ADDIS ABABA UNIVERSITY

SCHOOL OF MEDICINE AND COLLEGE OF HEALTH SCIENCES

DEPARTMENT OF NURSING AND MIDWIFEY

Assessment of contributing factors for late initiation of antenatal Care among pregnant women attending antenatal Clinic at Public Health centers in Kambeta Timbaro zone, South Nation Nationalities People Region, Ethiopia.

By Tesefalidet Tekelab (BSc)

A thesis submitted to the School of Graduate Studies of Addis Ababa University in partial fulfillment of the requirements for the Degree of Master in Maternity and Reproductive Health Nursing.

June, 2012, Addis Ababa, Ethiopia

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Approval by the board of examiners

This thesis by **Tesefalidet Tekelab** is accepted with recommendation of modifications by the board of examiners as satisfying thesis for requirement of degree in Maternal and Reproductive Health Nursing.

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List of acronyms

ANC - Antenatal care

AOR- Adjusted Odds Ratio

CI - Confidence Interval

COR- Crude Odds Ratio

DHS- Demographic Health Survey

EDHS- Ethiopian Demographic Health Survey

EPI-INFO- Epidemiological Information (Statistical Soft Ware)

ETB- Ethiopian Birr

HCW- Health care worker

MDG- Millennium Development Goal

OR -Odds Ratio

PPS- Population proportion to sample

SNNPR- South Nation Nationalities People Region

SPSS- Statistical Package for Social Sciences

SRS- Simple random sampling

WHO- World Health Organization

Abstract

Background : For all women of reproductive age, especially for pregnant women, utilization of health care services is a key proximate determinant of maternal and infant outcomes, including maternal and infant mortality. It is evident that timely antenatal care is an opportunity to prevent the direct causes of maternal mortalities and reduction of fetal and neonatal deaths related to obstetric complications

Objective: To assess factors that contributes for late initiation of antenatal care among pregnant women attending ANC Clinics in public health centers in Kembata Timbaro Zone, SNNPR, Ethiopia.

Method: A facility based cross-sectional study with supplement of qualitative study design was carried out to collect data from 401 pregnant women who were attending antenatal care service at five randomly selected governmental health centres in Kembata Timbaro zone. Pretested and structured questionnaire was used to collect the data & data were entered onto a computer using Epi-info 3.5.1 statistical program then exported to SPSS Windows version 16.0 for further analysis. OR & 95% CI was used to measure the associations.

Results: This study showed that prevalence of late entry to antenatal care was 68.6%. The mean timing was 5.5 $\pm$ 1.8 months. Multivariate analysis revealed that Age, maternal education, family income, parity, previous utilization of ANC and type of pregnancy remained significant factors influencing late booking.

Conclusion

The findings of this study showed that most women book ANC late. This seems to be because antenatal care is viewed primarily as curative rather than preventive in the study population. Public enlightenment, health education coupled with women empowerment would be helpful in reducing the problem. In addition to that research is needed to determine the best approaches for health education programmes to correct the misconceptions about antenatal care.

Chapter I

1. Introduction

1.1 Background

Pregnancy is a normal process that results in a series of both physiological and psychological changes in expectant mothers. However, normal pregnancy may be accompanied by some problems and complications which are potentially life threatening to the mother and / or the fetus (1).

Providing special care for pregnant women in the public health services was not started until 1930s, which was initially introduced in the United Kingdom and Northern Ireland states. It was decided that every pregnant woman should get a regular check-up as an integral part of maternity care. This is one of the important components of maternal health which is now called antenatal care (ANC). Antenatal service is important as it offers pregnant women an opportunity to get different services which alerts the woman to the risks associated with pregnancy and for discussing her options for safe delivery (2, 3).

For all women of reproductive age, especially for pregnant women, utilization of health care services is a key proximate determinant of maternal and infant outcomes, including maternal and infant mortality. The benefits of health care seeking are tremendous particularly in settings and subgroups where the socioeconomic and public health

resources are constrained. It is evident that timely antenatal care (ANC) is an opportunity to prevent the direct causes of maternal mortalities and reduction of fetal and neonatal deaths related to obstetric complications. Thus, antenatal care is one of the recommended cares to be provided for pregnant women (4).

Traditional ANC uses a risk approach to classify which women are more likely to experience complications and assumes that more visits mean better outcomes for mothers and baby. However, many women who have risk factors will not develop complications, while women without risk factors may do so (5). The new approach of focused antenatal care ANC emphasizes the quality of care rather than the quantity of visits. The major goal of focused antenatal care is to help women maintain normal pregnancies through health promotion and disease prevention, early detection and treatment of complications and existing diseases birth preparedness and complication readiness planning (6, 7).

Antenatal care or prenatal care is the complex of interventions that a pregnant woman receives from organized health care services. WHO recommends that all pregnant women should have a minimum of four antenatal visits, each lasting for at least twenty minutes. The basic activities of antenatal care fall within three general areas: screening for health and socioeconomic conditions likely to increase the possibility of specific adverse outcomes; providing therapeutic interventions known to be beneficial; and educating pregnant women about planning for safe birth, emergencies during pregnancy and how to deal with them (8). During pregnancy, skilled attendants monitor the progress of the pregnancy, detect complications, provide preventive measures, develop birth and emergency plans with the woman and her family and advise women on health, lifestyle and nutrition in pregnancy (8).

Antenatal care enables health professionals to identify potential risks for the pregnancy or for the delivery and to provide prompt treatment for women experiencing health problems during pregnancy (9). Through this service, women will receive assistance in developing a birth plan and be prepared for parenting after the childbirth (9).Other services provided include the provision of Tetanus Toxoid vaccinations, iron/folic acid supplements and control of nutritional deficiencies (10).

Ideally ANC should consist of health education for pregnant women, early screening to identify those at high risk of developing complications and diagnosing problems if there are any. Whenever possible it is also important to intervene in order to prevent the development of complications. The diagnosis and treatment should not be limited to those conditions that developed during pregnancy but also for any pre-existing medical condition. These actions should lead to a decrease in the risk or severity of morbidity and mortality (11).

ANC is more beneficial in preventing adverse pregnancy outcomes when it is sought early in the pregnancy and is continued through to delivery (12).

The purpose of this study is to identify those factors that contribute for late utilization of antenatal care.

1.2 Statement of the Problem

It is estimated that each year approximately one third of a million women worldwide die due to pregnancy related conditions (13**)**. 99% of these deaths occur in developing countries and approximately three-quarters of them are considered avoidable (14). Millennium Development Goal five (MDG5) calls for a reduction in the maternal mortality ratio (i.e. the number of maternal deaths per 100,000 live births) by three quarters by 2015 and the establishment of universal access to high quality reproductive health care(15,16 ,17). In Ethiopia, the levels of maternal and infant mortality and morbidity are among the highest in the world. There are 673 maternal deaths for every 100,000 live births and the infant mortality rate was 77 per 1,000 live births (18**)**.

Many maternal and prenatal deaths occur in women who have received no ANC. Nevertheless, true progress has been made globally in terms of increasing access and use. A study on antenatal care estimated that worldwide only 70% of women ever receive any ANC, whereas in industrialized countries more than 95% of pregnant women receive ANC (2).

According to the World Health Organization (WHO), 20% of all maternal deaths which are due to pre-existing conditions and other indirect causes like malaria, HIV/AIDS, tuberculosis, anaemia, hepatitis and heart disease, are preventable through antenatal care (19). Early ANC as recommended by WHO is initial ANC within the first 12 weeks of pregnancy (1 – 3 months), and the second, third and fourth visits by 26th, 32nd and 36th weeks respectively, for a minimum of four antenatal visits in low risk pregnancies. WHO has also

provided guidelines to regulate the content of care to be received during each visit to ensure effectiveness (2, 12).

Based on the most recent DHS survey of the developing world as a whole has achieved great success in extending the reach of antenatal care. Over 80 percent of women in the majority of countries studied have at least one antenatal care visit during pregnancy, and in many countries the coverage reaches 90 percent. Despite progress in antenatal care coverage, many countries, particularly in sub-Saharan Africa and South/Southeast Asia, still have unsatisfactory levels of the recommended four or more antenatal care visits. Additionally, many women, particularly in sub-Saharan Africa, tend to wait to start antenatal care until the second or third trimester. Socioeconomic disparities in use of antenatal care are profound (20).

Large variations in use of antenatal care exist in sub-Saharan Africa. About half of the 21 sub-Saharan countries included in the analysis show over 90 percent coverage. However, levels in some countries are much lower. In Chad and Niger, for example, more than half of women did not receive any antenatal care. Ethiopia has the lowest level of antenatal care use among all countries included in this analysis, at only 28 percent. Antenatal care coverage in the other sub-Saharan African countries ranges from 55 percent to 87 percent, as of the most recent surveys (20).

According to 2011 EDHS results show that 34 percent of women who gave birth received antenatal care from a trained health professional at least once for their last birth. Antenatal care from a trained health professional has increased by 6 percent since the 2005 EDHS estimate (28 percent) (21).

It is very likely that a good number of women will not initiate ANC early enough in pregnancy to follow the full basic component of the Focused ANC in Ethiopia (6).

Late ANC initiation may increase the total cost of caring for a pregnant woman. A cost which arises from missed opportunities to prevent or treat problems early in pregnancy. The ensuing cost of treating these preventable complications is much higher not just because of the need for advanced technological interventions, but also an increased use of highly skilled health care professionals, increased length of stay in hospital and longer recovery time (22).

Generally, early initiation of ANC provides opportunity to identify, prevent or treat problems or diseases early in pregnancy, which in turn, aids in reduction of complications during pregnancy and labour, thereby improving maternal and infant health outcomes.

1.3 Significance of the Study

There is a scarcity of research on this topic in the study area. So it is believed that it can be a reference for those who are interested to perform a research on the same topic.

The research findings may help policy makers, stake holders and other program implementers to use and improve best utilization of ANC as well as identify factors associated with late utilization of antenatal care. In addition examining the use of ANC service inform programs about where to focus interventions that can reduce maternal and newborn mortality and improve their health outcomes.

Chapter II

2. Literature Review

2.1 Time of First ANC Booking

Study done in Australia on late entry to antenatal care 41% of women commenced ANC after 12 weeks of gestation. The mean pregnancy duration at entry to ANC was 12.8 weeks and the median duration was 12 weeks (23). A community based cross sectional study conducted in rural Kenya indicates that most women 64% first visited the ANC in the third trimester (24).

According to 2005 EDHS only 6 percent of women make their first ANC visit before the fourth month of pregnancy. The median duration of pregnancy for the first ANC visit was 5.6 months (18). A community-based cross sectional study conducted on factors influencing antenatal care service utilization in Hadiya Zone of Southern Ethiopia showed that 68.2% started antenatal care visit during the second trimester of pregnancy (25). Similar study done in Yem special woreda revealed that 49.2% women made the first antenatal care visit during their second trimester (26).

2.2 Factors influencing utilization of antenatal care services

Various studies have reported factors associated with late entry to ANC , these include demographic and some socioeconomic factors such as maternal age, parity, maternal

educational attainment, place of residence, ethnicity and institutional delivery as well as early antenatal care use (27,28 , 29 , 30 , 31,32)

2.3 Socio demographic characteristics

1. Maternal Age

A systematic review on factors affecting the utilization of antenatal care in developing countries suggested that women in their thirties are more likely to have antenatal care than older women and teenagers (33). Similarly a study done on obstetric complication, intervention rates and maternofetal outcomes in teenage nullipara in Nigeria showed that teenagers were significantly more likely to book late for antenatal care (34).

A study conducted on factors influencing antenatal care service utilization in Hadiya zone showed 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(25).

2. Marital Status

A study in rural Guatemala showed that married women were more likely to receive ANC and seek earlier than single or unmarried women (35). Similarly a study done in Zimbabwe showed that unmarried pregnant women are less likely to seek ANC services (36)

Women who were currently in marriage were more likely to receive the first ANC in the first trimester as indicated study done on utilization of maternal health services among young women

in Kenya (37). In Ethiopia married women are 40 percent more likely to receive antenatal care from a health professional than unmarried women (38).

3. Education

In many developing countries, women's education has been found to be an important predictor of antenatal care utilization (32, 39).

Women with primary education were less likely to receive ANC in the first trimester as indicated study done on utilization of maternal health services among young women in Kenya insights from the Kenya demographic and health Survey in Kenya (37). In contrast, a study done on factors affecting utilization of antenatal care among reproductive age group women (15–49 years) in an urban squatter education did not show any association with utilization of ANC services in Pakistan (40**)**.

A study conducted on factors influencing utilization of maternal health care services in Ethiopia found that 72% women with at least secondary schooling receive antenatal care. Similarly, a community based study done in Yem special woreda revealed that women with education level of secondary and above were four times more likely to use antenatal care than illiterates (26, 38).

Pregnant women whose husband had primary school education or none, 86.8% would more likely book late compared to those whose husband had secondary school education and above as indicated on study conducted in south western Nigeria (41).

4. Occupation

Antenatal care visits were high among women engaged in service jobs 80%, but low among those involved in agricultural and household work 10% as indicated on a study conducted on determinants of antenatal care and postnatal care visits in Bangladesh (42**).** Those in paid employment tend to start ANC earlier than the counterparts (27, 39). A study done in Jimma showed that antenatal care service non users were likely to be pregnant women who were student by occupation (43).

5. Residence

Women in urban areas used ANC more than rural women (20**,** 44, and 45). In contrast, a study done on utilization of maternal health care services in southern India showed that women in urban areas were about 45% less likely to receive ANC than those living in rural areas (39). In Ethiopia women in urban areas were more likely to use ANC from a healthcare professional (38**)**. Similarly a study done in Hadiya zone showed that ANC service utilization is 2 times higher in urban than rural residents (25).

5. Ethnicity and Religion

The effect of ethnic variation was evident with Kikuyu women being more likely to receive ANC in the first trimester compared to women from other ethnic groups as demonstrated on a study conducted in Kenya (37). A study conducted on factors affecting ANC utilization in Addis Ababa, ethnicity is highly correlated with ANC attendance. This study reported that pregnant women with Tigries ethnicity are more likely to attend ANC than others but the reason was not explained (46).

Muslims were much more likely to seek routine ANC in India than other religions (47). Women who followed Muslim, Orthodox and Protestant religions were more likely to use ANC in Ethiopia (38). In contrast, religion was not a statistically significant predictor of antenatal check-ups in Ghana and in India (28, 39). Women who were Muslims or other religions were more than 2 times likely to attend ANC clinic than women who were Christians as illustrated on a study done in Nigeria (48).

7. **Household economic**

Women with high economic status were more likely to receive adequate and early ANC than those with low economic status (27, 45). A study conducted on late Antenatal Care booking and its Predictors among pregnant women in South Western Nigeria showed that those who earned lesser income were more likely to book late compared to those who earned more (41).

Women from middle income and rich households were more likely than their counterparts from poor households to go for ANC or to make their first visit in the first trimester as indicated on a study conducted on utilization of maternal health services among young women in Kenya (37).

2.4 Obstetric History

1. Parity

Higher parity was generally a barrier to adequate use of ANC (27, 28, 44, 45 and 49). A study done in Kenya revealed that higher parity women were less likely to go for ANC and make the first visit during the first trimester, compared to those of parity one (37). Similarly a study conducted in Addis Ababa revealed that as parity increases the experience of timely booking decreases. Mothers with first pregnancy were about two times more likely to be booked for ANC within the recommended time compared to mothers with parity one and above (50).

2. Birth interval

Higher order births were associated with a late start or inadequate use of ANC (27, 39). Births occurring after an interval of more than three years received more frequent ANC visits than those where the preceding birth was within two years as indicated on study done in Kenya (27). Analysis of 38 developing countries revealed that mothers are most likely to receive antenatal care from a skilled provider for the first birth than for subsequent births (20).

3. Mothers child birth experience

Women's perceptions of the risk factors associated with adverse obstetric outcomes were significantly related to the probability of seeking ANC. Women who had prior foetal loss or neonatal death are more likely to receive ANC (35,51).The complications experienced during earlier pregnancies had a positive effect on early and adequate attendance for ANC (44). Similarly in India, pregnant women without previous obstetric problems were more likely to attend late (52**)**. Illness experienced in past pregnancies and perceived susceptibility to illnesses in future pregnancy were also among the factors associated with antenatal care utilization as indicated in study done in Yem special woreda (26).

4. Pervious utilization of service

A cross sectional study done on timing of antenatal care booking at public health facilities in Addis Ababa showed that pregnant women with past experience of ANC service utilization did not demonstrate timely booking of the service(50).

2.5 Knowledge on ANC and Pregnancy related complication

1. Knowledge on ANC

The study conducted in south Africa revealed that when women were asked about when a pregnant woman should commence antenatal care, it was found that in two of the groups, a

large proportion did not know when to book, namely the '33% early bookers' and '36.4% late bookers'(53). Knowledge of mothers was strong predictor of ANC utilization where having knowledge about ANC increased utilization by thirty-three times as indicated study done in Metekel zone in Ethiopia (54).

2. Knowledge on pregnancy related danger sign

Knowledge about danger signs in pregnancy was found to be statistically significant in Pakistan and in Ecuador (40**,** 44). Similarly a study done in Yem special woreda revealed that knowledge about danger signs of pregnancy a statistically significant association with antenatal care utilization(26).

2.6 Health service barrier

1. **Access to service**

Studies showed that women who lived near a village health worker/nurse were more likely to receive adequate and early ANC visits than women without a village health worker (27**)**. In addition, qualitative study on understanding users' perspectives of barriers to maternal health care use in Maharashtra in India suggested that availability of healthcare workers in the local community encouraged women to use ANC services (55). An increase in distance or travel time to the nearest healthcare facilities was associated with fewer antenatal visits in Kenya (27). A study done in Yem special woreda revealed that women who live within an hour walking

distance from the health facility were about eight times more likely to visit prenatal care than above an hour distance by walking(26).

