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Assessment of safe delivery service utilization and associated factors among mothers who gave birth during five years preceding the survey in Wayu town, Oromia Regional State, 2014

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LIST OF ABBREVIATION

AAU Addis Ababa University

AIDS Acquired immune deficiency syndrome

ANC Antenatal clinic

AOR Adjacent odd Ratio

COR Crude Odd Ratio

EDHS Ethiopia demographic health survey

HF Health facility

HIV Human immune deficiency virus

IMR Infant mortality rate

MMR Maternal mortality rate

MHC Maternal Health care

RH Reproductive Health

TBAs Traditional birth attendants

UNDP United Nations development program

UNFPA United Nations Population Fund

UNICEF United Nations children's funds

WHO World Health Organization

ABSTRACT

Background: High maternal mortality rate is one of the major public health concerns in developing countries including Ethiopia. Most of the deaths are caused by factors attributed to pregnancy and childbirth. In Ethiopia about 10% of women delivered in health facility with wide variation among regions being lowest in SNNP (5.6%) and highest in Addis Ababa (62%).

Objective: This study assessed safe delivery service utilization and associated factors among mothers who gave birth during five years preceding the survey in Wayu town, Roomie Regional State, 2014.

Methods and Materials: A cross sectional analytical study was carried out among women with children less than five years prior to survey conducted in from January,2014 to May, 2014 in Wayu town. Systematic random sampling technique was used to select 371 participants. A pre tested and structured questionnaire was used to collect data. Bivariate and multivariate logistic regression data analysis was performed using SPSS version 21.0 software. Statistical tests were done at a level of significance of $p < 0.05$.

Result: A total of 371 women were recruited into the study, whereby 107(28.8%) of the mothers were in the age range of 20 – 24 years, 342 (92.2%) were married, 237 (63.9%) were educated and 134(36.1%) were unable to read and write. The study indicated that 175(47.2%) of the mothers delivered in health facilities and 196(52.8%) mothers who gave birth at home. Of 196(52.8%) mothers who gave birth at home, 52 (14%) deliveries conducted by Traditional birth attendants and 142 (38.3%) without any assistance of skilled personnel while only two deliveries occurs on the way to health facility. The common reasons for home delivery were sudden onset of labor 125 (63.8%), presence of TBAs 30 (14.3%), Negative attitude of health workers 2(1%), and others 41(20.2%) were Believe in God, Fear of high cost services, Lack of skilled personnel, Poor services, Negligence of women. Factors such as; maternal education (AOR=3.746, 95%CI= 1.118, 12.552), parity (AOR=2.620, 95%CI= 1.294, 2.885), socio economic status (AOR=2.457, 95%CI=1.054, 3.837), and frequency of antenatal care visit (AOR=0.460, CI=0.271-0.783) were statistically significant predictors with delivery in health facility.

Conclusion: Inadequate (47%) institutional delivery service utilization was observed in the study area though 80.3% of the mothers attended ANC services during their last pregnancy. A large proportion (53%) of mothers gave birth at home without a skilled attendant. Associated Factors such as maternal education, parity, socio economic status, and frequency of antenatal care visit were statistically significant predictors with delivery in health facility.

Recommendation: Community education about pregnancy, child birth and postpartum, training all Health Extension Workers so that they could have some midwifery skills, and Information, education, communication, and empowering mothers are recommended. A qualitative study approach need to be conducted in both urban and Rural of the wereda and should involve health care providers to have deeper understand of factors affecting delivery in health facility

CHAPTER ONE

1. Background

1.1 Introduction

Maternal deaths cause considerable social and personal distress in families, especially because women have the major responsibility in most family matters, including raising children(1). In 2008, 358,000 maternal deaths occurred worldwide from preventable complications during pregnancy and childbirth, according to estimates by WHO, UNICEF, UNFPA, and the World Bank. Moreover, 99 percent of maternal deaths (355,000) in 2008 occurred in developing countries, and an estimated 87 percent (313,000) occurred in sub-Saharan Africa and South Asia(2). Similarly, the World Health Organization (WHO) has reported that the proportion of deliveries attended by skilled health providers rose from 58 percent in 1990 to 68 percent in2008 worldwide, but remained at only about 50 % in Africa(3). A lifetime risk of maternal death in developing countries is forty times higher than that of the developed world(4).

The available information about the rates and trends in maternal mortality is essential for resource mobilization, and for planning and evaluation of progress towards Millennium Development Goal 5, the target for which is a 75% reduction in the maternal mortality ratio (MMR) from 1990 to 2015(5). Global initiatives to intensify policy intervention for maternal mortality began with the Safe Motherhood Initiative in 1987, a response to growing recognition that primary health-care programmes in many developing countries were not adequately focused on maternal health. The 1994 International Conference on Population and Development strengthened international commitment to reproductive health. The focus on maternal mortality was sharpened when reduction in maternal mortality became one of eight goals for development in the Millennium Declaration of Millennium Development Goal(6).

The number of women dying due to pregnancy and childbirth has decreased by 34% from an estimated 546, 000 in 1990 to 358,000 in 2008. Although the progress is notable, but the annual decline rate is less than half of what is needed to achieve the millennium development

goals. To achieve millennium development goal the annual decline rate should be 5.5% instead of the current one of 2.3% in average(7).

In Sub-Saharan Africa, where 1 in 22 women risks dying from maternal causes in her lifetime, the adjusted maternal mortality ratio (MMR) was 900 deaths per 100,000 live births in 2005(8). Increasing proportion of births delivered in a health facility and under the supervision of health professionals is important to lowering health risks among mothers and children (9). However, in many developing countries the majority of births are delivered at home. According to an analysis of DHS data from 48 developing countries since 2003, in 23 countries more than half of the births are reported to take place at home(10). A study on delivery practices among women in rural India, Punjab, showed that more respondents reported home delivery than institutional delivery(11). Another study in a semi urban settlement of Zaria Northern Nigeria showed that most women (70 percent) delivered at home and that a majority of deliveries (78 percent) were not supervised by skilled personnel(12).

In Ethiopia, maternal mortality and morbidity levels are among the highest in the world According to the 2000 Ethiopia Demographic and Health Survey (EDHS), the maternal mortality ratio in 2000 was 871 maternal deaths per 100,000 live births. The corresponding figure reported in the 2005 EDHS was 673 deaths per 100,000 live births and in 2011 EDHS was 676 per 100,000 live births(13). Even with this turnaround the challenges of reducing maternal mortality to the targeted levels under MDGs are enormous. An explanation for this poor health status among women could be that a considerable proportion of women in the country do not have access to or do not use health services (14).

The proportion of births that occur at home remains high in Ethiopia, and skilled health professionals attend very few births. The proportion of births attended by a skilled health professional and delivered in a health facility has remained around 10% over the past five years(8), a far lower level than in other African countries, such as Cameroon (62 %), Senegal (62 %), Malawi (57 %), Lesotho (52 %) and Tanzania (50%).

According to the 2011 EDHS, Thirty-four percent of pregnant mothers who gave birth in the five years preceding the survey received antenatal care from a skilled provider, for their most recent birth—28 percent from a nurse or midwife and 5% from a doctor. Another 9% of women received ANC from a health extension worker (HEW). By comparison, in 2005 28% received antenatal care from a skilled provider(13, 15).

strategies have been done in our country to improve the access to maternal health care since the initiative of safe motherhood program in 1987, this initiatives has improved pregnant mother to access antenatal care and slightly improve delivery in health facilities, however there is higher difference among the regions despite the higher attendance of attendance of antenatal clinics in regions and weredas.

1.2. Problem statement

Delivery in health facilities is still challenging in developing countries in which higher number of women attend antenatal clinic but about less than half of them they deliver home without assistance of skilled professional.

Inability to use health facility for giving birth will predispose to maternal mortality and morbidity as a result of many factors. So, proper interventions must be taken to increase delivery in health facilities. If home delivery is not conducted by professionals; increase the risk of infection, PPH, and transmission of HIV/AIDS to relatives or traditional birth attendants, who conduct deliveries without protective equipment's.

Several studies have been done Worldwide including Ethiopia regarding factors affecting delivery in health facilities. The factors that have been studied include Socio demographic factors, availability of health services, accessibility, behavior and attitudes of health care providers and socio cultural issues(16).

