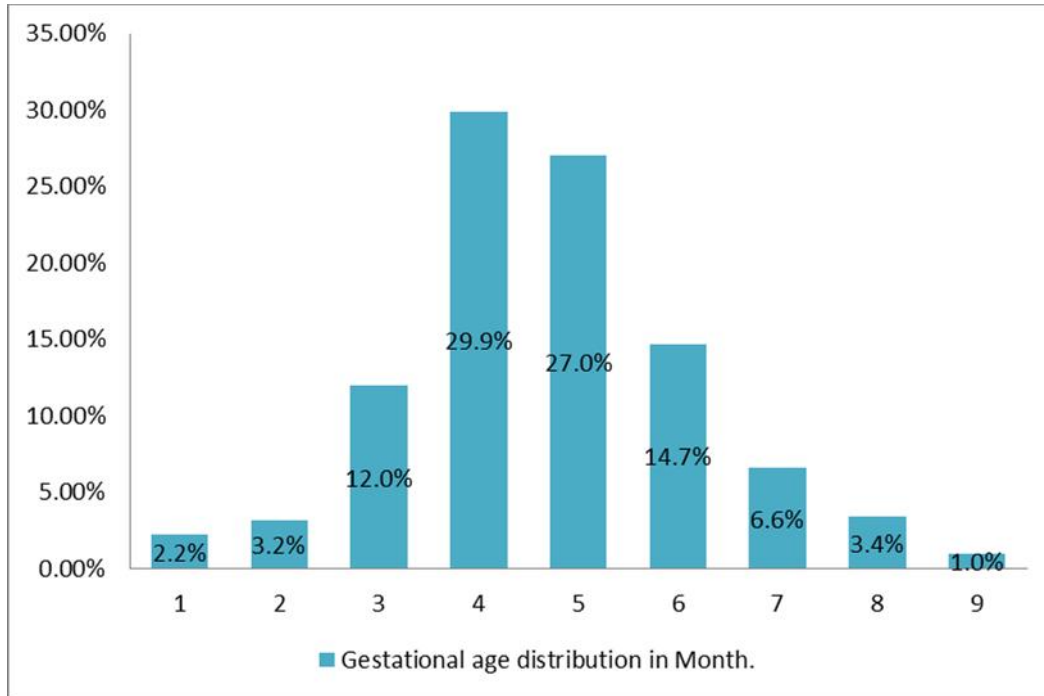


Figure 4: Gestational age distributions at first ANC booking among pregnant women in Arbaminch town and Arbaminch Zuria Woreda public health facilities, SNNPR, Southern Ethiopia, February – March 2014.

5.4 Knowledge and perception of antenatal care service of study participants

Four hundred six (99.3%) and four hundred four (98.8%) of respondents perceived and reported that the importance of ANC for the health of the mother and fetus as highly important respectively. One hundred fifty (36.7%) realized that the right time of ANC booking was before 16 weeks of gestation, two hundred forty four (59.7%) perceived the right time ANC booking was at or after 16 weeks of gestation while 15(3.7%) did not know the right time of ANC booking respectively. Twenty one (5.1%) pregnant women realized that only one visit of ANC was enough, 98(24%) perceived two to three visits of ANC were enough, 261(63.8%) realized that four to six visits of ANC were enough and 29(7.1%) perceived that more than six ANC visits are enough.

Result from qualitative data:-regarding the importance of early antenatal care attendance, HCPs, HEWs and pregnant women have responded due to lack of knowledge and poor perception on early initiation of ANC booking.

“I think at this time ANC utilization is good but the majority pregnant women were booked late for first ANC if once they reached to our health center we tell them everything what they need to the mother and fetus and what they to do regarding ANC and delivery but I say that there is no sufficient health education at community level for new pregnant women but multigravida mother said there is no need to come early for antenatal care if one has no problem with her pregnancy. Then they stayed in their home rather than visiting health center”. (By A female nurse, 30 years old, she has been working ANC unit more than 2 years)

“I do not have any information regarding ANC use even now my husband told me to go health facility at this time. Previously I was living in remote areas. I am daily workers to go facility frequently is difficult to me”. (By A 20 years old, married, gravida II who booked at 22 weeks of gestation).

By using house hold food insecurity access prevalence scale, house hold food status of pregnant women were calculated. Majority of the households 365(89%) were food secured (Table 3).

Table 3:-Knowledge and perception of antenatal care service by timing of first ANC booking among pregnant women in Arbaminch town and Arbaminch Zuria Woreda public health facilities, SNNPR, Southern Ethiopia, February – March 2014.

Variables (n=409)	timing of first ANC visits		Total (%)	
	Booked late n (%)	Booked early n (%)		
Importance of ANC for mother	highly important	335(82)	71(17.3)	406(99.3)
	medium important	2(0.5)	0	2(0.5)
	less important	1(0.2)	0	1(0.2)
Importance of ANC for fetus	highly important	333(81.5)	71(17.3)	404(98.8)
	Less important	5(1.2)	0	5(1.2)
timing of ANC visits(n= 294)	before 16 weeks	99(24.2)	51(12.5)	150(36.7)
	at or after 16 weeks	224(54.8)	20(4.9)	244(59.7)
Knowledge number of ANC visit	only one visits	20(4.9)	1(0.2)	21(5.1)
	two to three visits	87(21.3)	11(2.7)	98(24)
	four to six visits	211(51.6)	50(12.2)	261(63.8)
	more than six visits	20(4.9)	9(2.2)	29(7.1)
House hold food status	food secured	296(72)	69(17)	365(89)
	food insecure	42(10.6)	2(0.4)	44(11)

Three hundred seventeen (75.5%) of pregnant women responded that they received advice about ANC use from someone else before their first ANC visits while 92(22.5%) did not received advice from any one. Majority of the respondents 184(58%) received advice from community health workers, followed by husband 66(24%). Two hundred eighty two respondents (89%) reported that they were advised when to start first ANC visits. Among those women who were advised, 132(47%) were advised before 16 weeks of gestation. The study investigated the pregnant women were told about danger signs during pregnancy reported 291(71.1%); while others 118(28.9%) were not told danger signs. Among two hundred ninety one, 156(53.6%), 228(78%), 179(61%), 169(58%), 169(58%), 167(57%) and 159(54%) were told all types of danger signs of pregnancy, Vaginal bleeding, Severe headache, Fever, abdominal pain, blurred vision and Vaginal gush of fluid respectively(Figure 5).