2. Perceived quality of service

Poor quality of care and negative attitudes of service providers were barriers to utilization in Zimbabwe. They highlighted that poor relationships between patients and healthcare providers, and rude and unfriendly attitudes of nurses, were major reasons women preferred not to be referred to some hospitals (56). The opening time of the service was important for urban slum-dwelling women in Bangladesh (57) whereas long waiting times were a barrier to ANC use in Zimbabwe (56).

3. Cost

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 (58**,** 28). A qualitative study conducted in Bangladesh showed that free services improved uptake of ANC among urban slum-dwelling women (59).

2.7 Other factors related to ANC utilization

1. Influence of husband and significant others

Hospital workers, husbands and parents were the greatest influence on antenatal clinic attendance (60). In 2004, Ikamari reported that about 80% of all the respondents indicated that

their husbands encouraged them to attend antenatal clinic (61). In contrast, a community based cross sectional study done in Kenya reported that only a few husbands, mothers or mothers-in-law suggested attending antenatal care (62).

Women whose husband approves of prenatal care were more likely to have used prenatal care than women whose husband did not approve of ANC as indicated on a study done in Yem special woreda (26).

2. Pregnancy related factors

Unwanted and unintended pregnancies were a barrier to prenatal care services(49,63). A study done on differences in health seeking behaviour among urban poor women in Nairobi who experienced intended or unintended pregnancies in Kenya showed that most women booked later in their second and third trimester and explained this in terms of the pregnancy being unwanted (64). Women who wanted their pregnancies were more likely to have used prenatal care than women who did not want their pregnancies as indicated on study done in Yirgalem and Jimma **(**43 ,65 ,66)

3. Access to Mass Media

Studies conducted in North India and Nepal revealed that watching television every week substantially increased the chances of women seeking ANC (45, 47).According to 2005 Ethiopian DHS and North Gondar study possessing radio increased ANC use by more than two times which may show the increased access to ANC information(18**,** 67).

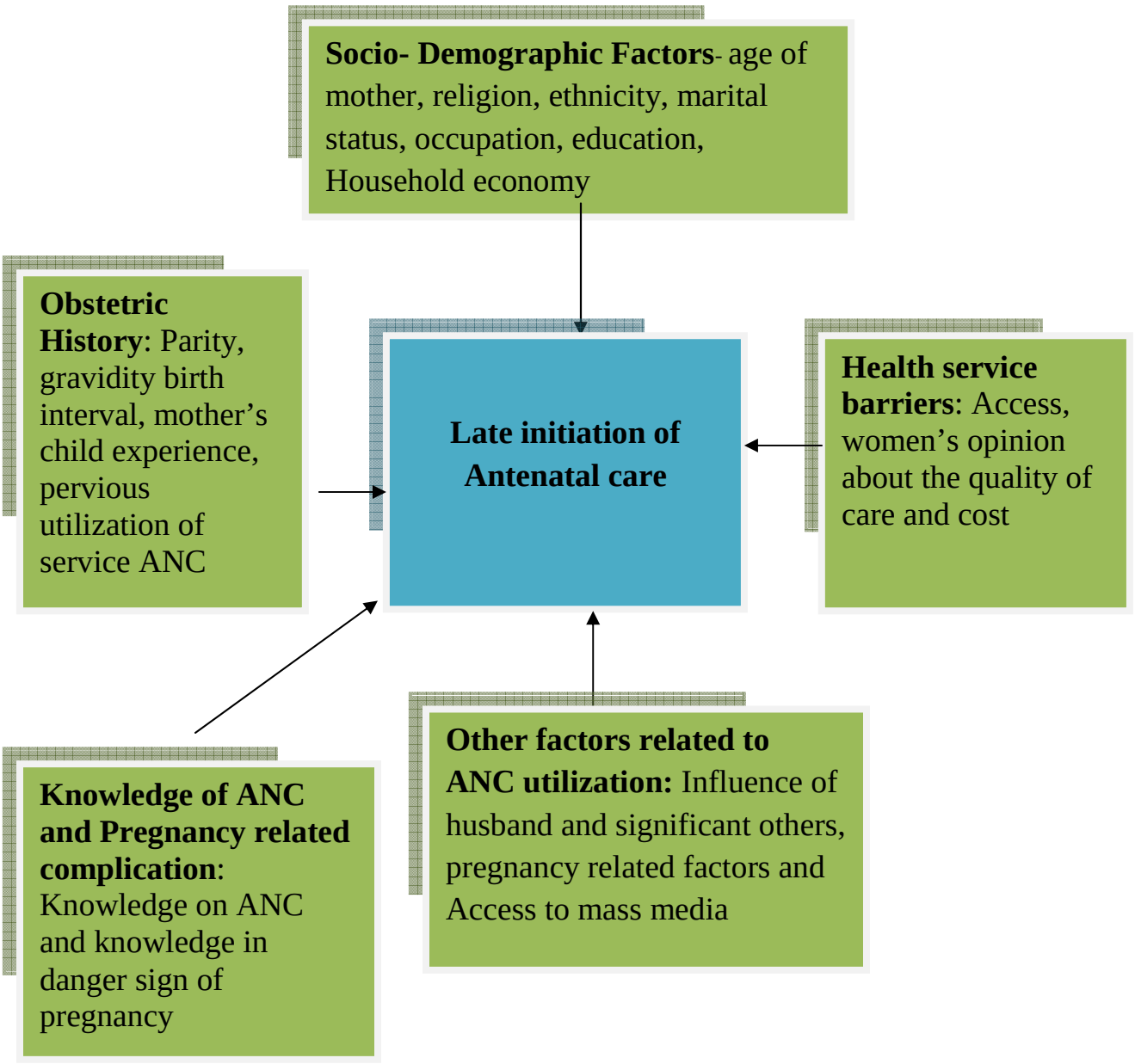


Figure 1 Conceptual frame work developed by this author based on key areas of research findings in the literature.

Chapter III

3. Objectives of the Study

3.1 General Objectives

The overall objective of this study is to assess factors that contribute to late initiation of antenatal care among women attending ANC Clinics in public health centers in Kembata, Timbaro Zone.

3.2 Specific Objectives

- ✓ To assess time of women's first visit to ANC Clinics.
- ✓ To identify contributing factors for late initiation of ANC
- ✓ To describe the relationship between socio-demographic factors and late initiation to antenatal care.

Chapter IV

4. Research Methodology

4.1 Study area and study period

The study was conducted in five selected health centers from Kembata Timbaro zone in SNNPR. The zone is located bordering Alaba special woreda in the east, Omo River in the west, Hadiya in the north and Hadiya and Wolyita zone in the south. Kembata Timbaro zone administratively existed with seven woredas and one town administration. The population of the zone is estimated to be about 757,029 out of which 85.99% of the population is rural and 14.01% of the population is urban residents. 29,524(3.99%) of the population are pregnant mothers.

At present, there are 1 district hospital, 31 health centers, 128 health posts and 58 private health institutions in the zone. Health service coverage in zone estimated about 98% and health service utilization is 0.4 (68).

Study period: This study was conducted from March 2012 to June 2012.

4.2 Study design

A facility based cross-sectional study supplemented by qualitative study was carried out.

4.3 Population

4.3.1 Source population

The source population for this study were all pregnant women using public health centers for ANC in Kembata Timbaro Zone.

4.3.2 Study subjects:

The study subjects were pregnant women attending ANC at selected public health centers during the data collection period and service providers in the health centers.

4.3.3 Inclusion and Exclusion Criteria

The inclusion and exclusion criteria that were used to determine appropriate subjects for the study are as follows:

Inclusion criteria are:

- All pregnant women who were in the reproductive age group (15-49 years)
- Pregnant women who came to the health center for ANC service.

Exclusion Criterion:

- Pregnant women who had hearing problems
- Pregnant women who were seriously sick and unable to respond
- Pregnant women who were not willing to respond

4.4 Sample size determination

For the cross sectional quantitative study the sample size was calculated by using single population proportion formula based on the following assumptions:

- ✓ Proportion of women attending ANC is assumed to be 86.3%. This is taken from studies done on factors influencing antenatal care service utilization in Hadiya zone (25).
- ✓ Significant level is calculated at 95% confidence interval
- ✓ The desired precision of the estimate (the margin of error between the sample and population 5%)
- ✓ Since the sample selection passed through two stages a design effect of 2

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

Where

n= number of the study subjects

Z= is the standardized normal distribution curve value for the 95% confidence interval (1.96)

P= the proportion of women attending ANC which is 86.3 %

d=the desired precision of the estimate (the margin of error between the sample and population 5%)

Non-response rate as 10% the sample is calculated as follow

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

$$= \frac{(1.96)^2(0.863)(0.137)}{(0.05)^2} = 182$$

Design effect- 2X182 = 364

And to compute for non-response rate 10 % of the total sample added, thus a total of **401** study subjects were taken.

4.5 Sampling and Sampling procedure

In order to select a fairly representative sample of pregnant women in Kembata Timbaro Zone, the selection of health centers were by simple random sampling from each randomly selected four woredas and one administrative town. The sample size was allocated for study facilities using population proportion to sample for each selected health centers. At each health center, the study subjects were recruited when they come for initial or follow-up of ANC service. Every pregnant woman attending ANC clinic who was willing to participate in the study were taken until the required sample size was obtained in respective health centres.

To complement the quantitative information in-depth interviews using an interview guide was conducted with women who booked ANC visits early and late in their pregnancies. The purpose of this variation was to ensure comprehensive comparison of reasons for attending ANC. Five health care providers were also interviewed regarding care they were providing during ANC visits.

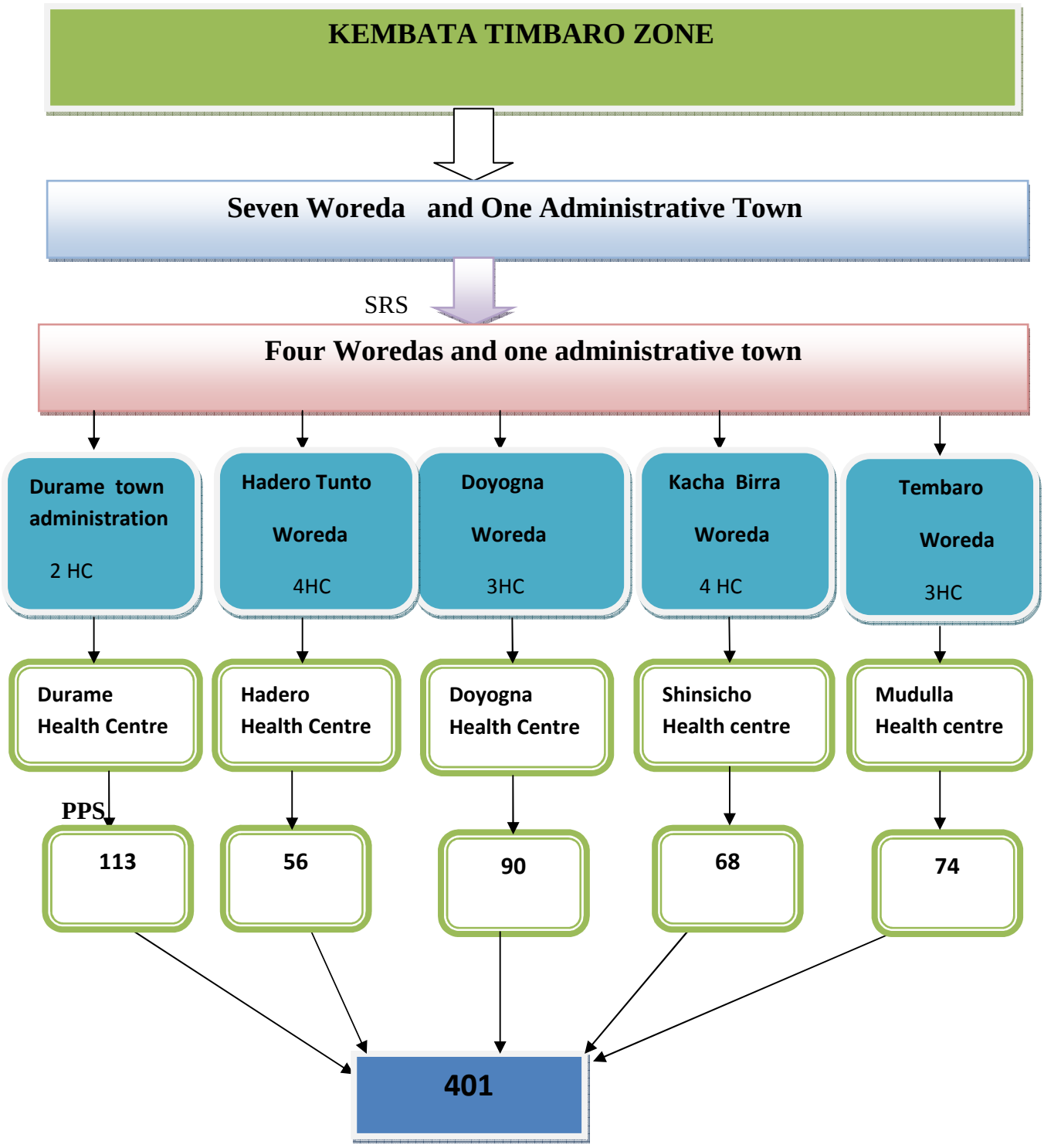


Figure 2 Diagrammatic presentation of sampling system.

4.6 Study variables

4.6.1 Dependent variables

Late initiation of antenatal care

4.6.2 Independent variables

- Socio-demographic factors(age of mother, religion, ethnicity, marital status, occupation, education, Household economy)
- Obstetric History(Parity, gravidity, birth interval, mothers child experience, Pervious utilization of service)
- Health service barriers (Access, women's opinion about the quality of care and cost).
- Knowledge on ANC and Pregnancy related complication(Knowledge on ANC and knowledge in danger sign of pregnancy)
- Other factors related to ANC utilization(Influence of husband and significant others, pregnancy related factors and Access to mass media)

4.7 Operational definitions

Early ANC: refers to pregnancy-related care received from a skilled health care professional within the first four months of pregnancy.

Late ANC: refers to pregnancy-related care received from a skilled health care professional but initiated after four months of pregnancy.

Service charges: include what the pregnant women paid to have ANC service including charges for consultation, diagnostic services and prescribed drugs.

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

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

Focused antenatal care: means that providers focus on assessment and actions needed to make decisions and provide care for each woman's individual situations.

4.8 Data collection techniques and procedures

Interviewer administered questionnaires was employed to collect the data. The questionnaires adopted and modified from EDHS and related thesis works after reviewing relevant literature. The English version of the questionnaire was translated into Amharic language for better understanding by the data collectors and respondents. The questionnaire then retranslated back to English to check for its consistency. Five diploma nurses were trained as interviewers and two BSc nurses were recruited for supervision of data collection. The interpretations of the questionnaires were checked by two PhD candidates in public health.

The training of diploma-nurse interviewers and BSc-nurse supervisors were take place within two days, and explanation of the study purpose and the questionnaire itself, teaching regarding interviewing techniques and correct completion of the structured questionnaire, and ethical considerations in collecting data were included. The interviewers and supervisors were given a guideline for data collection. The supervisor monitored the data collection process of the interviewer and if any problem happens he/she would try to solve or contact the principal investigator.

For qualitative, the data were collected from pregnant women and health service provider by using open-ended and responsive questioning technique (in-depth interviews) by principal investigator and the information was obtained through interview recorded on notebook and tape recorder.

4.9 Data Quality Control

Before conducting the main study, pre test was carried out on 5 % of antenatal care seekers who were not included in the study. Based on the finding of pre-test, data collectors were reoriented and the questionnaire was modified as necessary. Data were collected by the trained five diploma Nurses from the selected five health centers of Kembata Timbaro zone.

During data collection, socio demographic factors, obstetric history, health service barrier, knowledge on ANC and pregnancy related complication and other factors related to ANC utilization were assessed among pregnant women attending the health centers. On the days of data collection, the principal investigator and supervisor monitored the data collection process by checking its completeness of the data and if any problem happen correction had taken on the data collection site.

Data was cheeked again for its completeness before data entry and the cleaning process was done by running simple frequency after data entry for its consistency. If data were not consistent, it was checked referring the hard copy of the questioner. Finally data analysis was started after completion of these activities.

4.10 Data Processing and Analysis

4.10.1 Quantitative

Each completed questionnaire was coded on pre arranged coding sheet by the principal investigator to minimize errors. Data were entered onto a computer using Epi-info window version 3.5.1 statistical programs, 10 % of the responses were randomly selected and checked for consistency of the data entry. Then printed frequencies were used to check for outlier and clean data. The data were cleaned accordingly and then exported to SPSS Windows version 16.0 for further analysis. Computer frequencies, percentage and p-value were used to describe the study population in relation to relevant variables. Analysis of data was done using two step logistic regression [bivariate and multivariate] to see the effect of the independent variables on the dependent variable by controlling confounders. This statistical method is preferred because the dependent (outcome) variable is dichotomous, that is early or late seeking of ANC and the independent variables are metric or categorical. Statistical significance was evaluated at 95% levels of significance. Tables, pie chart and bar graphs were used to present the data.

4.10.2 Qualitative Data

The qualitative data from women and service providers were collected using semi structured interview guide and transcribed immediately after the data collection. The collected data was summarized under the main thematic areas based on the questions that emerged from the data.

4.11 Ethical consideration

Ethical approval was obtained from the Research and Publications committee of department of Nursing and Midwifery, College of Health Sciences, Addis Ababa University. A formal letter

for permission and support was written to the Kembata Timbaro zone Health Bureau and then the Zone was written a letter to respective health center. The purpose of the study was clearly explained to concerned bodies.