According to the 2011 EDHS report, the coverage of antenatal care was 34%. This varied from 76% for women residing in urban areas to 26% of women in rural areas. Moreover, a large majority of the births (90%) in Ethiopia occur at home, and only 10% of births are delivered with the assistance of a trained health professional(15). The most important barrier to access to health services that women mention is taking transport to a facility (71 percent), followed by lack of money (68 percent) and distance to a health facility (66 percent). In Ethiopia, one explanation for poor health outcomes among women is the non-use of modern health care service by a great proportion of women in the country(15).

As studies done in Ethiopia in some region and district, the proportion of births attended by a skilled health professional and delivered in a health facility indicates very low like in Gondar, Amhara (13%), Dodota woreda, or Omiya(18%), sekela District (12%), Arsi zone (16%), Tigray region (4.1%), Metekel zone (12%) (14, 17-19),But the finding was much lower than other studies done in Holota town (61%) ,Afar region, Asayta and Dupti Towns in which delivery service utilization rate was 54.2% (20).

No study has been done in wayu town to assess safe delivery service utilization and associated factors among mothers who gave birth. This study is therefore intended to investigate safe delivery service utilization and factors associated with health service delivery in Wayu town Oromia region, Ethiopia as compared to other similar study, which has been done in other study area.

1.3 Significance of study

Considering global and national interests in the Millennium Development Goal and Ethiopia's high level of maternal mortality, understanding the factors that determine maternal health care utilization is crucial. If effective implementation is done to avoid the investigated factors to utilization of Maternal Health care services (MHC), it benefits the society, particularly women and children to have a better utilization of MHC services which will improve their health status and wellbeing. The findings also help governmental and non-governmental organizations in planning and implementing programs to reduce maternal morbidity and mortality in the study area. By identifying the gaps and factors, the findings also offer motivation for professionals to minimize these factors and to increase maternal safe delivery utilization practice as well as for profession it is used for development and evidence based practice. It also used for researchers as a reference and for doing further research In addition to this, the findings also will be used for teachers to give evidence based education, and this is placed in library for learners to read or to use as a reference.

CHAPTER TWO

2. Literature review

Maternal mortality remains a major global public health concern more than twenty years after the international Safe Motherhood Initiative was launched. Each year, 358,000 women die worldwide from pregnancy-related causes, nearly all in Sub- Saharan Africa and Asia, and many women die from obstetric complications(6).

In Sub-Saharan Africa, the adjusted maternal mortality ratio (MMR) was 900 deaths per 100,000 live births in 2005(2). The fifth Millennium Development Goal calls for a reduction in maternal mortality ratio by three quarter between 1990 and 2015(21). Although many effort have been done to reduce maternal death worldwide, more than half millions of women die each year as the result of childbirth and complications of pregnancy, and higher number of these death occurs in developing countries particularly sub Saharan Africa and Asia(2).

The major causes of maternal deaths in Sub-Saharan Africa are mainly due to haemorrhage (34%); sepsis and infections, including HIV/AIDS (16%); hypertensive disorders of pregnancy (9%). Obstructed labour(4%), Anaemia(4%), Abortion(4%), Other causes 30% which include ectopic pregnancy, embolism and other indirect causes(21).

The majority of these complications is manageable and could be addressed by a health professional during pregnancy when the women attending antenatal clinics, delivery, or post-partum through prompt referral and treatment of complications.

In Ethiopia, The maternal mortality ratio in the year 2000 was 871 per 100,000 live births and the infant mortality rate was 97 per 1000 live births(22). But, the maternal mortality ratio in the year 2011 was 676 deaths per 100,000 live births and the infant mortality rate was 59 per 1000 live births. One explanation for the poor health outcomes among women is non-availability and non-use of modern health services by a sizable proportion of women in Ethiopia. Previous studies have clearly demonstrated that the utilization of existing maternal health services is very low in the country(22-23).

The slow progress in reducing maternal mortality in developing countries has been attributed partly to non-availability of services and partly due to poor utilization of services even when they are available(21)

According to the 2000 EDHS the great majority of births (95 percent) are attended at home, but with a large difference between urban areas (68 percent) and rural areas (98 percent). Further, as reported in the 2005 EDHS, the majority of births at home takes place in poor hygienic conditions, while only 6 percent are in a health facility and are assisted by trained personnel(13, 22). Moreover, a study among mothers of childbearing age in North Gondar Zone and North West Ethiopia showed that the vast majority of births occurred at home(14). Another finding from the John SnowInc, baseline survey conducted in 2009 showed that, although institutional delivery improved over the four years since the 2005 EDHS, it was only 12 percent in 2009, and few deliveries were assisted by Health Extension Workers (HEWs), even though the HEWs had received in-service training(24).

Factors affecting delivery in health facility

Ten percent of births were assisted by a skilled provider—4 percent by a doctor and 7 percent by a nurse or midwife. Less than 1 percent of births were assisted by a HEW, and 57 percent of births were assisted by a relative, or some other person. Twenty-eight percent of births were assisted by a traditional birth attendant, while 4 percent of births were unattended. Skilled assistance at delivery increased from 6 percent to 10 percent in the last six years(15).

Several studies have been conducted Worldwide on the factors affecting delivery in health facilities and the following was observed, The issues of risk and vulnerability, such as lack of money, lack of transport, sudden onset of labour, short labour, staff attitudes, lack of privacy, geographical location, perception of poor quality of health services, tradition, cultures and the pattern of decision-making power within the household were perceived as key determinants of the place of delivery(8).

Socio Demographic factors and safe delivery utilization

Several studies have shown that women's use of health facility delivery services is influenced by their demographic background characteristics and their socioeconomic status. A study in rural India showed that institutional delivery is much more common for first births than for subsequent births(25) . Regarding age at delivery, another study in rural India, Punjab, revealed that institutional deliveries were more common in comparatively younger age groups, at 43 percept for women age 18-25 compared with 23 percept for women age 36-45(26). Similar to this, the

study done in sekela district reveal that Mothers with age range 15–24 years were about 4 times more likely to give birth in health institutions than mothers with age 35 years and above(27).

The current study also revealed that mothers' place of residence was strongly associated with institutional delivery service utilization. Mothers who lived in Urban Kebeles were five times more likely to deliver in health facilities than those who live in Rural Kebeles. As, the study done in Ethiopia by Yared M. and Asnaketch M. using EDHS 2000 data which revealed that mothers living in Addis Ababa and other urban areas of the country were 40 and 9 times more likely to deliver in health institutions than rural dwellers, respectively(22). A study in Tigray showed, The prevalence of skilled delivery attendance(4.1%) in rural Tigray is one of the lowest in the world, even when compared with other sub-Saharan African settings (19). Similar data were collected in rural areas of South East Ethiopia (4.3%)

According to study in Arsi, Religion had significant association with utilization of safe delivery services. Orthodox Christians and Muslims were less likely to utilize the service than others Christians (28).

Birth order is another obstetric factor found to be significantly affecting the use of safe delivery services. A study in Kathmandu, Nepal, showed that 70 percent of women age 20-34 had their most recent birth in a health facility compared with 58 percept of women age greater than 35. Similar study in Gondar indicates that, the probability of giving birth at health facilities decreased in grand multipara (>=5 birth) mothers than births of four or less. Like this, Study in Kenya shows that women with more than one child and older were more likely to deliver at home compared to young women and with single parity(29). The same finding with the study done in Zambia where by 55% of women delivering in health facilities are young and 65% are those having their first baby(30)

A study in Bangladesh found that 74% of women with more than ten years of education used skilled birth attendants during delivery compared to 18% who are un educated(31). Also, in most traditional societies a higher level of female education may indicate greater female autonomy, so that women develop the confidence to utilize health facility services(32). Also a study in Gondar reveal that Women with higher level of education (secondary and above) were

10.6 times more likely to use safe delivery services than those with lower education levels. Further, the community-based study in North Gondar revealed that the higher the level of mothers' education the more likely mothers were to give birth at a health facility. The same study showed that access to radio had a positive association with giving birth at health institutions(14). Additionally, a study conducted in Amhara region North shewa zone revealed that women in households that possessed a radio were more than three times as likely as households without a radio to deliver in health facilities(33).

A study in Nkasi District, Tanzania the findings show that married women were four times less likely to deliver in health facility than single mothers. Similar findings have been found by the study done in Botswana on the factors associated with non-use of maternal health services in which married women utilizes less health facility during delivered(34).