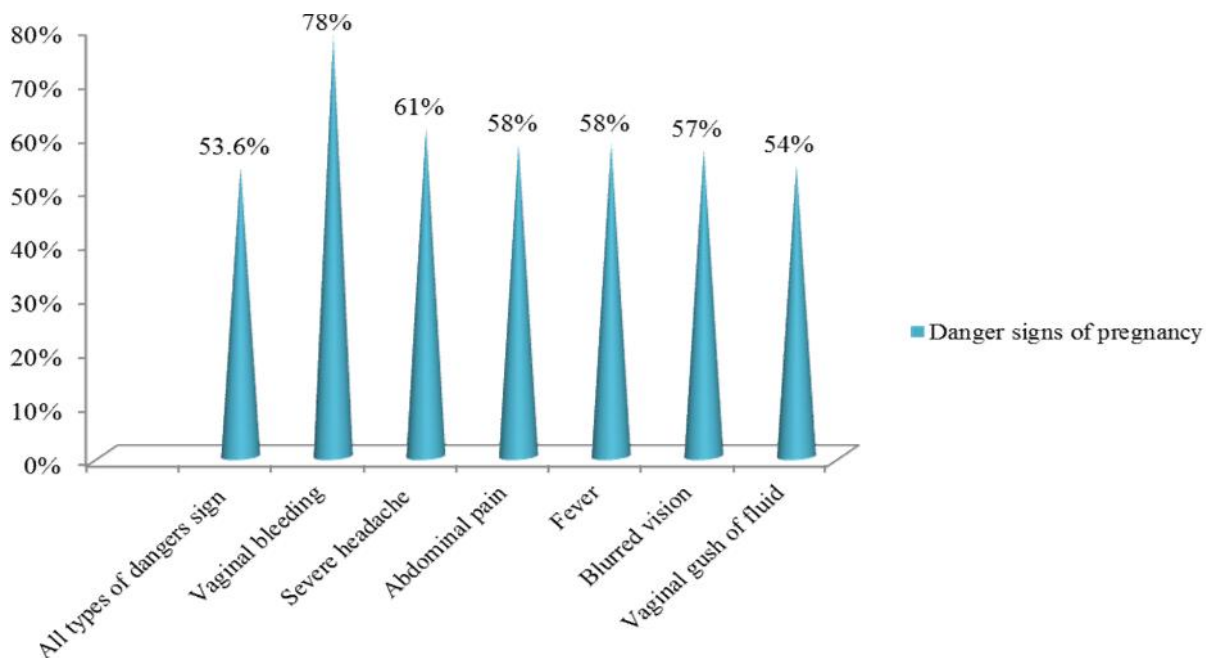


Figure 5: Danger signs told during pregnancy among pregnant women in Arbaminch town and Arbaminch Zuria Woreda public health facilities, SNNPR, Southern Ethiopia, February – March 2014.

5.5 Past history of ANC service utilization of study participants

Among two hundred fifty seven respondents (62.8%) who had history of previous pregnancy in their life, 227(88%) had attended ANC for the previous pregnancy while the remaining 30(12%) did not attend ANC. Regarding the birth order who had attended ANC previously were the first pregnancy 140(62%), second pregnancy 89(39%), third pregnancy 55(24%), fourth pregnancy 34(15%) and fifth pregnancy 26(11%) respectively.

Out of 227 respondents who had history ANC use in previous pregnancy, 78(34.4%) had their previous ANC visit before 16 weeks of gestational age while the rest 149(65.6%) had their first ANC visit at or after 16 weeks of gestational age.

Regarding payment in health facility, majority of the respondents 312(76.3%) did not pay for the ANC service. Among ninety seven respondents who paid for ANC service were 86 (89%) for card, 73(75%) laboratory, 70(72%) drugs and 65(67%) ultra-sound respectively. The maximum money they paid 70(72%) more than 50 ETB and followed by 16(28%) less than 10 ETB.

Service satisfaction of respondents was measured by mean score of the five Likert scale questions. Among four hundred nine respondents, 52% of respondents were satisfied (below mean score for satisfaction) with ANC services in terms of staff approach, laboratory service, privacy, waiting time and service charge and the rest scored above mean score for satisfaction.

5.6 Current pregnancy AND ANC utilization of study participants

Three hundred fifty nine (87.8%) of the respondents reported that they recognized their current pregnancy when they missed menses (monthly period) one to three months while others 50(12.3%) confirmed their pregnancy by urine test.

Two hundred sixty nine (66%) of pregnant women reported that their pregnancies were planned while 140(34%) of pregnant women were unplanned pregnancies. Out of 140 unplanned pregnancies, 29(32%) and 21(24%) was unwanted after conception by mother and husband respectively. Among unwanted pregnancies, twenty four (6%) pregnant women were wanted to undertake abortion.

Majority of the respondents 357(87.3%) were first informed their pregnancy to their husband before ANC visits. Among four hundred nine pregnant women, 319(78%) were appointed in recommended time and informed benefit of ANC follow up. In addition, the pregnant women who came to ANC in this time were asked what made them to come in the first trimester, second trimester and third trimester. Among who booked late, most of them 207(61%) came because of they perceive that it is the right time to start, while 75(22%), 23(7%), 17(5%) and 16(4.7%) came because of they were busy, unaware of pregnancy, learnt from previous experience and unplanned pregnancy (Figure 6).

Late recognition of pregnancy: - less than half of study participants responded that the reasons for late comers due to having irregular monthly period and unplanned pregnancy.

“Almost ANC services are free except in hospital they pay for all services but in health center they pay only for drugs still pregnant women booked late for ANC visits. This is due to Sometimes its difficult to know that they are pregnant. Some pregnant women have irregular periods; they miss periods for months only to find that they are not pregnant, so it’s better to wait, to see if they are really pregnant. They go to health facility at five or six months of gestation”. (By A HEW in the kebele, 25 years old, assigned 2 years ago)

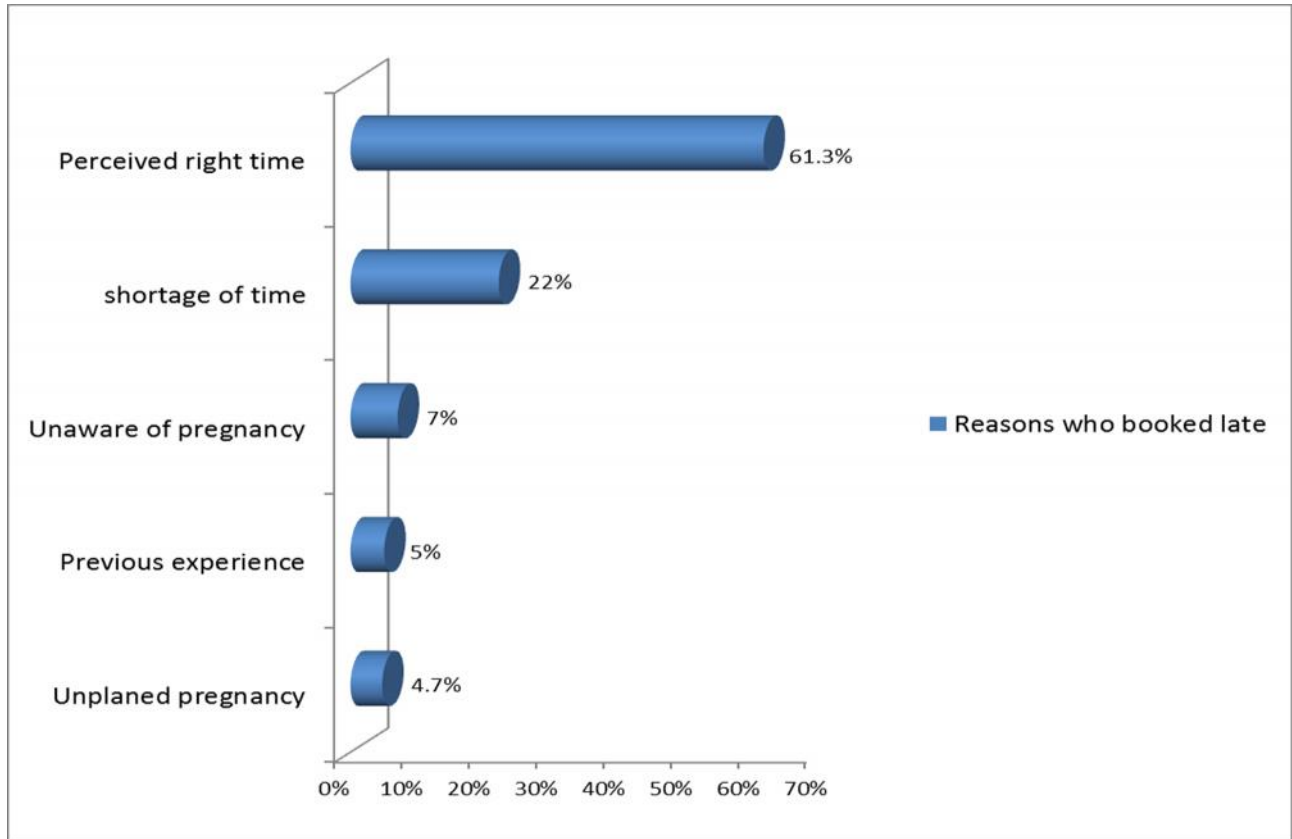


Figure 6: Reasons given to start ANC at this time among pregnant women in Arbaminch town and Arbaminch Zuria Woreda public health facilities, SNNPR, Southern Ethiopia, February – March 2014.