All the study participants were informed about the purpose of the study; their right to refuse and informed verbal consent was obtained prior to the interview. The woman was also told that the information obtained from her treated with complete confidentiality. The instruments and procedures were not caused any harm to the study subjects, the community, the data collectors and supervisors, who were involved in the research project.

4.12 Dissemination of results

Findings of the study will be communicated to department of Nursing and Midwifery as partial fulfillment of master degree in Maternal and Reproductive Health Nursing and the Kembata Timbaro Health Bureau where the study was conducted. The finding will be presented through publication and distributing to the concerned bodies. In addition to this findings will be published in local and international journals.

Chapter V

5.1 Results

5.1.1 Response Rate by Health Institutions

Out of the total 401 pregnant women included in this study, 392 [97.8%] have responded to the questionnaire while 18 [2.2%] did not respond to the interview. [See table 1].

Table 1 Number of respondents by health centers, Kembata Timbaro Zone, 2012.

Health Institution	Sample	Responded	Response Rate[%]
Doyogna Health Centre	90	90	100%
Shinshicho Health Centre	68	65	95.58%
Durame Health Centre	113	108	95.57%
Hadero Health Centre	56	56	100%
Mudulla Health Centre	74	73	98.6%
Total	**401**	**392**	**97.8%**

5.1.2 Socio-demographic characteristics of the respondents by timing of ANC visit

Out of 392 respondents who responded to the interview 14 [3.6%] were in the age group of 15 – 19 years, 89(22.7%) were in the age group of 20-24 years, 116(29.6%) were in the age group of 25-29 years, 99(25.3%) were in the age group of 30 – 34years and the rest 6(1.5%) were in the age group 40- 44 years. The mean age of the study participants were 28.3 with SD of 5.5 and their age ranging from 16 to 40 years.

More than half of 214[54.6%] the respondents were Kembata ethnic group followed by Timbaro 78[19.9%]. Among the study subjects 278[70.9%] were Protestant, 60[15.3%] were orthodox, 39(9.9%] were Catholic, 12[3.1%] were Muslims and 3[0.8%] were other by religion. Regarding marital status majority 369 [94.1%] of respondents were married or in union. Educational level of the interviewed antenatal care attendees varies from illiterate to higher education, while 136[34.7%] of them were illiterate. One hundred forty seven [39%] of the women responded that their husbands' have no formal education, one hundred [26.5%] of the husbands' have attended college and above.

Concerning occupation, more than half two hundred thirteen [54.3%] of the respondents were housewives by occupation. 219[55.9%] of the respondents were from rural areas. One hundred twenty six 126[32.5%] of the subjects had monthly house hold income less than 400ETB and the median monthly income of the participants was 500 ETB ranging from 50 to 6000 ETB. [See detail table 2].

Table 2 Socio-Demographic characteristics of respondents by time of booking, Kembata Timbaro Zone, 2012.

Variables	Booking within time[16 weeks of gestation and before]	Booking late [After 16 weeks of gestation]	Total
	Number (%)	Number (%)	Number (%)
Age in years N=392			
15-19	6[1.5%]	8[2.0%]	14[3.6%]
20-24	59[15.1%]	30[7.7%]	89[22.7%]
25-29	39[9.9%]	77[19.6%]	116[29.6%]
30-34	16[4.1%]	83[21.2%]	99[25.3%]
35-39	3[0.8%]	65[16.6%]	68[17.3%]
40-44	0[0%]	6[1.5%]	6[1.5%]
Ethnicity N=392			
Kembata	70[17.9%]	144[36.7%]	214[54.6%]
Timbaro	19[4.8%]	59[15.1%]	78[19.9%]
Hadiya	23[5.9%]	41[10.5%]	64[16.3%]
Wolyita	4[1.0%]	19[4.8%]	23[5.9%]
Others*	7[1.8%]	6[1.5%]	13[3.3%]
Religion N=392			
Protestant	95[24.2%]	183[46.7%]	278[70.9%]
Orthodox	16[4.1%]	44[11.2%]	60[15.3%]
Catholic	8[2.0%]	31[7.9%]	39[9.9%]
Muslims	4[1.0%]	8[2.0%]	12[3.1%]
Others**	0[0%]	3[0.8%]	3[0.8%]
Marital status N=392			
Single	1[0.3%]	14[3.6%]	15[3.8%]
Married	121[30.9%]	248[63.3%]	369[94.1%]
Divorced	1[0.3%]	3[0.8%]	4[1.0%]
Widowed	0[0%]	4[1.0%]	4[1.0%]
Educational level(Wife) N=392			
Illiterate (can not read and write)	12[3.1%]	124[31.6%]	136[34.7%]
Literate (able to read and write)	11[2.8%]	60[15.3%]	71[18.1%]
Primary school	10[2.6%]	50[12.8%]	60[15.3%]
Secondary school	53[13.5%]	28[10.4%]	81[20.7%]

College diploma and above	37[9.4%]	7[1.8%]	44[11.2%]
Educational level(Husband) N=377			
Illiterate (can not read and write)	4[1.1%]	67[17.8%]	71[18.8%]
Literate (able to read and write)	9[2.4%]	67[17.8%]	76[20.2%]
Primary school	14[3.7%]	57[15.1%]	71[18.8%]
Secondary school	28[7.4%]	31[8.2%]	59[15.6%]
College diploma and above	67[17.8%]	33[8.8%]	100[26.5%]
Occupation N=392			
Government Employed	46[11.7%]	15[3.8%]	61[15.6%]
Employed self	12[3.1%]	51[13.0%]	63[16.1%]
House wife	39[9.9%)	174[44.4%]	213[54.3%]
Student	23[5.9%]	9[2.3%]	32[8.2%]
Others***	3[0.8%]	20[5.1%]	23[5.9%]
Residence N=392			
Rural	27[6.9%)]	192[49.0%)]	219[55.9%)]
Urban	96[24.5%)]	77[19.6%)]	173[44.1%)]
Family income N=388			
<400 ETB	9[2.3%]	117[30.2%]	126[32.5%]
400-1000 ETB	30[7.7%]	112[28.9%]	142[36.6%]
>1000ETB	84[21.6%]	36[9.3%]	120[30.9%]

*Amhara, Gurage and Tigrae. **Apostle. ***Merchant, Carpenter and waiter.

5.1.3 Timing of first ANC visit

The proportion of respondents who made their first ANC within the recommended time [before or at 16 weeks of gestation] are 123 [31.4 %] while those who booked late [after 16 weeks of gestation] were 269 [68.6%]. The timing of first ANC booking ranges from 1st month to 9th months of gestation. The mean timing was 5.5 months [SD=1.8] [See Fig 3 and 4].

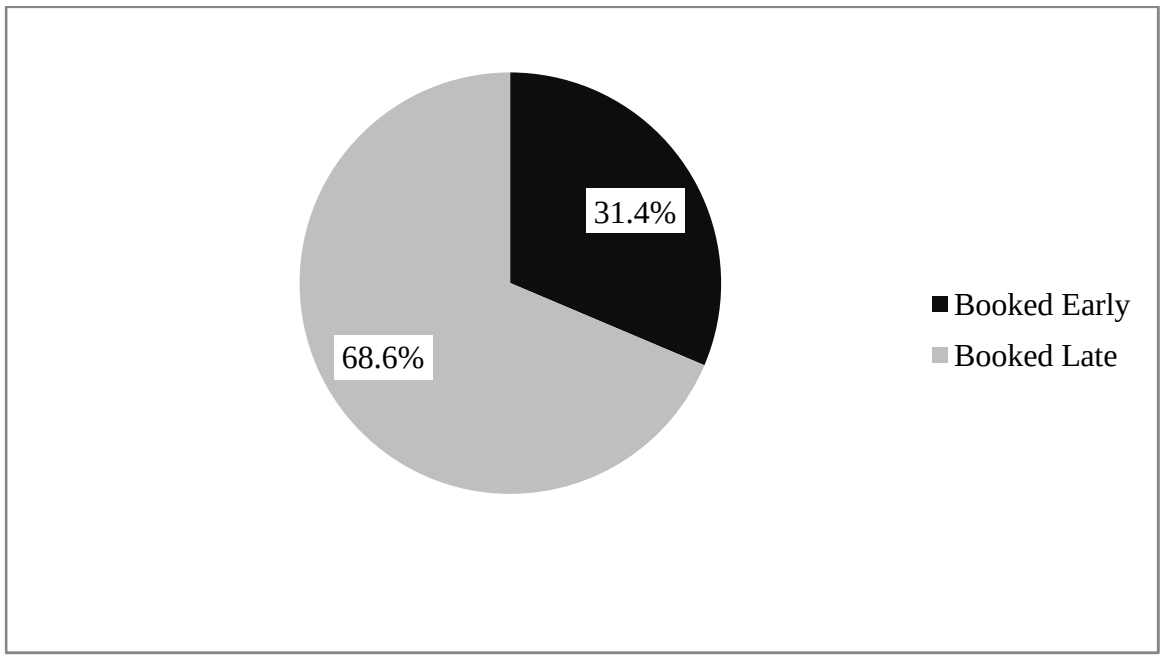


Figure 3 Proportion of respondents by time of ANC booking in Kembata Timbaro Zone, SNNPR, Ethiopia, 2012.

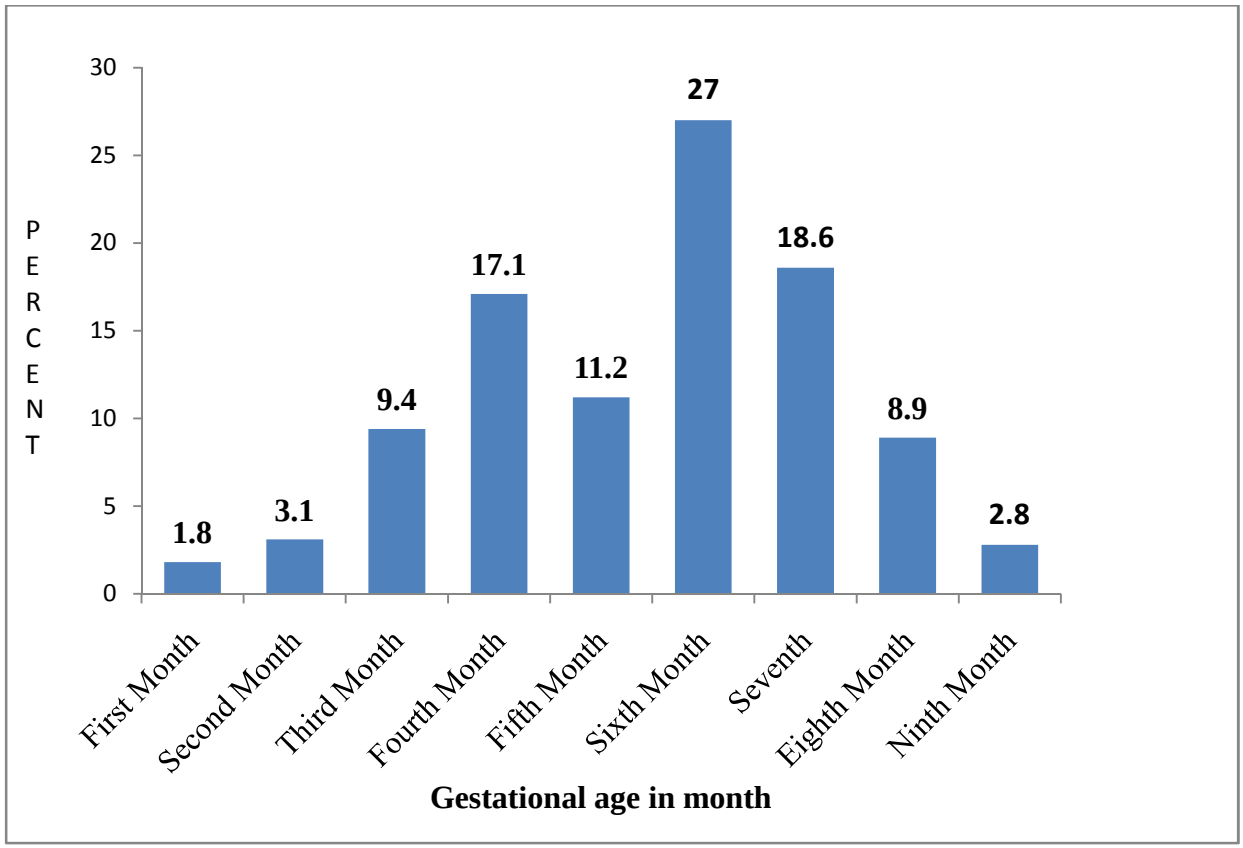


Figure 4 Percentage of respondents by months of gestation booked first ANC, Kembata Timbaro Zone, SNNPR, Ethiopia, 2012.

5.1.4 Obstetric history and timing of first ANC visits

Of the total respondents 77[19.6%] were primigravida while 315 [80.4%] were multigravida. Ninety five [24.2%] of respondents were parity zero, while the rest 297 [75.8%] were parity one and above. Sixty nine 69 [17.6%] of respondents had history of at least one abortion and the rest 323 [82.4%] had no a history of abortion. Regarding the types of the abortions among the sixty nine pregnant women who had at least one abortion, 59[85.5%] were spontaneous and 10 [14.5%] of the abortions were self induced.

Among 315 respondents who had history of previous pregnancy, 203 [64.4%] had experience of ANC for the pregnancy preceding the current while the others 112[35.6%] did not have past experiences. Out of 189 respondents who responded to the timing of first visit for pregnancy preceding the current pregnancy, 66[34.9%] had their previous visit before or at 16 weeks of gestation while the rest 123[65.1%] had their first visit after 16 weeks of gestation. Concerning the recent pregnancy 276[70.4 %] did not have any illness while 116[29.6%] had experienced some health problems [See detail on table 3].

Table 3 Number of respondents by obstetric history and timing of first ANC, Kembata Timbaro Zone, SNNPR, 2012.

Variables	Booking within time[16 weeks of gestation and before]	Booking late [After 16 weeks of gestation]	Total
	Number [%]	Number [%]	Number [%]
Gravidity n=392			
One	43[11.0%]	34 [8.7%]	77[19.6%]
2-4	75[19.1%]	129[32.9%]	204[52.0%]
>=5	5 [1.3%]	106 [27.0%]	111 [28.3%]
Parity n=392			
No parity	59 [15.1%]	36 [9.2%]	95 [24.2%%]
One or more Parity	64 [16.3%]	233 [59.4%]	297 [75.8%%]
History of abortion n=392			
Yes	35[8.9%]	34[8.7%]	69[17.6%]
No	88[22.4%]	235[59.9%]	323[82.4%]
Type of abortion n=69			
Spontaneous abortion	34[49.3%]	25[36.2%]	59[85.5%]
Induced abortion	2[2.9%]	8[11.6%]	10[14.5%]
Birth interval n= 316			
1-2 years	5[1.6%]	195 [61.7%]	200 [63.3%]
>2years	75 [23.7%]	41 [13.0%]	116 [36.7%]
Previous utilization of ANC preceding the current n=315			
Yes	77 [24.4%]	126 [40.0%]	203 [64.4%]
No	3 [1.0%]	109[34.6%]	112[35.6%]
Time of ANC booking for pervious pregnancy n=189			
Booked before 16 or at weeks of gestation	50[26.5%]	16[8.5%]	66[34.9%]
Booked after 16 weeks of gestation	27[14.3%]	96[50.8%]	123[65.1%]
Number of visits for ANC n=205			
One Visits	1[0.5%]	7 [3.4%]	8[3.9%]
Two Visits	9 [4.4%]	36[17.6%]	45[22.0%]
Three Visits	20 [9.8%]	39[19.0%]	59[28.8%]
Four and more	42 [20.5%]	28[13.7%]	70[34.1%]
Do not remember	7 [3.4%]	16[7.8%]	23[11.2%]
Illness experienced for the recent pregnancy n=392			
Yes	83[21.2%]	33 [8.4%]	116[29.6%]
No	36 [9.2%]	209 [53.3%]	245 [62.5%]
Do not remember	**4 [1.0%]**	**27 [6.9%]**	**31[7.9%]**

5.1.5 Knowledge on ANC and Pregnancy related complication and timing of first ANC.

The sources of information to ANC were health extension worker 75[19.1%], Health Professional 128[32.7%], Radio/TV 39[9.9%], friends 120[30.6%] & Others 30 [7.7%]. One hundred eighty eight of respondents perceived and rated that the importance of ANC for the health of the mother as highly important and more than half 231 [58.9%] of the respondents perceived and rated that the importance of ANC for the health of the fetus as highly important.

Two hundred eighty two [71.9%] women responded that healthy pregnant women should attend ANC while 110[28.1%] did not know about it. Regarding the knowledge about the recommended gestational age to start ANC visit, 118 [51.3%] reported before or at 16 weeks of pregnancy. Eight [2.8%] respondents perceived that only one visit of ANC was necessary, 82[29.1%] perceived two to three visits of ANC were necessary, 92[32.6%] perceived that four visits of ANC were necessary , 77[27.3%] perceived that more than four visits of ANC were necessary and 23[8.2%] do not know the recommended frequency of visits [See detail table 4] .

Table 4 Knowledge on ANC and Pregnancy related complication timing of first ANC, Kembata Timbaro Zone, SNNPR, Ethiopia, 2012.