Other studies have also shown that the higher the wealth index the greater is the likelihood of giving birth in health facilities(34). similar to this the study in Holota town with regards to income shows that, women lower family income are less likely to use delivery care as compared to women with monthly higher family income(17)

High status occupations are associated with greater wealth, making it easier for the family to pay costs associated with skilled delivery care. A limited ability to pay and high hospital costs have been identified as the major barriers for the rural poor wishing to access health care, due to economic difficulties in rural areas women are not able to afford costs related to deliveries even if the services in some places are free of charge they unable to pay for transport in case of referral or the facility is away from home(2)

Having poor knowledge about pregnancy and delivery for instance was strongly associated with home delivery. Similarly having lack of knowledge about danger signs of pregnancy was very strongly associated with home delivery. A study in Bahirdar demonstrated the fact that obstetric knowledge is an important factor that affects attitude, intention and behavior of mother (35).

High socio economic status is associated with delivery in health facility and sometimes is confounding with level of education as those with higher education have better jobs and earning

higher, so women are encouraged to participate to income generating activities in order to rise their economic status. Study done in Bahi district in Tanzania where by, the odds of delivery in health facility was higher in women with high income group compared to those with lower income group(19).

Health services factors and safe delivery utilization

Unreliable transport is also a barrier to access skilled delivery in rural areas, failure to plan in advance for transport cause higher number of women to deliver in their homes even if they had planned to deliver in health facilities and 84% of women who gave birth at home, intended to deliver in health facility and ended deliver home due to long distance and problem of transport(16). Similar findings have been documented by study done at Holota town indicates that, One FGD participant said –some women attend antenatal care throughout the whole pregnancy period but usually they deliver at home because labour is unpredictable and arises suddenly without warning and especially if it is in the night time due to transport problem the women do not have much choice rather than delivering at home".

In Ethiopia, several studies have also shown that antenatal care service utilization is a strong determinant of utilization of institutional delivery. Analysis of 2005 EDHS data showed that seeking assistance during delivery was strongly associated with use of ANC services(36). Moreover, a study from Amhara region North Shewa zone showed that women who had made at least one ANC visit were at least six times more likely than women with no ANC visits to give birth at health facility. In addition, women with five or more ANC visits were at least two or three times more likely to use a health facility for delivery compared with women with two to four visits, or only one visit. Mothers with at least five ANC visits during their last pregnancy were also significantly more likely to give birth in a facility than mothers with only one ANC visit(14).

According to the 2011 Ethiopian Demographic and Health survey (EDHS), 76% of women in urban areas used ANC and 34% as a national(15). A study among expectant mothers in Ghana indicated that women with at least four ANC visits were more likely to give birth in health institutions (37). A similar finding was seen in Holota shows that 87.1% women sought at least one ANC from modern health care providers(17). However, a considerable number do 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 Jimma town (90%), in Jijiga town (82%) and in Hadiya zone (86%) respectively (38-40)

Husband's or partner's approval of ANC was most significantly related to antenatal care attendance. A study in Addis Ababa showed the risk of non-attendance was high for pregnant women whose husband's attitude was negative or unknown A study in Holota showed, women for whom the decision on place of birth made by themselves or jointly with their husbands were two times more likely to utilize DC than women whom decision where to give birth made by others. Women, who had low decision-making power, result from lack of access to and control over economic resources (17). This could be due to the high cost associated with pregnancy-related healthcare services in private health sector and/or women's low autonomy to make decision in the household.

Lack of privacy is also documented as a barrier for delivery in health facilities because some older women they don't want to be attended by younger mid wives at health facilities who they think there are like their daughter or younger women they fair to be attended by male health workers during delivery. In other health facilities there is no special room for delivery; women are just delivering in OPD. This condition hinders women to deliver in health facilities(16, 30).

Health provider behaviour and attitudes are also determinant factor for a choice of place of delivery for pregnant mother, some of the health workers are very rude, using abusive language and refusing to assist the patients, these attitudes prevent the women to deliver in health facilities however positives attitudes of health workers attract women to deliver in health facilities. For example in a study conducted by Mrisho, one women during focused group discussion said *"When I went to the health facility (X) for delivery, I was impressed by the midwife who cared for me so much. She was so human, polite and sympathetic"(16)* This encourages the women to deliver in health facilities. Improves skills and knowledge among health providers and increase access of health services in rural areas will increase access to pregnant mother to deliver in health facility.

The study done in Gondar,Amhara region 44.7% of the respondents reported that labour was short and smooth. The rest 55.3% of the mothers reported preference to give birth in

presence of relatives, trust in TBAs, cultural reason and lack of money as reasons for non-use of health facilities(14)

Media exposure that is frequency of watching television is another important factor identified in the study of 2005 EDHS, influencing utilization of delivery care services. Women who watch television at least once a week are more likely to give birth in a health facility compared with those who never have watched television. As the data from 2000 and 2005 EDHS indicate, in Ethiopia women's exposure to television doubled from 4 percept to 8 percept between the 2000 and 2005 EDHS (8). and also doubled on the data from 2011 EDHS to 22 percent in 2011(15).

Resemble to this a study in Holota shows that, Women who had exposure to Radio or TV were almost three times more likely to attend Delivery Care than those with no exposure to media and those who reported that they had exposure to radio and TV attend Delivery Care two times more than those with no exposure(17).

1.4 Conceptual framework

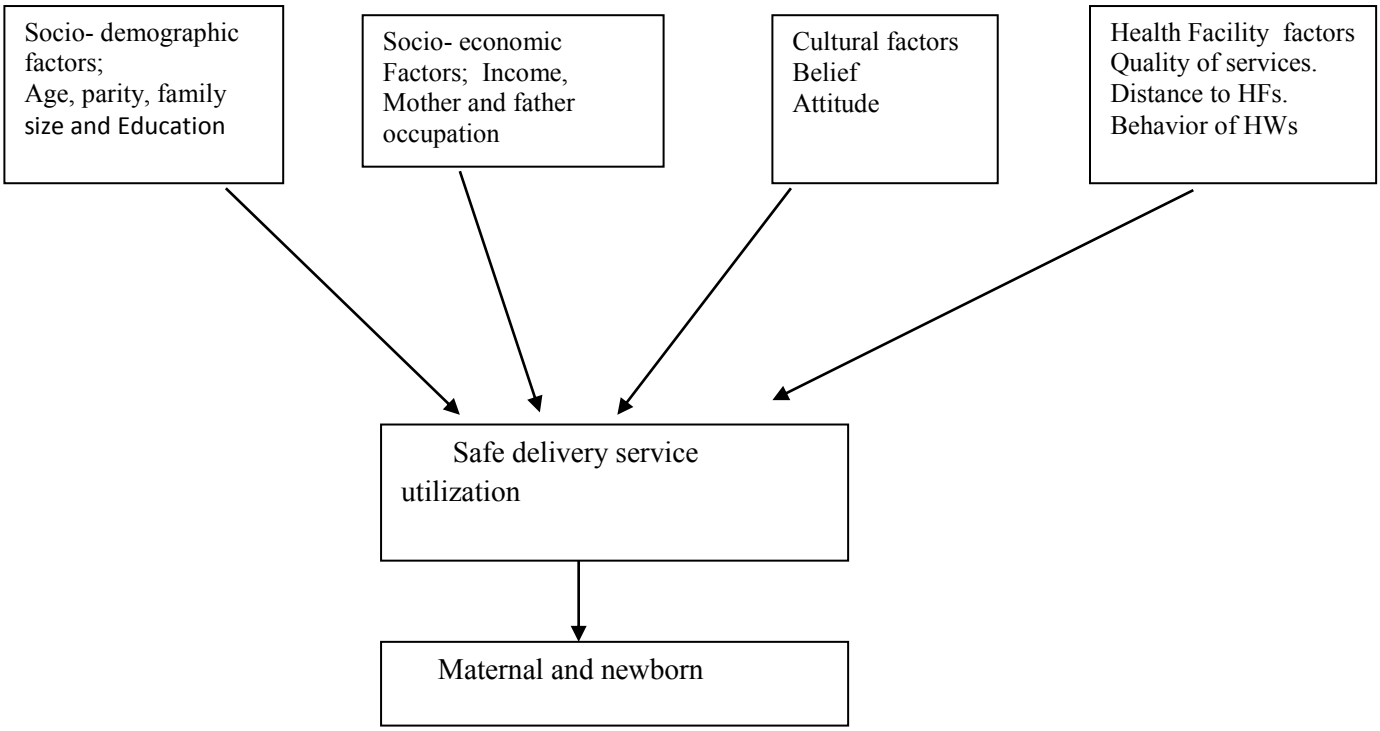

Fig 1; Conceptual framework on assessment of safe delivery service utilization and associated factors among mothers, 2014

This conceptual framework shows that, those factors, which are located at the top boxes (Socio-demographic factors, Socio- economic factors, Cultural factors and Health facility factors) are predisposes mothers either to use or not use safe delivery or health facility and finally the mother will give delivery .