Financial constraints and lack of time: - Majority of respondents stated financial constraints and shortage of time as the reasons for late antenatal clinic attendance.

“...ok! In hospital all ANC services were given but the pregnant women pay money so that those who have poor economic status, and unable to visits in first trimester of their pregnancy, at one visits “one pregnant mother paid around 180 ETB”. (By A female nurse, 32 years old, she has been working ANC unit more than 4 years)

“Who came from other areas especially the remote one we have got challenge to find them because they change their place of residence frequently they do not have sufficient economic

status “they are daily workers”. Even though some of these knew the right gestation age at which they should make their first ANC visit but there is cultural and belief influence. They do not want to show their body for male health care provider. They can’t just go to the hospital without feeling the baby moving in their abdomen.so that they do not want to visits at early time of pregnancy”.(By A HEW in the kebele, 27 years old, assigned 2 years ago)

5.7 Factors associated with timing of first Antenatal care booking

In order to get the predictors of outcome variable, multivariable logistic analysis was performed at p-value ≤ 0.05 for variables that were significantly associated with late first ANC booking are place of residence, educational status, occupational status, monthly income, family size, gravida, parity, child died history, previous ANC use, advised when to start, knowledge on number of ANC visits, type of pregnancy, HH food insecurity, ANC service satisfaction in binary logistic analysis. In this study, the factors that were associated with late first ANC booking were low monthly income, who received advice when to start ANC visits at/after 4 months, household food insecurity and unplanned pregnancy. The likelihood of Pregnant women who had low household monthly income were 5 times (AOR=4.9, CI (1.713, 14.076)) more likely to book late for their first ANC as compared to their counter parts of women with high monthly income. Pregnant women who received advice not on recommended time were 3 times (AOR=3, CI (1.476, 6.244)) more likely to book late for their first ANC as compared to their counter parts of women with received advice on recommended time. Pregnant women with unplanned pregnancy were 4.5 times (AOR=4.49, CI (2.162, 9.353)) more likely to book late for their first ANC as compared to their counter parts of women with planned pregnancy. Pregnant women who are in charge of food insecure were 5 times (AOR=4.66, CI (1.007, 21.589)) more likely to be late first ANC booking as compared to women with food secure (Table 4).

Table 4:- Binary and Multivariable logistic regression model to identify factors associated with timing of first ANC booking among pregnant women in Arbaminch town and Arbaminch Zuria Woreda public health facilities, SNNPR, Southern Ethiopia, February – March 2014.

Variables(n=409)	First ANC booking		COR (95% CI)	AOR(95% CI)
	Booked late	Booked early		
1.Place of residence				
Rural	209	25	2.98(1.75, 5.08)	1.30 (0.68, 2.48)
Urban®	129	46	1	1
2.Educational status				
No education	108	9	3.24(1.55,6.75)	2.1(0.92, 4.79)
Have education ®	230	62	1	1
3.Occupational status				
Government®	35	13	1	1
Self employed	46	13	1.32(0.54, 3.18)	1.29 (0.48, 3.41)
House wife	257	45	2.12(1.04, 4.32)	1.45(0.62, 3.93)
4.Monthly income				
≤712.5 ETB	113	5	5.88(2.24,15.43)	4.91(1.72, 14.07)*
712.5-1425 ETB	79	28	0.73(0.42, 1.28)	0.64 (0.34, 1.18)
≥1425 ETB®	146	38	1	1
5.Family size of HH				
Less than five®	224	61	1	1
More than five	114	10	3.11(1.53, 6.28)	1.53 (0.68, 3.43)
6.Gravida				
Primigravida®	118	34	1	1
Multi gravida	220	37	1.71(1.99,2.87)	0.85(0.27, 2.67)
7.Parity				
Parity zero®	132	40	1	1
Parity one & above	206	31	2.02(1.20, 3.38)	1.11(0.58, 2.07)
8.No of child died				
No died®	276	68	1	1
One died & above	62	3	5.09(1.55, 16.73)	1.41(0.36, 5.53)
9.Previous ANC use				
Yes®	194	33	1	1
No	144	38	0.65(0.38, 1.09)	1(0.30, 3.46)
10.Advised when start(n=280)				
< 4 month®	102	30	1	1
4 month	133	15	2.61(1.33,5.10)	3.03 (1.47, 6.24)*
11.Number of ANC visit				
Less four visits	107	12	2.27(1.17, 4.41)	1.12(0.53, 2.43)

Four & above	231	59	1	1
Continue model ...				
12.Types of pregnancy				
Planned ®	208	61	1	1
unplanned	130	10	3.8(1.88, 7.71)	4.49(2.16, 9.35)*
13. HH food status				
Food secured®	296	69	1	1
Food insecure	42	2	4.9(1.15,20.71)	4.66(1.01,21.59)*
14. Satisfaction				
High	166	46	1	1
Low	172	25	1.91(1.12,3.24)	1.5(0.83,2.73)

Key²: ®-reference category, Selection criteria in binary logistic regression at p 0.25, * at p 0.05 considered as statistically significant in multivariable logistic regression model.

6. DISCUSSION

According to world health organization (WHO) recommendation, a pregnant woman needs to start antenatal care in the first trimester of pregnancy. However, a significant proportion of women from developing countries failed to meet the recommendation of entering antenatal care in the first four months of gestation(6). This study revealed that 82.6% of the pregnant women initiated antenatal care attendance at or after four months of gestational age. But this result is higher than the studies done in Addis Ababa, Bahirdar, Kenya and Ghana (18, 35, 42, 52). This might be due to sociodemographic characteristics difference is evidenced by the fact that majority of pregnant women had no education and only attained primary school, more than half living in rural areas and were house wives in study area as compared to Addis Ababa residents and other countries. Unlike the above this finding is similar with what was reported in Nigeria(14).

First antenatal care booking ranges from 1st months to 9th months during their pregnancy time at an average was 5 months of pregnancy. Thus, the result is consistent with the EDHS report median duration of pregnancy at the first antenatal care booking is 5.2 months (in urban was 4.4

months and rural was 5.5 months) and also its consistent with the study done in south eastern Tanzania, three distinct Tanzania, Ghana and Malawi respectively (1, 28, 41, 52).

Pregnant women who had low house hold monthly income were 5 times more likely to book late for their first ANC booking as compared to their counter parts of women with high monthly income. This result is in line with the study done in Meketel zone, Holeta town, Nigeria and Vietnam which showed that those who earned lesser income were more likely to book late as compared to those who earned more respectively (14, 29, 31). Furthermore, other studies reflected that Low monthly income was associated with increased odds of underutilizing antenatal care services among pregnant mother (1, 39, 53). This could be because of the fact that better income it might be increases the ability to pay for health care services, transportation and other costs. Also this finding was supported by qualitative finding.

As compared to the proportion of pregnant women with past antenatal care experience before current pregnancy, those pregnant women without past antenatal care experience was lower to be booked late than pregnant women with past experience for first antenatal care. This finding supported by the study done in Addis Ababa and Uganda (18, 37). Actually Previous experience of antenatal care utilization it might be improve the current pattern of antenatal care and timing of first antenatal care visits. But the difference in this study was not statistically significant in multivariable analysis. This might be happened due that the pregnant mother thinks us they can handle the problems at early pregnancy based on their past experience and pregnant women's reflected that there is no need to come early for antenatal care if one has no problem with her pregnancy. Beyond the quantitative finding, the qualitative result also indicated that *“even though some of these knew the right gestation age at which they should make their first antenatal care visit but they could not go to health facility at early time of pregnancy without feeling of the baby moving in their abdomen. Even they do not want to show their body for male health*

professionals at first trimester of pregnancy". This might be lack of knowledge and perception on importance of early antenatal care visits.

