MATERNAL HEALTHCARE SERVICES UTILIZATION AND DETERMINANT FACTORS AMONG MOTHERS OF UNDER ONE YEAR CHILDREN IN WONCHI WOREDA, SOUTH WEST SHOA ZONE, OROMIA REGINAL STATE, CENTERAL ETHIOPIA.

By:

Naod Degefu (BSc.PH)

A thesis submitted to Department of Population and Family Health, College of Public Health and Medical Sciences, Jimma University in partial fulfillment of the requirement for the degree of Masters of Public Health in Reproductive Health (MPH/RH).

JUNE, 2014

JIMMA, ETHIOPIA

MATERNAL HEALTHCARE SERVICES UTILIZATION AND DETERMINAT FACTORS AMONG MOTHERS OF UNDER ONE YEAR CHILDREN IN WONCHI WOREDA, SOUTH WEST SHOA ZONE, OROMIA REGINAL STATE, CENTERAL ETHIOPIA.

By: Naod Degefu (BSc.PH)

Advisors:

1. **Mr. Yohannes Dibaba (MSC, Ass. Professor, Phd candidate)**
2. **Mr. Amanuel Tesfaye (BSc, MPH/RH)**

JUNE, 2014

JIMMA, ETHIOPIA

ABSTRACT

Background: Complications of pregnancy and childbirth are the leading causes of disability and death among women in the reproductive age (15-49) in developing countries. Access to good quality care during pregnancy and child birth would prevent 50% to 70% of maternal deaths and reduce neonatal mortality by 10% to 15%. Utilization of these services is very low in rural Ethiopia. Antenatal care, delivery care and postnatal care provides an opportunity to deliver different services which are important in improving maternal survival.

Objective: To assess maternal health care service utilization and determinant factors among mothers of under one year children.

Methods: A community based cross sectional study that employed quantitative method of data collection was conducted among 309 mothers of under one children in wonchi woreda, from March 25th to April 25th, 2014.The study participant was recruited mothers of under one children from eight kebeles of wonchi woreda using simple random sampling technique. A structured interviewer administered questionnaire was used to elicit all important informations from the study participants. Data were analyzed using SPSS for windows version 16.0. Frequency distributions, cross tabulations, crude and adjusted Odds ratios and confidence intervals were performed.

Result: Data on antenatal care, delivery care and postnatal care were collected from 302 mothers making a response rate of 97.7%. Three hundred thirty seven (78.5%), 130(43%) and 142(47.1%) of mothers were reported to have received antenatal care at least once, institutional delivery and postnatal care during their last pregnancy respectively. In multivariate analysis, mothers with age group 20-34 years and those with lower birth orders were more likely to use the antenatal care services than their counterparts;(AOR=3.38,95% CI:1.3, 8.5) and (AOR=3.1,95% CI: 1.7,6.2), respectively. Similarly, parity (AOR= 3.97, 95% CI; (2.74, 5.47), walking distance (AOR=2.26, 95%CI; (1.14, 4.44), and ANC service use (AOR= 3.97, 95% CI; (2.73, 5.75), were significant predictors of institutional delivery service use by mothers. Moreover, place of delivery (AOR= 2.84, 95% CI: 1.14, 8.13) and parity (AOR=1.84, 95% CI: 1.35, 2, 50) were among the factors associated with the utilization of postnatal care.

Conclusion: The overall utilization of antenatal, delivery and postnatal care were inadequate and determined by maternal age, parity, husband encouragement, antenatal care use, walking distance and place of delivery. Hence, there is a need to increase the availability and accessibility of the health services to all women and increase the community's awareness about the three maternal health services are needed.

Key words: Maternal health, utilization, antenatal care, delivery care, postnatal care.

ACKNOWLEDGEMENTS

First and for most I want to thank Almighty God for being with me all the time and my advisors Mr. Yohannes Dibaba and Mr. Amanuel Tesfaye for their assistance, constructive comments and suggestions throughout the work of thesis development.

My special thanks also extended to my study participant for giving me important information to carry out the study, wonchi woreda health office, health center staffs, supervisors and data collectors for their cooperation during my study.

Finally my special thanks also go to my beloved wife, family and friends for their moral and financial support to finalize this thesis.

TABLE OF CONTENT

Content **Pages**

Abstract……ii

Acknowledgements……..iii

Table of Content……iiv

List of tables……...vi

Figures……...vii

Chapter 1: Introduction……1

1.1. Background……...1

1.2. Statement of the Problem 3

Chapter 2: Literature Review……...5

2.1. Maternal Health Service Utilization 5

2.2 .Determinant Factors for Maternal Health Care Utilization 7

2.3. Significance of the Study……10

2.4. Conceptual Framework 11

Chapter 3: Objectives of the study……..12

3.1. General Objective 12

3.2. Specific Objectives 12

Chapter 4: Methods and Materials……..13

4.1. Study Area and Period 13

4.2. Study Design 14

4.3. Source population……..14

4.4 .Study population……14

4. 5. Eligibility Criteria.....14

4.5.1. Inclusion Criteria.....14

4.5.2. Exclusion Criteria.....14

4.6. Sample Size Determination.....14

4.7. Sampling Technique 15

4.8. Data Collection Tool.....17

4.9. Personnel for Data Collection and pre test.....17

4.10. Data Collection Techniques 17

4.11. Study Variables 17

4.12. Operational Definition 18

4.13. Data Processing and Analysis Procedures.....19

4.14. Data Quality Management 19

4.15. Ethical Considerations 20

4.16. Dissemination of Findings 20

Chapter 5: Result……21

Chapter 6: Discussion……32

Chapter 7: Conclusion and Recommendation……36

7.1. Conclusions……..36

7.2. Recommendations……..36

Strength and Limitation of the study……38

References……39

Annexes……42

LIST OF TABLES

Tables **Pages**

Table 1: Socio demographic characteristics of respondents' in wonchi woreda, March to April 2014. 22

Table 2: Maternal Healthcare Utilization of Respondents in wonchi woreda, March to April 2014. 23

Table 3: Final logistic model shows predictors of Antenatal care utilization among mothers of under one year children in wonchi woreda, March to April, 2014**.** 28

Table 4: Final logistic model shows predictors of Institutional delivery utilization among mothers of under one year children in wonchi woreda, March to April 2014. 30

Table 5: Final logistic model shows predictors of postnatal care utilization among mothers of under one year children in wonchi woreda, March to April 2014. 31

LIST OF FIGURES

Figures **Pages**

Figure 1: Conceptual framework for factors affecting maternal healthcare service utilization adapted from Anderson and Newman, health service utilization frame work, March to April 2014(28) 11
Figure 2: Schematic presentation of sampling technique for the assessment of utilization of maternal health services and influencing factors in wonchi woreda, March to April 2014.... 16
Figure 3: Gestational age of respondents at first contact of ANC service in wonchi woreda, March to April 2014. 24
Figure 4: Percentage distribution of Reasons for non Attendance ANC in wonchi woreda, March to April 2014. 25
Figure 5: percentage distribution of Reason for Preferring Home Delivery in wonchi woreda, March to April 2014. 26

ACRONYMS

ANC Antenatal care

CI Confidence interval

EDHS Ethiopian demographic and health survey

ETB Ethiopian birr

HI Health institution

HSDP Health sector development program

ID Institutional delivery

IEC Information Education Communication

MCH Maternal and child health

MDG Millennium development goal

MHC Maternal health care

MMR Maternal mortality ratio

NGO Non Governmental organization

PNC Postnatal care

TBA Traditional birth attendant

TTBA Trained traditional birth attendant

WHO World health organization

CHAPTER 1: INTRODUCTION

1.1. Background

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

Attention to maternal health was demonstrated in 2000 when 147 heads of state and government and 189 nations in total signed the Millennium Declaration, in which the proportion of births assisted by trained birth attendants became an important indicator to measure the progress towards Millennium Development Goal 5 to reduce the maternal mortality ratio by three quarters between 1990 and 2015 (2).

Maternal health has emerged as global priority because of a great gap in the status of mothers' well being between the rich and the poor countries. According to WHO (2008), maternal health refers to the health of women during pregnancy, child birth and the post partum period. In rich nations, where women have access to basic health care, giving birth is a positive and fulfilling experience. On the other hand, for many women in poor countries it is associated with suffering, ill health and even death (3).

Antenatal care is a type of care given for women during pregnancy and is one of the pillars of maternal health service. The pool of ANC is to prevent health problems of pregnant women and to ensure that each new born child has a good start. Antenatal care is more beneficial in preventing adverse pregnancy outcomes when it is sought early in pregnancy (4).

Delivery care is the care given to a woman during the delivery /labor period. WHO recommends a skilled attendant at every birth in order to provide good quality care on an ongoing basis and the care should be hygienic, safe and sympathetic, recognize and manage complications including life-saving measures for the mother and baby and refer the mother promptly and safely when care at higher level is needed. This implies that appropriate delivery care is important for both maternal and new born health (5).

Post partum period starts about an hour after the delivery of the placenta and includes the following six weeks after delivery. Maternal deaths and illnesses are both linked to the conditions at and soon after delivery. Up to 80% of maternal deaths are direct obstetric causes (e.g. hemorrhage, eclampsia, infections, obstructed labor, complication of unsafe abortion) while the remaining underlying illnesses (2).

Maternal and new born health is identified as a priority area in the health policy as well as in HSDP of Ethiopia. Priority was given to the health provision of safe motherhood services to cater for normal pregnancies, deliveries and referral centers for high risk pregnancies, appropriate maternal and child nutritional education, provision of family planning serves, post abortion care, addressing sexual and reproductive health needs of adolescents, encouraging paternal involvement and discouraging harmful traditional practices (6).

1.2. Statement of the Problem

Global maternal mortality statistics reflect the widening gap between the developed and developing countries. The United Nations Children's' Fund (UNICEF) estimates that yearly about 515,000 women die of pregnancy and childbirth complications. It is also estimated that every minute across the world; 380 women become pregnant, 110 women experience a pregnancy-related complication , one women die as a result of pregnancy and childbirth related problems, and the greater proportion of these deaths occur in developing countries (7).

It is estimated that 99 % of the maternal mortality is in developing countries and the underlying cause for these deaths are poverty, inadequate, inaccessible, or unaffordable health care, unequal access to resources, low status of women, inadequate information and lack of knowledge of recognizing danger signs (7).

In developing countries, the percentage of women who have at least four antenatal care visits during pregnancy ranges from 34% for rural women to 67% for urban women. Women who do not receive the necessary checkups miss the opportunity to detect problems and to receive appropriate care and treatment. This also includes immunization and prevention of mother-to child transmission of HIV /AIDS (2).

The fifth millennium development goal (MDG) aims at improving maternal health and targets reducing maternal mortality ratio (MMR) by 75% between 1990 and 2015, that is, it seeks to achieve an expected 5.5% annually decline in MMR from 1990. However, MMR has decreased at the global level at an average of less than 1% annually between 1990 and 2005. To make the achievement of the fifth MDG a reality, MMR will have to decrease at a much faster rate- especially in sub- Saharan Africa, including Ethiopia, where the annual decline is staggering behind (8).

Assistance during delivery has strong health implication, for mother and children. Trained personnel do not assist delivery outside health institutions in most cases (9).

In spite of the national and global efforts at reducing maternal morbidity and mortality through the safe motherhood initiative, there is no significant reduction in maternal morbidity and mortality in developing countries (5).

In Ethiopia eventhougth; attendance at ANC is encouraging, worrying gaps exist in provision, and coverage statistics are usually based on women who have only one ANC visit, whereas four visits are recommended, and ANC quality varies (10).

According to EDHS, 2011 report, only 34% of women who gave birth in the five years preceding the survey received antenatal care from trained health professionals at least once for their last birth. similarly only 10% of women reported that their most recent live birth in the last five years was delivered by a health professional and all 10% of births were delivered in a health facility and even though this is very low but it is doubling of the level reported in the 2005 EDHS, it was only 5% (10). As a result of this low coverage, in Ethiopia Still the level of maternal mortality is high (i.e. 676 per 100000 live births and it is difficult and needs much effort to meet the millennium development goal in reduction of maternal mortality (10).

According to EDHS 2011 in Oromia region antenatal care utilization at least once ,health facility delivery service utilization ,mothers delivered by a skilled providers and postnatal checkup in health facility in the first two days after birth was 31.3%, 8%,8% and 5% respectively for their last birth(10)

As to report of wonchi woreda health office ,even though there are five health center and 23 rural health posts which provides all maternal health services with free of charge, antenatal care, delivery and postnatal care services utilized in the woreda in 2012/13 was 81.6%, 39% and 54% respectively. The study seeks to identify factors that influence the use of maternal health care services in wonchi woreda, Oromia, Central Ethiopia (12).