Variables	Booking within time[16 weeks of gestation and before]	Booking late [After 16 weeks of gestation]	Total
	Number (%)	Number (%)	Number (%)
Sources of ANC information n=392			
Health Extension Worker	14[3.6%]	61[15.6%]	75[19.1%]
Health Professional	67 [17.1%]	61[15.6%]	128[32.7%]
Radio/TV	13 [3.3%]	26 [6.6%]	39[9.9%]
Friends	18 [4.6%]	102[26.0%]	120[30.6%]
Others*	11 [2.8%]	19[4.8%]	30 [7.7%]
Perception of impotence of ANC for the health of the mother: n = 392			
Highly Important	110 [28.1%]	78[19.9%]	188[48.0%]
Important	10 [2.6%]	65[16.6%]	75[19.1%]
Medium	2 [0.5%]	34[8.7%]	36[9.2%]
Do not know	1 [0.3%]	92[23.5%]	93[23.7%]
Perception of importance of ANC care for the health of the fetus: n=392			
Highly Important	112[28.6%]	119[30.4%]	231 [58.9%]
Important	8 [2.0%]	100[25.5%]	108[27.6%]
Medium	3 [.8%]	17[4.3%]	20[5.1%]
Less	0 [0%]	1[0.3%]	1[0.3%]
Do not know	0 [0%]	32[8.2%]	32[8.2%]
Healthy pregnant women attend ANC: n=392			
Yes	120[30.6%]	162[41.3%]	282[71.9%]
Do not know	3[0.8%]	107[27.3%]	110[28.1%]
Perceptions on timing of first ANC care: n= 230			
Before and at 16 weeks of gestation	85 [37.0%]	33 [14.3%]	118 [51.3%]
After 16 weeks of gestation	21 [9.1%]	91 [39.6%]	112[48.7%]
Perceived Number of ANC Visits per pregnancy: n=282			
Only one ANC visit is enough	4[1.4%]	4[1.4%]	8[2.8%]
Two to three visits are enough	28[9.9%]	54[19.1%]	82[29.1%]
Four visits are enough	42 [14.9%]	50[17.7%]	92[32.6%]
More than Four Visits	42 [14.9%]	35[12.4%]	77[27.3%]
Do not Know	**4[1.4%]**	**19[6.7%]**	**23[8.2%]**

*Mother, brother, sister, Husband and school

Out of the total respondents 198 [50.5%] knew one or more danger signs of pregnancy while 194[49.5%] did not know danger signs of pregnancy. From respondents who said “yes” 87[43.9%] were able to name persistent vomiting, 100 [50.5%] leg swelling, 151[76.3%] vaginal bleeding, 94 [47.5%] hypertension , 37[18.7%] headache , 17[8.6%] seizure and 9[2.4%] others like abnormal position of the fetus, loss of appetite , twin pregnancy and HIV infection[Figure 5 and figure 6].

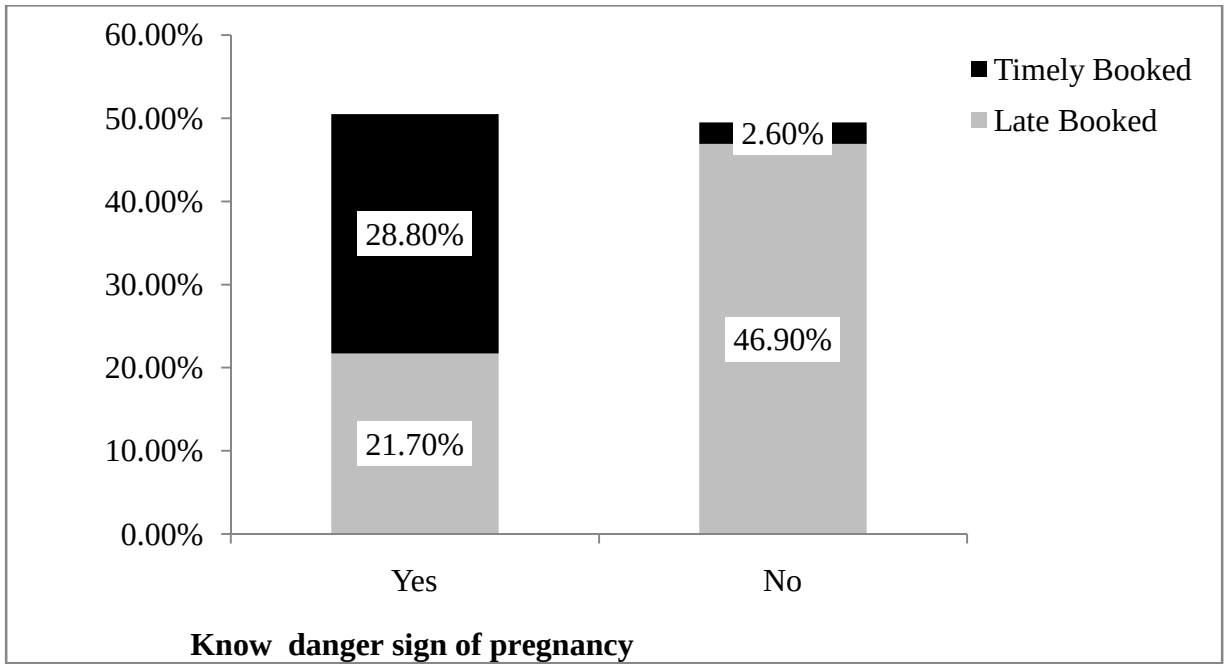
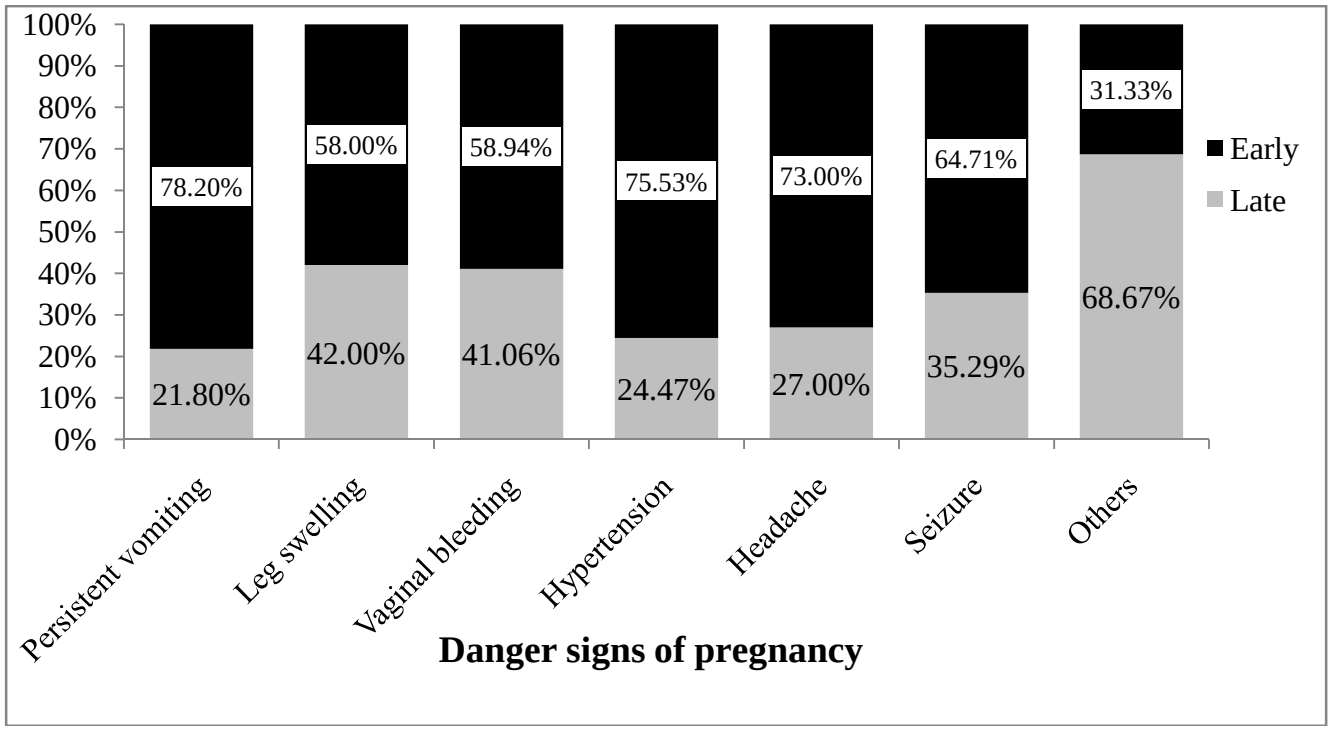


Figure 5 Percentage distribution of respondents’ knowledge on danger signs of pregnancy, Kembata Timbaro Zone, SNNPR, Ethiopia, 2012.



Others=Abnormal position of fetus, HIV from mother to child, loss of appetite and twin pregnancy

More than one response is possible

Figure 6 Percentage distribution of respondents' mentioned danger signs of pregnancy Kembata Timbaro Zone, SNNPR, Ethiopia, 2012.

5.1.6 Health service barrier and timing of first ANC booking.

One hundred eighty seven [47.7%] of women said there was very good quality of services, 138 [35.2%] good, 38[9.7%] satisfactory, 19[4.8%] poor while only 10[2.6%] did not know the quality of the service. The respondents asked about the personal respect of health workers at ANC unit the majority 258 [65.8%] reported that health workers were respectful for them. Women also were questioned to rank the behaviour of health workers at ANC unit 173 [44.1%] very good, 145 [37.0%] good, 31[7.9%] fair, 30[7.7%] bad and only 13[3.3%] reported did not know the behaviour of health worker.

From the total of the respondents 201[51.3%] lived within one hour walking distance from their home to the health institution. Two hundred fifty one [64.0%] of women mentioned waiting time was a problem and majority of respondents 89.3% did wait less than one hour to get ANC.

Payment for the ANC service for the current pregnancy was found as 108 [27.6%] paid for the service and 284[72.4%] did not paid. The reason for payment during the service was reported that 17[15.7%] for consultation [card and Examination], 57[52.8%] for laboratory, 14[13.0%] for ultrasound, 20[18.5%] for drug. Sixty two [57.4%] paid about less than or 10.00ETB, 27[25.0%] paid 11.00 to 20.00ETB, 19[17.6%] paid more than 20.00 ETB. Only few 9 [8.3%] reported that they missed investigations or drug for the reason of shortage of money and drugs and ultrasound were found the missed investigations [See detail table 5].

Table 5 Health service barrier and timing of first ANC booking, Kembata Timbaro Zone, SNNPR, Ethiopia, 2012.

Variables	Booking within time[16 weeks of gestation and before]	Booking late [After 16 weeks of gestation]	Total
	Number (%)	Number (%)	Number (%)
Quality of ANC services n=392			
Very good	91 [23.2%]	96 [24.5%]	187 [47.7%]
Good	27 [6.9%]	111 [28.3%]	138 [35.2%]
Satisfactory	3 [0.8%]	35[8.9%]	38[9.7%]
Poor	2 [0.5%]	17[4.3%]	19[4.8%]
I don't know	0 [0%]	10[2.6%]	10[2.6%]
Personnel respect of health workers at ANC unit ; n=392			
Yes	116 [29.6%]	142 [36.2%]	258 [65.8%]
No	3 [0.8%]	67[17.1%]	70[17.9%]
I don't know	4 [1.0%]	60[15.3%]	64[16.3%]
Rank behaviour of health workers; n=392			
Very Good	87 [22.2%]	86 [21.9%]	173 [44.1%]
Good	30 [7.7%]	115 [29.3%]	145 [37.0%]
Fair	5 [1.3%]	26 [6.6%]	31[7.9%]
Bad	1 [0.3%]	29[7.4%]	30[7.7%]
Don't know	0 [0%]	13[3.3%]	13[3.3%]
Average time spent from home to health facility (Minutes); n=392			
<60 minutes	103 [26.3%]	98 [25.0%]	201[51.3%]
>=60 minutes	20 [5.1%]	171[43.6%]	191[48.7%]
Waiting time to get ANC (in Minutes) ; n=392			
<60 minutes	116 [29.6%]	234 [59.7%]	350 [89.3%]
>=60 minutes	7[1.8%]	35[8.9%]	42 [10.7%]
Waiting time as a problem; n=392			
Yes	42 [10.7%]	209 [53.3%]	251[64.0%]
No	56 [14.3%]	35 [8.9%]	91 [23.2%]
Do not know	25 [6.4%]	25 [6.4%]	50[12.8%]
Payment for ANC Visit: n=392			
Yes	31 [7.9%]	77 [19.6%]	108 [27.6%]

No	92 [23.5%]	192 [49.0%]	284[72.4%]
Reason for payment: N=108			
For consultation [card and Examination]	5[4.6%]	12[11.1%]	17[15.7%]
For laboratory	12 [11.1%]	45[41.7%]	57[52.8%]
For ultrasound	6[5.6%]	8[7.4%]	14[13.0%]
For drugs	8[7.4%]	12[11.1%]	20[18.5%]
Maximum Payment per visit: n=108			
<= 10:00ETB	12[11.1%]	50[46.3%]	62[57.4%]
11 – 20 ETB	11[10.2%]	16[14.8%]	27[25.0%]
>20 ETB	8[7.4%]	11[10.2%]	19[17.6%]
Test not done due to lack of money; n=108			
Yes	2[1.9%]	7[6.5%]	9[8.3%]
No	29[26.9%]	70[64.8%]	99[91.7%]
Tests not done due to lack of money: n=9			
Laboratory	1[11.1%]	5[55.6%]	6[66.7%]
Ultrasound	1[11.1%]	2[22.2%]	3[33.3%]

5.1.7 History of current pregnancy and timing of first ANC visit

The respondents asked about means of confirming their pregnancy 114[29.1%] reported that they confirm their pregnancy when they missed one, 80[20.4%] missed menses two times, 143 [36.5%] missed menses for more than three times, 89[22.7%] physiologic changes, 149[38.0%] like nausea, 77[19.6%] urine test while 19[4.9%] others.

Three hundred ten [79.1%] of respondents reported that their pregnancies were planned while 82[20.9%] of respondents reported that it was unplanned. From eighty two of pregnant women who responded that the pregnancy were unplanned, 67[81.7%] were reported as the pregnancy was unwanted by their husband after conception.

The majority of respondents 277[70.7%] were first informed their pregnancy to their husbands, 28[7.1%] to their mother, 22[5.6%] their sister, 61[15.6] to their friends while 4 [1%] to others [See detail table6].

Table 6 History of current pregnancy and timing of first ANC visit Kembata Timbaro Zone, SNNPR, Ethiopia, 2012.

Variables	Booking within time[16 weeks of gestation and before]	Booking late [After 16 weeks of gestation]	Total
	Number (%)	**Number (%)**	**Number (%)**
Means of confirming pregnancy; n=392(More than two answer possible)			
Missed period once	59 [15.1%]	55[14.0%]	114[29.1%]
Missed period twice	37 [9.4% %]	43 [11.0%]	80[20.4%]
Missed period three and more	15 [3.8%]	128[32.7%]	143 [36.5%]
Physiological changes	19[4.8%]	70[17.9%]	89[22.7%]
Other signs like nausea	45[11.5%]	104[26.5%]	149[38.0%]
Urine test	50[12.8%]	27[6.9%]	77[19.6%]
Others*	0[0%]	19[4.9%]	19[4.9%]
Is the current pregnancy planned? n= 392			
Yes	111 [28.3%]	199 [50.8%]	310 [79.1%]
No	12 [3.1%]	70 [17.9%]	82[20.9%]
The plan include your husband; n=310			
Yes	110 [35.5%]	185 [59.7%]	295[95.2%]
No	1[0.3%]	14[4.5%]	15[4.8%]
If the pregnancy unplanned is that wanted after conception by you? n= 82			
Yes	9[11.0%]	39[47.6%]	48[58.5%]
No	3[3.7%]	31[37.8%]	34[41.5%]
If the pregnancy unplanned is that wanted by your husband after conception? n=82			
Yes	11[13.4%]	4[4.9%]	15[18.3%]
No	1[1.2%]	66[80.5%]	67[81.7%]
To whom pregnancy was reported first? n=392			
Husband	115 [29.3%]	162 [41.3%]	277[70.7%]
Mother	2[0.5%]	26[6.6%]	28[7.1%]
Sister	3[0.8%]	19[4.8%]	22[5.6%]
Friend	2[0.5%]	59[15.1%]	61[15.6]
Others**	**1[0.3%]**	**3[0.8%]**	**4[1%]**

*Increase in abdomen, loss of appetite and movement of fetus , ** My employer, Health professional and none.

5.1.8 History of current ANC visit and timing first ANC booking.

Regarding advise on ANC 242[61.7%] of the respondents responded that they were received advise on ANC use before first booking while 150[38.3%] did not receive advise from any one before first booking. Two third 160[66.1%] of the respondents received advice from health extension worker, followed by 45[18.6%] friends. From two hundred forty two of the respondents who received advice on ANC 158[65.3%] reported that they were informed when to book from their advisors and the rest 84[34.7%] reported that their advisors did not include when to book ANC. One hundred fifty eight respondents who were informed when to booked ANC, 125[79.1%] were informed the correct time was before 16 weeks of gestation while the rest 33[20.9%] where informed the correct time was after 16 weeks of gestation.