Majority of respondents reported that they received an advice on antenatal care when to start visits before being started by community health workers. The study showed that pregnant women who received advice not on recommended time were 3 times more likely to book late for their first ANC booking as compared to their counter parts of women with received advice. Similarly study done in Addis Ababa on pregnant women who received advice on advantage of early booking were 2 times more likely to book timely compared to pregnant women with did not received an advice(18). And also this result is supported by the study done in Nigeria(54). Therefore, this study suggests that advising pregnant women when to start first antenatal care booking is more advantageous to attend antenatal care early.

In this study women whose pregnancy was unplanned were 4.5 times more likely to book late for their first ANC as compared to their counter parts of women with planned pregnancy. This finding in line with the study done in south western Ethiopia stated that unintended pregnancy was 25% and 33% lower to use of antenatal care services and receiving adequate antenatal care respectively(55). Furthermore, Studies indicates that unwanted pregnancies strongly associated with late first antenatal care booking or less frequent antenatal care visits and when compared with pregnancy reported as wanted, increased receiving of antenatal care before the sixth month of gestation respectively (16, 56, 57). In addition, other studies demonstrated pregnant Women who fell pregnant unintentionally had higher odds of starting antenatal care late(36, 43). Therefore, being the pregnancy unplanned it might be shame or fear and poor readiness to go health facilities in recommended time.

House hold food insecurity was measured based on house hold food status, from this the household food status of pregnant women who are in charge of food insecure were 5 times more likely to be late first ANC booking as compared to food secure. In food insecure situations, as food becomes the first priority, expenditures on other goods and services could also be forgone to spare money for buying food(58). These conditions it might be unsuitable for pregnant women to utilize maternal health services like early antenatal care visits. And again other studies indicates, food insecurity has been associated with poor pregnancy outcomes, reduced number of antenatal care visits, decreased self-rated health status and change behavior (21, 46, 48). Furthermore, the study done in United States showed that Household food insecurity is an important risk factor for elevated prenatal depressive symptoms among low-income pregnant women(59). Qualitative studies showed that food insecure pregnant women worry about having enough food to feed themselves, their unborn children and their family(60).

Limitation of the study

This study could not be generalized for pregnant women who were attended in private health facility and health post. Ultrasound scan to confirm gestational age of pregnant women was not performed for all; hence different methods were used to determine gestation age of women by health care providers so that, this may have caused inaccuracies in measurement of gestational age.

7. CONCLUSIONS

The study showed that more than three fourth of the pregnant women booked late for first Antenatal care in Arbaminch town and Arbaminch Zuria Woreda public health facilities. Knowledge of pregnant women on importance of Antenatal care for the health of mother and fetus was found to be high. Most of the reasons given by pregnant women who booked

Antenatal care visit late were due to perception of appropriate time and shortage of time. This study indicated that pregnant women with low monthly income, pregnant women who received an advice when to start Antenatal care visits not on recommended time, household food insecurity and pregnant women with unplanned pregnancy were factors associated with late first Antenatal care booking.

8. RECOMMENDATIONS

Based on the findings, the following recommendations are forwarded:

- Gamo-Goffa health office should be empower and strengthen pregnant women with integration of different stakeholders.
- Health facilities in study area should provide free Antenatal care services for those who are attending Antenatal care clinic because already ministry of health (MOH) has been allowed free Antenatal care services.
- Antenatal care clinic workers should be provided clear information about timing and importance of early Antenatal care visits to pregnant mother.
- Health extension workers ought to provide continuous health education on importance of early Antenatal care visits and family health education before their pregnancy.
- Community member should be integrate with health extensions and health development army to give attention on importance of early antenatal care

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10. ANNEX-I

10.1 Questionnaire

Date: _____

Health Institution: _____

Interviewer: _____

1. Socio-demographic and economic variables

1. How old are you? _____ years

2. Ethnicity
- 1. Gamo
 - 2. Welayita
 - 3. Konso
 - 4. Amhara
 - 5. Others (Specify) _____

3. Religion
- 1. Orthodox
 - 2. Muslim
 - 3. Protestant
 - 4. Catholic
 - 5. Others (specify) _____

4. Marital status
- 1. Single (Never married)
 - 2. Married and live together currently
 - 3. Cohabitation
 - 4. Separated, divorced or widowed

5. Educational level (Grade completed)
- 1. Illiterate (cannot read and write)
 - 2. Illiterate (able to read and write)
 - 3. Primary (1-8)
 - 4. Secondary (9-10)
 - 5. College diploma and above

6. Occupation
- 1. Government Employed

- 2. Vaginal gush of fluid 1. Yes 2. No
- 3. Blurred vision 1. Yes 2. No
- 4. Fever 1. Yes 2. No
- 5. Abdominal pain 1. Yes 2. No
- 6. Severe headache 1. Yes 2. No
- 7. Others _____

4. Past history of service utilization

20. Have you ever attended ANC? 1. Yes 2. No

21. If yes, for Q 16, for which pregnancy you attended (birth order)?

- 1st pregnancy 1. Yes 2. No
- 2nd pregnancy 1. Yes 2. No
- 3rd pregnancy 1. Yes 2. No
- 4th pregnancy 1. Yes 2. No
- 5th pregnancy 1. Yes 2. No

22. If you attended ANC before this pregnancy, at what months you started the service for the recent pregnancy? _____ Months

5. Past Service related Variables

23. What is the maximum waiting time you spend to complete checkup?

- 1. For the first Visit _____ hrs. 2. for the repeat Visits _____ hrs

24. Is there any payment you were asked for checkup? 1. Yes 2. No

25. If yes for Q 20, for what services you paid?

- 1. For consultation (card and Examination) 2. For laboratory 3. For ultrasound
- 4. For drugs 5. Other (specify) _____

26. If you paid for any service charge, what is the maximum money you paid for a visit?

- 1. Less than or equal 10.00 ETB 2. 11.00 - 20.00 ETB
- 3. 21.00 – 50.00 ETB 4. Greater than 50.00 ETB

27. Is there any missed investigation in previous, due to shortage (inadequacy) of money?

- 1. Yes 2. No

28. If yes, for Q 23, what?

1. Consultation (card and Examination) 2. Laboratory 3. Ultrasound
 4. Drugs 5. Other (specify) _____

29. Rate the following items of service in terms of your satisfaction

1. Staff approach

1. Highly satisfied 2. Satisfied 3. Medium
 4. Not satisfied 5. Highly not satisfied

2. Laboratory

1. Highly satisfied 2. Satisfied 3. Medium
 4. Not satisfied 5. Highly not satisfied

3. Waiting time

1. Highly satisfied 2. Satisfied 3. Medium
 4. Not satisfied 5. Highly not satisfied

4. Privacy

1. Highly satisfied 2. Satisfied 3. Medium
 4. Not satisfied 5. Highly not satisfied

5. Charge of service

1. Highly satisfied 2. Satisfied 3. Medium
 4. Not satisfied 5. Highly not satisfied

6. History of current pregnancy

30. How do you know your pregnancy?

Missed period

1. Yes 2. No

By examination (urine test)