As to the information from the district health office's maternal and child health experts, there is inadequate information at present regarding the level of utilization of maternal health services in the woreda. Similarly, the factors that affect the utilization of the maternal health care services have not been identified and are poorly understood.

CHAPTER 2: LITERATURE REVIEW

2.1. Maternal Health Service Utilization

2.1.1. Antenatal care utilization

Antenatal care is a type of care given for women during pregnancy and it is one of the pillars of maternal health service. The goal of ANC is to prevent health problems of pregnant women and to ensure that each new borne child has a good start (4). Studies demonstrate that the high levels of maternal mortality and morbidity in developing countries and research identifying causes of maternal deaths have repeatedly emphasize the need for antenatal care and availability of trained personnel to attend women during labor and delivery (6).

A study done in Bangladesh, 2008, showed that most of the mothers, which accounts 71.57% of the total got antenatal care during their last pregnancy (13). The report by the EDHS, 2011, reveals that in Ethiopia among women aged 15-49 who had a live birth in the five years preceding the survey, percentage who received antenatal care from skilled provider was 33.9%. Similarly this report finding shows that in Oromia region 31.3% of women aged 15-49 year who had a live birth in the five years preceding the survey had received antenatal care by skilled providers (10).The research conducted in four regions of Ethiopia; Amhara, southern peoples nations and nationalities, Oromia and Tigray, 2009, indicated that maternal health care utilization for antenatal care was 54% (15). A research conducted in Jimma town, 2005, revealed that ANC coverage is 90.6 % (14).Another research which had been conducted in Saharti Samre, Tigray, 2010, indicated that in the past five years the proportion of women who received antenatal care for their recent births was 54% (18). A research conducted in holeta town, 2012, revealed that 87% of the women had at least one antenatal visit during their last pregnancy (11).

A study conducted in Yem special woreda, southwestern Ethiopia in 2008, showed that only 28.5% of the total received ANC for their last pregnancy. Out of those who utilized ANC services, 49.2% of them made their first visit in their second trimester of pregnancy and 29.1 % had four or more visits during their last pregnancy. In this study, almost seven in ten women did not attend antenatal care during their recent pregnancy. Even among the users of ANC, only 12.5% of women made their first prenatal visit during first trimester of pregnancy and only 29.1

% of women had effective antenatal care services during their last pregnancy(31)The WHO recommends that a woman without complications have at least four focused visits to provide sufficient care.

2.1.2 Delivery service utilization

A research conducted in Bangladesh, 2008, revealed that only 18% births are attended by skilled attendants like doctors, trained nurses, and midwives, paramedics and commencing skilled birth attendants while only 15% deliveries occur at a health facility (13).

According to the demographic and health surrey report, 2011, fifty one percent of births to urban mothers were attended by a health professional and 50 percent were delivered in a health facility, compared with 5 percent and 4 percent, respectively, of births of rural women of Ethiopia. Similarly, DHS report 2011 indicated the only 8% of those women in Oromia delivered in a health facility by skilled health care provider (10).

A study conducted in north Gondar, Ethiopia, 2004, demonstrated that only 13.5% of the mothers gave birth to their last baby in health facility. Similarly the study conducted in Holeta town ,Oromia, Central Ethiopia in 2012 revealed that about 61.6% of the women had given birth in the health institutions.(11).Similarly a study in Saharti Samre district, Tigray, 2010, revealed that institutional delivery service utilization was very low. In the last five years only 4.1% of mothers gave birth in health facility for their recent child (17).

According to study done in Sekela District, North West of Ethiopia 2012; majority of births in the five years before the survey were delivered at home (94 percent). Five percent of births were delivered in a public facility and 1 percent in a private facility. Six percent of births were delivered with the assistance of a trained health professional, that is, a doctor, nurse, or midwife, while 28 percent were delivered by a traditional birth attendant (TBA). The majority of births (61 percent) were attended by a relative or some other person. Five percent of births were delivered without any type of assistance at all (18).

There is evidence that access to skilled assistance and well-equipped health institutions during delivery can reduce maternal mortality, reproductive morbidity, and improve pregnancy outcomes. Studies have found that care during pregnancy; delivery and postnatal period can

positively improve the health of both the mother & infant that is since majority of maternal deaths (61%) occur in the postpartum period, and more than half of these take place within a day of delivery (19).

2.1.3. Postnatal Care Utilization

Very little attention has been given to early postnatal period, although this is the most vulnerable time for the health of the mother and infant. Most deaths of new born and mothers occur within the first hour or days after delivery (19). Over 60%of maternal deaths occur in the first week and of those, two thirds occur in the first 48 hrs after child birth (WHO 2005), and therefore early detection and management of obstetric and neonatal complications is especially important with in the first week after delivery (19).

According to the study conducted in Indonesia, 2008, 67% of women have got antenatal care in health institutions (20). According to data collected in the 2011 EDHS, postnatal care coverage is extremely low in Ethiopia and 5.1% for Oromia region. More than nine in ten mothers received no postnatal care at all and only 5 percent received postnatal care within the critical first two days after the delivery (10).

2.2 .Determinant Factors of Maternal Health Care Utilization

2.2.1 Socio Demographic Variables

Studies in Indonesia, 2009, and Ghana, 2011, revealed that utilization of maternal health services and intensity of use of antenatal care services are influenced by age of mother, i.e. older women are more likely to utilize these maternal health services as compared to younger woman (3, 23).Study in Ghana, 2011; also show significant positive relationship between prenatal care usage and delivery at health facilities (23).

According to the EDHS report, 2011, and studies conducted in Ghana, 2011, those with primary education are more likely to use ANC service, while those with secondary and higher education are more likely to use prenatal services, delivery in a health care facility and also postnatal care services (10, 23).

A study in Ghana, 2011, demonstrated that marital status has a significant association with receiving delivery service from a health professional. Unmarried women are more than twice as likely as married women to receive delivery assistance from a health professional. However married women are more likely to receive postnatal care than unmarried women (23). As to study in Holeta town Central Ethiopia, 2012, utilization of maternal health services associated with the number of pregnancy (parity), i.e., as it increases utilization of maternal health care decreases (11). The study done in India in 2011, showed that the stronger factor related to the use of PNC was institutional delivery and birth order (34).

2.2.2. Accessibility and Quality of Health Services

Study conducted in Ghana, 2011, indicates that the utilization of maternal health services has a significant association with economic status, those in the rich wealth are more likely to utilize antenatal service and to deliver at a health facility than the poor wealth ones (23).

A study in Indonesia, 2008, demonstrated that household economic status also emerged as a strong predictor of utilization of postnatal care services in Indonesia. A progressive increase in the odds of not using postnatal care services was found as the household wealth index decreased (20).

The study conducted in Indonesia, 2009, revealed that woman's working status and husband's occupation do not have significant impact on the probability of women bearing antenatal care and modern delivery care (3).

According to a study conducted in Holeta town, Oromia, 2012, with regards to income, women lower family income are less likely to use delivery care as compared to women with monthly higher family income and also women who did not attend ANC service were 86.5% less likely to attend delivery care than women who were ANC attendants (11).

A research done in Yem special woreda southwestern Ethiopia in 2008, showed that among the women who had not utilized antenatal care, the major reasons reported for not utilizing antenatal care were due to absence of illness during pregnancy, lack of awareness about ANC, distance from health facility being too far, being too busy, and husband disapproval(31).

As to the research conducted in Yirgalem and Jimma towns, Ethiopia, 2006, physical access to health facilities is not a major barrier to the utilization of prenatal health care services in the study area. Use of prenatal care varies substantially by whether the pregnant is wanted and by husband's approval of the care. Similarly this study demonstrated that 77 % of women who wanted their pregnancy found to have used prenatal care on compared to 62% of the women who did not want their pregnancy. On the other hand 80% of the women, whose husband approved of prenatal care, actually used prenatal care service compared to only 40% of the women who report their husband didn't approved the care (24). According to a study conducted in Dabat, North Ethiopia, women who had husband encouragement were more likely utilizing PNC service than those who have no (27). As to the study done in rural kebeles of Kafa Zone, Southwest Ethiopia in 2009, women who had at least one ANC visit were significantly more likely to use the service than those who didn't have any visit at all (32).

2.2.3. Perceived Need

According to the study in Ghana, 2011, the low use of prenatal care is typical of Ghanaians given that they do not patronize health services when they have no medical problems. The common practice among Ghanaian women is to visit a health facility or seek medical care only when they have a medical problem (23).

According to the study in north Gondar, Ethiopia, 2004, the reasons for preferring home delivery were, 44.7% said labor was short and smooth, the rest 55% reported preference to give birth in the presence of relatives, trust on TBAs, cultural reasons and lack of money (16).

As to the study conducted in Holeta town, Oromia, 2012 the reasons for preferring home delivery were 60.2% reported that they prefer to deliver at home where close relatives are nearby than health institution, 20.5% reported that they prefer to give birth at home because they dislike mistreatment of health worker, 19.3% reported they have more trust on TBAs, then health professionals (11).

Generally this brief feature review has shown the importance of a range of characteristics in determining maternal health care behavior. In this study maternal health services are observed in three categories. Antenatal care, delivery service and post natal care.

2.3. Significance of the Study

The Alarming rate of Maternal Mortality in developing countries in general, and in Ethiopia in particular is partly explained by the fact that fewer women receive prenatal care and trained health personnel attend fewer births.

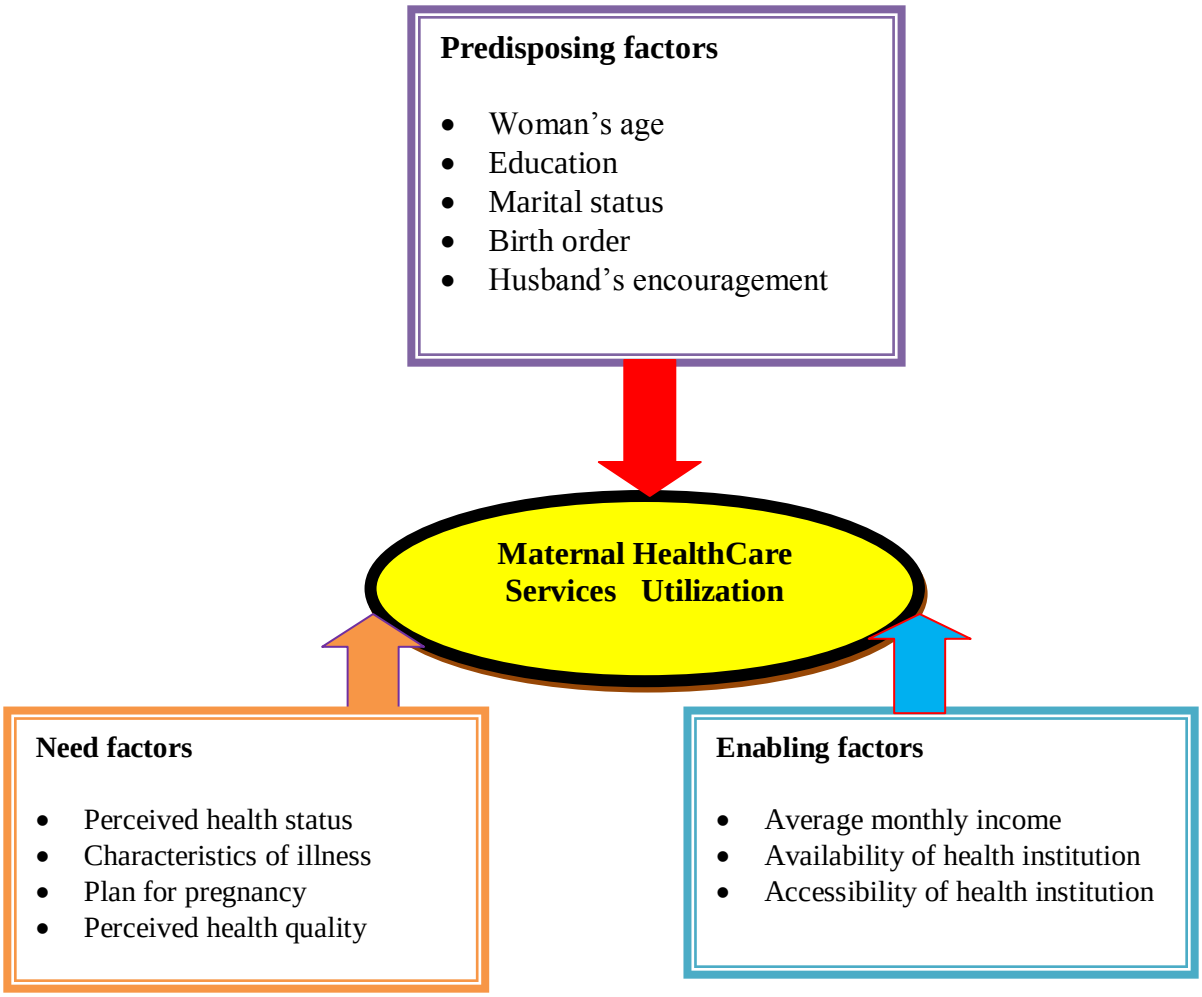
According to several literatures antenatal care, delivery service and postnatal care have the highest impact on the reduction of pregnancy related complications both for the mother and her child if it is provided by skilled health care providers those who can provide safe, hygienic, sympathetic services and able to manage complications or able to refer to the next level for better service.