CHAPTER THREE

3. Objectives

3.1. General objective

- To assess safe delivery service utilization and associated factors among mothers who gave birth during five years preceding the survey in Wayu town, Oromia Regional State,2014

3.2. Specific objectives

- To assess safe delivery service utilization among mothers who gave birth during five years preceding the survey
- To identify associated factors among mothers who gave birth during five years preceding the survey

CHAPTER FOUR

4. Methodology

4.1. Study area

The study was conducted in Wayu town which is found in Horro Guduru Wollega zone, Oromia Region. It is one of the towns found in Jimma Rare wereda, located about 300 kilometers from Addis Ababa. In other similar study areahe finding was done in Holota town (61%) ,Afar region, Asayta and Dupti Towns in which delivery service utilization rate was 54.2% (20). The total population of Wayu town is 19647 (Female, 9963 and Male 9684). The Total reproductive age group female is 4322 and the number of mothers who gave birth 5 years before the beginning of January 2014 is 727.

4.2. Study design and study period

4.2.1. Study design:

Community based cross sectional study

4.2.1. Study period:

From January, 2014 -May, 2014

4.3. Source population

All reproductive age group female who are permanent residents of Wayu town

4.4 study population

Mothers who live in the selected kebeles and gave birth in the last 5 years in Wayu town

4.4.1: Inclusive criteria

Mothers who gave birth 5 years preceding the survey, up to beginning of January, 2014

4.4.2: Exclusive criteria

Mothers who didn't gave birth during 5 years preceding the survey

Mothers who were critically ill, mental incompetence

Mothers who gave birth after the beginning of January, 2014

4.5. Sample size

The previous prevalence report on safe deliver utilization in Holota Town was 61% for women (9). Therefore 61% was considered for the calculation of sample size because of Holota town and Wayu town has similar in characteristics or proportion of town. The level of confidence for

the study was 95%, with 5% as the margin of error. An additional 10% was added as a contingency to increase power and compensate for possible non response

$n = Z^2\alpha/2 \times (p) \times (1-p)/w^2$

Where:

- n = sample size
- p = number delivered in health facilities = 61% = 0.61
- q = number delivered out of established facilities = 39% = 0.39
- w= standard error = 5% = 0.05
- Z&/2= Z value of 95% confidence = 1.96 from the Z-table

Substituting the values into the formula: $n = 1.96^2 \times 0.61 \times 0.39 / 0.05^2 = 365$
Since the source population was less than 10,000, using the correction formula the final sample size was: by Correction formula=n/ (1+n/N) =365/(1+365/4322) = 337, where n=calculated sample size, N= total number of Source population
Hence, by adding 10 % non-response rate 337+34=**371**

4.6. Sampling technique

From Four kebeles or Ganda found in Wayu town, one kebele was selected by simple random sampling method and there are 764 households (N) in that kebele and dividing it by sample size (n) the selected study participants (K) was interviewed by using systematic random sampling method (K=N/n=764/371=2.05). Therefore, eligible woman was interviewed by going in every 2 households. For households with more than one eligible woman, interview was done by selecting a women using lottery method although in the event of a household with no eligible woman the immediate next household was interviewed.

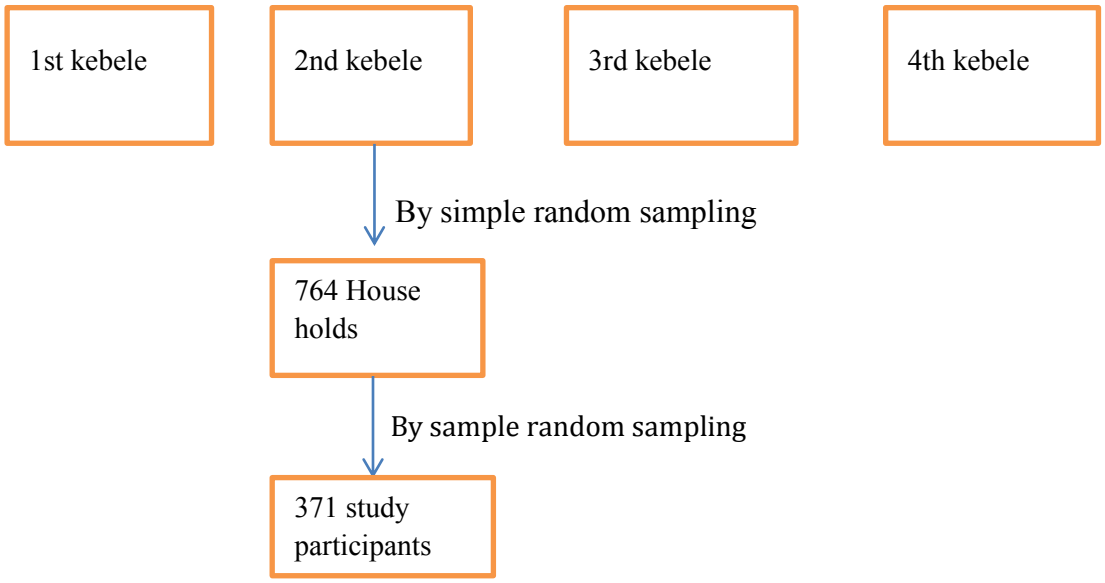

Fig 2, Sampling technique in Wayu town for selection of study participants.

4.7 Data collection tools and procedures

Household survey using structured questionnaire was used for interview in mothers who gave birth in the last 5 yrs. Both closed ended and open ended questions were utilized for data collection.

The English version interview questions were translated into Afan oromo to obtain data from the study participants and to ensure understandability and clarity the contents properly. The Afan oromo version was translated back to English version to ensure consistency.

The questionnaires include items for socio demographic characteristics, antenatal care, past obstetrics history characteristics, socio economic factors and health service utilizations factors. For those mothers who have more than one delivery, the question was focused on the last delivery

Data was collected on daily basis from morning to evening including weekends for the period of two weeks starting from march.10/2014. The questionnaire needs 15-20 minutes to interview one study participants.

4.8 Operational definitions

Safe delivery: means giving birth at health facility in a safe and clean way of service

Utilization; means the extent to which a given group of people uses particular service in a specific period of time.

Preceding a survey: in this study means, the period of 5 years before the period of data collection.

Maternal death; is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

Skilled attendants; refer to people with midwifery skills (midwives, doctors and nurses with additional midwifery education) who have been trained to proficiency in the skills necessary to manage normal deliveries and diagnose, manage or refer obstetric complications' (WHO).

Education; refers to the process of learning by incoming into formal school starting from Grade one to high level.

4.9 Data Quality Control

The investigator was reviewed all the questionnaires, checked for errors and incompleteness at the end of each day. Five Health Extension Workers was participated in data collection as data collectors. Two days of training have been given to data collectors and supervisors on the objectives of the study, the contents of the questionnaire, and particularly on issues related to the confidentiality of the responses and the rights of respondents. One week prior to data collection a pre-test was conducted on 10% of the sample size in other study area

4.10 Data analysis procedure

The data was cleaned, coded, entered, and analyzed using SPSS for windows version 21. Descriptive statistics was computed to assess the safe delivery utilization and association factors. Bivariate and multivariate logistic regression data analysis was performed using SPSS version 21.0 software. Statistical tests were done at a level of significance of $p < 0.05$.

Editing of the data occurred after data entry by running frequencies and checking for out of range responses. Cross tabulation used to check the significant of association between independent variable and the outcome. Association between independent variable and dependent variable was considered significant if P-value is less than 0.05.

Chi-squared test was used to determine associations between independent variables and the outcome. Logistic regression was used to determine independent predictors for utilization of health services for childbirth. Odds ratios (OR) were reported together with their 95% confidence intervals (CI).

The wealth index was constructed using household assets and principal component analysis. Assets information was collected using structured questionnaire during the survey and covers information on household ownership of number of items ranging from television, radio, bicycle, motorbike, phone, refrigerator, car, and possession of house and farm. Wealth index was constructed into five quintiles, the lowest, second, middle, high and higher. These indicates there socio economic status the lowest, second, middle, high and higher respectively.