1. Yes 2. No 3. Other (specify) _____

31. Is this pregnancy planned?

1. Yes 2. No

32. If this pregnancy is planned, did the plan include your husband?

1. Yes 2. No

33. If this pregnancy is not planned, was it wanted by you after conception?

1. Yes 2. No

34. If this pregnancy is not planned was it wanted by your husband after conception?

1. Yes

2. No

35. To whom did you tell you become pregnant for the first time?

1. Your Husband

2. Your Mother

3. Your Sister

4. Your Friend

5. Other (specify) _____

7. History of current ANC

36. Before your first attendance of the ANC, was there any one who advised you to come?

1. Yes

2. No

37. If yes for Q 32, to above question, from whom you get advice?

1. Community health workers/HEWs

2. Skilled professional in HF

3. Husband

4. Sister

5. Friend

6. Other (specify) _____

38. If you were advised to attend ANC by someone, did he/she informed you when to start?

1. Yes

2. No

39. If you are advised on the time to start ANC, When does he/she advise you to start?

_____ months after Amenorrhea

40. In the present pregnancy, when did you start the follow up?

1. After _____ months of amenorrhea

2. I don't know the exact months

41. Why you decide to start [begin] the follow up at this time?

1. I perceive it is appropriate time

2. from my previous Experience

3. Busy time

4. Economic factor (money constraints)

5. Because of unplanned pregnancy

6. Others (specify) _____

42. After your first visit, when did the Health workers appointed you for the second follow-up

_____ Months of the first visit

43. If your pregnancy were unplanned or unwanted, did you want to undertake abortion?

1. Yes

2. No

8. House hold food insecure access scale (HFIAS)

44. In the past four weeks, did you worry that your household would not have enough food?

1=no (skip Q2)

2=yes

44a. how often did this happen?

1 = rarely (once or twice in the past four weeks)

2 = Sometimes (three to ten times in the past four weeks)

3 = Often (more than ten times in the past four weeks)

45. In the past four weeks, were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?

1=no (skip Q3)

2=yes

45a. how often did this happen?

1 = rarely (once or twice in the past four weeks)

2 = Sometimes (three to ten times in the past four weeks)

3 = Often (more than ten times in the past four weeks)

46. In the past four weeks, did you or any household member have to eat a limited variety of foods due to a lack of resources?

1=no (skip Q4)

2=yes

46a. how often did this happen?

1 = rarely (once or twice in the past four weeks)

2 = Sometimes (three to ten times in the past four weeks)

3 = Often (more than ten times in the past four weeks)

47. In the past four weeks, did you or any household member have to eat some foods that you really did not want to eat because of a lack of resources to other type of food?

1=no (skip Q5)

2=yes

47a. how often did this happen?

1 = rarely (once or twice in the past four weeks)

2 = Sometimes (three to ten times in the past four weeks)

3 = Often (more than ten times in the past four weeks)

48. In the past four weeks, did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?

1=no (skip Q6)

2=yes

48a. how often did this happen?

1 = rarely (once or twice in the past four weeks)

2 = Sometimes (three to ten times in the past four weeks)

3 = Often (more than ten times in the past four weeks)

49. In the past four weeks, did you or any other household member have to eat fewer meals in a day because there was not enough food?

1=no (skip Q7)

2=yes

49a. how often did this happen?

1 = rarely (once or twice in the past four weeks)

2 = Sometimes (three to ten times in the past four weeks)

3 = Often (more than ten times in the past four weeks)

50. In the past four weeks, was there ever no food to eat of any kind in your household because of lack of resources to get food?

1=no (skip Q8)

2=yes

50a. how often did this happen?

1 = rarely (once or twice in the past four weeks)

2 = Sometimes (three to ten times in the past four weeks)

3 = Often (more than ten times in the past four weeks)

51. In the past four weeks, did you or any household member go to sleep at night hungry because there was not enough food?

1=no (skip Q9)

2=yes

51a. how often did this happen?

1 = rarely (once or twice in the past four weeks)

2 = Sometimes (three to ten times in the past four weeks)

3 = Often (more than ten times in the past four weeks)

52. In the past four weeks, did you or any household member go a whole day and night without eating anything because there was not enough food?

1=no

2=yes

52a. how often did this happen?

1 = rarely (once or twice in the past four weeks)

2 = Sometimes (three to ten times in the past four weeks)

3 = Often (more than ten times in the past four weeks)

Guide questions for Interview

For ANC health care providers in health facility/health extension workers

1. What is the Available schedule for FANC in this service
2. Have you been taken training of FANC?
3. What are the available service and resource for a pregnant woman booked timely before 16 weeks of gestation?
4. Why do some pregnant women come late for antenatal care? [Probe]

For selected late ANC visitor's

1. What information /services you were received during first ANC booking?
2. What are the things that make it difficult for you to come to health facility for antenatal care?

የስምምነት ቅጽ

ስሜ _____ ይባላል። የመጣሁት ከጅም ዩንቨርሲቲ የህብረተሰብ ጤናና ህክምና ሳይንስ ኮሌጅ ነው። የድህረ ምረቃ ተማሪ ነኝ። ከወሊድ በፊት የሚደረግ የጤና ክትትልን በሚመለከት እነስተኛ ጥናት ለማድረግ መረጃ እየሰበሰብኩ በመሆኑ እንዳንድ ጥያቄዎችን ላቀርብልዎ እፈልጋለሁ። ስምዎት ከመረጃው ጋር አይካተትም፤ የሰጡኝን መረጃ ሁሉ በሚስጥር እንደምጠብቅልዎ ቃል እገባለሁ። ይህንንም ለማድረግ ከእኔ ጋር ወደ ግማሽ ሰዓት እንቆያለን። ይህ ጊዜዎትን የሚይዝ ቢሆንም መላውን ሴቶች ሊጠቅም የሚችል የአገልግሎት ጥራት ማሻሻያ ለማድረግ የሚያግዝ በመሆኑ እንዲተባበሩኝ እጠይቅዎታለሁ። የተወሰኑ ደቂቃዎች ባነጋግርዎ ፈቃደኛ ነዎት?

ፈቃደኛ ነኝ

ፈቃደኛ አይደለሁም

ለ. የፈቃደኝነት ማረጋገጫ

የምርምር ጥናቱ ክፍል የሆኑ መረጃዎችና ሂደቶች ተብራርተውልኛል። እኔም በተብራራልኝ መንገድ ተረድቻለሁ። ምርምሩ ምንም እድገት የማያስከትል በመሆኑ ለሚያደርጉት ተሳትፎ የካሳ ክፍያ አይኖረውም። ስለዚህ በዚህ የምርምር ጥናቱ ላይ ለመሳተፍ ፈቃደኛ መሆኔን በፊርማዎ አረጋግጣለሁ።