As to the knowledge of the investigator different studies have been conducted in the area of maternal health care utilization but still there is a gap to study all the interrelated activities of maternal health, i.e. antenatal care, delivery service and postnatal care at a time in order to have full picture of the service.

It is hoped that the results of this study was help policy makers, program managers and health planners at regional, district and facility levels and NGOs and other involved or interested organizations in the provision of maternal and neonatal health services to arrive at right decision aiming to reduce maternal and neonatal mortality and morbidity.

Generally the investigation was able to identify the level and the most possible determinant factors in utilizing maternal health services

2.4. Conceptual Framework



***Source**: Health service utilization framework, Anderson and Newman*

***Figure 1:** Conceptual framework for factors affecting maternal healthcare service utilization adapted from Anderson and Newman, health service utilization frame work, March to April 2014(28).*

CHAPTER 3: OBJECTIVES OF THE STUDY

3.1. General Objective

To assess maternal health care services utilization and determinant factors in Wonchi Woreda, Oromia Region, Central Ethiopia, 2014.

3.2. Specific Objectives

- To assess the level of antenatal care utilization in Wonchi woreda.
- To assess the level of delivery care utilization in Wonchi woreda.
- To find out the level of postnatal care utilization in Wonchi woreda.
- To identify factors determining utilization of maternal health care utilization in Wonchi woreda.

CHAPTER 4: METHODS AND MATERIALS

4.1. Study Area and Period

The study was conducted in wonchi woreda, which is located in the regional sate of Oromia, Central Ethiopia. It is one of the twelve woredas found in south west shoa zone 9km away from the zonal town, woliso, 122km from capital city of Addis Ababa and 231km from Jimma**.** The woreda is divided administratively into 23 rural kebeles and one urban kebele having total population of 103,901 with 49.5% of them is women and from this total of women around 22,858 is between 15-49 years age and the rest is male. Most of the population 100,784 (97%) live in rural area and are engaged in farming .The most harvested agricultural product are cereal crop such as wheat, teff, and other cash crops. (30).

The Woreda shares border in East Busa woreda, in South Woliso woreda, in West Ameya and Goro Woerda and Ambo woreda in North. The woreda is characterized by two climatic characters dega and weyina dega. It has five public health centers and 23 health posts which routinely offer service free of charge for maternal health service and three private small clinics. A total of 116 health professionals, 6 Health officer, 4 BSc nurses, 12 midwife nurses, 48 other type nurses, 46 Health Extension Workers and others serve in the public facilities. The coverage of ANC, Delivery service and PNC for 20012/13 were 81.6%, 39% and 54% respectively (12). The study was conducted from March 25 to April 25 2014.

4.2. Study Design

Community based cross sectional study which employed quantitative method of data collection was conducted in wonchi woreda.

4.3. Source population: All mothers of under one year children in wonchi woreda.

4.4 .Study population: Sampled mothers of under one year children that fulfill the inclusion criteria in wonchi woreda.

4. 5. Eligibility Criteria

4.5.1. Inclusion Criteria

Mothers of under one year children who were mentally and physically capable were included in the study.

4.5.2. Exclusion Criteria

Study participant who were sick and unable to participate in the interview.

4.6. Sample Size Determination

Sample size was determined using single population proportion formula. To determine sample size, proportion (p) from maternal health care services utilization in Oromia Region on ANC, delivery & PNC were identified from literature and p that give large sample size (P of ANC utilization which is 31.3 % from the study done in Ethiopia was used (*EDHS,2011)*.

$$n = \frac{z^2 \times p \times q}{d^2} = \frac{(1.96)^2 X\ (0.313)\ (0.687)}{0.05^2} = 304$$

z =1.96= z value for 95% confidence limits

p=0 .313 = proportion of ANC utilization (11**)**

q = 1-p = 1-0.313 = 0.687

d = 0.05 is the acceptable error of the estimator at 95% confidence level.

Since the target population is less than 10,000 which is 3844 by correction formula the sample size become 281.By adding 10% of the sample size for non respondents, the final sample size became **309** mothers of under one year children were included in this study.

4.7. Sampling Technique

Simple random sampling technique was used and 30% of the total kebeles which means eight kebeles were included in the study, by simple random sampling technique one kebele from urban and the remained seven kebeles were from rural. The number of mothers' of under one year old children in each selected kebeles was identified from log book of HEWs at health posts. These log books of HEWs have a list of households in their kebeles by name of husband and this name of husband was used to reach location of the house during data collection time .The total 309 sample size was allocated to all randomly selected kebeles proportionately based on number of mothers of under one children in each sampled kebeles and the study participants were selected using simple random sampling technique. There is only one urban kebele called chitu which is lead by municipality that was included in the study. The interviewers were revisiting the households at two different times in case where eligible respondents were not available.

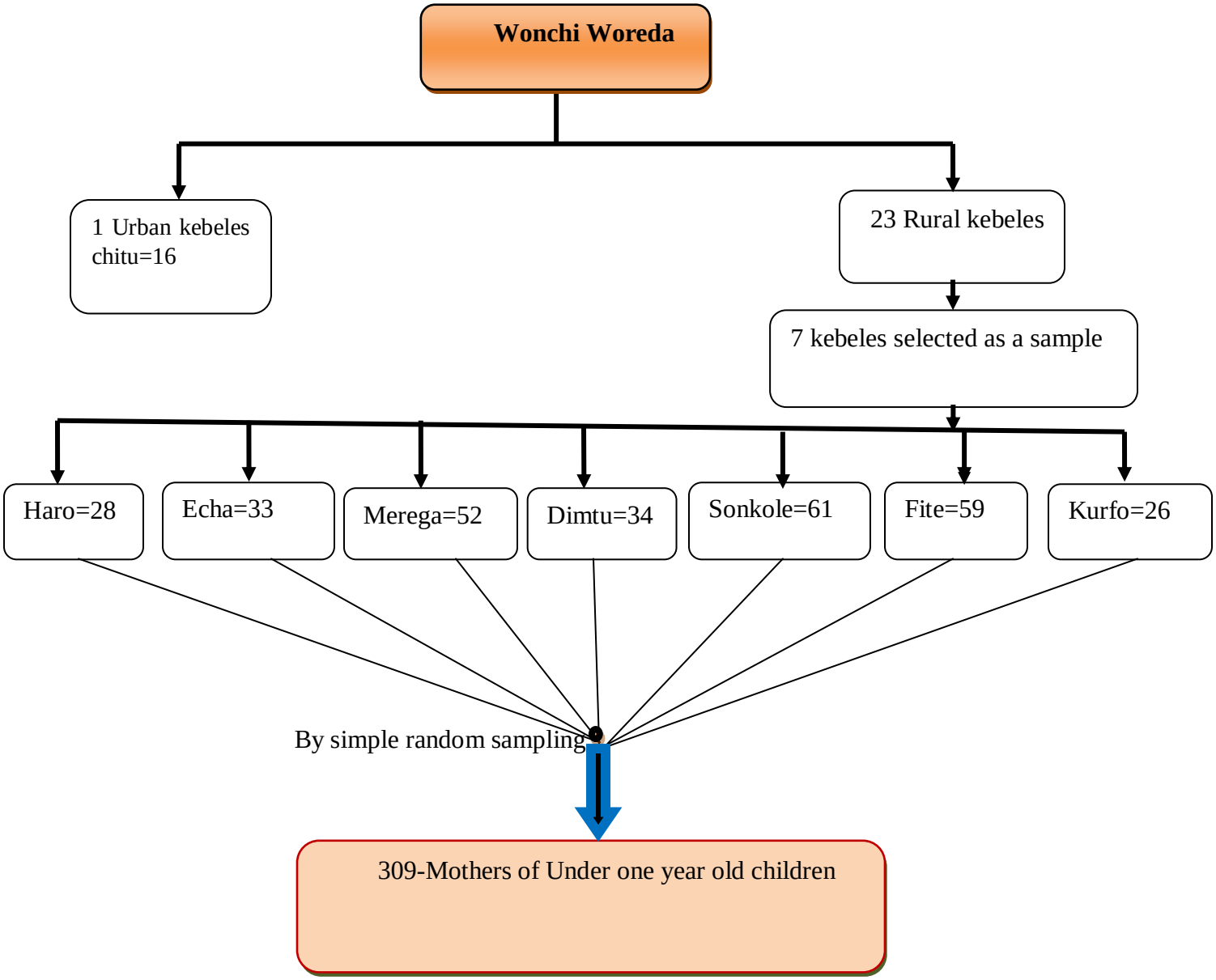


Figure 2: Schematic presentation of sampling technique for the assessment of utilization of maternal health services and determinant factors in wonchi woreda, March to April 2014.

4.8. Data Collection Tool

By reviewing different literatures questions that can address the objectives of the study were gathered and adapted (3, 10, 27, and 29). The questions and statements were arranged in to six major sections according to what specific issue they address, that is background information, general questions on ANC, respondent's knowledge, illness experience and perceived susceptibility to pregnancy related health problems, choice on delivery site, respondent's view on quality of ANC and questions on PNC services.

4.9. Personnel for Data Collection

Five female data collectors who are nurse graduates were recruited. Similarly two BSc nurses were recruited to supervise the data collection process. Two day intensive training was provided by principal investigator both for the data collectors and supervisors, with due attention to the purpose of the study, how to collect and handle data, and how to deal with the respondents.

4.10. Data Collection Techniques

Face to face interviewer administered structured questionnaire was used through Afan Oromo version pretested questionnaire which was developed specifically to gather information on maternal healthcare services utilization. For the privacy purpose, interview was conducted while mothers are alone.

4.11. Study Variables

4.11.1. Dependent Variables

- Maternal Health Care Utilization
    - ✓ ANC
    - ✓ Delivery care and
    - ✓ PNC utilization

4.11.2. Independent Variables

- Socio-demographic variables (age of mother, education, parity, marital status)

- Perceived need
- Perceived morbidity
- Perceived quality of health service
- Waiting time
- Plan for the pregnancy
- Pregnancy related Illness experience
- Husband's encouragement towards utilization of maternal services
- Accessibility variables (average monthly family income, distance from health facility).

4.12. Operational Definition

Maternal health care service: For purposes of the study refer to antenatal care service, delivery care service and postnatal care service.

Antenatal care attended: a woman who had visited antenatal clinics during the recent pregnancy at least once.

Institutional delivery: a mother who had attended the recent delivery in the health facility.

Postnatal care attended: woman who had visited health facility at least once after the recent delivery within 6 weeks of delivery.

Waiting time for ANC: Is the time spent in the health facility by the pregnant mother from the arrival of the health institution to the consumption of ANC services. It is rating by the client as short, medium and long for attending ANC service.

4.13. Data Processing and Analysis Procedures

The data was edited, entered into Epi Data 3.1, exported to SPSS version 16 and cleaned to check for completeness and missing values. Any logical and consistency error identified during data entry was corrected after revision of the original completed questionnaire and the cleaned and edited data was used for appropriate statistical analysis. Frequency and summary statistics are used to describe the study population in relation to relevant variables and characteristics. The degree of association between independent and dependent variables was assessed using crude and adjusted odds ratio with a 95% confidence level. Bivariate analysis using logistic regression technique was done to see the association between the independent variables and dependent variables and variables with P-value less than 0.25 in the bivariate analysis was candidate for multivariate analysis and multivariable logistic regression was done to identify predictors of ANC, delivery care and PNC utilization among mothers of under one year children. A p-value less than 0.05 was considered to declare statistical significance.