4.11 Study variable

4.11.1 Dependent variable

Safe delivery service utilization

4.11.2 Independent variable

Socio-demographic variables- Age, marital status, residence, occupation, maternal educational status, ethnicity, religion, monthly income, information access, parity, head of household and size of the family.

Health service related factors- Attendance of antenatal care services, behavior of health works, shortage of drugs, medical supplies and equipment and distance to health facility. Other variables are traditional beliefs, perception of health services delivered and means of transport.

4.11 Ethical Consideration

The study was conducted after getting ethical clearance from Addis Ababa University, College of Health Science, Department of Nursing and Midwifery research committee. Support letter was obtained from Addis Ababa University to Wayu Regional Health Bureau and from Wayu regional health bureau to keels administrative of Wayu town. In addition informed consent was obtained from study participant to confirm willingness for participation after explaining the objective of the study. The respondents were notified that they have the right to refuse or terminate at any point of the interview. The information provided by each respondent was kept confidential and privacy.

4.12 Result dissemination

The final report will be presented as partial fulfillment of the degree of Masters of Science in Maternity and Reproductive Health nursing to the department of Nursing and midwifery, Faculty of Medicine, Addis Ababa University, and a copy will been given to Addis Ababa University, Ministry of Health, Oromia Health Bureau and Wayu Health Bureau. The findings will be presented in different seminars, meetings and workshops and may be published in scientific journals.

CHAPTER FIVE

5. Results

5.1 Socio-demographic characteristics

A total of 371 mothers who gave birth in the five years were interviewed with 100% participation rate. The mean age of the respondents was 28.12 ± 6.63 SD. One hundred seven (28.8%) of the mothers were in the age range of 20 – 24 years. Regarding their marital status, 342(92.2%) of respondents were married and only 3 (0.8%) were single. 237 (63.9%) of the mothers were educated and 134(36.1%) of the mothers were unable to read and write. Out of educated mothers, majority of them 159 (66%) were attended primary and secondary education.

Among the respondents, majority of them 150 (40.4%) of mothers were housewives, 352(94.9%) were Christian and 369 (98.9%) were Oromo. As to the husband's occupational status, the majority 182(51.1%) were self-employed. One hundred four (28.0%) of the respondents had radio and 27 (7.3%) had TV, and the other 64.7% did not possess media of communication. (Table- 1).

Table 1; Socio-demographic characteristics of mothers (N = 371) in Wayu town, Oromia Region, May, 2014

Socio demographic Variables	N (%)
Age of mother	
15-19	15(4.0)
20-24	107(28.8)
25-29	104(28.0)
30-34	67(18.1)
35-39	42(11.3)
40-44	29(7.8)
45-49	7(1.9)
marital status	
Single	3(0.8)
Married	342(92.2)
Divorce	8(2.2)
Widow	4(1.1)
Separated	14(3.8)
Education status	
Unable to read & write	134(36.1)
Non-formal education	39(16.5)
Adult education	39(16.5)
Primary education	58(24.5)
Secondary education and above	101(41.5)
Religion	
Muslim	19(5.1)
Christian	352(94.9)
Ethnicity	
Oromo	367(98.9)
Amhara	4(1.1)
Occupation of respondents	
House wife	150(40.4)
Peasant	34(9.2)
Self employed	121(32.6)
Employed by Government	52(14.0)
Other	14(3.8)
Occupation of Husband (n=356)	45(12.6)
Peasant	1(0.3)
Pastoralist	182(51.1)
Self employed	125(35.1)
Employed by Government	30(0.8)
Other	

Table 1; Socio-demographic characteristics of mothers (N = 371) in Wayu town, Oromia Region, May, 2014(*continued*)

Head of the Household	
wife	**41(11.1)**
husband	**309(83.3)**
both	**21(5.7)**
Parity	
1	83(22.4)
2-3	110(29.6)
4 and above	178(48.0)
Family size	
less than 3	59(15.9)
3-6	177(47.7)
7 and above	135(36.4)

5.2 Utilization of Antenatal care and place of Delivery

Among 371 respondents, 298 (80.3%) had attended antenatal clinic (ANC). Out of 298 women attended antenatal clinic most of them, 244 (81.9.7%) attended less than four visits and 54 (18.1%) attended more than four visits. Only 73(19.3%) of respondents they never attended antenatal clinic and the reasons behind were; majority of them 58 (79.5%), they didn't see any importance of attending antenatal clinic.(Table 2)

Table 2: Antenatal clinic attendance (n=298)) in Wayu town, Oromia Region, May, 2014

Category of ANC visits	**Number**	**Percentage**
1	19	6.4
2-4	225	75.5
greater than 4	54	18.1
Total	298	100

Place of delivery

On one hand, Out of 371 women with children less than 5 years, 175 (47.2%) had skilled worker deliveries in health facilities and 196 (52.8%) deliveries were conducted by unskilled personnel, 52 (14%) deliveries conducted by Traditional birth attendants and 142 (38.3%) occurred at home without any assistance of skilled personnel while only two delivery occurs on the way to health facility.

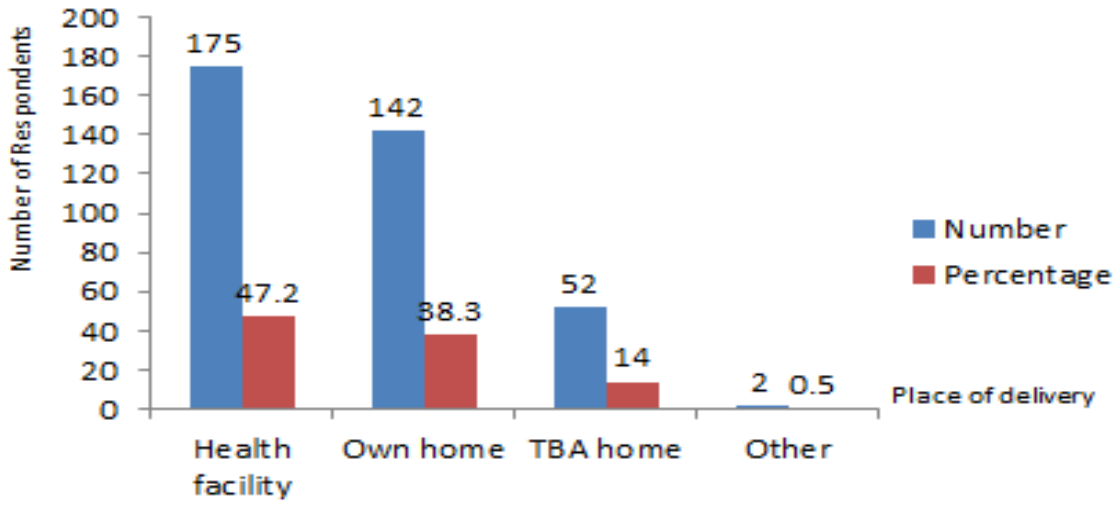

Fig 2: Distribution of respondents by place of delivery (N=371 in Wayu town, Oromia Region, May, 2014

Fig 3: Distribution of respondents by place of delivery (N=371 in Wayu town, Oromia Region, May, 2014

5.3 Reasons for Unskilled assistance in delivery among women who intended to deliver at Health Facility

184 (49.6%) of respondents who had delivered without assistance of skilled attendants they intended to deliver in health facilities and the rest 12(3.2%) they wants to deliver at home Reasons given by respondents ,which hinders them to deliver at health facility, majority of them 118 (31.8%) were delivered without assistance of skilled attendants due to Sudden onset of labor and Others response were as follows; 12(6.5%) Lack of transport to health facility, 15(8.2%) Bad behavior of health workers, 10(5.4%) Poor belief to modern medicine, and 29(15.8%) other like culture, religion, fear, lack of knowledge