ፊርማ _____

ቀን _____

መጠይቅ

የመጠይቅ ቁጥር



ቀን _____

የጤና ድርጅቱ ስም _____

የጠያቂ ስም /ኮድ/ _____

ተ.ቁ	ጥያቄ	መልስ	ኮድ
አጠቃላይ መረጃ			
101	እድሜዎ ስንት ነው	ዓመት	
102	ብሔረሰብ	<ol style="list-style-type: none"> ጋሞ ወላይታ ኮንሶ አማራ ሌላ/ይገለጹ/ 	
103	ሐይማኖት	<ol style="list-style-type: none"> እርቶዶክስ ክርስቲያን ሙስሊም ካቶሊክ ክርስቲያን ፕሮቴስታንት ክርስቲያን ሌላ/ይገለጹ/ 	
104	የጋብቻ ሁኔታ	<ol style="list-style-type: none"> ፈጽሞ ያላገባ ያገባና አሁን አብሮ የሚኖር አብሮ በመኖር የሚደረግ ግንኙነት ያገባና አብሮ የማይኖር/የፈታ፣ በሞት የተለየ/ 	
105	የትምህርት ደረጃ	<ol style="list-style-type: none"> ያልተማረ /ማንበብና መጻፍ የማይችል/ ያልተማረ /ማንበብና መጻፍ የሚችል/ እንደኛ ደረጃ /1-8 ክፍል/ ሁለተኛ ደረጃና /9-12 ክፍል እና ስርተፍኬት/ ዲፕሎማ እና ከዚያ በላይ 	
106	የሥራ ሁኔታ	<ol style="list-style-type: none"> ደመወዝተኛ /ተቀጣሪ/ በግል የሚሰሩ የቤት እመቤት ሌላ/ይገለጹ/ 	
107	የመኖርያ እድራሻ	<ol style="list-style-type: none"> ከተማ ገጠር 	
108	ወደዚህ ጤና ድርጅት ለመድረስና ለመመለስ የክፈሉት የገንዘብ መጠን በብር	<ol style="list-style-type: none"> ምንም አልከፈልኩም የክፈሉ ከሆነ የገንዘብ መጠን _____ ብር 	
109	የቤትዎ የወር ገቢ በገንዘብ ሲተመን ምን ያክል ነው?	_____ ብር	
110	ሃቤተሰብ መጠን	_____ ብዛት	
አጠቃላይ የወላድ መረጃ			
201	ስንት ጊዜ እርግዘዋል? /የአሁኑን ጨምሮ/	<ol style="list-style-type: none"> እስከ ወሊድ የደረሰ የእርግዘት ብዛት _____ የውርጃ ብዛት _____ 	
202	ውርጃ ካጋጠመዎት	<ol style="list-style-type: none"> በራሱ ጊዜ የወጣ ብዛት _____ እርስዎ ያስወረዱት ብዛት _____ 	
203	ስንት ልጆች አልዎት?	<ol style="list-style-type: none"> በሂወት ያሉ ብዛት _____ ከተወለዱ በኋላ የሞቱ ብዛት _____ ሞተው የተወለዱ ብዛት _____ 	

		1. የባለሙያዎች አቀራረብ	1. በጣም ረከቻለሁ 2. ረከቻለሁ 3. መካከለኛ ነኝ 4. አልረከሁም 5. በጣም አልረከሁም
ተ.ቁ	ጥያቄ	መልስ	
የቅድመ ወሊድ/የነፍሰጡር/ ምርመራ ክትትል እውቀት			
301	የቅድመ ወሊድ/ነፍሰጡር/ ምርመራ ለጤናዎት እስፈላጊነቱን እንዴት ይገነዘቡታል?	1. በጣም እስፈላጊ ነው 2. በመጠኑ እስፈላጊ ነው 3. በጣም እንስተኛ ነው	
302	የነፍሰ ጡር /የቅድመ ወሊድ/ ምርመራ ለሸሎ /በማህፀን ውስጥ ላለው ልጅ/ እስፈላጊነቱን እንዴት	1. በጣም እስፈላጊ 2. በመጠኑ እስፈላጊ 3. በጣም እንስተኛ ነው	
303	የነፍሰ ጡር /ቅድመ ወሊድ/ ምርመራ ወር እበባዎ ቀርቶ መቼ ቢጀመር ጥሩ ነው ብለው ያስባሉ?	_____ ወር	
304	በእንደ የእርግዝና ወቅት ስንት ጊዜ ተመላልሰው ምርመራ ቢያደርጉ በቂ ነው ብለው ያስባሉ?	_____ ጊዜ	
305	በቅድመ ወሊድ ክትትል ጊዜ በእርግዝና ወቅት የሚፈተር ለየት ያለ ምልክት ተነግርዎት ያውቃል?	1. አዎ 2. አይደለም	
306	መልስዎ አዎ ከሆነ ከሆነ ምን ምን ተነግርዎታል?	1. ከብልት ደም መፍሰስ 1. አዎ 2. አይደለም 2. ከብልት ብዙ ፈሳሽ መፍሰስ 1. አዎ 2. አይደለም 3. የአይን መደብዘዝ 1. አዎ 2. አይደለም 4. ትኩሳት 1. አዎ 2. አይደለም 5. የሆድ ህመም 1. አዎ 2. አይደለም 6. ከባድ ራስ ምታት 1. አዎ 2. አይደለም 7. ሌላ/ይገለጹ/_____	
የአገልግሎት አጠቃቀም ታሪክ			
401	የቅድመ ወሊድ /የነፍሰጡር መርመራ/ ተከታትለው ያውቃሉ?	1. አዎ 2. አላውቅም	
402	የነፍሰጡር ምርመራ ተከታትለው የሚያውቁ ከሆነ የትኛውን እርግዝና ነው?	የመጀመሪያ እርግዝና	1. አዎ 2. አይደለም
		ሁለተኛ እርግዝና	1. አዎ 2. አይደለም
		ሦስተኛ እርግዝና	1. አዎ 2. አይደለም
		አራተኛ እርግዝና	1. አዎ 2. አይደለም
		እምስተኛ እርግዝና	1. አዎ 2. አይደለም
403	ከዚህ እርግዝና በፊት የነበረውን እርግዝና የቅድመ ወሊድ ተከታትለው ከሆነ ክትትሉን የጀመሩት ወር እበባዎ ቀርቶ በስንት ጊዜ ነው?	_____ ወር	
የአገልግሎት አጠቃቀም መረጃዎች [ከዚህ ቀደም ለነበረው እርግዝና]			
501	ለቅድመ ወሊድ ምርመራ ሲመጡ ምርመራውን ለማድረግ የሚፈጅብዎት ጊዜ ምን ያህል ነበር?	_____ ሰዓት	
502	ለነፍሰ ጡር /ቅድመ ወሊድ/ ምርመራ የሚከፍሉት ገንዘብ ነበር?	1. አዎ 2. የለም	
503	መልስዎ አዎ ከሆነ ለምን ጉዳይ ነበር የከፈሉት?	1. ለካርድ 2. ለላብራቶሪ 3. አልትራሳውንድ 4. ለመድኃኒት 5. ሌላ/ይገለጹ/_____	
504	ለነፍሰጡር /ቅድመ ወሊድ/ ምርመራ የከፈሉት ገንዘብ ካለ በእንደ ምርመራ ከፍተኛው የከፈሉት ገንዘብ ምን ያህል ነው?	1. ከ10 ብር በታች 2. ከ11-20 ብር 3. ከ21-50 ብር 4. ከ50 ብር በላይ	
505	ጥረት ምክንያት ያላደረጉት ምርመራ አለ?	1. አዎ 2. የለም	
506	በገንዘብ አጥረት ምክንያት ያላደረጉት ምርመራ ካለ የትኛውን ነው ያላደረጉት?	1. ለካርድ 2. ለላብራቶሪ 3. አልትራሳውንድ 4. ለመድኃኒት 5. ሌላ/ይገለጹ/_____	

		2. የላብራቶሪ ምርመራ	1. በጣም ረከቻለሁ 2. ረከቻለሁ 3. መካከለኛ ነኝ 4. አልረከሁም 5. በጣም አልረከሁም	
		3. ምርመራው የሚፈጀው ጊዜ	1. በጣም ረከቻለሁ 2. ረከቻለሁ 3. መካከለኛ ነኝ 4. አልረከሁም 5. በጣም አልረከሁም	
		4. ገበያ እጠባበቅ	1. በጣም ረከቻለሁ 2. ረከቻለሁ 3. መካከለኛ ነኝ 4. አልረከሁም 5. በጣም አልረከሁም	
		5. የአገልግሎት ክፍያ	1. በጣም ረከቻለሁ 2. ረከቻለሁ 3. መካከለኛ ነኝ 4. አልረከሁም 5. በጣም አልረከሁም	
የአሁኑ እርግዝና መረጃዎች				
601	ማርገዝዎትን በምንድን ነው ያወቁት?	1. የወር እበባ መቅረት /መምጣት ከነበረበት እንድን) 2. የወር እበባ መቅረት /መምጣት ከነበረበት ሁለት) 3. የወር እበባ መቅረት (መምጣት ከነበረበት ሦስት ወርና ከዚያ 4. የሰውነት ለውጥ /የጡት ጫፍ መለወጥ 5. ማቅለሽለሽና የመሳሰሉት 6. የሽንት ምርመራ በማድረግ 7. በሌላ መንገድ /ይገለጽ/	1. አዎ 2. አይደለም 1. አዎ 2. አይደለም 1. አዎ 2. አይደለም 1. አዎ 2. አይደለም 1. አዎ 2. አይደለም	
602	ይህ እርግዝናዎ ያቀዱት ነበር?	1. አዎ 2. አይደለም		
603	ይህ እርግዝናዎ በአቅድ ከሆነ ባለቤትዎ እማክረው ነበር?	1. አዎ 2. አይደለም		
604	ይህ እርግዝናዎ ያለአቅድ ከሆነ ከተረገዘ በኋላ በእርስዎ ይፈለግ ነበር?	1. አዎ 2. አይደለም		
605	ይህ እርግዝናዎ ያለአቅድ ከሆነ ከተረገዘ በኋላ በባለቤትዎ ይፈለግ ነበር?	1. አዎ 2. አይደለም		
606	መጀመሪያ ማርገዝዎትን ያበሰሩት /የነገሩት/ ለማን ነው?	1. ለባለቤትዎ 2. ለእናትዎ 3. ለእህትዎ 4. ለጓደኛዎ 5. ለሌላ /ይገለጹ/		