Enter method was used. Both the Omnibus tests of model coefficient p value should be significant ($p<0.05$) and the Hosmer and Lemeshow Test p value shouldn't be significant ($p>0.05$) the model considered good were used to describe the performance of each model. Adjusted odds ratio and 95% CI were reported for interpretation. Tables, graphs and chart were used for result presentation.

4.14. Data Quality Management

To enhance the reliability of the tools used in this study, questionnaires used in similar surveys and standard national and regional guidelines for the MCH were consulted. Moreover, the instruments used in the study was pre-tested on the mothers of under one old child (5% of the actual sample size) from the kebele which was not included in the study since the kebeles were similar with socio demographic characteristics in the study area. After the pre-test necessary corrections were done and necessary measures were taken on the questionnaire accordingly. Two days intensive training was given for all data collectors and a supervisor on the data collection tool, how to use them and how to approach the study participants. Problems encountered at the time of data collection were reported immediately and appropriate action was taken. The collected data was checked out for the completeness, accuracy and clarity by the principal

investigator and supervisor. The questionnaires were checked for missing values and inconsistency on daily basis. Data clean up and cross checking were also done before analysis.

4.15. Ethical Considerations

Prior to data collection ethical clearance was obtained from Jimma University College of Public Health and Medical Sciences Ethical Clearance Committee. Formal letter of permission was obtained from Wonchi Woreda Administrative Office. One page of informed verbal consent form was attached as a cover page for each questionnaire. Based on this informed consent was obtained from each respondent after explaining the purpose of the study and after respondents agreed, the data collector check at the bottom of it to show respondent's agreement before administering the questions. The respondents were assured that they can withdraw from the study at any time. To assure confidentiality the respondents' name was not indicated in the questionnaire. All data collected was kept strictly confidential.

4.16. Dissemination of Findings

The final report of this study will be presented to Jimma University College of public health and medical science, department of population and family health. After approval by the university, the findings will also be reported to Oromia Regional Health Bureau, South West Shoa Zonal Health Department and Wonchi Woreda health office and also attempts will be made to publish the findings in scientific journals.

CHAPTER 5: RESULT

Socio-demographic characteristics of the respondents

Of the total of 309 mothers of under one year old children requested for interview, 302 mothers of under one year children(97.7%. response rate) aged between 16 to 49 years were interviewed. The rest 5(1.8%) and 2(0.5%) were refusal and incomplete interview respectively. The mean (± SD) age of the study participants was 30.10±7.07 years. Majority 286(94.7%) of the respondents were from rural area. Nearly all 279(92.4%)] of the study participants were Oromo by ethnicity. One hundred sixty three (54%) were followers of Orthodox by religion followed protestant 139(46%) (Table 1).

With regard to their marital status, 287(95%) were married. More than five in ten 163(54%) were illiterate. Half of the respondents 151(50%) were housewives while 110(36.4%) were farmer. More than four in ten of the respondents143 (47.4%) have average household monthly income of 500- 1000 Ethiopian birr (Table 1).

Table 1: Socio demographic characteristics of respondents' in wonchi woreda, March to April 2014.

Socio Demographic Variables	Number (n=302)	Percent (%)
Maternal age(year)		
15-19	22	7.3
20-24	51	16.9
25-29	82	27.2
30-34	60	19.8
>34	87	28.8
Residence		
Urban	16	5.3
Rural	286	94.7
Maternal Educational status		
None	163	54
Elementary(1-8)	110	36.4
High school& above	29	9.6
Religion		
Orthodox	163	54.0
Protestant	139	46.0
Marital status		
Married	287	95
Unmarried	5	1.7
Others	10	3.3
Mothers Occupation		
Housewife	151	50.0
Governmental employee	11	3.6
Merchant	21	7.0
Farmer	110	36.4
Student	7	2.3
Ethnicity		
Oromo	279	92.4
Amara	23	7.6
Average Monthly income(ETB)		
<500	81	26.8
500-1000	143	47.4
>1000	78	25.8

Others include widowed, divorced and separated.

Maternal healthcare utilization

Out of all the respondents included in the study, 237(78.5%) had at least one antenatal visit during their last pregnancy. Only 54(22.9%) of the respondents made their first antenatal visit in their first trimester of pregnancy, while majority 165(69.6%) of women had their first antenatal visit in their second trimester. Among the antenatal service users 67(28.3%) had less than four antenatal visits during their last pregnancy. One hundred nineteen (50.2%), received antenatal care from the Health post, while 107(45.2%) and 11(4.6%) from health centre and hospital, respectively. Among women who visited health institution for ANC, 178(75.1%) reported that they had been given health education during every visit. Most of them 185(78.1%) reported that their blood pressure was measured during each visit. Similarly 185(78.1%) and 132(55.7%) and 115(48.5%) reported that their weight was measured, physical examination done during each visit and laboratory test were done respectively.

Concerning place of last delivery, 172(57%) of the deliveries took place at home and 130(43%) at health institutions. Among the home deliveries 165(96%) were attended by TTBAs, untrained TBAs, relatives and/or neighbors. Regarding postnatal care utilization, 142(47.1%) of the respondents utilized the postnatal care service (Table 2).

Table 2: Maternal Healthcare Utilization of Respondents in wonchi woreda, March to April 2014.

Characteristics	Frequency (n=302)	Percent
ANC attendance at least once		
Yes	237	78.5
No	65	21.5
Place of delivery		
Health institution	130	43.0
Home	172	57.0
PNC attendance within 6 week after delivery		
Yes	142	47.1
No	160	52.9

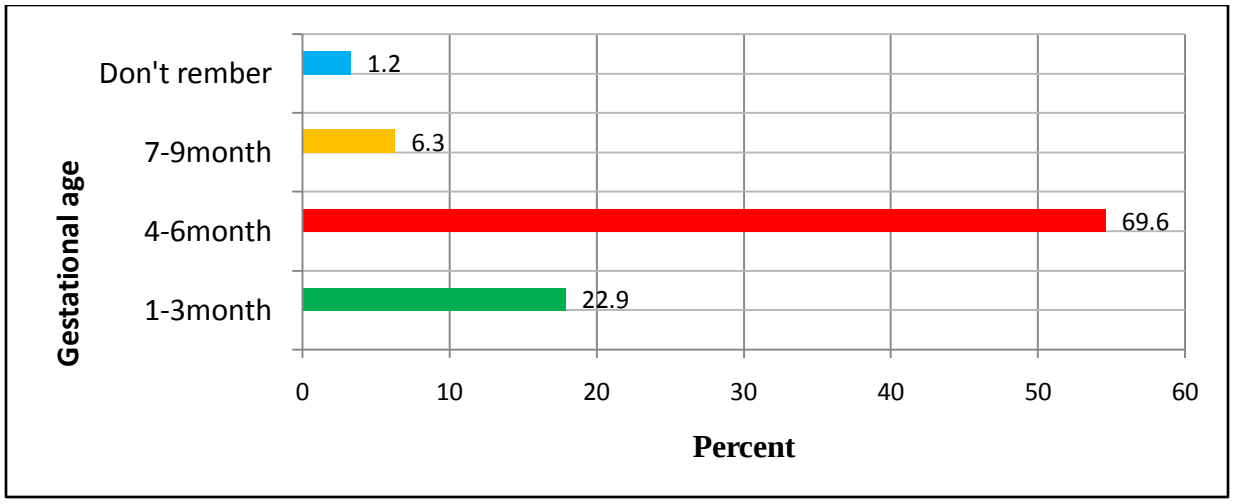


Figure 3: Gestational age of respondents at first contact of ANC service in wonchi woreda, March to April 2014**.**

Respondent's perception about the quality of the ANC service and health service factors

All of the respondents who visit any health institution for ANC service reported there was no payment for the service except card payment in the hospital. Regarding the waiting time for ANC service at health institution, 103(34.1%) reported waiting time as a problem and 51(17%) classified it as medium and long. Concerning to the walking distance from home to the nearest health center, one hundred forty eight (49%) were reported that they walked greater than one hour. The mean walking distance to the nearest health institution was found to be 42.4 and a range of 5 to 75 minutes. Out of the 237 ANC users asked about the personal respect of health workers at ANC unit, 214(90.3%) reported that they were respectful. Mothers were also asked about a lack of privacy at ANC unit and 186(78.5%) of them reported there was no lack of privacy and 51 (21.5%) of the women reported that there was a problem of privacy. Regarding to perceived quality of ANC service provided to them, 173(72.9%) reported as good quality. Among all respondents 186 (78.5%) ranked the health care workers who provide ANC as good.

Among mothers who deliver at health institutions, 105(34.8) of them were delivered at public health centers in the woreda, 21(15%) in nearby public health center to the woreda and 4(3.1%)

were delivered in general hospital in the zonal town waliso. Fifty five (23.2%) and 37(15.6%) reported seeking high quality of service and informed to deliver at health institution as a reason to prefer the specific health institution for delivery service respectively.

Reasons for not utilizing ANC, Institutional Delivery and PNC services

The major reasons for not attending ANC for mothers who did not utilize antenatal care were; not necessary for 17(30.8%), not customary for 15(29.2%), far distance/no transportation for 10(20%), no illness experienced during pregnancy for 11(18.4%), being too busy for 7 (12.3%) and husband disapproval for 5(7.7 %) (Fig. 4).

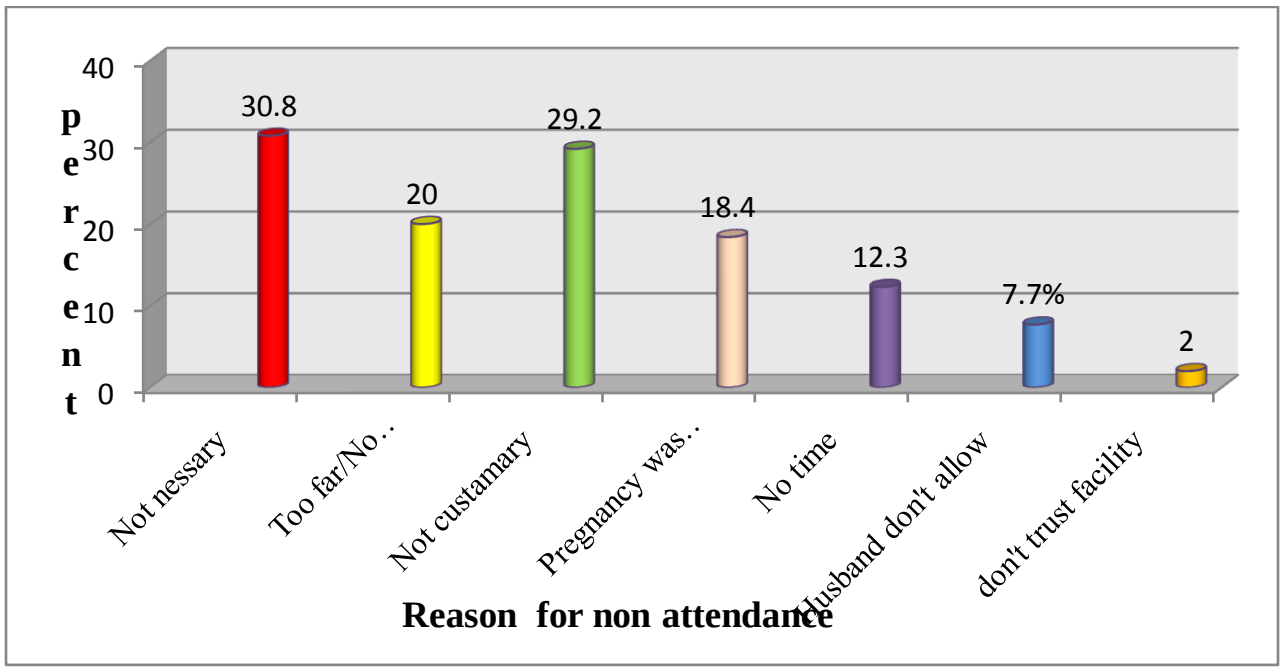


Figure 4: Percentage distribution of Reasons for non Attendance of ANC in wonchi woreda, March to April 2014.

Among one hundred seventy two (57.1%) women who delivered at home for their recent delivery asked about their major reasons of preferring to deliver at home were; labour were urgent 66(41.5%), too far/no transportation 40(25.3%), felt comfortable to deliver where relatives were near 35(21.8%), not customary 30(17.5%), not necessary 20(11.9%), more trust on TBAs 12(7%) and husband don't allow 10(5.6%) ,(Fig. 6).