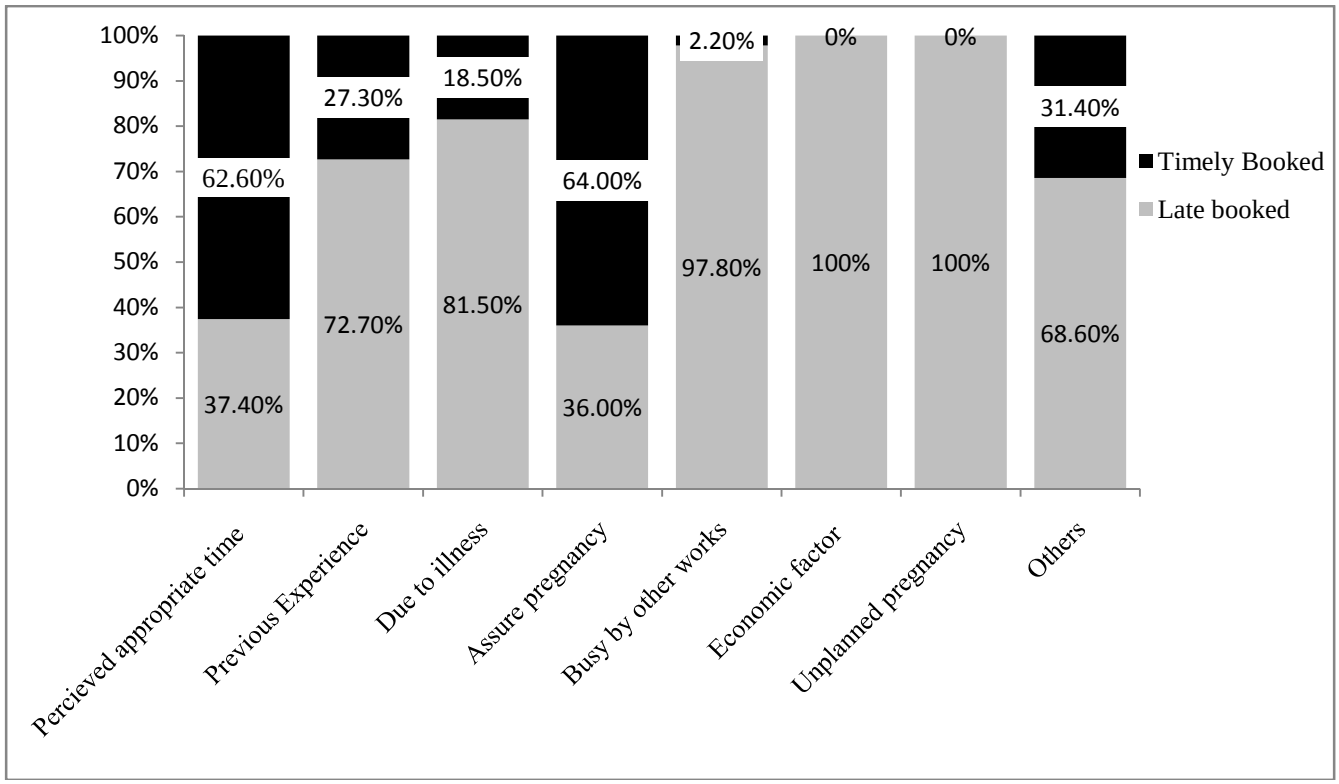
Two hundred sixty nine [68.6%] of husbands had positive attitude towards ANC services while only 123[31.4%] had negative attitude towards ANC services [See detail table7].

Table 7 History of current ANC visit and timing of first ANC booking, Kembata Timbaro Zone, SNNPR, Ethiopia, 2012.

Variables	Booking within time[16 weeks of gestation and before]	Booking late [After 16 weeks of gestation]	Total
	Number (%)	Number (%)	Number (%)
Received advise on ANC: n=392			
Yes	105[26.8%]	137[34.9%]	242[61.7%]
No	18 [4.6%]	132 [33.7%]	150[38.3%]
Received Advice on ANC from: n=242			
Health extension Worker	84[34.7%]	76[31.4%]	160[66.1%]
Husband	7[2.9%]	15[6.2%]	22[9.1%]
Mother	0[0%]	3[1.2%]	3[1.2%]
Sister	2[0.8%]	5[2.1%]	7[2.9%]
Friends	9[3.7%]	36[14.9%]	45[18.6%]
Others*	3[1.2%]	2[0.8%]	5[2.1%]
Advice includes time of booking? n=242			
Yes	91 [37.6%]	67 [27.7%]]	158[65.3%]
No	14[5.8%]	70[28.9%]	84[34.7%]
Advise when to start ANC n=158			
Advised to seek care before 12 weeks of Gestation	83[52.5%]	42[26.6%]	125[79.1%]
Advised to seek care after 12 weeks of Gestation	8[5.1%]	25[15.8%]	33[20.9%]
Husband attitude n=392			
Positive	122 [31.1%]	147 [37.5%]	269[68.6%]
Negative	1[0.3%]	122[31.1%]	123[31.4%]

*****Brother, myself

The reasons for the specific timing of first ANC was reported 115 [29.3%] as perceived correct time, 66[16.8%] previous experience of timing, 271 [69.1%] due to illness, 111[28.3%] to confirm pregnancy, 91[23.2%] busy by other works, 4 [1%] due to economic factor, 22[5.6%] unplanned pregnancy, and 34 [8.7%] others [Detail see figure 7]



Others=to know the health of the fetus, to know the position of the fetus, to take drugs, for vaccine, advise from health extension workers.

More than one response is possible

Figure 7 Reasons given by respondents for specific timing of first ANC booking, Kembata Timbaro Zone, SNNPR, Ethiopia, 2012.

5.1.9 Bivariate and multivariate analysis

1. Bivaraite analysis

Crude analysis of socio-demographic variables on binary logistic regression showed that maternal age, marital status, women's education, husband education, residence , occupation and family income were significantly associated with late initiation(late entry) of ANC at $p<0.05$. On the other hand, ethnicity group and religion of the respondents did not show statistical association with late initiation of ANC.

Among the obstetric variables parity, history of abortion, previous utilization of ANC were significantly associated with late initiation of ANC at $p<0.05$. Distance from the health institution and type of pregnancy were also significantly associated with late initiation of ANC.

Respondents whose ages as 25 years and above were nearly seven times more likely to book late compared to those aged less than 25 years[COR=6.81, 95%CI= 4.16 - 11.15]. Educational status was found very important in that those women who had primary school education or none, eighty times were more likely to register late compared to those who had secondary school education and above [COR=18.23, 95%CI= 10.69 - 31.11].Similarly, pregnant women whose husband had primary school education or below would more likely book late compared to those whose husband had secondary school education and above [COR=10.50, 95%CI= 6.27- 17.53]. Women's who reside in rural area were nearly nine times higher to register ANC lately than the urban counter parts [COR=8.87, 95%CI = 5.37 - 14.65].

Unemployed women were more than two times more likely to initiate ANC lately than those who were employed [COR=2.75, 95%CI = 1.75 - 4.30]. Concerning monthly income, those who earned 1000ETB and below were more likely to book late compared to those who earned more than 1000ETB.

With regard to the obstetrics history, respondents with one parity and above were almost six times more likely booked ANC lately compared to respondents with parity zero [COR=5.97, 95% CI = 3.63 - 9.82] .Those women who had no a history of abortion more likely to register ANC lately than who had history of abortion [COR=2.75, 95%CI = 1.62 - 4.68]. Respondents who had no experience of previous utilization of ANC for the pregnancy preceding the current twenty two times more likely to book lately than those who had previous experience of ANC counter parts[COR=22.20, 95%CI = 6.81 - 72.37].

Women who have been living in areas an hour's or above walking distance were almost nine times more likely to utilize ANC lately compared to women who have been living in areas less than an hour walking distance[COR =8.99, 95%CI = 5.24 - 15.41].

Those respondents with unplanned pregnancy were found to be more likely visiting for ANC lately compared to respondents with planned pregnancy [COR= 3.25, 95%CI = 1.69 - 6.26]. [See table 8].

2. Multivariate analysis

A multivariate analysis involving all associated variables was performed to identify independent predictors of late initiation of ANC. Consequently, age, women's education, family income, parity, previous utilization of ANC preceding the current pregnancy and type of pregnancy showed significant association with late initiation ANC even after controlling for confounding factors. The details are summarized on the table 8.

Those respondents who were aged 25 years or above were three times more likely to register late compared to those who were less than twenty five years [AOR=3.04, 95%CI = 1.05 - 8.81]. pregnant women who had primary school education or below were more likely to book late compared to those who had secondary school education and above [AOR=4.62, 95%CI = 1.50 – 14.24]. Women whose monthly incomes less or 1000ETB were more likely to initiate ANC lately than those with higher than 1000ETB [AOR= 7.01, 95%CI =1.85 - 26.56, AOR=3.29, 95%CI = 1.31 - 8.28].

Concerning parity, respondents with one parity and above were nearly one hundred sixty two times more likely booked ANC lately compared to respondents with no parity [AOR= 161.67, 95%CI = 4.35 - 601]. Pregnant women who had no experience of previous utilization of ANC for the pregnancy preceding the current more likely to book lately than those who had previous experience of ANC [AOR= 15.64, 95%CI = 1.99 - 122.95]. Similarly, women with unplanned pregnancy were almost four times booked later compared to respondents with planned pregnancy [AOR= 3.80, 95%CI = 1.19 - 12.15].

Table 8 Association of selected socio- demographic, Obstetrics and other determinant factors with timely booking of first ANC, Kembata Timbaro Zone, 2012.

Variables	Time at first visit		*Crude OR*	*Adjusted OR*
	Booked Timely (Early)	Booked late	OR[CI]	OR[CI]
AGE				
<25	65 [16.6%]	38[9.7%]	1	1
>=25	58[14.8%]	231[58.9%]	6.81[4.16 - 11.15]*	3.04[1.05 - 8.81]*
WOMEN'S EDUCATION				
Primary and Below	33 [8.4%]	234 [59.7%]	18.23[10.69 - 31.11]*	4.62[1.5 - 14.24]*
Secondary and above	90 [23.0%]	35 [8.9%]	1	1
HUSBAND EDUCATION				
Primary and Below	27[7.2%]	191 [50.7%]	10.50[6.27- 17.53]*	0.95[0.34 -2.65]
Secondary and above	95[25.2%]	64 [17.0%]	1	1
RESIDENCE				
Rural	27[6.9%]	192[49.0%]	8.87[5.37 - 14.65]*	0.64[0.18 - 2.31]
Urban	96[24.5%]	77[19.6%]	1	1
OCCUPATION				
Employed	58[14.8%]	66[16.8%]	1	1
Unemployed	65[16.6%]	203[51.8%]	2.75[1.75 - 4.30]*	1.01 [0.44 - 2.35]
FAMILY INCOME				
<400 ETB	9(2.3%)	117(30.2%)	30.33[13.87 - 66.33]*	7.01 [1.85 -26.56]*
400-1000 ETB	30(7.7%)	112(28.9%)	8.71[4.97 - 15.23]*	3.29[1.31 - 8.28]*
>1000ETB	84(21.6%)	36(9.3%)	1	1

PARITY				
No Parity	59 [15.1%]	36 [9.2%]	1	1
Parity one and above	64 [16.3%]	233 [59.4%]	5.97[3.63 - 9.82]*	161.67[4.35 - 601]*
HISTORY OF ABORTION				
Yes	35[8.9%]	34[8.7%]	1	1
No	88[22.4%]	235[59.9%]	2.75[1.62 - 4.68]*	2.23[0.84 - 5.93]
PREVIOUS UTILIZATION OF ANC				
Yes	77 [24.4%]	126 [40.0%]	1	1
No	3 [1.0%]	109[34.6%]	22.20[6.81 - 72.37]*	15.64[1.99 - 122.95]*
DISTANCE FROM HOME TO HEALTH INSTITUTION				
<60	103[26.3%]	98[25.0%]	1	1
>=60	20[5.1%]	171[43.6%]	8.99[5.24 - 15.41]*	1.78[0.52 - 6.17]
TYPE OF PREGNANCY				
Planned	111[28.3%]	199[50.8%]	1	1
Unplanned	12[3.1%]	70[17.9%]	3.25[1.69 - 6.26]*	3.80[1.19 - 12.15]*

*Statistically significant at P< 0.05

1=Reference category

5.2 Results from Qualitative data

5.2.1 Finding from In-depth Interview of pregnant women

To support the finding of the quantitative data, five pregnant women who had been booked early and five who had been booked late were asked on five important questions: Why they preferred the time they preferred, previous utilization of ANC preceding the current pregnancy, what information they were provided during first visit, primary reasons pregnant women should attend ANC clinics and any payment for ANC. The respondents asked until saturation of data was reached. Data saturation was reached after five participants were interviewed (two early bookers and three late bookers). The themes in these interviews are:

1. ***Perceived reasons for early antenatal care booking***

Pregnant women included in the qualitative data reported several reasons for coming early to the health institutions. These reasons included seeking confirmation of early pregnancy, fear of miscarriage, seeking diagnosis and treatment for illness associated with pregnancy, and previous utilization of ANC. The following quotes provide examples of this.

"I started going to the clinic when I was one month pregnant. This is my second visit .I started at this month of gestation because the health extension workers advised me to take care, as it is important for the health of the mother and the child in addition to that I want to check the health of my baby and confirm pregnancy. During my first visit the health care provider told me information on HIV transmission and danger sign of pregnancy. In the pregnancy preceded the

current, I started ANC check-up at three months of gestation. ANC services are very important for the health of the mother and baby" [A 25 years old, married, parity one, history of one Induced abortion].

Another woman said: *"I started going to the clinic when I was two months pregnant. I attended at this month of gestation to confirm pregnancy and check the development of the baby as well as fear of miscarriage. I received information about ANC from community health extension worker. The health workers respect pregnant women so I am happy to continue the visit until the delivery of the baby. I paid 11ETB for laboratory investigation during ANC service."* [A 20 years old, married, parity zero].

2. Perceived reasons for late antenatal care booking

Respondents who were booked late for ANC visit stated that they delay to seek care for different reasons such as lack of awareness regarding the importance of early attendance, unplanned or pregnancy out of marriage and no identified illness or health problem during their pregnancy (absence of problem during pregnancy). For example,

"I attended ANC at seven months of gestation. I did not know the right time to start antenatal care. I was not aware that it was important to start early. I started the service at seven months of gestation because of illness. I had not experience of previous utilization of ANC for the pregnancy preceding the current. I told to pay for laboratory examination and ultrasound." [A 30 years old, married, parity three].

Another woman stated *"I am student. I became pregnant unintentionally. I did not accept the pregnancy. I concealed the pregnancy for five months from my parents and friends. I am late because I was afraid since I heard that the health professional do not treat single pregnant women well. I paid 3ETB for examination card"* [A 18 years old, never married, parity zero, booked ANC at eight months of her pregnancy].

Another woman said*" I came to the health center for ANC follow up when I was two months pregnant and the health care worker ordered me to have urine test. After the pregnancy was confirmed, the health care worker told me it is difficult palpate your baby and appointed me to come back after four or five months of gestation. I come back at six month of gestation since I had some bleeding from my vagina. I had no experience of previous utilization of ANC for the pregnancy preceding the current. I was asked to pay for laboratory investigation."* [27years old married women, parity two, booked ANC at six months of her pregnancy].

5.2.2 Finding from health care providers

Health care provider (Nurses or Midwives) who were in charge of ANC service at selected health institutions included in this study were responded based on guiding question developed for in-depth interview.

The health care providers responded that the time schedules for ANC is within 16th weeks for first visit, 24th to 28th weeks for second visit, 32nd to 36th weeks for third visit and after 36th weeks for fourth visit.

Almost all health care providers responded that women delay to seek antenatal care if they did not experience discomfort or illness related to their pregnancy. Another reason woman comes late to get labor inducing drugs because they consider iron as labor initiating drugs. Regarding to ANC service provision for those come before 16th weeks of gestation they did not book and they appoint the women to come back after 16th weeks of gestation.

"I am 29 years old. I have been worked for nine years in antenatal and delivery units. Now a day it is very good. Pregnant women come timely for ANC follow up before sixteen weeks of gestation however, we do not register at this time. We provide advice to come after sixteen weeks of gestation. This is because WHO recommends pregnant women should not register more than four times and it is difficult time for abdominal palpation. The first visit for pregnant woman could be 4th or 5th month of pregnancy. Whenever they come we keep her visits do not more than four visits. We assign them at sixteen week for first visit, twenty four to twenty eight second visit,

thirty two to thirty six weeks for third visit and after thirty six weeks for fourth visits. This is since ANC registrations recommend four times but some pregnant women come more than four times. More than four visits are provided for those identified high risk else we limit ANC registrations to four, even if pregnant women come more than four times whenever she feels discomfort. Pregnant women booked late since previously there was a trend that women perceived that catholic clinic in the surrounding gives labor drugs (iron). Since they consider iron tablet as labor inducing drug. So pregnant women particular from rural area come to take just a labor inducing drug at late pregnancy thus, they booked lately. In addition to that they come for ANC when they encountered health problem."

Another health care provider stated *"I have been providing both ANC and delivery service for four years in this health institution. The quality of ANC in this institution is good. Now day's pregnant women have awareness on ANC because of the health extension worker in our community but still there is problem in early booking they did not come on time. The schedules of visit are what I know and also practice here is based on focused ANC first visit within 16th weeks, second visit 24th to 28th weeks , third 32nd to 36th weeks and fourth visit after 36th weeks. Most women attend after 16 weeks of gestation. When I ask them (pregnant women) who attend late if I am not sick, why I should go to the health facilities. They do not want to come early because they feel healthy and there is not complication/ problem with their pregnancy. If they have some problems, usually they will come.' If the mother came too early before 16th weeks of gestation, we will appoint her to come back after 18th weeks of gestation. This appointment time is preferred as it is time to hear fetal heart beat as well as to palpate fetus. Every women pay for laboratory investigation and some drugs during ANC service."*

In general, result from the qualitative part of this study showed that contributing factor for late initiation antenatal care were lack of awareness regarding the importance of early attendance, ,unplanned or pregnancy out of marriage , healthy pregnancy (absence of problem during pregnancy) and not booking when pregnant women come too early by health care provider.