ተ.ቁ	ጥያቄ	መልስ	ኮድ
የአሁኑ የቅድመ ወሊድ ክትትል መረጃዎች			
701	የቅድመ ወሊድ /ነፍሰጡር/ ምርመራ አስፈላጊነት ለዚህ ምርመራ ወደ ጤና ድርጅት ከመምጣትዎ በፊት ስለ ጥቅሙ ምክር የሰጠዎት ነበር?	1. አዎ 2. የለም	
702	የቅድመ ወሊድ /ነፍሰጡር/ ምርመራ አስፈላጊነት ተመክረው ከሆነ ምክሩን የሰጠዎት ማነው?	1. የህብረተሰብ ጤና ሰራተኞች 2. ባለቤትዎ 3. እናትዎ 4. አህትዎ 5. ጓደኛ 6. ሌላ /ይገለጹ/ _____	
703	ምክር የሰጠዎት ሰው መቼ ምርመራ ማድረግ/መጀመር/ እንዳለብዎት ነግሮዎታል?	1. አዎ 2. አልነገረኝም	
704	የነፍሰጡር ምርመራ መቼ ማድረግ እንዳለብዎት ነግሮዎት ከሆነ ወር አበባዎ ቀርቶ መቼ መጀመር እንዳለብዎት ነው የነገረዎት?	ከ _____ ወር በኋላ	
705	የአሁኑን የነፍሰጡር ምርመራ ክትትል ወር አበባዎ ቀርቶ ከሰንት ወር በኋላ ነው የጀመሩት?	ከ _____ ወር በኋላ	
706	በዚህን ጊዜ ምርመራ ለማድረግ ለምን ፈለጉ?	1. ትክክለኛ የምርመራ ጊዜ በመሆኑ 2. ከበፊቱ በዚህ ጊዜ ምርመራ ስለማድረግ 3. ጊዜ ስለሌለኝ 4. በገንዘብ ችግር 5. እርግዝናው የታቀደ ባለመሆኑ 6. ሌላ /ይገለጹ/ _____	
707	ለመጀመሪያ ጊዜ ለምርመራ ከመጡ በኋላ ሁለተኛውን ክትትል ከመቼ ወር በኋላ እንዲመጡ	ከ _____ ወር በኋላ	
708	ይህ እርግዝናዎ ያለአቅድ እና ያለፍላጎት ከሆነ ለማስወረድ እስከው ነበር	1. አዎ 2. አይደለም	

801	ባለፈው ወር በቂ ምግብ ቤት ውስጥ አይኖርም ብለሽ ተጨንቀሽ ነበር?	1. አዎ 2. አልሰጋሁም ___
801.ሀ	አዎ ከሆነ ለ801 መልስሽ በወር ውስጥ ምን ያህል ጊዜ?	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለቱ) 2. አንዳንዴ(3-10 ጊዜ) 3. ሁል ጊዜ(ከ አስር ጊዜ በላይ) ___
802	በምግብ ወይም በገንዘብ እጥረት ምክንያት አንቺ ወይም በቤተሰብ ውስጥ የመረጣቸትን ምግብ መመገብ ያልቻላቸው ጊዜ ነበር?	1. አዎ 2. የለም ___
802.ሀ	አዎ ከሆነ መልሱ ለ802 ለምን ያህል ጊዜ?	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለቱ) 2. አንዳንዴ(3-10 ጊዜ) 3. ሁል ጊዜ(ከ አስር ጊዜ በላይ) ___
803	ባለፈው ወር (አራት ሳምንት) ውስጥ የመግዛት አቅም ስላልነበራችሁ በቤተሰብ ውስጥ የተወሰነ የምግብ አይነት በልታቸ ነበር?	1.አዎ 2. የለም ___
803.ሀ	አዎ ከሆነ መልስሽ ለ803 ለምን ያህል ጊዜ?	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለቱ) 2. አንዳንዴ(3-10 ጊዜ) 3. ሁል ጊዜ(ከ አስር ጊዜ በላይ) ___
804	ባለፈው አራት ሳምንታት ውስጥ ምግብ ስላነሰ ወይም ገንዘብ ስለሌለ የማትፈልጉትን ምግብ ተመግባቸ ነበር?	1.አዎ 2. አልነበረም ___
804.ሀ	አዎ ከሆነ ለ804 ለምን ያህል ጊዜ	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለቱ) 2.አንዳንዴ(3-10 ጊዜ) 3.ሁል ጊዜ(ከ አስር ጊዜ በላይ) ___
805	ባለፈው ወር ቤት ውስጥ በቂ ምግብ ስለሌለ ከሌላው ጊዜ ያነሰ ምግብ የተመገበ ሰው አለ?	1. አዎ 2. የለም ___
805.ሀ	አዎ ከሆነ መልስሽ ለ 805ምን ያህል ጊዜ?	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለቱ) 2. አንዳንዴ(3-10 ጊዜ) 3. ሁል ጊዜ(ከ አስር ጊዜ በላይ) ___
806	ባለፈው ወር ውስጥ በቂ ምግብ ስለሌለ በቀን ውስጥ በጣም ትንሽ ምግብ የተመገባቸው ቀን አለ?	1. አዎ 2. የለም ___

806.	ካለ (806) ለምን ያህል ጊዜ?	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለት) 2. አንዳንዴ(3-10 ጊዜ) 3. ሁል ጊዜ(ከ አስር ጊዜ በላይ) ___
807	ባለፈው ወር ውስጥ ምንም ዓይነት ምግብ ቤት ውስጥ ሳይኖር ቀርቶ ያውቃል (ገንዘብ ስለሌለ)?	1. አዎ 2. አያውቅም ___
807.ሀ	አዎ ከሆነ (807) ለምን ያህል ጊዜ?	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለት) 2. አንዳንዴ(3-10 ጊዜ) 3. ሁል ጊዜ(ከ አስር ጊዜ በላይ) ___
808	ባለፈው ወር ውስጥ ምግብ ስለሌለ ከቤተሰብ ማይበላ ያደረገ አለ?	1. አዎ 2. የለም ___
808.ሀ	አዎ ከሆነ (808) ለምን ያህል ጊዜ?	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለት) 2. አንዳንዴ(3-10 ጊዜ) 3. ሁል ጊዜ(ከ አስር ጊዜ በላይ) ___
809	በቤተሰብ ውስጥ በምግብ እጥረት ምክንያት ባለፈው ወር ውስጥ ቀንና ማታ ምንም ምግብ ሳይበላ ያሳለፈ ሰው አለ ?	1. አዎ 2. የለም ___
809.ሀ	አዎ ከሆነ (809) ለምን ያህል ጊዜ?	1. በጣም ትንሽ ጊዜ (አንዴ ወይ ሁለት) 2. አንዳንዴ(3-10 ጊዜ) 3. ሁል ጊዜ(ከ አስር ጊዜ በላይ) ___