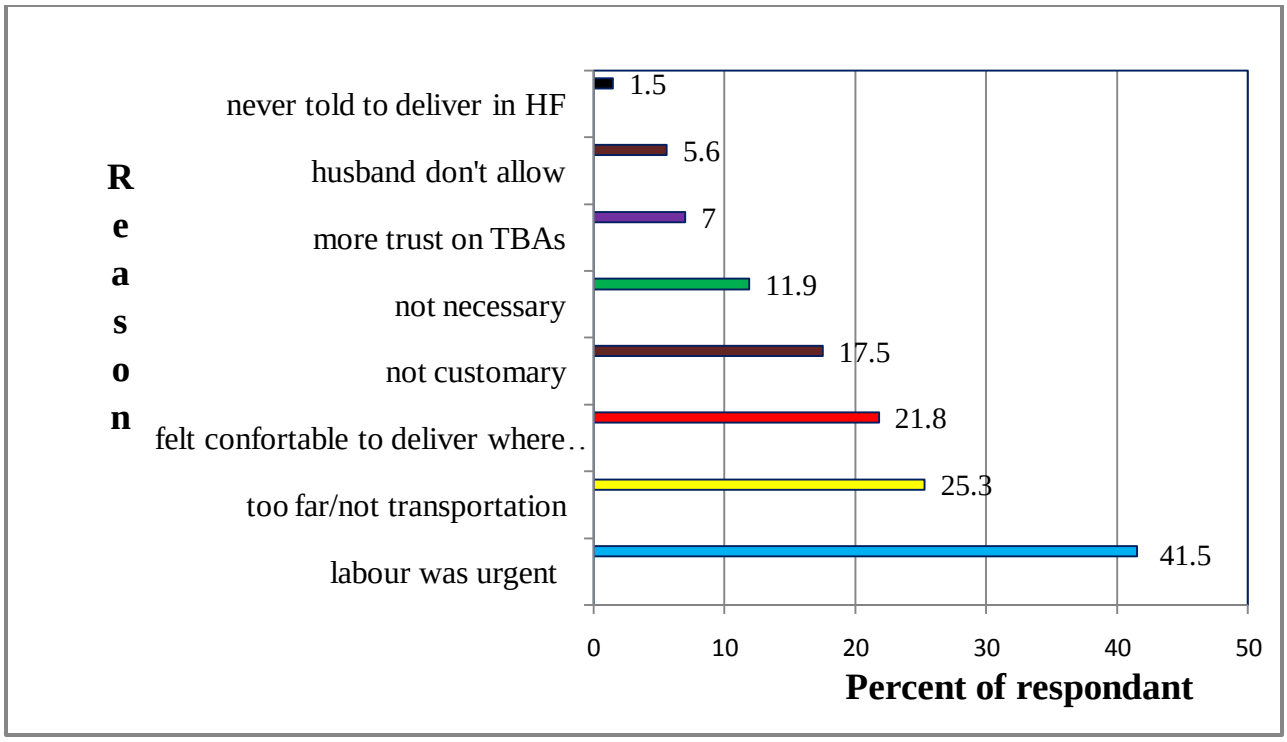


Figure 5: Percentage distribution of reason for preferring home delivery in wonchi woreda, March to April 2014.

Women, who did not attend PNC, 160 (52.9%), were asked about their main reasons. Eighty-nine (55.6%) reported that it was because of being in a state of good health, 49(30.6%) of the respondents reported that PNC was not necessary, 15(9.4%) reported that their husband disapprove of PNC and because of culture for 7(4.4%). Forty four (14.6%) reported that they had one or more health problem during the first week after recent delivery.

Determinants of ANC utilization

Logistic regression model was used to identify factors that influence the utilization of ANC services. In the binary logistic regression analyses maternal age, parity, women's level of education, perceived need, husband encouragement, walking distance and plan for pregnancy showed a statistically significant association with antenatal care utilization (table 3).

The above variables which showed a statistically significant association in the binary logistic regression model were entered into multivariable logistic regression analyses models to assess

their independent effect on the use of antenatal care services. On the other hand, religion, waiting time, illness experience during pregnancy, average monthly family income, and marital status did not show significant association with utilization of ANC services.

The multivariate analysis for ANC revealed that the odds of attending ANC is 3 times higher (AOR=3.38; 95% CI=1.31, 8.49) for women in the age group of 20–34 as compared to those in the age group greater or equal to 35 years.

The finding shows that Lower birth orders had the highest ANC utilization. At their first birth mothers are about 3 times more likely to use ANC compared to the reference group at their five birth and more(AOR= 3.1,95% CI=1.7,6.24).

According to this finding there is a statistically significant association between walking distance from respondent's home to the nearest health institution and utilization of ANC services. Mothers who need to walk less than one hour to the nearest health institution utilized ANC services about 3 times more than those who need to walk more than one hour (AOR=3.35, CI= 1.16, 3.94).

This finding also demonstrated that there was significant association between husband's encouragement and utilization of ANC service. Women who had encouragement from their husband towards attending ANC services found to have about 2.89 times more utilization of ANC services than those who do not have encouragement [AOR=2.89, 95% CI= 1.48,5.69)](Table 3).

Table 3: Final logistic model shows predictors of Antenatal care utilization among mothers of under one year children in wonchi woreda, March to April, 2014**.**

Explanatory Variables	ANC utilization		COR (95% CI)	AOR (95% CI)
	Utilize	Not utilize		
	(No/%)	(No/%)		
Maternal age				
< 20	13(59.1)	9(40.9)	1.18(0.25,13.7)	2.21(0.9,6.8)
20-34	170(88.1)	23(11.9)	1.62(0.6,0.91)	**3.38(1.3,8.5)***
>= 35	54(62.1)	33(37.9)	1	1
Parity				
1	59(89.4)	7(10.6)	4.27(2.51,7.26)	**3.1(1.7,6.24)***
2-4	128(72.7)	48(27.3)	1.88(0.56.10.4)	2.8(0.9,8.93)
>=5	50(83.3)	10(16.7)	1	1
Walking distance				
<=one hour	114(85.7)	19(14.3)	2.24(1.21, 3.24)	**3.35(1.2, 3.94)***
>one hour	123(72.8)	46(27.2)	1	1
Planned pregnancy				
Yes	142(73.1)	18(26.9)	3.90(1.55, 4.56)	1.39(0.24, 6.49)
No	95(84.5)	47(15.5)	1	1
Perceived need				
Yes	209(79.8)	53(20.2)	1.69(1.21, 3.34)	1.81(0.91,3.24)
No	28(70)	12(30)	1	1
Husband encouragement				
Yes	171(91.9)	15(8.1)	8.64(4.69,11.42)	**2.89(1.48,5.69)***
No	66(56.9)	50(43.1)	1	1

* **Statistically significant variable P<0.05**

Determinants of delivery care utilization

In the binary logistic regression analyses maternal age, parity, walking distance, husband encouragement, plan for recent pregnancy and ANC usage show significant association with place of delivery (Table 4).Whereas marital status, occupational status, religion, women's level of education, average monthly family income, and illness experience doesn't show significant association with place of delivery.

Mothers with parity of one were nearly four times (AOR=3.97, 95% CI: 2.74, 5.47) more likely as mothers of parity five and above to attend delivery care.

This study revealed that walking distance between respondent's home and health institution had a significant association with institutional delivery. Mothers who are near (<one hour walking distance) to any health institution which provide delivery service were about 2 times more likely utilizing institutional delivery than those above one hour walking distance (AOR= 2.26, 95% CI=1.14, 4.44).

Similarly this study demonstrated that husband encouragement was also significantly associated with institutional delivery. Mothers who had encouragement from their husband to utilize maternal health care were about three times more likely give to their birth at health institutions than those with no encouragement (AOR= 3.10, 95% CI= 1.10, 5.27).

Mothers who had attended ANC one or more times were about 4 times more to likely utilize institutional delivery than those with no history of ANC follow up [AOR= 3.97, 95% CI= 2.73,5.75)](Table 4).

Table 4: Final logistic model shows predictors of Institutional delivery utilization among mothers of under one year children in wonchi woreda, March to April 2014.

Variables	Institutional delivery		COR (95% CI)	AOR (95% CI)
	Yes (%)	No (%)		
Maternal age				
<=24	45(59.2)	31(40.7)	2.41(1.34,5.75)	1.55(0.91,2.03)
>=25	85(37.6)	141(62.4)**R**	1	1
Parity				
1	54(81.8)	12(18.2)	1.3(1.09, 3.57)	**3.97(2.74,5.47)***
2-4	58(33)	118(67)	1.13(0.44, 2.90)	1.34(0.95,1.80)
>=5	18(30)	42(70) **R**	1	1
Walking distance				
<=one hour	74(55.6)	59(44.4)	2.53(1.46, 4.81)	**2.26(1.14, 4.44)***
>one hour	56(33.1)	113(66.9)	1	1
Planed pregnancy				
Yes	102(63.8)	58(36.2)	3.33(1.49, 5.93)	1.59(0.65,3.88)
No	28(19.7)	114(80.3)	1	1
Husband encouragement				
Yes	91(58.3)	65(41.7)	3.84(2.4, 5.6)	**3.10(1.10, 5.27)***
No	39(26.7)	107(73.3)	1	1
ANC use				
Yes	119(50.2)	118(49.8)	4.95(1.61, 8.20)	**3.97(2.73, 5.75) ***
No	11(16.9)	54(83.1) **R**	1	1

*** Statistically significant variable P<0.05**

Determinants of postnatal care utilization

As to the binary logistic regression analysis walking distance, husband encouragement, place of delivery, and parity show significant association with postnatal care service utilization (Table 5).On the other hand maternal age, women's occupation, women educational status, women's religion, marital status, ANC attendance, average monthly family income and illness experience during the first week after delivery did not show significant association with PNC service utilization. Place of delivery was found to be statistically significant and the most important predictor for postnatal care utilization. Mothers who deliver at health institutions were about three times more likely to utilize postnatal care service than those who deliver at home (AOR=

2.84, 95% CI= 1.14, 8.13). Mothers who experienced first birth are about 84% more likely to use PNC compared to the reference group birth order five and more [AOR=1.836, 95% CI=1.35, 2.50)](Table 5).

Table 5: Final logistic model shows predictors of postnatal care utilization among mothers of under one year children in wonchi woreda, March to April 2014.

Explanatory Variables	**PNC attendance (n=302)**		**COR (95% CI)**	**AOR (95% CI)**
	Yes (%)	No (%)		
Walking distance				
<=one hour	62(46.6)	71(53.4)	.97(.17, 0.91)	1.27(0.68, 2.37)
>one hour	80(47.3)	89(52.7)	1	1
Husband encouragement				
Yes	101(54.3)	85(45.7)	2.17(1.37, 5.65)	2.89(0.68, 12.33)
No	41(35.3)	75(64.7)	1	1
Place of delivery				
Health Institution	76(58.5)	54(41.5)	2.26(1.05,4.49)	**2.84(1.14,8.13) ***
Home	66(18.6)	106(81.4)	1	1
Parity				
1	55(83.3)	11(16.7)	1.45(1.18, 1.91)	**1.84(1.35,2.50)***
2-4	63(35.8)	113(64.2)	1.13(0.44, 0.92)	1.24(0.92,1.65)
>=5	24(40)	36(60)	1	1

* **Statistically significant variable P<0.05**

CHAPTER 6: DISCUSSION

The study assessed maternal utilization of antenatal care, delivery service and postnatal care and its determinant factors in wonchi woreda. This study showed that antenatal care, delivery service and postnatal care utilization were 237(78.5%), 130(43%) and 142(47.1%) respectively; which is higher than that of the EDHS 2011 report for Oromia region 31.3%% ANC, 10.1% delivery service and 5.1% PNC service utilizations (10).

The study revealed that 78.5% mothers sought at least one ANC from modern health care providers. However, a considerable number did not make the minimal number of visits (four) as recommended by the WHO. The finding of this study is comparable with findings of studies conducted in Bangladesh (71.6%) (13).

In conterary this finding is higher than the finding of a research conducted in Yem special woreda of Southwestern Ethiopia (28.5%) (31) and Saharti Samre district of Tigray region 54% (17) respectively. The discrepancy among this study and other lower ANC visit findings might be three nongovernmental organizations are working on maternal health service in the study area, difference of study area and sample size.

In the study, the primary reasons given for not attending ANC services include not necessary/ no or little knowledge about ANC, too far/no transportation, not customary, pregnancy was normal or no problem, being too busy and husband disapproval. Other studies also reported similar reasons (16, 31).