Chapter VI

6.1 Discussion

This facility based cross sectional study attempted to assess the timing of women who entered ANC and identify related factors for late initiation of ANC. The results of this study show that only about one third of the respondent 31.4 % initiated ANC before 16 weeks of gestation while two third 68.4 % initiated after 16 weeks of gestation. The mean timing was 5.5 $\pm$ 1.8 months. The finding of this study is higher when compared with study done in Australia on late entry to antenatal care [23]. This is probably due to socio -demographic differences between Ethiopia and Australia. But the proportion of women who came for their first ANC visit after 16 weeks of gestation is significantly lower than that of 2005 EDHS result [18]. This is because the wide distribution of health posts in each kebeles and promotion of maternal health care utilization by health extension workers.

The proportion of respondent who visited ANC after 16 weeks of gestation is consistent compared to study done in Hadiya Zone [24]. This might be due to socio- demographic similarity between Hadiya Zone and Kembata Timbaro Zone.

With regard to the determinants on timing of ANC; this study revealed that ANC booking is significantly influenced by woman age. Women who were aged 25 years and above were three times more likely to register late compared to those who were less than 25 years. This finding is inconsistent with studies done in developing countries and Nigeria (33, 34). The reason might be young women may have more information about the importance of early antenatal care booking

than older women in this study area. Another reason may be young women more careful about their pregnancy and therefore require seeking institutional care than older women. In addition to that younger women is more likely to accept modern health care as they are likely to have greater experience to modern medicine and young women may also be likely to be educated than older women.

In the current study, while women education was associated with late initiation of antenatal care in bivariate analyses as well as in multivariate analyses, husband education was associated with late initiation of antenatal care in bivariate analyses only.

Women's educational status is highly correlated with timing of antenatal care. In this study, women that had lower education or none booked later than those with higher education, this agrees with studies in developing countries (32, 37, and 39). The possible explanation for why education is a key determinant could be that better educated women would likely appreciate the importance of early booking more than the less educated ones. This emphasizes the importance of education on antenatal care.

Husband education is not seen as a statistically significant factor for late initiation of ANC in this study contrast to other study conducted in south western Nigeria found women whose husband had primary school education or none, 86.8% would more likely book late compared to those whose husband had secondary school education and above (41). This implies in this study higher educational status of husband less likely influence early initiation of ANC.

Occupation of the mother is not significant with late entry to antenatal care in this study. The result of this study is inconsistent with other studies (27, 39, 42 and 43). This probably due to employed women may use private clinic rather than government health facilities in the study area.

Women in urban areas used ANC more than rural women (20**,** 25, 38**,** 44, and 45).In contrast to other studies, place of residence, in this study was not showed statistical significance with late initiation of ANC. This is likely due to better information and health education about ANC in rural area by health extension workers this may increase women's awareness about the importance of early use of ANC service. Another reason may be due to health promotion programs by government in rural areas.

Consistent with different studies monthly income also was found to be a strong predictor for the late utilization of ANC, respondents income below and 1000ETB were more likely attend ANC lately than monthly income above 1000 ETB. These could be economic status of mother is able to make wise decision about her own than their counterparts [27, 37, 41, 45].

Higher parity was generally a barrier to adequate use of ANC [27, 28, 44, 45 and 49]. This study revealed that women with one parity and above were more likely to register lately compared to those who have no parity. This is in line with studies conducted in Kenya and Addis Ababa which revealed that parity increases the experience of timely booking decreases [37 and 50]. This is probably due to the fact that women's already developed confidence and may receive that modern health care is not as necessary due to the experience, knowledge accumulated from

previous pregnancies and births and consider antenatal care less important. Another potential reason may be the difficulty and financial cost of arranging childcare for older children. In order to receive care at ANC clinic women have to be away from their homes for the greater part of the day.

History of abortion did not showed statistically significant relation with early booking in this study which was found inconsistent with the study done in Turkey [51]. This might be due to small proportion of women who had history of abortion that may not reveal differences.

Pregnant women who had no experience of previous utilization of ANC for the pregnancy preceding the current nearly sixteen times more likely to book lately than those who had previous experience of ANC [AOR= 15.64, 95%CI = 1.99 - 122.95]. This finding is inconsistent with the previous study done in Addis Ababa [50]. This might be due to information received from health care provider about the appropriate time of booking of ANC in present study area. Another reason may be related to their prior experience of the good quality of the ANC service delivery of awareness about the importance ANC visit. This finding supported by finding from qualitative data.

Distance from home to health institution is not seen as a statistically significant factor for late initiation of ANC in this study contrast to other study done in Kenya and Ethiopia [26, 27]. This could be due to sampled women being taken from those accessible to health centers and health posts.

The finding of this study revealed that women with unplanned pregnancy were almost four times booked later compared to respondents with planned pregnancy [AOR= 3.80, 95%CI = 1.19 - 12.15] .This finding is similar with studies done in Kenya, Egypt, Turkey as well as Ethiopia [43, 49, 63, 65, 66]. The reason could be women with unplanned pregnancy or unanticipated pregnancies may initially attempt to deny their pregnancies to themselves and to conceal them from others. As the result women become less motivated to seek ANC early compared to women with their planned pregnancy. This finding also supported by qualitative data.

The result of this study showed that pregnant mothers with reasons of perceived correct time, previous experience of ANC and assure or confirming pregnancy were more seen to be booked early than reasons reported as due to illness in current pregnancy, busy by other works, economic factor and unplanned pregnancy which was found as reasons for the late initiation of ANC. This finding is also similar with other studies [28, 49, 50, 58, and 64].

The qualitative part of this study showed that lack of awareness regarding the importance of early attendance, unplanned or pregnancy out of marriage, healthy pregnancy (absence of problem during pregnancy) and not booking when pregnant women come too early for ANC by health care provider were contributing factors for late initiation of antenatal care.

Chapter VII

7.1 Strength and limitation of the study

7.1.1 Strength of the study

- Questionnaire was pre-tested and necessary modification was made, the principal investigator and supervisors were supervising the daily data collection activities and problem encountered were discussed and solved at spot.
- Intensive training and close supervision of data collectors were performed accordingly.
- The interviewers were female nurses, who were different from the service providers.
- The qualitative design was used to complement the quantitative
- Data completeness was assessed daily to avoid missing of questions
- High response rate 97.8%.

7.1.2 Limitation of the study

- Since the design is cross sectional temporal relations could not be assessed.
- The study is limited to address pregnant women those attended ANC other than the public health centers.

Chapter VIII

8.1 Conclusion and Recommendation

8.1.1 Conclusion

In conclusion, the finding of this study showed that 68.6% women book ANC late indicating that early booking is low. This seems to be because antenatal care is viewed primarily as curative rather than preventive in the study population.

- ✓ The socio-demographic characteristics of respondents such as age, educational status of the women and family income were institutions were independent determinants for late initiation of ANC.
- ✓ Parity was found as the most predictor for late utilization of ANC.
- ✓ Pervious ANC utilization is a positive predictor for timely booking.
- ✓ Women who had no experience of previous utilization of ANC for the pregnancy preceding the current and unplanned pregnancy are positive predictor for late initiation of ANC
- ✓ The reasons for late booking were reported as busy by other works, economic factors, unplanned pregnancy, illness and not booking when pregnant women come too early by health care provider. .

8.1.2 Recommendations

Based on the findings of this study the following recommendations were made: -

1. Focused ANC should be implemented in all health institutions in order to minimize client flow, unnecessary visits, and to assure quality ANC provision.
2. There is need for public enlightenment and incorporation of the benefits of early booking in the routine antenatal health education.
3. Women empowerment through qualitative education and gainful employment were also major factors that would contribute significantly to early booking.
4. Community based health education programmes are needed to correct the misconceptions about antenatal care.
5. Training on simple and effective way of providing ANC should be given to health care providers.
6. There should be further quantitative and qualitative studies focusing on timing and quality of ANC.

References

1. Fraser M, Cooper A. Myles Textbook for Midwives. Edinburgh: Churchill Livingston, 2003, 4th ed.
2. Abou-Zahr C, Wardlaw T. Antenatal care in developing countries: promises, achievements and missed opportunities: an analysis of trends, levels and differentials, 1990-2001. Geneva: World Health Organization, 2003.
3. Bullough C et al. Current strategies for the reduction of maternal mortality. BJObG 2005; 112(9):1180-8.
4. Reynolds H.W, Wong E.L, Tucker H. Adolescents' use of Maternal and Child Health Services in Developing Countries. International Family Planning Perspectives. March 2006; 23(1):6-16.
5. Vanneste AM et al. Prenatal screening in rural Bangladesh: From prediction to care. Health policy and Planning. 2000 ; 15(1); 1- 10
6. Federal Democratic Republic of Ethiopia Ministry of Health. Management Protocol on Selected Obstetrics Topics. January, 2010 : p 9
7. Kinzie B and Gomez P. Basic Maternal and Newborn care: A Guide for skilled Providers. JHPIEGO/ MNH Program 2004: Baltimore, MD.
8. World Health Organization. Skilled attendants at birth, Geneva: World Health Organization 2007.
9. World Health Organization: The World Health Report: 2005: Make Every Mother and Child Count. Geneva: World Health Organization 2005.

10. Darmstadt GL et al . Lancet Neonatal Survival Steering Team: Evidence-based, cost-effective interventions: how many newborn babies can we save? Lancet 2005, 365(9463):977-988.
11. Berg CJ. Prenatal care in developing counties: the World Health Organization technical working group on antenatal care. J Am Med Women's Assoc; 1995 ; 50(5):182-6.
12. Villar J. Bergsjø P. ANC: Randomized trial. World Health Organization. Geneva, 2002.
13. World Health Organization: Trends in maternal mortality: 1990 to 2008. Estimates developed by WHO, UNICEF, UNFPA and the World Bank Geneva: WHO; 2010.
14. Wagstaff A, Claeson M: The Millennium Development Goals for health: rising to the challenges World Bank; 2004.
15. Anderson T. How can child and maternal mortality be cut? BMJ 2010, 340:c431.
16. Backman G et al. Health systems and the right to health: an assessment of 194 countries. Lancet 2008; 372:2047-2085.
17. Hunt P: Report of the UN Special Rapporteur on the right to the highest attainable standard of health to the United Nations General Assembly. UN Doc A/61/338 New York: United Nations; 2006.
18. CSA, ORC Macro. Ethiopia Demographic and Health Survey, Addis Ababa, Ethiopia and Calverton, Maryland, USA: September; 2005.
19. World Health Organization. Reduction of maternal mortality. A Joint WHO/UNFPA/UNICEF/World Bank Statement. Geneva: World Health Organization, 1999.
20. Wang et al. Levels and Trends in the Use of Maternal Health Services in Developing Countries. DHS Comparative Reports 2011 No. 26. Calverton, Maryland, USA: ICF Macro.

21. CSA, ORC Macro. Preliminary Ethiopia Demographic and Health Survey, Addis Ababa, Ethiopia and Calverton, Maryland, USA: September; 2011.
22. King M, Mhlanga R, De Pinho H. The context of maternal and child health. South African Health Review. Durban: Health Systems Trust; 2006. http://www.hst.org.za/generic/29.
23. Lieu T. ,Thi T. and George R. Late entry to antenatal care in New South Wales, Australia Reproductive Health 2006 .
24. Anna M. et al. Use of antenatal services and delivery care among women in rural western Kenya: a community based survey. Reproductive Health Bio Med Central Ltd 2006 Available :http://www.reproductive-health-journal.com/content/3/1/2
25. Zeine A , Mirkuzie W , Shimeles O. Factors influencing antenatal care service utilization in Hadiya zone ,Ethiop J Health Sci. July 2010; 20(2)
26. Bahilu T, Abebe G, Yohannes D. Factors affecting antenatal care utilization in Yem Special Woreda, South Western Ethiopia. Ethiop J Health Sci. March 2009; 19(1).
27. Magadi M.A., Madise N.J. & Rodrigues R.N. Frequency and timing of antenatal care in Kenya: explaining the variations between women of different communities. Social Science & Medicine 2000; 51 (4) :551–561.
28. Overbosch G. et al. Determinants of antenatal care use in Ghana. Journal of African Economies. 2004; 13(2) :277–301)
29. Magadi et al. The inequality of maternal health care in urban sub-Saharan Africa in the 1990s. Population Studies. 2003; 57 (3) : 347-366.
30. Magadi et al. Pathways of the determinants of unfavourable birth outcomes in Kenya. Journal of Biosocial Science. 2004; 36:153-176.

31. Ram, Faujdar and Abhishek Singh. Is antenatal care effective in improving maternal health in rural Uttar Pradesh? Evidence from a district level household survey. Journal of Biosocial Science; 2006; 38: 433-448.
32. Trinh, L.T.T., et al. Determinants of antenatal care utilization in three rural areas of Vietnam. Public Health Nursing; 2007; 24(4); 300–310.
33. Simkhada B et al. Factors affecting the utilization of antenatal care in developing countries: systematic review of the literature. J Adv Nurs 2008 ; 61(3) :244-60
34. Ebeiqbe P.N, Gharoro E.P. Obstetric complication, intervention rates and maternofetal outcomes in teenage nullipara in Benin City, Nigeria. Tropical Doctor, April 2007; 37 (2): 79-83.
35. Glei D.A., Goldman N. & Rodriguez G. Utilization of care during pregnancy in Rural Guatemala: does obstetrical need matter? Social Science & Medicine, 2003; 57(12): 2447–2463.
36. Chaibra, C.N.M. Factors influencing adolescents' utilization of Antenatal care services in Bulawayo, Zimbabwe 2008.
37. Rhoune Ochako et al. Utilization of maternal health services among young women in Kenya: Insights from the Kenya Demographic and Health Survey, 2003. BMC Pregnancy and Childbirth. 2011 ;11 (1) Available at : http://www.biomedcentral.com/1471-2393/11/1
38. MekonenY. and Mekonen A. Factors influencing the use of maternal health care services in Ethiopia .J.health popul Nutr. 2003 ; 21(4): 374-384
39. Navaneetham K, Dharmalingam A .Utilization of maternal health care services in southern India.Social Science and Medicine 2002; 55(10):1849-69.

40. Nisar N. & White F. Factors affecting utilization of antenatal care among reproductive age group women (15–49 years) in an urban squatter settlement of Karachi. JPMA – Journal of the Pakistan Medical Association. 2003; 53(2), 47–53.

41. Adekanle D A, Isawumi A I. Late antenatal care booking and its predictors among pregnant women in South Western Nigeria. Online Journal of Health and Allied Sciences 2008; 7(1): 4-7

42. MR Islam, JO Odland. Determinants of antenatal and postnatal care visits among Indigenous people in Bangladesh: a study of the Mru Community. Journal of Rural and Remote Health. . June 2011 ; 11: 1672 Available: http://www.rrh.org.au

43. Jira C, Belachew T. Determinants of Antenatal care utilization in Jimma Town, Ethiopian Journal of Health Sciences, 2005; 15(1): 49-61.

44. Paredes I. et al. Factors associated with inadequate prenatal care in Ecuadorian women. International Journal of Gynecology & Obstetrics. 2005 ;88(2), 168–172

45. Sharma B .Utilization of antenatal care services in Nepal. Nepal Population Journal. 2004 ; 11(10), 79–97

46. Fantahun M, Olwit G, Shamebo D. Determinants of antenatal care attendance and preference of Site of delivery Addis Ababa, Ethiop. J. of Health Development, 1992, 6 (2) : 17-21.

47. Pallikadavath S., Foss M. & Stones R.W. Antenatal cares: provision and inequality in rural North India. Social Science & Medicine. 2004 ; 59(6), 1147–1158

48. M.D Dairo, K.E. Owoyokun . Factors affecting the utilization of antenatal care services in Ibadan, Nigeria. African journal. December, 2010 ; 12 (1)

49. Erci B. Barriers to utilization of prenatal care services in Turkey. Journal of Nursing Scholarship. 2003; 35(3), 269–273.
50. Alemayehu T, Yilma M, Zewditu K. Previous utilization of service does not improve timely booking in antenatal care: Cross sectional study on timing of antenatal care booking at public health facilities in Addis Ababa. Ethiop. J. Health Dev. 2010 ;24(3) :226-233
51. Ciceklioglu M., Soyer M.T. & Ocek Z.A. Factors associated with the utilization and content of prenatal care in a western urban district of Turkey. International Journal for Quality in Health Care. 2005; 17(6) : 533–539.
52. Matthews Z., Mahendra S., Kilaru A. & Ganapathy S. Antenatal care, care-seeking and morbidity in rural Karnataka, India: results of a prospective study. Asia-Pacific Population Journal; 2001:16(2); 11–28.
53. Sibeko S, Moodley J. Health care attendance patterns by pregnant women in Durban. 2006 http://www.safpj.co.za/index.php/safpj/article/viewFile/484/625.
54. Gurmesa T. Antenatal care service utilization and associated factors in Metekel zone, northwest Ethiopia Ethiop J Health Sci. July 2009; 19(2).
55. Griffith P. & Stephenson R. Understanding users' perspectives of barriers to maternal health care use in Maharashtra, India. Journal of Biosocial Science. 2001; 33(3), 339–359.
56. Mathole T., Lindmark G., Majoko F. & Ahlberg B.M. A qualitative study of women's perspectives of antenatal care in a rural area of Zimbabwe. Midwifery. 2004; 20(2):122–132.
57. Chakrborty N, Islam A. M, Islam R.C, Bari W, et al. Determinants of the use of maternal health services in rural Bangladesh. Health promotion International, 2003; 18 [4]: 327-337.
58. Adamu Y.M. & Salihu H.M. Barriers to the use of antenatal and obstetric care services in rural Kano, Nigeria. Journal of Obstetrics & Gynaecology: 2002; 22(6): 600–603.

59. Chowdhury A.M.R., Mahbub A. & Chowdhury A.S. Skilled Attendance at Delivery in Bangladesh: An Ethnographic Study. Research and Evaluation Division, BRAC. 2003: 22

60. Jimoh A.A. Utilization of antenatal services at the provincial hospital, Mongoma, Guinea Equitoria. African journal of Reproductive Health, Dec 2003; 7(3): 49-54.