1. Oyisho

Galasa: _____

Payatetha keta: _____

Ochiya asa suta: _____

1. Nebaga oyichiya Oyisho

1. Lathay apune? _____ latha.

- 2. Behere
 - 1. Gamo
 - 2. Welayita
 - 3. Konso
 - 4. Amhara
 - 5. hara gidiko yota _____

3. Amano

- 1. Orthodox

2. Muslim
3. Protestant
4. Catholic
5. Hara gidiko yota _____

4. Gabicha baga

1. Gelonta
2. Azinada de77iya
3. Azinayi haqidesi
4. Shaketida, birishtida

5. Timirite daraja

1. Ayikoka tamaribena
2. Nababonne xaffo danida77iya
3. 1-8 kfile tamarida
4. 9-10 kfile tamarida
5. College diplomanne izappe daro tamarida

6. Otho baga

1. Ossobanda
2. ba osso othiyaga
3. Ketha gidon ossiga
4. Hara gidiko yota _____

7. Hai de77iya dere

1. Katama
2. Gaxare

8. Xena tabiya/kella gakanausi makinasi kessida birra

1. Ayiko birra kisibena
2. Birra kessida de77iko apunikko xaffa: _____
9. Aginnani apune birra soasati demosona _____.
10. Soassata payido _____qoxireni.

2. Shara baga

11. Apune tayifu gawotadi 1.gawotida tayipo: ____ 2. Boshetida tayipo _____
12. Boshetida sharayi 1.apuni tayipo ezigonita: _____2. Apuni tayipo koyetidi: _____

5. Aridha Go77a

23. Mirimeras biko wurisanas apun sate gameyi?

1. Koyiro mirimeras _____ sa77ate. 2. Kalletida mirimeras _____ sa77ate.

24. Sahara mirimeras birra oyichetadi? 1. Ee 2. Oyichetabeke

25. Oyisho 24 zaroyi Ee kidiko, ayibise?

1. Mirimeras 2. Laboratores 3. Ultrasounds

4. Dhales 5. Harayi de77ikko _____

26. Mirra qaxida gidiko apun birra?

1. 10.00 birra 2. 11.00 - 20.00birra

3. 21.00 – 50.00 birra 4. 50.00 birra daro

27. Birra pacini mirimera othonagey de77i?

1. Ee 2. Baa

28. Oyisho 27 zaroyi ee gidiko, ayiba?

1. Mirimeras 2. Laboratores 3. Ultrasounds

4. Dhales 5. Harayi de77ikko _____

29. Daraja ima hayisappe kallidi de77iya Oyisho.

1. Hakimeta kallito

1. Daroppe uppetas 2. Uppetas 3. Ayikoka gena

4. Uppayitabeke 5. Daroppe uppayitabeke

2. Laboratory

1. Daroppe uppetas 2. Uppetas

3. Ayikoka gena 4. Uppayitabeke 5. Daroppe uppayitabeke

3. Gamo sa77ate

1. Daroppe uppetas 2. Uppetas

3. Ayikoka gena 4. Uppayitabeke 5. Daroppe uppayitabeke

4. Mitire naggo

1. Daroppe uppetas 2. Uppetas

3. Ayikoka gena 4. Uppayitabeke 5. Daroppe uppayitabeke

5. Misha gaxon

1. Daroppe uppetas 2. Uppetas

3. Ayikoka gena 4. Uppayitabeke 5. Daroppe uppayitabeke

1. Bessiyia agine gididasasi.
2. Kasse sharappe tamaridaga
3. Gizeyi bayina gishawu
4. Misha tayida gishawu
5. Shara iqideyi banagishawu
6. Harayi de77iko _____
42. Koyiro shara mirimerappena awudessi qaxaro immido _____ agina koro mirimerappe.
43. Sharayi iqideyi badagikko worisanasi koyayi?
 1. Ee
 2. Akayi

8. soasa kata demiya oge

44. Kasse 4 saminitan katayi tayana gidi kopi eretti?
 - 1=akayi (Ara Oyisho 2)
 - 2=Ee
- 44a. apune tayipo hanide?
 - 1 = isi namu77u toho 4 samitani
 - 2 = hazu tamu toho 4 samitan
 - 3 = tamu tohoppe daro 4 samitani
45. 4 samitappe sitan ne woyikko ne so asyi koyida kata manasi kiyiyidi tayidona?
 - 1=akayi (Aga Oyisho 3)
 - 2=Ee
- 45a. appunne toho hanide?
 - 1 = isi namu77u toho 4 samitani
 - 2 = hazu tamu toho 4 samitan
 - 3 = tamu tohoppe daro 4 samitani
46. 4 samitappe sitan ne woyikko ne so asyi ayinate ayinate kata manasi kiyiyidi tayidona?
 - 1=akayi (Aga Oyisho 4)
 - 2=Ee
- 46a. appunne toho hanide?
 - 1 = isi namu77u toho 4 samitani
 - 2 = hazu tamu toho 4 samitan
 - 3 = tamu tohoppe daro 4 samitani
47. 4 samitappe sitan ne woyikko ne so asayi koyota kata mideti katayi tayidappe dedidi?

1=akayi (Aga Oyisho 5)

2=Ee

47a. appunne toho hanide?

1 = isi namu77u toho 4 samitani

2 = hazu tamu toho 4 samitan

3 = tamu tohoppe daro 4 samitani

48. 4 samitappe sitan ne woyikko ne so asayi etesi koshiya katappe guta kata mideti katayi tayidappe dedidi?

1=akayi (Aga Oyisho 5)

2=Ee

48a. Appune toho hayis handde?

1 = isi namu77u toho 4 samitani

2 = hazu tamu toho 4 samitan

3 = tamu tohoppe daro 4 samitani

49. 4 samitappe sitan ne woyikko ne so asayi etesi koshiya katappe guta kata mideti katayi tayidappe dendidappe?

1=akayi (Aga Oyisho 7)

2=Ee

49a. Appune toho hayis handde?

1 = isi namu77u toho 4 samitani

2 = hazu tamu toho 4 samitan

3 = tamu tohoppe daro 4 samitani

50. 4 samitappe sitan ne woyikko ne so asayi kata mena aqidaqame de77i?

1=akayi (Aga Oyisho 8)

2=Ee

50a. Appune toho hayis handde?

1 = isi namu77u toho 4 samitani

2 = hazu tamu toho 4 samitan

3 = tamu tohoppe daro 4 samitani

51. 4 samitappe sitan ne woyikko ne so asayi kata mena aqidaqame de77i?

1=akayi (Aga Oyisho 9)

2=Ee

51a. Appune toho hayis handde?

1 = isi namu77u toho 4 samitani

2 = hazu tamu toho 4 samitan

3 = tamu tohoppe daro 4 samitani

52. 4 samitappe sitan ne woyikko ne so asayi kata mena isi galasanne omadhe agido katayi banagishawu?

1=akayi

2=Ee

2a. Appune toho hayis handde?

1 = isi namu77u toho 4 samitani

2 = hazu tamu toho 4 samitan

3 = tamu tohoppe daro 4 samitani

DECLARATION

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

Name: FELEKE GEBREMESKEL W/HAWARIAT

Signature _____

Name of Institution: Jimma University

Date of submission: June 10/2014

This thesis has been submitted after Examination with my approval as the University advisors.

Name of the first advisor: Mr. YOHANES DIBABA (B.Sc, M.sc, PhD fellow)

Signature _____

Date _____

Name of the second advisor: Mrs. BITIYA ADMASSU (B.Sc, MPH/RH)

Signature _____

Date _____