Antenatal care is more effective in preventing adverse pregnancy outcomes when it is sought early in pregnancy and is continued throughout pregnancy. More than six in ten (69.6%) of mothers in this study area made their first antenatal visits in their second trimester of pregnancy. This indicates that, a considerable number of women in the study area start ANC at relatively not in early stage of pregnancy. This report is in line with the study done in Yem special woreda (31).

Among women who visit health institution for ANC service 33.5% were to start regular follow up. This finding is different from the finding of a research conducted in Ghana, 2011, in which

most of the women visit health institution when they are sick (23). This might be due to difference study setting.

Home delivery is still a norm in many parts of Ethiopia. In this study, 57% of births had taken place at home. This finding is consistent with the findings of the studies in other rural Ethiopia (16, 17, 18,) and Bangladesh (13) .According to the 2011 EDHS, majority (89.3%) of births taken place at home in rural areas of Oromia region (10). This difference of institutional delivery could be explained by the fact that the same reason as higher ANC service utilization can justify this discrepancy and in present study area there are three nongovernmental organizations were working on maternal healthcare services where mothers tend to have education and information about maternal health care service. Delivery care is an important component of efforts to reduce the health risks of mothers and children and increase the proportion of babies delivered under the supervision of health professionals in different health institution (34).

In this study the major reason of the mother to delivery at home include their labour were short or urgent, too far/no transportation to reach health institution, felt comfortable to deliver where relatives exist, not necessary/not customary to deliver at health institution and more trust with TBAs. This is in agreement with studies conducted in North Gondar and Arsi Zone, South-East Ethiopia for the former four reasons (16, 33).

The finding of this study showed that 47.1% mothers utilized postnatal care in health institutions for their last birth but only 22(15.5%) of mothers utilize postnatal care in the first two days.

Most deaths of new born and mothers occur within the first hour or days after delivery (19).Over 60% of maternal deaths occur in the first week and of those, two thirds occur in the first 48 hours after child birth (WHO 2005), and therefore early detection and management of obstetric and neonatal complications is especially important with in the first week after delivery (19).

This finding is higher than the finding of EDHS 2011 report in which only 5.1% mothers received postnatal care service for their last birth in Oromia region (10). Whereas this finding is

lower than the finding of a research conducted in Indonesia, which is 67% (20). The reason for higher postnatal care utilization might be the presence of higher institutional delivery.

From mothers who didn't attend PNC, more than half (55.6%) of them justified that being in a state of good health was the main reason for not attending the service. This finding is in line with the finding of a study conducted in Dabat district of Gondar, North Ethiopia, 2010, which illustrates being in a state of good health was reasons of 70.9% for not attending PNC (27).

The multivariate analysis showed that birth order of the child shows significant association with use of ANC, delivery care and PNC services. Use of these maternal health services was shown to decrease with increase in birth order. As regards the effect of birth order on the utilization of maternal health care services, the results appear to be consistent with the study done in Holeta town central Ethiopia, 2012, which indicate that women are significantly more likely to use the services for their first child than later children and the study done in India in 2011, showed that the stronger factor related to the use of PNC was institutional delivery and birth order (11, 34).

One possible explanation for this may be that adolescents who are pregnant for the first time are usually more likely to have difficulties, excitement and horror during labor and delivery than women who have had previous experiences of pregnancy and child-delivery.

The findings of this study revealed that husband encouragement and walking distance was strong predictor of maternal health care utilization for both ANC and delivery care services. The result is similar with other results which revealed that husband encouragement and walking distance have a positive relationship with maternal health care utilization (17, 26). It is expected that having a husband who approves antenatal care and delivery care significantly increase the likelihood that a mother used antenatal care and delivery care irrespective of the husband's background characteristics. Therefore, efforts to improve husband's or partner's attitude would probably increase utilization of health services by mothers.

As to this study maternal age was significantly associated with ANC utilization. It was found that women in the age group 35–49 were less likely to use ANC service than women in the age group of 20–34. Several studies found out that women's age plays a significant role in the utilization of

maternal health care (25, 27, 31). This might be due to the fact that younger women are more cautious about their pregnancies and sought trained professionals but older women tend to believe that modern health care is not necessary due to experiences and accumulated knowledge from previous pregnancies and births.

Antenatal care visits had significant positive relation with utilization of delivery care services. In this study mothers who were attendants of ANC were more likely (four times higher) to utilize delivery care than non ANC attendants. This is due to the fact that during antenatal care women are provided with information about the necessary follow-ups during pregnancy and after delivery and where to give birth at delivery. The study shows similar result with other studies (11, 23, 32).

According to this study place of delivery was found to be significantly associated with postnatal care attendance. Mothers who delivered at health institutions were more likely (2.84 times higher) utilizing PNC service than those who delivered at home. The possible explanation might be as most of the mothers, who delivered at home couldn't visit the health facility for PNC unless they are sick. This report was in line with study done in India (34).

CHAPTER 7: CONCLUSION AND RECOMMENDATION

7.1. Conclusion

This study demonstrated that the overall utilization of antenatal care, delivery care and postnatal care were inadequate in Wonchi Woreda. The majority of women sought at least one antenatal visit from modern health care providers during their recent pregnancy. Most of ANC attendants visit ANC services after the first trimester. And a considerable number of women had less than four visits during their recent pregnancy which is against the recommendation by WHO which stated a minimum level of care to be four visits throughout the pregnancy.

Almost all of home deliveries were attended by TBAs (TBA, close relatives/ friends, neighbors and TTBA). Regarding PNC utilization 142(47.1%) of the respondents utilized the PNC service.

The study also showed that among the mothers who had not utilized maternal healthcare services in this study, the major reasons reported for not utilizing these services were due to lack of awareness about maternal healthcare services , distance from health facility being too far ,absence of illness during pregnancy ,being too busy, husband disapproval and more trust on TBAs.

Maternal age was a factor independently associated with only ANC services utilization while parity, walking distance and husband encouragement were factors independently associated with utilization ANC usage and place of delivery. Parity was predicted the three services utilization at a time. Antenatal care use was only associated with place of delivery while place of delivery was associated with utilization of postnatal care.

7.2. Recommendations

In line with the findings of this study, the following recommendations can be made for concerned body:

Regional Health Bauer and Zonal health office better to strength maternal healthcare services in the role of birth order points to the need for messages that target specifically higher birth order mothers when establishing maternal healthcare service program and there is a need to increase

the availability and accessibility of maternal healthcare services to the needy, particularly to those rural mothers.

Woreda Health Office better to promoting Information, Education and Communication tailoring messages to different segment of the community in order to increase awareness on maternal health services and further awareness needs to be created among men on the importance of maternal healthcare service utilization and also promoting family planning use in the woreda.

STRENGTH AND LIMITATION OF THE STUDY

This study is limited for the following reasons. There might have been recall bias which is likely to occur because the subjects were interviewed about events that had occurred a year ago. Being a cross-sectional survey, causality cannot be inferred from these findings.

Despite this limitation, the study provides useful information that will inform health service planners to design a strategy to increase the utilization of antenatal care, delivery care and postnatal care services among mothers of childbirth in Ethiopia.

REFERENCES

1. WHO, Geneva. Maternal health and safe motherhood progress report update, 2009.
2. Lisa valley, Yusuf Ahmed and Susan F Murray. Postpartum maternal morbidity requiring hospital admission in Lusaka, Zambia- a descriptive study –BMC pregnancy and child birth, 2005. www.ncbi.nlm.nih.gov/pmc/ (Accessed on January 5, 2014)
3. Sari Kistiana. Socio economic and demographic determinants of maternal health care utilization in Indonesia, 2009. www.itp-bkkbn.org/pvlin/ (Accessed on January 5, 2014).
4. Tariku A, Melkemu Y and Kebede Z. previous utilization of service does not improve timely booking in antenatal care: cross sectional study on timing of ANC booking at public health facilities in Addis Ababa: Ethiopian Journal of health development 2010:24(3)(226-233).
5. World health organization (WHO). Maternal healthcare fact sheet: 2011.www.who.int/maternalhealthfacts (Accessed on January5, 2014).
6. Mekonnen Y and Mekonnen A. Utilization of maternal health care services in Ethiopia: ORC Macro, Calverton, Maryland, USA: 2002. www.measuredhs.com (Accessed on January 5, 2014)
7. UNICEF. Maternal and new born health: the state of the world children, 2009. www.unicef.org/sowlog/ (Accessed on February 3, 2014)
8. Abdella Ahmed. Maternal mortality trend in Ethiopia : Ethiopian Journal of Health Development 2010 : 24 special issue 1 : 115-122
9. Government of Ethiopia. Report on progress in implementing the world fit for children plan of action in Ethiopia, 2007. www.e4conference.org/wp-content/ (Accessed on February 3, 2014)
10. Agency CS, Ababa A. Ethiopia Demographic and Health Survey. 2012.
11. Birmeta K, Dibaba Y and Woldeyohannes. Determinants of maternal health care utilization in Holeta town, Oromia, central Ethiopia. BMC Health Services Research 2013, 13:256.
12. Wonchi Woreda Health Office: Annual Performance report of 2013.Chitu, Oromia, Ethiopia, 2013.
13. Rafiqul Huda Chaudhury. Multisectoral determinants of maternal mortality in Bangladesh: United Nations economic and social commission for Asia and the pacific, 2008. www.unescap.org/esid/psis/meeting/MMR/Bangladesh (Accessed on February 3, 2014).

14. Jira C and Belachew T. Determinants of antenatal care utilization in Jimma town, south west Ethiopia: Ethiopian Journal of Health Development 2005, vol. 15, No 1(49-61).
15. FMOH. Health Extension Workers and Health Post Performance and Community Satisfaction and Perception Evaluation in Rural Ethiopia, Addis Ababa, Ethiopia, 2010.
16. Nigussie M, Hailemariam D and Mitikie G. Assessment of safe delivery service utilization among women of child bearing age in North Gondar zone, Ethiopia: Ethiopian journal of health development 2004, vol. 18, No 3, (131-212).
17. Tsegay Y and Miguel San Sebastian. Determinants of ANC, institutional delivery, and skilled birth attendant utilization in Saharti Samre district, Tigray, Ethiopia, 2010. www.phmed.umu.se/digitalAssets/ (accessed on January 15, 2014).
18. Shimeka A, Mazengia F. Institutional delivery service utilization and associated factors among mothers who gave birth in the last 12 months in Sekela District, North West of Ethiopia: A community - based cross sectional study, 2012.
19. Charlotte Warren, Rachel Shongwe, Allen Waligo and Mohammed Mahdi. Repositioning postnatal care in high HIV environment of Swaziland, 2008. www.pdf.usaid.gov/pdf_docs/PNADX/04 (Accessed on February 3, 2014).
20. CR Titaley, MJ Dibley and CL Roberts. Factors associated with non utilization of postnatal care services in Indonesia: Journal of Epidemiology and community health 2009: 63:827-831.
21. Central statistics agency – Ethiopia. Ethiopian demographic and health survey 2005. Addis Ababa, Ethiopia and Calverton, Maryland, USA and ORC Macro,2005.
22. Mehryar A. Karim, Betemariam W, Yalew S, Alemu H, Merry C and Mekonnen Y. programmatic correlates of maternal health care seeking behaviors in Ethiopia: Ethiopian Journal of Health Development 2010:24 special issue 1: 92-99.
23. Patience Aseweh Abor, Gordon Abekah Nkrumah and Kojo Sakyi.the socio economic determinants of maternal health care utilization in Ghana: International Journal of social economics, vol. 38 No 7, 2011 (628-649).
24. Belay T. Biratu and David P. Lindstrom. The influence of husband's approval on women's use of prenatal care , result from Jimma and Yirgalem Towns, south western Ethiopia: Ethiopian Journal of health and development 2006, vol. 20 No 2 (84-92).