61. Ikamari L.D. Maternal health utilization in Teso district. African journal of Health Sciences, 2004; 11(1-2): 21-32.

62. Van Eijk A.M et al. Use of antenatal services and delivery among women in rural western Kenya: a community based survey. Reproductive Health, Apr 2006; 6(3): 2. Available : http://en.wikipedia.org/wiki.

63. Youssef R.M et al. Correlates of unintended pregnancy in Behura governorate, Egypt. Eastern Mediterranean Health Journal, Jul-Sep 2002; 8(4-5): 521-36.

64. Saliku T . Differences in health seeking behaviour among urban poor women in Nairobi who experienced intended or unintended pregnancies. APHRC ; 2007 Available : http://portfolio.du.edu/port/getportfoliofile?fluid=32208.

65. Tesema B. Biratu, David P. Lindstrom. The influence of husband's approval on women use of prenatal care. Ethiop J Health Dev, 2006; 20(2):85-92.

66. Fekede B, Gebremariam A. Antenatal care service utilization and factors associated in Jimma town (Southwest Ethiopia). Ethiop Med J. 2007; 45 (2): 123-133.

67. Nigussie M, Haile Mariam D, & Mitike G. Assessment of safe delivery service utilization among women of childbearing age in north Gondar Zone, Northwest Ethiopia, Ethiop. J. of Health Dev. 2004; 18(3): 45-152.

68. Kembata Tembaro Zone. Health Department Indicative Annual Core Plan. Durame, July 17/2003.

Annexes

I. Information Sheet

Addis Ababa University

School of Medicine

College of Health Sciences

Department of Nursing and Midwifery

Here, I the undersigned, at Addis Ababa University College of Health Sciences department of Nursing and Midwifery , Graduate studies Program, currently I will be undertaking research on a topic entitled assessment of contributing factors for late initiation of antenatal care among women attending antenatal care clinic at Public Health centers in Kembata Timbaro zone, SNNPR, Ethiopia.

For this study, you will be selected as a participant and before getting your consent or permission of your participation, you need to know all necessary information related to the study. Thus, this information will be detailed as;

- **Objective**: To assess contributing factors for late initiation of antenatal care among women attending antenatal care clinic at Public Health centers in Kambeta Timbaro zone, SNNPR, Ethiopia.
- **Significance of the study**: There is no research done on this topic in the study area. So it is believed that it can be a reference for those who are interested to perform a research on the same topic. Finding out contributing factors for late initiation ANC is important for policy makers, stakeholders and program implementers to improve utilization of ANC early in pregnancy. In addition to that examining the use of ANC service inform programs about where to focus interventions that can reduce maternal and newborn mortality and improve their health outcomes.

- **Participants to be included**: All pregnant women who will be presented for ANC at selected health centres in Kembata Timbaro Zone during the study period and are voluntary to participate in the study are included.
- **Confidentiality:** All information you give will be kept confidential and won't be accessible to any third party. Your name won't be registered on the question sheet so that you will not be identified.
- **Risks and Benefits of the study**

  Risks: The study will be carried out simply by asking you, the already prepared and structured questions. The procedure doesn't bear any physical or psychological trauma. Furthermore, you will not be forced to respond to the information you do not know.

  Benefits: For your participation in the study no payment will be granted or has no any special privilege to you. But, participating in the study and giving your information to questions asked will have great input in efforts to improve utilization of ANC.
- **Consent:** Your participation in the study will be totally based on your willingness. You have the right not to participate from the beginning, or stop any time after starting participation. You will not be forced to respond to the information you do not know.
- **Name of principal investigator**: Tesfalidet Tekelab

  Date:_____ Signature_____

- **Address of PI:**

  Mobile: +251912450760 or +251920411712

  E- Mail: tesfeshtekelab@yahoo.com or ttesfalove@gmail.com

II. Structured Questionnaire English Version

Addis Ababa University

School of Medicine

College of Health Science

Department of Nursing and Midwifery

Questionnaire on assessment of contributing factors for late initiation of Antenatal care among pregnant women attending Antenatal care clinic in public health centers in Kembata Timbaro zone.

Consent form that certify the respondents agreement before the interview

01. Name of the Woreda _____

02. Name of the Health Institution _____

03. Questionnaire Identification Number_____

Introduction

Good morning , Good afternoon [According to its convenience]. My name is _____. I am Nurse professionally and now I am collecting data from the pregnant women for the research being conducted to identify contributing factors for late initiation of Antenatal care , by Mr. Tesfalidet Tekelab who is the Master of Maternal and Reproductive Health Nursing student in Addis Ababa University . You are selected to be one of the participants in the study by chance. The study will be conducted through interview. Your name and other personal identifiers will not be recorded on data collection format and the information that you give us will be kept confidential and will also be used for this study purpose alone. A code number will identify every participant and no names will be used. If a report of the result is published, only summarized information of the total group will appear. The interview takes 30 minutes and is voluntary and you have the right to participate, or not to participate or to refuse at any time during the interview. You will

not face any problem if you do not agree to the information to be asked and you will not be also denied of getting any medical services from the health institution. Your participation on this study helps to improve the ANC service for all pregnant women in Kembata Timbaro zone. If you have any questions about this study you may ask me or the principal investigator Tesfalidet Tekelab (Mobile: +251912450760 , +251920411712 or E-mail: tesfeshtekelab@yahoo.com , ttesfalove@gmail.com)

- Are you willing to participate in the study?
  1. Yes 2. No
- Interviewer who certified that the informed consent has been given verbally from the respondents

Name_____ signature_____

Date_____

- Result
  1. Completely collected
  2. Refused
  3. Partially completed
  4. Other (please specify)_____

- Checked by:

  Name _____ signature_____ Date_____

Questionnaire Form Identification .No ____

Instruction: circle the responses provided by the interviewer or write the appropriate answer on the space provided.

Part I : Socio-demographic variables			
S.No.	Questions	Option/Response	Remark
101	Age	_____(in years)	
102	Ethinicity	1. Kembata 2. Timbaro 3. Hadiya 4. Woliyita 5. Others(Specify)_____	
103	Religion	1. Protestant 2. Orthodox 3. Catholic 4. Muslim 5. Others(Specify)_____	
104	Marital Status	1. Single 2. Married 3. Divorced 4. Widowed	
105	Educational level(Wife)	1. Illiterate (can not read and write) 2. Literate (able to read and write) 3. Primary school 4. Secondary school 5. College diploma and above	
106	Educational level(Husband)	1. Illiterate (can not read and write) 2. Literate (able to read and write) 3. Primary school 4. Secondary school 5. College diploma and above	
107	Occupation	1. Government Employed 2. Employed self 3. House wife 4. Student 5. Others[specify]_____	
108	Residence	1. Rural 2. Urban	
109	Household economy (family) income per month	_____ETB/Month	
Part II: Obstetrics History			
201	How many times you were	1. Number of Pregnancies:_____	

	pregnant?	2. Number of abortions _____	
202	If there is abortion	1. Number of Spontaneous:_____ 2. Number of Induced:_____	
203	How many times you gave birth?	1. Number of children alive:_____ 2. Number of children died:_____ 3. Number of still birth:_____	
204	How many years between your births?	_____(Years)	
205	Have you ever attended ANC?	1. Yes 2. No If No skip to →	Q209
206	If yes, for Q 205, for which pregnancy you attended?	1. For the first pregnancy 2. For the second pregnancy 3. For the third pregnancy 4. Other(Specify)_____	
207	If you attended ANC before this pregnancy, At what months you started the service for that pregnancy?	_____ months	
208	What was the total number of visits?	1. Once 2. Two 3. Three 4. Four and more 5. Do not remember	
209	Did you experience a health problem during the last pregnancies?	1. Yes 2. No 3. Don't remember	
Part III Knowledge on ANC and Pregnancy related complication			
301	Where do you here about the sources of ANC?	1. Heath institution 2. Health extension worker 3. Radio/TV 4. Relatives 5. Other (Specify)_____	
302	How do you rate the importance of ANC for your health?	1. Highly important 2. Important 3. Medium 4. Less 5. Do not know	
303	How do you rate the importance of ANC for the fetus?	1. Highly important 2. Important 3. Medium 4. Less 5. Do not know	
304	Should a healthy pregnant women attend ANC clinics?	1. Yes 2. No 3. Do not know	

305	In your view when should pregnant women access Antenatal Care Services after amenorrhea?	1. _____ months 2. I don't know	
306	How many visits should pregnant women make to the Antenatal Care Services during the entire period of pregnancy?	1. One Visit 2. Two to Three Visits 3. Four Visits 4. More than or equal to five Visits 5. I don't know 6. Others[Specify]:_____	
307	Do you know dangerous health problems related to pregnancy?	1. Yes 2. No If No skip to →	Q401
308	If yes for Q307, can you mention some of them? (More than one answer is possible)	1. Persistent vomiting 2. Leg swelling 3. Vaginal bleeding 4. Hypertension 5. Headache 6. Seizure 7. Other(Specify)_____	
Part IV Health service barriers			
401	What is your feeling about the quality of ANC given?	1. Very good 2. Good 3. Satisfactory 4. Poor 5. I don't know	
402	Are the health workers respectful?	1. Yes 2. No 3. I don't know	
403	How do you rank the approach of health workers providing ANC services?	1. Very Good 2. Good 3. Fair 4. Bad	
404	How long does it take to travel from your home to the health institution?	_____hours	
405	How long was the time you spent in waiting to get ANC services?	_____hours	
406	Do you think that waiting time was a problem while you were attending ANC?	1. Yes 2. No 3. Don't know	
407	What is the maximum time you spend to complete check-up?	1. For the first Visit _____minutes 2. For the repeat Visits _____minutes	
408	Is there any payment you were asked for check-up?	1. Yes 2. No If no skip to →	Q501

409	If yes for Q 408 , for what services you paid?	1. For consultation [card and Examination] 2. For laboratory 3. For ultrasound 4. For drugs 5. Other [specify]_____	
410	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	
411	Is there any missed investigation in previous, due to shortage [inadequacy] of money?	1. Yes 2. No If No skip to →	Q501
412	If yes for Q 411, what?	1. Consultation [card and Examination] 2. Laboratory 3. Ultrasound 4. Drugs 5. Other[specify]_____	
Part V History of current pregnancy			
501	How do you know your pregnancy? (More than one answer is possible)	1. Missed period once 2. Missed period twice 3. Missed period three and more 4. Physiological changes 5. Other signs like nausea 6. By examination [urine test] 7. Other (Specify)_____	
502	Is this pregnancy planned?	1. Yes 2. No If No skip to →	Q504
503	If yes for Q 502, did the plan include your husband?	1. Yes 2. No	
504	If this pregnancy is not planned, was it wanted by you after conception?	1. Yes 2. No	
505	If this pregnancy is not planned was it wanted by your husband after conception?	1. Yes 2. No	
506	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]_____	
Part VI History of current ANC			
601	Before your first visit of the ANC, was there any one who advised you to come?	1. Yes 2. No If No skip to →	Q605
602	If yes for Q 601, from whom you get advice?	1. Health extension Worker 2. Husband	

		3. Mother 4. Sister 5. Friend 6. Other[specify]_____	
603	If you were advised to attend ANC by someone, Did he/she informed you when to start?	1. Yes 2. No If No skip to →	Q601
604	If you are advised on the time to start ANC, When does he/she advise you to start?	_____months after Amenorrhea	
605	What were your husbands or partner's attitude towards ANC?	1. Positive 2. Negative 3. Don't know	
606	In the present pregnancy, when did you start the follow up?	1. After _____months of amenorrhea 2. I don't know the exact months	
607	Why you decide to start [begin] the follow up at this time? (More than one answer is possible)	1. I perceive it is appropriate time 2. From my previous Experience 3. Due to illness 4. To assure pregnancy 5. Busy by other works 6. Economic factor [money constraints] 7. Because of unplanned pregnancy 8. Others [specify]_____	
608	Did health worker appoint you for the next visit?	1. Yes 2. No	
609	If your pregnancy were unplanned or unwanted, did you want to undertake abortion?	1. Yes 2. No	

III. Qualitative questions

Guide questions for Interview (limited to selected client)

For Pregnant women

1. Why you prefer this specific time to book?
2. Have you attended for ANC before this pregnancy? Why?
3. What information you were received during first visit?
4. What are the primary reasons pregnant women should attend ANC clinics?
5. Is there any payment for ANC services?

For ANC providers

1. How do you see the status of antenatal care in your health institutions?
2. What is the available schedule for ANC in this service?
3. What do you think is the reason that many women do not visit ANC while pregnant?
4. What are the available services for pregnant women booked early before 16 weeks of gestation?
5. Is there any payment for ANC service?

IV. Translated Amharic version of information sheet

በአዲስ አበባ ዩንቨርስቲ

ጤና ሳይንስ ኮሌጅ

ነርስ ት/ክፍል

የጥናቱ መረጃ ቅጽ

ከዝህ በታች እንደተገለፀዉ በአዲስ አበባ ዩኒቨርስቲ የጤና ሳይንስ ኮሌጅ ነርስ ት/ክፍል የድህር ምረቃ መረሃ ግብረ በአሁኑ ወቅት" ነፍሰ ጡር እናቶች ቅድመ ወሊድ ክትትል ዘገይቶ የምጀምሩ ምክንያት የምሆኑ ነገሮችን ለይቶ ለማወቅ" በሚላዉ ርዕስ በከንባታ ጠንባሮ ዞን በሚገኙ የጤና ተቋማት ጥናት እያከሄድኩ ነዉ።

የዚህ ጥናት ተሳታፍ ለመሆን እርሶዎ ተመርጠዋል። በጥናቱ ላይ ለመሳተፍ ፍቃደኝነትዎ ከመጠየቅ በፊት ጥናቱን በተመለከተ አስፈላጊ የሆኑ መረጃዎችን ማግኘት ያስፋልጎታል። ስለዝህ በጥናቱ ላይ ለመሳተፍም ሆነ ላለመሳተፍ መጀመረያ ማወቅ የሚገባዎትን መረጃ እንደሚከተለዉ እናቀርብሎታለን።

1.የጥናቱ አላማ ፡ የምርምሩ አላማ ነፍሰ ጡር እናቶች ቅድመ ወሊድ ክትትል ዘገይቶ የምጀምሩ ምክንያት የምሆኑ ነገሮችን ለይቶ ለማወቅ ነዉ።

2.በጥናቱ የሚካተቱ ተሳታፈዎች ፡መረጃዉ በሚሰበሰብበት ወቅት ማናቸዉም ለቅድመ ወሊድ የሚመጡ ነፍሰ ጡር እናቶች በጥናቱ ይካተታሉ።

3.የጥናቱ ጥቅምና ጉዳት

3.1 ጉዳት፡ ጥናቱ የሚካሄዳዉ ቀደም ብሎ ለዝሁ ጥናት ታስቦ የተዘጋጀዉን ጥያቄ በመጠየቅ ነዉ። ሆኖም በጥናቱ ተሳታፈዎች አካል ላይም ሆነ አእምሮ ለይ ፈጽሞ ጉዳት አይኖርም። ያልገባዎትን መረጃ ለመመለስ አይገደዱም።

3.2 ጥቅም፡ በጥናቱ በመሳተፎ የሚከፈልዎት ክፍያ ወይም የተለየ ጥቅም አይኖርም።በሌላ በኩል በጥንቱ በመሳተፎና ለጥያቄ ተገቢዉን መረጃ መስጠትዎ ነፍሰ ጡር እናቶች በጊዜ ቅድመ ወሊድ እንድከታተሉ ከፍተኛ እገዛ ያደርጋል።

4.የጥናቱ ምስጥራዊነት፡ እርሶዎ የሚሰጡት መረጃ በሚስጥር ይጠበቃል እንድሁም ለሶስተኛ ወገን ተላልፎ አይሰጥም። ከማንኛዉም መረጃ ጋር ሰምዎ አይመዘገብም።

5.ፍቃደኝነትዎን በተመለከተ፡ በጥናቱ ላይ መሳተፈዎ ሙሉ በሙሉ የሚመሰረተዉ በራሶዎ ፍላጎትና ፈቃደኝነት ለይ ነዉ።ከመጀመረያዉ በጥናቱ ላይ ለመሳተፍም ሆነ ላለመሳተፍ ይችላሉ።ካልተስማማዎት በመሀል የማቋረጥ መብትዎ ሙሉ በሙሉ የተጠበቀ ነዉ።ያልገባዎትን መረጃ ለመመለስ አይገደድም።

6.ጥያቄዉ የሚወስደዉ ጊዜ ቢበዛ ሰላሳ ደቂቃ ብቻ ነዉ።በመጨረሻም ለሰጡኝ መረጃዎች ከልብ ላመሰግንዎት እወዳለዉ።

አመሰግናለዉ።

የጥናቱ ዋና ተጠር ስም ና አድራሻ

ሰም ፡ ተሰፋልደት ተክለአብ ቀን_____ ፈርማ_____

ሰልክ : +251912450760 ወይም +251920411712

ኢ-ሜል : tesfeshtekelab@yahoo.com or ttesfalove@gmail.com

V. Translated Amharic version of consent form

በአዲስ አበባ ዩንቨርስቲ

ነርሰ ት/ቤት

የፈቃደኝነት ማረጋገጫ

የወረዳዉ ሰም_____

የጤና ተቋሙ ሰም_____

መለያ ቁጥር_____

እንደምን አደሩ፣ እንደምን ዋሉ [እንደ አስፈላጊነቱ]። ስሜ ……..... እኔ በሙያዬ ነረስ ስሆን። በከንባታ ጠንባሮ ዞን ነፍሰጡር እናቶች ቅድመ ወሊደ ክትትል ዘገይተዉ የምጀምሩ ምክንያት የምሆኑ ነገሮችን ላይቶ ለማወቅ በአቶ ተሰፋልደት ተክላአብ የእናቶችና ስነ-ተዋልዶ ጤና ነርሲንግ የድህረ-ምረቃ ተማሪ በሆኑት ለሚደረገው ጥናት መረጃ በማሰባሰብ ላይ እገኛለሁ። እረሶ ለዚህ ጥናት እንዲሳተፉ የተመረጡት በእጣ ነው፣ ፡ጥናቱ የሚከሄደዉ በቃለ መጠይቅ ሲሆን።የሚሰጡኝ መረጃዎች በሙሉ ምሰጥረነታቸዉ በሚገባ የተጠበቀና ለዝህ ጥናት ብቻ የሚዉሉ ናቸዉ።የእርሶ ሰም በየተኛዉም ቦታ ላይ አይጻፍም።ለሚሰጡኝ መረጃዎች የተለየ ቁጥር ይሰጣቸዋል።የጥናቱ ዉጤት ብታተምም እንኳን እርሶና ሌሎች የጥናቱ ተሳታፍዎች የሚትሰጡት መረጃ አጠቃላይ ይዘቱ ነዉ የሚታተመዉ። በአጠቃላይ መጠይቁ በፍቃደኝነት ላይ የተመረኮዘ ነዉ።እርሶ በጥናቱ ለመሳተፍ ሆነ ላለመሳተፍ ሙሉ መብት አለዎት።በዚህ ጥናት አልሳተፍም ካሉ ምንም ዓይንት ችግር አይገጥሞትም ፡ ፡ በተጨማሪም ከሚገለገሉት የህክምና አገልግሎትም አይታገዱም ወይም አይስተጓጉሉም ፡ ፡ ሆኖም እርሶዎ የሚሰጡን መረጃ ጥናቱን ከግብ ለማድረሰ ትልቅ አሰተዋጸኦ አለዉ ። በመጨረሻም ይህን ጥናት በተመለከተ ጥያቄ አለኝ ካሉ የዚህን ጥናት ባለቤት የሆኑትን አቶ ተሰፋልደት ተክለአብን በዚህ አድራሻ ስልክ 0912450760 ወይም 0920411712 ኢ-ሜል tesfeshtekelab@yahoo.com ወይም ttesfalove@gmail.com መጠየቅ ይችላሉ፡

- ለዚህ ጥናት እንዲውል መረጃ ለመስጠት ፈቃደኛ ነዎት ?