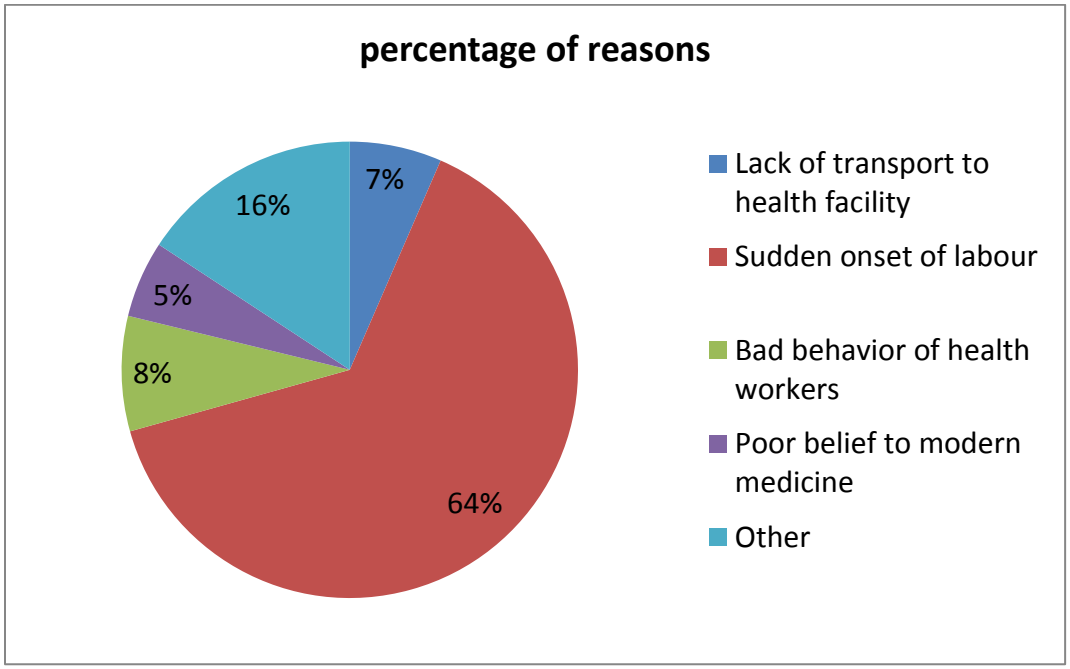

Fig 4: Reasons for Unskilled assistance in delivery among women who intended to deliver at HF (n=184) in Wayu town, Oromia Region, May, 2014

5.4 Proportion of women who attended antenatal clinic and delivered in health facilities

Out of 298 women attended antenatal clinic, 155(88.6%) delivered in health facilities and 53(27%) of women who had never attended antenatal clinic at least once they all deliver without assistance of skilled personnel. The association between antenatal clinic visits and delivery in health facilities is significant as women who attends antenatal clinic were more likely to deliver in health facilities compared to those who do not attend.

5.5 Reasons for poor satisfaction with services at health facilities

Regarding the time taken to reach health facility all the respondents spent less than 30 min to reach the health facility or they lived less than 1 kilometer from health facility. 161(92%) of the women were satisfied with the services provided at health facilities while 14 (8%) of the respondents were not satisfied with the services provided at health facilities. Even though most of the respondents are satisfied, The main reasons for not satisfied with the services at health facilities were; shortage of drugs and supplies 3 (21.4%), bad behavior of health workers 2(14.3%), Lack of privacy 2(14.3%), and Other reasons7(50%) were as follows; Poor services at health facilities ,long waiting time and discomfort.

Reasons for not delivering in health facilities

Reasons given by respondents on why women are not delivering in health facilities, 125 (63.8%) were sudden onset of labour, 30(14.3%) presence of TBAs who are competent and provide friendly services, 2(1%) Negative attitude of health workers to pregnant mothers and other such like 39(19.9%) of the women they Believe in God, Fear of high cost services, Lack of skilled personnel, Poor services, Negligence of women. (Table 3)

Table 3: Reasons for not delivering in health facility among recent delivered women (n=196) in Wayu town, Oromia Region, May, 2014

Reasons for not delivering in health facility	Number	percentage
Sudden onset of labour	125	63.8
Bad behavior of health workers	2	1.0
Presence of TBA's	30	15.3
Believing in God	8	4
Fear of high cost services	5	2.5
Lack of skilled personnel	3	1.5
Poor services	3	1.5
Negligence of women	4	2.0
Not safe	2	1.0
Fear of operation	5	2.5
Lack of knowledge	4	2.0
Depend on culture	3	1.5
Don't know	2	1.0
Total	196	100
Reasons for poor satisfaction (n=14)		
No drugs and supplies	3	21.4
Bad behavior of health workers	2	14.3
Lack of privacy	2	14.3
Other	7	50.0
Total	14	100.0

5.6 Social- economic status and delivered in health facility.

Socio economic status was classified according to wealth index using principal component analysis where by women were categorized into five quintiles from lowest, second, middle, high and higher which indicates their social economic status respectively as shown in table 8 below. There were strong association between the place of delivered and socio economic status of household (P value less than 0.05)

Although 48(50.5%) of women who can afford the cost of transport when referred to other health facility delivered in health facility compared to 114 (41.8%) of who cannot afford delivered in health facility, the difference was not statistically significant.

5.7 Cultural factors and delivery in health facility

Almost all of the respondents 366 (24.8%) reported that there is no any cultural issue concerning delivery or any traditional medicine that must be taken before or after delivery. But, Only 5(1.3%) of the respondents reported that delivery should be conducted at home and delivery at health facilities are beneficial for those with complications only and traditionally women before delivery apply slight massage by butter on the uterus to enhance the process of delivery and they were given by traditional birth attendants, prepare materials and cultural foods.

5.8 Factors associated with institutional delivery service utilization

Associations that found to be significant in the bivariate analysis at a p-value <0.05 were included in the multivariate analysis to determine which factors best explained or predicted delivery in health facility.

Included variables were ; maternal education status, husband occupation, occupation of the respondent's, frequency of antenatal clinic visit, parity, family size and socio economic status factors

After controlling for other factors, Husband occupation, occupation of the respondent's, Family size and husband occupation were not found to be significant and were excluded in the subsequent steps of analysis.

In the multivariable logistic regression analysis only, educational status of the mother, parity, Number of ANC visit and socio economic status were found to be significantly associated with the institutional delivery service utilization [Table 5].

Table 4: Bivariate analysis of factors associated with skilled delivery service utilization among mothers in Wayu town, Oromia state, May- 2014

Covariate	Delivery service utilization		Crude OR (95% CI)
	Yes (%)	No (%)	
Age of respondents			
15-19	7(4.0)	8(4.1)	1
20-24	53(30.3)	54(27.6)	0.892 (0.302-2.633)
25-29	42(24)	62(31.6)	1.292 (0.435-3.832)
30-34	32(18.3)	35(17.9)	0.957 (0.312- 2.939)
35-39	21(12)	21(10.7)	0.875 (0.269- 2.850)
40-44	16(9.1)	13(6.6)	0.711 (0.204- 2.483)
45-49	4(2.3)	3(1.5)	0.656 (0.108- 4.003)
Education of a respondents			
No formal education	24(18.3)	15(14.2)	1
Adult education	24(18.3)	15(14.2)	1.000 (0.402-2.490)
Primary education	28(21.4)	30(28.3)	1.714 (0.751-3.914)
Secondary education and above	65(42.1)	46(43.4)	3.200 (1.145-8.944)
Religion			
Muslim	5(2.9)	4(2.0)	1
Christian	170(97.1)	192(98.0)	1.412(0.373-5.343)
Marital status			
Married	13(7.4)	16 (8.2)	1
Others(single, Divorce)	162(92.6)	180(91.8)	0.903(0.421- 1.934)
Head of household			
self	13(7.4)	6(3.1)	1
Husband	149(85.1)	181(92.3)	1.106 (0.576-2.122)
Others(both, Father in law)	13(7.4)	9(4.6)	0.714 (0.248-2.060)

Table 4: Bivariate analysis of factors associated with skilled delivery service utilization among mothers in Wayu town, Oromia state, May- 2014(*continued*)