25. Pavalavalli Govindasamy and B.M. Ramash. Maternal education and the utilization of maternal and child health services in India: international institute for population sciences, 1997. www.ewc.hawaii.edu/pop/misc/subj-5 (Accessed on February 3, 2014).
26. World health organization (WHO). World health statistics: 2009. www.who.int/whosis/whostat/EN_WHS09_Full(Accessed on February 3, 2014).
27. Dessalegn Y, Taddese A and Wassie B. Assessment of utilization of maternal health care services and influencing factors in Dabat woreda, Northwest Ethiopia, 2010.
28. Anderson and Newman. Framework of health services utilization, 1990 www.docstoc.com/docs/53945604/Anderson_and_Newman (Accessed on December 20, 2013)
29. UNICEF. Health service access among poor communities in Phnom Penh, Cambodia, 2009. www.unicef.org/cambodia/health_service_Eng.pdf (Accessed on February 3, 2014)
30. Wonchi woreda health office annual plan of health & health related 2006 E.C. unpublished.
31. Tewodros B, G/Mariam A, Dibaba Y: Factors Affecting Antenatal Care Utilization in Yem special Woreda, Southwestern. Ethiop J Health Sci 2009, 19(1):45–51.
32. Berhanu N and H/Michael Y: Utilization of Clean and Safe Delivery Service Package of Health Services Extension Program and Associated Factors in Rural Kebeles of Kafa Zone, Southwest Ethiopia. Ethiop J Health Sci. 2009, Vol. 23, No. 2:79-87.
33. Abera M, G/mariam A, Belachew T: Predictors of safe delivery service utilization in Arsi Zone, South-East Ethiopia. Ethiop J Health Sci. Special Issue 2011, 21:95–106.
34. Jat et al. International Journal for Equity in Health in Madhya Pradesh State of India 2011, 10:59 http://www.equity health.com/ content /10/1/59(Accessed on March 5,2014).

ANNEXES

Annex 1: Informed Verbal Consent Agreement

My name is_____ .I am Master's Degree students in Reproductive Health from Jimma University. As part of my academic requirements, I am expected to conduct a research. The study is on assessment of maternal health care services utilization and factors that affect these maternal services care utilizations in wonchi woreda. Thus this interview is prepared for this purpose to get appropriate information on the topic.

The information that will be obtained using this interview will be used only for research purpose and also confidentiality is assured.

Therefore I politely request your cooperation to participate in this interview. You do have the right not to respond at all or to withdraw in the meantime, but your input has great value for the success of the objectives the research. "May I continue?" If yes, continue interviewing. If no, thank and stop interviewing.

01. Questionnaire code _____
02. Kebele _____
03. When was the date of your recent birth /regardless of the outcome /__/_____/_____

N.B. Please fill the following information

□ □ Time, the interview started _____

□ □ Time, the interview ended _____

□ □ Name of the interviewer

Signature _____ date of interview _____

□ □ Name of the supervisor

Signature _____ date of interview _____

Annex 2: English Version Questionnaire

Questionnaire for the assessment of determinant factors for maternal health service utilization in Wonchi Woreda , Oromia, Centeral Ethiopia, March 2014.

Part I: Background Information

Sr.no	Questions	Alternative choice for response	Code
101	Present maternal age	_____years	
102	Where did you live before your recent delivery	1. Urban 2. Rural	
103	How much time you walk to reach the nearest health center	_____minutes	
104	What is the highest level of schooling you have ever attended	1. never attended 2. only read &write 3. elementary school 4. high school 5. 10+ or 12+ 99. Other _____	
105	What is your religion	1. Orthodox 2. Protestant 99. Other specify_____	
106	What is your marital status	1. Married 2. Divorced 3. Widowed 4. Separated 5. Unmarried	
107	Your Occupational status	1. Farmer 2. House wife 3. Merchant 4. Governmental employee 5. Daily laborer 99.Others (specify)_____	
108	Ethinicity	1. Oromo 2. Amahara 3. Tigre 4. Others(specify)_____	
109	Total number of pregnancy	_____	
110	Total number of deliveries	_____	
111	Average Monthly family income	_____	

Part two: Questions of Women's Utilization of Antenatal Care Services Assessment Questions.

S. No	**Questionnaire on identification of the Respondents**	**Alternative choice for responses**	**Code**
201	Did you plan your recent pregnancy	1. yes 2. no	
202	From where do you think pregnant woman could get ANC?	1. health institution 2. TBA 3. relatives /friends 4. kebele health agent 99. others specify____	
203	Where do you hear about the sources of ANC services *Multiple response is possible	1. health institution 2. Radio/TV 3. TBA 4. relative 99. others, specify____	
204	What do you think the benefits of ANC	1. Maternal health 2. Child health 3. Both 88. I don't know 99. other, specify__	
205	Did you go to health institution for ANC check up while you are pregnant for recent delivery?	1. Yes 2. No ,skip to **Q.221**	
206	If yes at what gestation age did you go	1. 1-3 month 2. 4-6 month	

		3. 7-9 month 88. I don't remember	
207	If yes what was the total no of visits	1. One time 2. Two time 3. Three time 4. Four and above 88. I don't remember	
208	If you went for ANC checkups, to which health institution did you go?	1. Hospital 2. Health center 3. Health post 99. other, specify	
209	Why did you prefer to go to that specific health institution *multiple response is possible	1. Close to where I live 2. Little or no expense 3. Behavior of health worker is best 4. High quality of service 99. other, specify	
210	What is the main reason initiated you for ANC follow up	1. Health problem 2. To start regular checkups 3. To confirm pregnancy 4. Fear of problem 99. other, specify_____	
211	If you attend ANC, was health education given during each visit	1. Yes 2. No	
212	Was blood pressure measured during each time you went for ANC	1. Yes	

		2. No	
213	Was your weight taken during each visit	1. Yes 2. No	
214	Was laboratory clinic done in ANC clinic (blood, stool, urine…)	1. Yes 2. No	
215	Was physical examination done in ANC clinic during each visit	1. Yes 2. No	
216	Did you pay for ANC service	1. Yes 2. No, skip to **Q.219**	
217	Do you think that waiting time was a problem while you were attending ANC	1. Yes 2. No	
218	How you rate the waiting time you spent for attending ANC service	1. short 2. medium 3. long	
219	If you didn't attend ANC, why not	1. no or little knowledge about ANC clinics 2. being in a state of good health 3. too busy to attend ANC clinics 4. expense for service was not affordable 5. ANC clinic to far from my home 6. Waiting time is too long at ANC clinic 7. Husband disapproval 8. Poor quality of the service 9. Because of religion 10. ANC attendance is useless 11. No ANC follow up habit	

		12. Feel shame/shy 99. other specify	

Part three - Questions on the choices of delivery site

S.No	Questions on identification of respondents	Alternative choice for responses	Code
401	Where did you deliver your recent baby	1. hospital 2. health center 3. health post 4. Home, if home skip to Q.403 99. other, specify_____	
402	If health institution, Why did you want to deliver your baby in that particular health institution	1. Close to where I live 2. High quality service 3. Good approach of health workers 4. Little expenses to deliver in that particular health institution 5. Have ambulance service to take to the institution 6. Have ambulance service to return back to home 99.Other specify_____	
403	If you deliver at home, why? *Multiple response is possible	1. Expense to deliver at HI is unaffordable 2. The behavior of health workers in HIs is not good 3. Wishes to deliver at home where relatives are near	

		4. More trust on TBAs/relatives than health workers at HIs 5. Poor quality of care in HIs 6. Labor was simple and normal 7. No family to care in HI 8. HI is too far 9. It is our culture 99. Other, specify_____	
404	Who assisting you during your recent delivery?	1. Health professional 2. Health extension worker 3. Traditional birth attendant 4. Relatives/ friend 5. No one	
405	Does your husband encourage you to visit health institutions for maternal care ?	1. yes 2. no	

Part four - Question on respondents view on quality of Antenatal care

S.No	Questions on identification of the respondents	Alternative choice for response	Code
501	When you attend ANC were health workers respectful?	1. Yes 2. No	
502	Did you think that the lack of privacy was problem at ANC?	1. Yes 2. No	
503	Do you have confidence on the service provided at that HI?	1. Yes 2. No	

504	What was your feeling about the quality of ANC given?	1. Good 2. Fair 3. Bad	
505	How do you rank the behavior of health workers providing ANC service?	1. Very good 2. Good 3. Fair 4. Bad	

Part five- Question on postnatal care services

S.No	Questions on identification of respondents	Alternative choice for responses	Code
601	Have you used PNC service during your recent delivery?	1. Yes 2. No, skip to **Q. 603**	
602	If no, for Q.601, what was your reason(s) for not to use the service? *don't read the choice *multiple response is possible	1. No or little knowledge about PNC 2. Being in a state of good health 3. Expenses for PNC clinics are unaffordable 4. PNC service too far from my home 5. Husband disapproval 6. Poor quality of the service 7. Because of religion 8. Because of culture (stay at home at least for some days) 9. PNC attendance is useless 99. Other specify	
603	Did you face health problem during the first week after delivery	1. Yes 2. No, the question ends here	

604	If your answer to Q. 604 is yes, please mention the problem you face	1. Sever vaginal bleeding 2. High grade fever 3. Offensive vaginal discharge 4. Loss of consciousness 5. Sever after pain 6. Retained placenta 7. Breast problem 99. Other, specify_____	

THANKS FOR YOUR COOPERATION AND PATIEN

Annex 3: Afan Oromo Version of Questionnaires and Consent Forms

3.1. Guuca Eyyama Fi Gaafilee Afaanin Gaafataman afaan Oromotiin

Yuniversitii Jimmatti Kollejjii Fayya Hawasaa Fi Saayinsii Meedikaala, Muummee Hawwasumaa fi Fayyaa Maatii

Eyyama Barrefama

Akkam jirtuu, Nagaa kessanii

Ani maqaan koo_____ Ani yuniversitii Jimmaatti digirii lammafan barachaa jira.Akka qaama barnootaa kennamutti, waggaa dhumaa ebbifamuuf qorannoo gaggeessun qaba.kanaafuu mata dureen qorannoo kootii haala tajaajila fayyaa haadhotaa Aana Wancii irra maaal akka fakkaatuu fi wantoota tajaajila kana Aanaa kana kessaatii akka hin fayyadamne godhan irratti xiyyeeffata.

Sababii kaanaf gaaffilee muuraasa Kan dhima kana illaalan siigafachuun barbaada.Bu‘aan qoraanoo kanas tajaajila fayyaa haadhotaa amma keenama jiruu foyyeesudhaaf ni fayyada. Deebin isiin kennitan fedhii keessanin ala eenyumatuu hin himamu. Akkasumas maqaan fi eenyumaan keessan asirratti hinkatabamu. Hirmaannaan keessan fedhii irrati kan hunda‘eedha. Yaadnii isiin keennitaan Kun tajaajila fayyaa haadholee isin argatan irraati takkumaa isiin miidhuu hin danda’u waan ta’eesuu hin sodaatina. Yeroo barbaaddanis gaaffii fi deebii kana dhaabu/dhissuu ni dandessu. Gaafii fi deebiin qorannoo Kun daqiiqqa 10 fudhachuu danda‘a.

Nii hirmmata janee abdii qaba.Illalchii atti qabduus baay’issee nu fayyada.

Gaaffii si gafachuu eegaluu? 1. Eyyee 2.Lakki

Yoo eyyamamee gaaffii gaafachuu ni jalqabama.

Maqaa gaaffii gaafaataa_____mallaattoo_____guyyaa_____

Maqaa to‘aata_____mallattoo_____guyyaa----------

<u>Kuta 1</u>[ffaa]: *Odeefannoo Hawaasumaafi Haala Ummataa Gaafatamanii*

Lakk.	Gaaffiiwwan	Filannoowwan	Yaada
101.	Ummurii yeoo amma meeqaa?	----------waggadhan	
102.	Bakka Jireenyaa kee saa turee yeroo da'umsa kee darbee?	1. Magalaa 2. Badiyaa	
103	Mana keetirraa Bufanii fayyaa hagam fagaata?	_____daqiqadhaan	
104	Sadarkaa barumsa keetii meeqa?	1. Hin barannee 2. Dubbisuu fi barreessu nan danda'a 3. Sadarkaa tokkoffaa (1-8) 4. Sadarkaa lammaffaa (9-10, 10+1,2, 3,11-12) 5. Sadarka sadaffaa (digirii fi isa oli)	
105	Amantaa	1. Pheenxee 2. Orthodoksii 3. Waaqeffataa 99. kan biroo yoo jiraate _____	
106	Haala Heerumaa	1. Heerumte 2. Hin heerumne 3. kan hiktee 4. Garagara kan jiratan 5. Abaan manaa irraa du'ee	
107	Hojiin kee maali?	1. Hadha Manaa 2. Hojeetu Motuumaa	

		3. Hojjettuu Dhabbata Dhuunfaa 4. Daldaaltu 5. Qootee Bulaa 6. Hojeetaa guyyaa/Olmayaa 7. Barattuu 99. Kan birroo _____	
108.	Sabni kee maali?	1. Oromo 2.Amaaraa 3.Tigree 99. Kan biro_____	
109	Yeroo meeqa ulfooftee?	_____	
110.	Yeroo meeqa deesse?	_____	
111	Gaaliin ji'a maatii keetii giddugalessan meeqaa?	_____qarshiidhan.	