1. አዎ 2. አይደለሁም

- በዚህ ጥናት ላይ ሰምምነቱን ያሰሞላ ሰዉ ፡

  ሰም_____ ቀን_____ ፊርማ_____

- ዉጤት

  1. ዉጤት በሙሉ ተሞልቷል

2. መርጃ ሰጪዋ ፍቃደኛ አይደለችም
3. መርጃዉ በግማሽ ተሞልቷል
4. ሌላ ምክንያት ካለ ይግለጹ_____

❖ ያርጋገጠዉ ፡ ሰም _____ ቀን _____ ፊርማ _____

መመሪያ: መላሹ የሰጡትን መልስ በማክበብ ወይም በክፍት ቦታ ላይ መልሱን ይፃ ፉ፡ ፡

ክፍል -1 የመሃበራዊ ሁኔታዎች መርጃ			
ተ.ቁ	ጥያቄዎች	መልስ/ምረጫ	ምርምራ
101	ዕድሜ	_____(በዓመት)	
102	ብሔረሰብ	1. ከንምባታ 2. ጠንባሮ 3. ሀዲያ 4. ወለይታ 5. ሌላ (ይግለፁ) _____	
103	ሃይማኖት	ı. ፕሮቴስታንት 2. አረቶዶክስ 3. ካቶሊክ 4. ሙስሊም 5. የተለየ /ይጥቀሱ/ _____	
104	የጋብቻ ሁኔታ	1. ያላገባች 2. ያገባች 3. የፈታች 4. የሞተባት	
105	የእርስዎ የትምህርት ደረጃ?	ı. ያልተማረች 2. ማንበብ እና መፃፍ 3. የመጀመሪያ ደረጃ 4. ሁለተኛ ደረጃ 5. ኮሌጅ ና ከዚያ በላይ	
106	የባለቤትዎ የትምህርት ደረጃ?	ı. ያልተማረ 2. ማንበብ እናመፃፍ 3. የመጀመሪያ ደረጃ 4. ሁለተኛ ደረጃ 5. ኮሌጅ ና ከዚያ በላይ	
107	የስራ ሁኔታ	ı. የመንግስት ሰራተኛ(ተቀጣሪ) 2. በግል የሚሰራ 3. የቤት እመቤት 4. ተማሪ 5. ሌላ [ይገለጽ]_____	
108	የመኖሪያ ቦታ	1. ገጠር 2. ከተማ	
109	ወረሃዊ የ ቤተሰብ ገ ቢ	_____(ብር)	
ክፍል -2 አጠቃላይ የወሊድ መረጃ			
201	ስንት ጊዜ አርግዘው ያውቃሉ?	1. እስከ ወሊድ የደረሰ የእርግዝና ብዛት _____	

	[የአሁኑን ጨምሮ]	2. የውርጃ ብዛት _____	
202	ውርጃ ካጋጠመዎት	1. በራሱ ጊዜ የወጣ ብዛት _____ 2. በፍላጎት ያስወረዱት ብዛት _____	
203	ስንት ልጆች አልዎት?	1. በህይወት ያሉ ብዛት _____ 2. ከተወለዱ በኋላ የሞቱ ብዛት _____ 3. ሞተው የተወለዱ ብዛት _____	
204	በአማካይ በየስንት አመት ነው የሚያረግዙት?	_____(አመት)	
205	የቅድመ ወሊድ (የነፍሰጡር) ምርመራ ተከታትለው ያውቃሉ?	1. አዎ 2. አላውቅም (አላውቅም ከሆነ) ⟶	ወደ ጥ.ቁ209
206	ለጥያቄ ተ.ቁ. 205 መልስዎ አዎ ከሆነ ለየተኛው እርግዝና ነው?	1. ለመጀመሪያ እርግዝና 2. ለሁለተኛ እርግዝና 3. ለሦስተኛ እርግዝና 4. ለአራተኛ እርግዝና 5. ሌላ/ይጥቀሱ/_____	
207	ከዚህ እርግዝና በፊት የነበረውን እርግዝና የቅድመ ወሊድ ተከታትለው ከሆነ ክትትሉን የጀመሩት የወር አበባዎ ቀርቶ በስንት ጊዜ ነው?	_____ ወር	
208	የነፍሰ ጡር ጤና ክትትል የሚያደርጉ ከሆነ በአጠቃላይ ስንት ጊዜ ሄደው ነበር?	1. አንድ ጊዜ 2. ሁለት ጊዜ 3. ሶስት ጊዜ 4. አራትና ከዚያ በላይ ጊዜ 5. አላሰታዉስም	
209	በእርግዝናዎ ወቅት የጤና የመታወክ ችግር አጋጥሞት ነበር?	1. ያውቃል 2. አያውቅም 3. አላስታውስም	
ክፍል -3 የቅድመ ወሊድ [የነፍሰጡር] ምርመራ ክትትል እውቀት			
301	የቅድመ ወሊድ/የነፍሰ ጡር/ ክትትል ከየት ነው የሰሙት?	1. ከጤና ድርጅት 2. ከጤና ባለሙያ 3. ከሬዲዮ/ ቴሌቪዥን 4. ከጎደኛ 5. ሌላ /ይጥቀሱ/_____	
302	የቅድመ ወሊድ [ነፍሰጡር] ምርመራ ለጤናዎት አስፈላጊነቱን እንዴት ይገነዘቡታል?	1. በጣም አስፈላጊ ነው 2. አስፈላጊ ነው 3. በመጠኑ አስፈላጊ ነው 4. በጣም አነስተኛ ነው 5. አላውቅም	
303	የነፍሰ ጡር [የቅድመ ወሊድ] ምርመራ ለሽሉ [በማህፀንዎ ውስጥ ላለው ልጅ] አስፈላጊነቱን እንዴት ይገነዘቡታል?	1. በጣም አስፈላጊ ነው 2. አስፈላጊ ነው 3. በመጠኑ አስፈላጊ ነው 4. በጣም አነስተኛ ነው 5. አላውቅም	
304	ጤናማ የሆነች ነፍሰ ጡር እናት የቅድመ ወሊድ ክትትል ማድረግ አለባት ብለው	1. አዎ 2. አይደለም (አይደለም ከሆነ) ⟶	ወደ ጥ.ቁ307

	ያስባሉ?	3. አላውቅም	
305	የነፍሰ ጡር /ቅድመ ወሊድ/ ምርመራ የወር አበባዎ ቀርቶ መቼ ቢጀመር ጥሩ ነው ብለው ያስባሉ?	1. _____ ወር 2. አላዉቅም	
306	በአንድ የእርግዝና ወቅት ስንት ጊዜ ተመላልሰው ምርመራ ቢያደርጉ በቂ ነው ብለው ያስባሉ?	_____ ጊዜ	
307	ከእርግዝና ጋር በተያያዘ ሊመጣ የሚችል አደገኛ የጤና ችግሮችን(እንከን) ያውቃሉ?	1. አዎ አውቃለሁ 2. አላውቅም (አላውቅም ከሆነ) ⟶	ወደ ጥ.ቁ 401 ይለፉ
308	ለጥያቄ ተ.ቁ. 307 መልስዎ አዎ ከሆነ እባኮዎን የተወሰኑትን የጥቀሱ (ከአንድ በላይ መልስ ይቻላል)	1. የማያቋርጥ ትዉከት 2. የእግር ማበጥ 3. ከማህፀን ደም መፍሰስ 4. የደም ግፊት 5. ከፍተኛ ራስ ምታት 6. የሚጥል በሽታ/ ራስን የሚያስት/ 7. የተለየ (ይጥቀሱ) _____	
ክፍል - 4 የጤና አገልግሎት ችግሮች			
401	ስለ ነፍሰ ጡር /የቅድመ ወሊድ/ ምርመራ አገልግሎት ጥራት ምን ይሰማዎታል?	1. በጣም ጥሩ 2. ጥሩ 3. በቂ ነው 4. ደካማ 5. አላውቅም	
402	የጤና ባለሙያዎች ነፍሰ ጡር እናቶችን ያከብራሉ?(በቅድመ ወሊድ ምረመራ ወቅት)	1. አዎ 2. የለም 3. አላውቅም	
403	የቅድመ ወሊድ ምርመራ የሚሰጡትን የጤና ባለሙያዎች እንዴት ደረጃ ያወጣሉ?	1. በጣም ጥሩ 2. ጥሩ 3. በቂ ነው 4. ደካማ 5. አላውቅም	
404	ከቤቶ አንሰቶ እሰከ አቅራቢያዎ ካለዉ ጤና ድርጅት ምን ያህል ሰዓት ይወሰዳል?	_____ሰዓት	
405	የነፍሰ ጡር /ቅድመ ወሊድ/ ምርመራ ለማግኘት የወሰደበት ጊዜ?	_____ሰዓት	
406	በነፍሰ ጡር /ቅድመ ወሊድ/ ምርመራ ወቅት ብዙ ሰዓት መጠበቅ እንደ ችግረ ብለዉ ያምናሉ?	1. አዎ 2. የለም 3. አላውቅም	
407	ለቅድመ ወሊድ ምርመራ ሲመጡ ምርመራውን ለማድረግ የሚፈጅብዎት ጊዜ ምን ያህል ነበር?	ለመጀመረያ _____ ሰዓት ለሁለተኛ _____ ሰዓት	
408	ለነፍሰ ጡር /ቅድመ ወሊድ/ ምርመራ ገንዘብ ከፍሎ ነበር?	1. አዎ 2. አላውቅም (አላውቅም ከሆነ) ⟶	ወደ ጥ.ቁ 501 ይለፉ
409	ለጥያቄ ተ.ቁ. 408 መልስዎ አዎ ከሆነ	ነ. ለካርድ	

	ለምን ጉዳይ ነበር የከፈሉት?	2. ለላብራቶሪ 3. ለአልትራሳውንድ 4. ለመድኃኒት 5. ሌላ [ይገለጽ]_____	
410	ለነፍሰጡር /ቅድመወሊድ/ ምርመራ የከፈሉት ገንዘብ ካለ በአንድ ምርመራ ከፍተኛው የከፈሉት ገንዘብ ምን ያህል ነው?	_____ ብር	
411	በገንዘብ እጥረት ምክንያት ያላደረጉት ምርመራ አለ?	1. አዎ 2. የለም	
412	ለጥያቄ ተ.ቁ. 411 መልስዎ አዎ ከሆነ የትኛውን ምርመራ ነው ያላደረጉት?	1. ለካርድ 2. ለላብራቶሪ 3. ለአልትራሳውንድ 4. ለመድኃኒት 5. ሌላ [ይገለጽ] _____	
ክፍል - 5 የአሁኑ እርግዝና መረጃዎች			
501	ማርገዝዎትን በምንድን ነው ያወቁት? /ከአንድ በላይ መልስ መስጠት ይቻላል/	1. የወር አበባ መቅረት [መምጣት ከነበረበት አንድ ወር መዘግየት] 2. የወር አበባ መቅረት [መምጣት ከነበረበት ሁለት ወር መዘግየት] 3. የወር አበባ መቅረት [መምጣት ከነበረበት ሦስት ወርና ከዚያ በላይ መዘግየት] 4. የሰውነት ለውጥ [የጡት ጫፍ መለወጥ የመሳሰሉት] 5. ማቅለሽለሽና የመሳሰሉት 6. የሽንት ምርመራ በማድረግ 7. በሌላ መንገድ [ይገለጽ] _____	
502	ይህ እርግዝናዎ ያቀዱት ነበር?	1. አዎ 2. አይደለም (አይደለም ከሆነ) ⟶	ወደ ጥ.ቁ 504 ይለፉ
503	ለጥያቄ ተ.ቁ. 502 መልስዎ አዎ ከሆነ ያቀዱ ከባለቤትዎ ጋረ ነዉ?	1. አዎ 2. አይደለም	
504	ይህ እርግዝናዎ ያለአቀዱ ከሆነ ከተረገዘ በኋላ በእርስዎ ይፈለግ ነበር?	ነ. አዎ 2. አይደለም	
505	ይህ እርግዝናዎ ያለእቅድ ከሆነ ከተረገዘ በኋላ በባለቤትዎ ይፈለግ ነበር?	1. አዎ 2. አይደለም	
506	መጀመሪያ ማርገዝዎትን ያበሰሩት [የነገሩት] ለማን ነው?	1. ለባለቤትዎ 2. ለእናትዎ 3. ለእህትዎ 4. ለጓደኛዎ 5. ለሌላ [ይገለጽ] _____	
ክፍል - 6 የአሁኑ የቅድመ ወሊድ ክትትል መረጃዎች			
601	የቅድመ ወሊድ /ነፍሰጡር/ ምርመራ አስፈላጊነት ለዚህ ምርመራ ወደ ጤና ድርጅት ከመምጣትዎ በፊት ስለ ጥቅሙ ምክር የሰጠዎት ነበር?	1. አዎ 2. የለም (የለም ከሆነ) ⟶	ወደ ጥ.ቁ 605 ይለፉ
602	የቅድመ ወሊድ /ነፍሰ ጡር/ ምርመራ	1. የህብረተሰብ ጤና ሰራተኞች	

	አስፈላጊነት ተመክረው ከሆነ ምክሩን የሰጠዎት ማነው?	2. ባለቤትዎ 3. እናትዎ 4. እህትዎ 5. ጓደኛ 6. ሌላ /ይገለጽ/ _____	
603	ምክር የሰጠዎት ሰው መቼ ምርመራ ማድረግ [መጀመር] እንዳለብዎት ነግርዎታል?	1. አዎ 2. አልነገረኝም	
604	የነፍሰጡር ምርመራ መቼ ማድረግ እንዳለብዎት ነግሮዎት ከሆነ ወር አበባዎ ቀርቶ መቼ መጀመር እንዳለብዎት ነው የነገረዎት?	ከ _____ ወር በኋላ	
605	የነፍሰጡር ምርመራን በተመለከተ ባለቤትዎ አመለካከት ምን ይመሰላል?	1. ይደግፋል 2. አይደግፍም 3. አላወቅም	
606	የአሁኑን የነፍሰጡር ምርመራ ክትትል የወር አበባዎ ቀርቶ ከስንት ወር በኋላ ነው የጀመሩት?	ከ _____ወር በኋላ	
607	በዚህን ጊዜ ምርመራ ለማድረግ ለምን ፈለጉ?	1. ትክክለኛ የምርመራ ጊዜ በመሆኑ 2. ከዚህ በፊት በዝህ ጊዜ ምርመራ ስለማደርግ 3. ሰላመመኝ 4. እርግዝናን ለማረጋገጥ 5. ጊዜ ስለሌለኝ 6. በገንዘብ ችግር 7. እርግዝናው የታቀደ ባለመሆኑ 8. ሌላ [ይገለጽ] _____	
608	ለመጀመሪያ ጊዜ ለምርመራ ከመጡ በኋላ ሁለተኛውን ክትትል ከመቼ ወር በኋላ እንዲመጡ ነው የተነገርዎት?	ከ _____ወር በኋላ	
609	ይህ እርግዝናዎ ያለእቅድ እና ያለፍላጎት ከሆነ ለማስወረድ አስበው ነበር	1. አዎ 2. አይደለም	

VI. Declaration

This thesis proposal is my original work and has not been presented for a degree in any other university and that all source of material used have been dully acknowledged.

Name of principal investigator: Tesefalidet Tekelab

Date _____Sign _____

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

Name of advisor: Balcha Berhanu (Lecturer, MSc, RN)

Date _____Sign _____