Occupation of respondents			
House wife	**50(28.6)**	**100(51)**	**1**
Peasant	**17(9.7)**	**17(8.7)**	**0.500 (0.235-1.062)**
Self employed	**60(34.3)**	**61(31.1)**	**0.508 (0.311-0.832)**
Governmental employee	**39(22.3)**	**13(6.6)**	**1.167 (1.082-2.340)**
Other*(students,priests)*	**9(5.1)**	**5(2.6)**	**0.278 (0.088-1.873)**
Husband occupation			
Peasant	21(12.6)	24(12.7)	1
Pastoralist	0(0.0)	1(0.5)	0.455 (1.44 - 0.311)
Self-employed	68(40.7)	114(60.3)	1.467 (0.760- 2.833)
Governmental employee	78(46.7)	47(24.9)	1.527 (1.265- 2.050)
Other(*students,priests*)	0(0.0)	3(1.6)	0.413 (0.257- 2.200)
Parity			
1	49(28.0)	34(17.3)	1
2-3	55(31.4)	55(28.1)	1.441 (0.811-2.562)
4 and above	71(40.6)	107(54.6)	2.172 (1.278-3.692)
No of ANC visit			
1	6(3.8)	13(9.3)	1
2-3	114(72.2)	111(79.3)	0.190(0.013 - 0.543)
4 and above	38(24.1)	16(11.4)	0.664(0.411 - 1.072)
Family size			
less than 3	31(17.7)	28(14.3)	1
3-6	99(56.6)	78(39.8)	0.872 (0.483- 1.575)
7 and above	45(25.7)	90(45.9)	1.214 (1.187- 4.132)
Socio economic status			
Lowest	43(24.6)	32(16.3)	1
Second	50(28.6)	56(28.6)	0.505 (0.830 - 2.730)
Middle	46(26.3)	84(42.9)	1.454 (1.371 - 4.391)
High	17(9.7)	10(5.1)	2.790 (2.320 - 3.954)
Higher	19(10.9)	14(7.1)	3.990 (2.433 - 5.267)

Table 5: Multivariate analysis of factors associated with skilled delivery service utilization among mothers in Wayu town, Oromia, may- 2014

Covariate	Delivery service utilization		Adjacent OR (95% CI)
	Yes (%)	No (%)	
Education of respondents			
No formal education	24(18.3)	15(14.2)	**1**
Adult education	24(18.3)	15(14.2)	**0.983 (0.341, 2.834)**
Primary education	28(21.4)	30(28.3)	**1.834 (0.701, 4.802)**
Secondary education .and above	65(42.1)	46(43.4)	3.746 (1.118, 12.552)
Parity			
1	49(28.0)	34(17.3)	**1**
2-3	55(31.4)	55(28.1)	**1.077 (0.379, 3.059)**
4 and above	71(40.6)	107(54.6)	2.620 (1.294, 2.885)
No of ANC visit			
1	6(3.8)	13(9.3)	**1**
2-3	114(72.2)	111(79.3)	0.460 (0.271, 0.783)
4 and above	38(24.1)	16(11.4)	**2.331 (0.180, 30.283)**
Socio economic status			
Lowest	50(28.6)	100(51)	1
Second	17(9.7)	17(8.7)	0.542 (0.189, 1.555)
Middle	60(34.3)	61(31.1)	0.551 (0.143, 2.124)
High	39(22.3)	13(6.6)	**1.461 (1.283, 7.550)**
Higher	9(5.1)	5(2.6)	**2.457 (1.054, 3.837)**

CHAPTER SIX

6. Discussion

This study has attempted to assess safe delivery utilization and factors that affect positively or negatively delivery in health facilities among women with children less than 5 years, in Wayu town, North west oromia state. In Bivariate analysis the significant factors were maternal education level, husband occupation, occupation of the respondent's, frequency of antenatal clinic visit, parity, family size and socio economic factors. In Multivariate analysis maternal education, parity, socio economic status, and frequency of antenatal care visit were statistically significant predictors with delivery in health facility.

The study results showed that institutional delivery service utilization was 47 % and the majority of mothers (53%) gave birth at home. This study finding was higher than National, 2011 EDHS (10%) and In Some places like: Gondar, Amhara (13%) Dodota woreda, oromiya (18%), Sekela District (12%), Arsi zone (16%), Tigray region (4.1%), Metekel zone (12%) (14, 17-19). This might be due to the time gap. That means since 2011 there could be improvement in accessing and utilizing the service as well as this study included only Urban Kebeles in which negative influence of husbands and family members could be lower than Rural Kebeles, and urban mothers might be able to decide on their own health. But, in relation to other area, this study was less than a study done in Holota town (61%), Asayta Towns (54.4%), Zambia (42.8%) and Tanzania countries (46.7%), (14,19,20). This difference might be attributable to the economic difference that mothers in this area could have better socio economics and educational status.

6.1 Social demographic characteristics and delivery in health facility

Several studies shows that women age, marital status, parity, level of education, family size, women occupation, husband occupation and head of household can influence the choice for place of delivery. Regarding to age of respondents, in Uganda study after multivariate analysis, the results showed that age was not significant influence to the place of delivery. Similarly in this finding shows there is no relationship between maternal age and delivery in health facility (AOR=0.106, 95% CI= 0.008, 1.392).

Maternal education is the most important determinants for health services use. it is argued that better educated women are more aware of health problems, know more about the availability of health care services, and use this information more effectively to maintain or achieve good health status. Various studies noted that more educated women are more likely to use skilled birth attendants than not educated women(14,31). A study in Bangladesh found that 74% of women with more than ten years of education used skilled birth attendants during delivery compared to 18% who are uneducated. In our country, Also a study in Gondar reveal that Women with higher level of education (secondary and above) were 10.6 times more likely to use safe delivery services than those with lower education levels. Similar to this, in this study women with higher level of education (secondary and above) were 3.7 times more likely to use safe delivery services than those with lower education levels (AOR=3.746, 95%CI= 1.118, 12.552)

Study in Kenya shows that women with more than one child and older were more likely to deliver at home compared to young women and with single parity, Similar study in Gondar indicates that, The probability of giving birth at health facilities decreased in grand- multipara (>=5 birth) mothers than births of four or less. In contrast to this, this finding shows that women with more than four children and older were 2.9 times more likely to deliver at health facility compared to young women and with single parity (AOR=2. 620,95%CI= 1.294, 2.885) This might be due to delivery complications and pain that they experienced in previous Home delivery and most of the time delivery complications increased in multipara.

A study in Nkasi District, Tanzania the findings show that married women were four times less likely to deliver in health facility than single mothers. Similar findings have been found by the study done in Botswana on the factors associated with non-use of maternal health services in which married women utilizes less health facility during delivered(34). In this study findings show that marital status were has no relation to deliver in health facility (AOR=0.903, 95%CI= 0.421- 1.934).

Several studies find that higher status occupation of the husband is associated with skilled attendance at delivery. This study found that women with husband have no relation to deliver in health facilities. In many studies women occupation is associated with place of deliver in which those with higher income are more likely to deliver in health facility compared to

those of low income and sometimes it's confounding with the level of education. But, in this study women occupation and delivery in health facility was not statistically significant. (AOR=1.467, 95%CI= 0.760, 2.833)

6.2 Proportion of women attending antenatal clinic and delivery in health facility

Antenatal care (ANC) services provide opportunities for health workers to promote a specific place of deliver or give women information on the status of their pregnancy, which in turn informs their decisions on where to deliver. Risk assessment during ANC may explicitly recommend a place of delivery, for instance to deliver in a hospital for a twin pregnancy. Under normal circumstances, WHO recommends that pregnant mother without any complications have at least four antenatal care clinics to provide sufficient information of her own health and developing embryo.

In this study, 298 (80.3%) had attended antenatal clinic (ANC). this is slightly higher than that of national estimate of 34% (EDHS -2011) (15) and slightly lower than findings of studies conducted in Holota town (87.1%), Jimma town (90%), in Jijiga town (82%) and in Hadiya zone (86%) respectively (38-40). This study also found that Concerning to number of ANC visit, Out of 298 women attended antenatal clinic, most of them 244 (81.9.7%) attended less than four visits and 54 (18.1%) attended more than four visits.

A study from Amhara region North Shewa zone showed that women who had made at least one ANC visit were at least six times more likely than women with no ANC visits to give birth at health facility (14). The findings correlate with the study done in Rwanda where by the odds of delivering at health for women who attended ANC more than four visits were higher than those who attended only once (31). In this study, the relationship between place of delivery and frequency of antenatal visit was significant as those who attended antenatal clinic less than four visit were less likely to deliver in health facility compared to those who attended antenatal clinic greater than four times.(AOR=0.460, 95% =0.271, 0.783), P value <0.005). This might be due to the fact that during antenatal clinic visits, especially if started early, women are provided with health education and information about the benefits of delivering in health facility.