<u>Kuta 2</u>$^{ffaa:}$ Gaaffii Waa'ee Dubartootni Tajaajila Yeroo Ulfaa Haadhotaaf Kennamu Fayyadamuu Isaanii Fi Sababi Isaan Hin Fayyadamneef.

Lakk.	Gaaffiwwan	Filannoowwan	Yaada
201	Ulfaa kee kan yeroo dhiyyoo kana karooran ture?	1. Eeyyee 2. Mitii	
202	Dubarttootnii ulfaa tajajiila da'umsaa dura isaa argatuu jettee yaadaa?	1. Dhabilee fayyaa 2. Dubarttoota desisttoota aaddaa 3. Firraa fi maatii isaanii 4. Hojjatoota fayya hawwasa 99. kan biroo_____	

203.	Waa'ee tajajila yeroo ulfaa haadholeef godhamu issaa dhageesee?	1. Dhabiilee fayyaan irra 2. Radiyoo /TV irraa 3. HEF irraa 4. Hojjetota fayyaa kanneen biroo irraa 99. Kan biro_____	
204.	Bu'an tajjajiilaa da'umsaa dura fayyidaa malii qaba jeettee yaada?	1. Fayyummaa hadhatiif 2. Fayyumma da'immatiif 3. Lammeeniif 88. Hin beekuu 99. Kan biro yoo jirattee_____	
205.	Yeroo ulfaa keetii isaa darbee tajajiilaa da'umsaa duratiif dhabataa fayya ndeemttertaa?	1. Eeyyee 2. Lakkii, yoo lakkii ta'ee gara gafii **lakk.221** darbii	
206	Eyyo yoo jeette gaaffii **205** irratti, ji'a meeqaffatti deemte?	1. Ji'a 1-3ttii 2. Ji'a 4-6 tti 3. Ji'a 7-9 tti 88. Hin yaddadhuu.	
207	Eyyo yoo jeette gaaffii **205** irratti,marsaa meeqaf dhaqxee?	1. Tokko 2. Lama 3. Sadii 4. Afurii ol**i** 88. Hin yaddadhuu.	
208	Tajajiilaa kanaf yeroo deemtee dhabattaa fayya kam deemttee?	1. Hospiitalaa 2. Bufataa fayyaa 3. Keellaa fayyaa 99. Kan biro_____	
209	Maaliif dhabataa fayya armman oolitii filattee dhaqixee?	1. Mana kootii dhiyee wan ta'eef 2. Basiin isaa xiqqaa wan ta'eef	

		3. Ammalii ogeeyii fayyaa wan gaarii ta'eef 4. Taajajiilii keena qulquluu wan ta'eef 99. Kan biro_____	
210	Tajajiilaa da'umsaa dura akka fayyadamtuuf maaltuun si kakaase?	1. Dhukkuba waanan qabuuf 2. Qorranna fi tajajila ulfaa wali gala fayyadamuuf 3. Ulfaa ta'u koo mirkaneefachuuf 4. Rakkoo yeroo ulfaa nama qunnamuu sodachuudhan 99. Kan biroo yoo ta'e----------	
211	Yeroo tajajiilaa kana deemtuu barumsa siif kennaniruu?	1. Eyyen 2. Lakki	
212	Yeroo tajaajila ulfaaf deemte dhiibbaa dhiigaa kee siif illanii?	1. Eyyen 2. Lakki	
213	Yeroo tajaajila ulfaaf deemte ulfaatina kee siif illanii?	1. Eyyen 2. Lakki	
214	Qorrannoo kuta labiratorii siif tasiifamee(blood,urine & stool)	1. Eyyen 2. Lakki	
215	Yeroo tajaajila ulfaaf deemte qaama kee hundumaa siif illanii?	1. Eyyen 2. Lakki	
216	Tajajiilaa kanaf kafalii rawwattee?	1. Eyyen 2. Lakki, yoo lakii ta'ee gaafii lakk. **219tii** darbii	
217	Yeroo tajajiilaa da'umsaa duratii dhabataa fayyaa deemtuu yeroo dabaree eganau rakkoodha jeta?	1. Eeyyee 2. Lakkii	
218	Yeroo egichaa kan akkamitii maddalta?	1. Gababaa	

		2. Gidugalleessa 3. Dheraa	
219.	Tajajilla da,umsaa dura kana yoo fayyaadamuu battee maaliif?	1. Faayidaa isaa sirritti hin beeku 2. Faayya gaariin qaba waan ta'eef 3. Yeroo deemu waanin hin qabneef 4. Mana kooirraa fagoo waan ta'eef 5. Dafanii waan nama hin tajaajilleef 6. Tajajiillaf kafaltiin gudda ta'u 7. Tajajiilii keenamuu qubsaa ta'udhabuu 8. Sababii ammantatiif 9. Abban mana koo iyyamuudhabuu 10. Fayyumman natii dhaga'amuu 11. Tajajiilaa kana ammaleefachuu dhabuu 12. Hordoofii tajajiila kan bu'a qabeessa tasiisuu dhabuu 99. Kan biro_____	

Kutaa 3ffaa: Gaafiilee dandeetii hadhoolee,muxxannoo dhukkubii fi haala illala ilaalcha dhukkubii ulfaa waliin walqabatanii dhufan illaluf qopha'ee.

Lakk	Gaafiiwwan gafataman	Filannoo	yadaa
301	Dubartiin ulfaa fayya qabeesaa tatee tajajiilaa da'umsaa duratiif horddoofuun irra egammaa?	1. Eeyyee 2. Mitii ,gaafii **303tii** darbii	
302	Eeyee yoo ta'ee yeroo ulfii ishii ji'a meeqaa ta'e dhaquu qabdii?	1. Ji'a 1-3 2. Ji'a 4-6	

		3. Ji'a 7-9 88. Hin beekamuu	
303	Mallatoo cimaa yeroo ulfaa qunamuu danda'an beektaa?	1. Eeyyee 2. Lakkii , gaafii **305** darbii	
304	Eeyyee yoo ta'ee murasaa isaa natii himmii? *filannoo kana hin dubisiiniif *deebiin huduu deebii'u ni danda'ma	1. Hoqii wla hiraa hincinnee 2. Hiriinaa dhigaa 3. Dhita'uu milaa 4. Mataa bowwoo cimaa 5. Qamma nafatiin dhignii dhufuu 6. Dhignii dabaluu 7. Walitiibubutuu (of walaluu) 8. Rakkoo teesuuma da'imma 9. Yeroo cinisuu dheerachuu fi rakkoo ta'u. 10. Obatiin ba'u diduu 99. kan biro _____	

305	Ulfaa kee yero dhiyyoo kana keessatii rakkoon siqunameerra?	1. Eeyyee 2. Lakkii	
306	Yeroo ulffa tateetii rakkoo cimma yeroo ulfaa naqunama jeetee yaddaa?	1. Eeyyee 2. Lakkii	

<u>Kuta 4</u>[ffaa]: Gaaffii Waa'ee Bakka Da'umsaa Haadholee fi Sababa Isaa Qorachuuf Haadholeef Qophaa'e.

Lakk.	Gaaffiwwan	Filannowwan	Yaada
401.	Mucaa kee yeroo darbe eessatti deesse?	1. Hospitaalatii 2. Bufataa fayyaatii 3. Kellaa fayyaatii 4. Mana kootti 5. Deesiistuu aaddaa ganda keessaa birratti 99. Kan biro _____	
402	Dhabata fayyatii yoo deesee maaliif dhabata kana filatee?	1. Natti dhihoo waan ta'eef 2. Waan natti himamameef 3. Yeroo darbe manatti da'uun waaniin miidhameef 4. Yeroo darbe mana yaalatti da'uun gargaarsa gaarii wanin argadheef 5. Tajaajila gaarii waanin barbaadeef 6. Amalli hojjettota fayyaa gaarii waan ta'eef 7. Da'uumsi waan na rakkisuuf (ciniinsuun waan irra turuuf) 99. kan biro _____	

403	yoo mana ta'e, maalifi? *deebiin bayyee ta'u ni danda'a. *filannoo kana akka hindubsineef	1. Maatii koo biratti da'uu waanin fedheef 2. Jibiinsa amala hojjeettoota fayyaa 3. Fagoo waan ta'eef 4. Geejjiba ittin achi ga'u waani dhabeef 5. Qarshii baasiif waanan hin qabneef 6. Ulfikoo rakko akka hin qabne waan natti himaamef 7. Duras nagaan manatti waanin da'eef 8. Aadaadhan manan alatti da'uun waan hin eyyamamneef 9. Dessiftoota adaa irraa amantaa waaniin qabuf 99. Kan biro_____	
404	Mucaa kee Alana yammuu deesuu garggarsaa kan siif keenee enyuunii	1. Ogessaa Fayyaa 2. Hojjatta ekisteeshinii fayyaa 3. Dessistuu aadaa 4. Firaa/iryaaa 5. Umtuu	
404	Abban mana kee tajajiilaa fayyaa hadholeetiif gara dhabataa fayya akka deemtuuf sijajabeessa?	1. Eeyyee 2. Lakkii	

Kutaa 5ffaa – Gaafiilee Qulquliina Tajajiilaa Da'umsaa Duraa Qorachuuf Qopha'ee

Lakk.	Gaafilee	Filannoo	Yadaa
501	Yeroo tajajiila da'umsaa duratiif gara dhabilee fayyaa deemtaan ogeesa fayyaa kabajaa isiiniif keena?	1. Eeyee 2. Mitii	
502	Yeroo tajajiila da'umsaa dura isiiniif keenamuu rakkoon iddoo ittilalamtan namoota biro isiin arguu danda'a jira jeetanii yadduu?	1. Eeyyee 2. Lakkii	

503	Tajajiilaa dhabataa fayyaa itii tajajiilamtan irra argataniitii ammanta qabduu?	1. Eeyyee 2. Lakkii	
504	Tajajiila da'umsaa dura dhabataa fayyatii argatan qulquliina isaarratii mal yaadduu/maltuu isiiniitiidhagahama?	1. Gaarii 2. Giduggaleessa 3. Yaraa/Gadhicha	
505	Ammala Ogeessaa fayyaa tajajiila da'umsa duraa isiiniif keenuu akkamitii sadarkeesita?	1. Bayyee Gaarii 2. Gaarii 3. Gidduggaleessa 4. Yaraa/Gadhichaa	

<u>Kutaa6</u>[ffaa]: Gaaffii Waa'ee Da'umsa Booda Haadholeen tajaajila yaalaa fayyadamuu fi Sababa Isaa Qorachuuf Haadholeef Qophaa'e.

Lakk.	Gaaffiwwan	Filannoowwan	Yaada
601.	Yeroo da'umsaa alanaa tajajiilaa da'umsaa boda fayyadamtee ?	1. Eyyen 2. Lakki	
602.	Yoo lakkii ta'ee maalii? *filannoon akka hin dubifneef *deebiin tokkoo olii ni danda'amaa.	1. Beekumssa tajajiila kana dhabuu ykn xiqqaa ta'u. 2. Fayyumman natii dhagahamuu. 3. Gaatii tajajiila kanaf ta'u human kootii ol ta'u. 4. Bakkii tajajiila kana mana koorra faggoo ta,uu. 5. Abban mana koo naf eeyyamuu dhabuu. 6. Tajajiilii keenamuu qulquliina dhabuu. 7. Sababii ammantaa kootiif. 8. Sababii aadda da'umsaa batala mana ba'un akka rakkootiin ilaalamuu. 9. Tajajiilii kun akka hin fayyaneetii ilaaluu.	

		99. kan biroo_____	
603	Torbbee jalqaaba yeroo da'umsaa bodaa rakkoon fayyaa siqunamee jira?	1. Eeyee 2. Lakkii	
604	Gaafiin 603 Eeyee yoo ta'ee , maaloo rakkoo yeroo sana isiin qunamee ibsaa?	1. Dhignii cima nafa salatii 2. Dhaqnaa gubaa cimaa 3. Dhangala'aa folii qabuu qama nafsaalatiin bahuu. 4. Ofwallaluu cimaa 5. Dhukkubii cimma da'umsa 6. Obatiin yeroon bahuu diduu 7. Rakkoo dhukkubii harmaa 99.kan biro _____	

HIRMANA KEESSANIIF BAYYEE GALATOOMA!!