6.3 Health service factors and health facility delivery

Home delivery was 196 (52.6%) which is not very high compared to study conducted in national EDHS 2011 where by 76.4% of the deliveries assisted by untrained traditional birth attendants or by relative (13). Out of 196(52.6%) mothers who delivered at home, 184 (49.6%) were intended to deliver in health facilities and the main reasons for delivering the place where they deliver were, majority of them 118 (31.8%) were delivered without assistance of skilled attendants due to Sudden onset of labour ,12(6.5%) Lack of transport to health facility, 15(8.2%) Bad behavior of health workers, 10(5.4%) Poor belief to modern medicine, and 29(15.8%) others like culture, religion, fear, lack of knowledge**.** Similar finding had been reported by the study done in Gondar,Amhara region 44.7% of the respondents reported that labor was short and smooth. The rest 55.3% of the mothers reported preference to give birth the in presence of relatives, trust in TBAs, cultural reason and lack of money as reasons for non-use of health facilities(14).

Out of mothers who gave birth at Health facility,161(92%) of the women are satisfied with the services provided at health facilities while 14 (8%) of the respondents are not satisfied with the services provided at health facilities. Even though most of the respondents are satisfied, The main reasons for not satisfied with the services at health facilities were; shortage of drugs and supplies 3 (21.4%), bad behavior of health workers 2(14.3%), Lack of privacy 2(14.3%), and Other reasons7(50%) were as follows; lack of skilled personnel, Poor services at health facilities ,long waiting time and discomfort. Similar to this study, a study in Zambia found that 32% of women said they would not deliver in health facility because of shortage of staff. Even if competent staffs are available, they cannot use their skills without medical supplies and equipment's. The study found that 122 (65.2%) Of the women were not satisfied with the services at health facilities due to shortage of medical equipment, drugs and supplies. (30)

Several studies found that women with higher socio economic status were associated with skilled attendance during delivery. This study found that women with higher socio economic status were two times more likely to deliver in health facility compared to those with lowest socio economic status(AOR=2.457, 95%CI=1.054, 3.837). The study also revealed that 259(69.8%) of the respondents had radio and 207(55.8%) had TV, and the rest did not possess media of communication. Similar finding with the study done in Bahi district in Tanzania also has

similar findings where by the odds of delivery in health facility was higher in women with high income group compared to those with lower income group (OR=2.3 CI=1.23-3.97) (19). Even though, the classification of wealth index was based on household assets, the finding was Similar to the study done in Sekela Amhara Region, Economically, 97 (26.1%) of the households had monthly income of between 60 – 408 ETB and 93 (25.1%) had 694 – 987 ETB monthly income based on quartile classification. One hundred four (28.0%) of the respondents had radio and 27 (7.3%) had TV, and the other 64.7% did not possess media of communication**.** Due to this majority of the respondants haven't get information related to health related from media and this might be affect safe delivery utilization.

Social and cultural factors primarily influence the women decision making whether to seek care or not rather than affecting women to reach health facility. In this finding, Almost all of the respondents 366 (24.8%) reported that there is no any cultural issue concerning delivery or any traditional medicine that must be taken before or after delivery. But, Only 5(1.3%) of the respondents reported that delivery should be conducted at home and delivery at health facilities are beneficial for those with complications only and traditionally women before delivery apply abdominal massage by butter on the uterus to enhance the process of delivery and they were given by traditional birth attendants, prepare materials and cultural foods Consistent to this Many studies reported some traditional belief that affect the choice for place of delivery, A study in northern part of Tanzania found that women belief that normal delivery should be conducted at home and delivery at health facilities are beneficial for those with complications only (16). Also study in North Gondar Amhara Region, Only 50 (12.2%) urban women and 324 (39%) rural women practiced abdominal massage during labor(14)

6.4 Study limitations.

There is a possibility of recall bias in the study, some of the respondents were unable to recall well the various information concerning antenatal clinic visits, their age and events within the last five years prior to the survey despite the fact that, the most recent births were considered.

Since it is a cross-sectional study in which temporal relations could not be assessed.

CHAPTER SEVEN

7. Conclusion and recommendations

7.1 Conclusions

Maternal health care services provided by well trained and equipped health workers is widely recognized as an important protective factor against maternal and new born morbidity and mortality. Inadequate (47%) institutional delivery service utilization was observed in the study area though 80.3% of the mothers attended ANC services during their last pregnancy. A large proportion (53%) of mothers gave birth at home without a skilled attendant. Out of home deliveries, 52 (14%) deliveries conducted by Traditional birth attendants and 142 (38.3%) occurred at home without any assistance of skilled personnel while only two delivery occurs on the way to health facility. The common reasons for home delivery were sudden onset of labor ,presence of TBAs, Negative attitude of health workers, Believe in God, Fear of high cost services, Lack of skilled personnel, Poor services, Negligence of women.

Associated factors such as maternal education status, parity, socio economic status, and frequency of antenatal care visit were statistically significant predictors with delivery in health facility. Delivery in health facility increased with increase the level of education , by increased the number of antenatal care visits, by increased the number of family size and in higher socioeconomic status and delivery services were significantly associated with skilled delivery service utilization .

In this study, age of the woman, marital status, Religion, Ethnicity, family size, occupation of husband, occupation of mothers and head of household had no significant association with delivery in health facility.

7.2 Recommendations

Based on the results of this study, the following recommendations are made;

- Community education about pregnancy, child birth and postpartum, particularly the danger signs of pregnancy, labour and delivery, the actions ensuing complication and the importance of using institutional delivery service at every childbirth should be given to every mother who came to health facility in general and at ANC visits in particular.
- Training all Health care providers for increasing their knowledge skills and attitudes towards delivery service utilization, and to minimize factors.
- Information, education, communication, and empowering mothers is essential, and could help them in decision making regarding their own health, being committed to use the services and able to persuade their partner and family members if they encountered opposition
- A qualitative study approach using in depth interview or focus group discussions need to be conducted in both urban and Rural of the wereda and should involve health care providers to have deeper understand of factors affecting delivery in health facility.

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Annex 1:

English version questionnaire

Addis Ababa University,

Medical Faculty Department of maternity and reproductive Health:

Survey questionnaire on Assessment safe delivery service utilization and associated factors among mothers who gave birth during five years preceding a survey in Wayu town, Oromia Regional State

1. Questionnaire Identification number /____/_____/___.

2. Kebeles _____ Village_____ Woreda _____

3. Zone _____

4. Region _____

Introduction

My name is_____ I am working for a thesis research project conducted in Addis Ababa University to assess safe delivery service utilization and associated factors among mothers who gave birth during five years preceding a survey in Wayu town, Oromia Regional State.

Confidentiality and consent: –I'm going to ask you some very personal questions that some people find difficult to answer. Your answers are completely confidential. Your name will not be written on this form, and will never be used in connection with any of the information you tell me. You do not have to answer any questions that you do not want to answer, and you may end this interview at any time you want to. However, your honest answers to these questions will help us better understand what people think, say and do about certain kinds of behaviors. The main aim of the study is to assess safe delivery service utilization and associated factors among mothers who gave birth during five years preceding a survey. We would greatly appreciate your help in responding to this survey. The survey will take about 20 minutes to ask the questions. Would you be willing to participate?"

(Indicate by ticking the appropriate response)

Yes_____ No _____

Signature of interviewer certifying verbal informed consent _____.

5. Interviewer code _____/_____/

6. Date of interview____/____/___/ Time _____

7. Checked by supervisor: Signature_____ Day _____ Month_____ Year_____

Questionnaires

1. How old are you? ……

   Date of birth/ years

2. Do you know to write and read?

   1. Yes

   2. No

3. If yes, what is the level of education that you have attained?

   1. No formal education

   2. Adult education

   3. Primary education

   4. Secondary education

   5. Collage education

   6. Other specify …….

4. What is your religion?

   1. Muslim

   2. Christian

   3. Other specify ……

5. To which ethnicity do you belong? …….
6. What is your marital status?

   1. Single

   2. Married

   3. Divorce

4. Widow

5. Separated

7. What is your occupation?

    1. House wife

    2. Peasant

    3. Pastoralist

    4. Self employed

    5. Employed by Government

    6. Other specify…….

8. What is your husband's Occupation?

    1. Peasant

    2. Pastoralist

    3. Self employed

    4. Employed by Government

    5. Other specify ……

9. How many children did you give birth? ……
10. How many people are living with you in your house hold? ……
11. Who is the head of the house hold?

    1. Yourself

    2. Your husband

    3. Other specify ……..

12. When did you have your last birth? …….
13. Have you ever attended Antenatal clinic in your last pregnancy?

1. Yes

2. No (If no skip to question 15)

14. If yes, how many times did you attended in the last pregnancy? ……

15. If no why?

1. I didn't see any importance of antenatal clinic

2. Long distance to health facility from home.

3. High cost of services.

4. Bad behavior of health workers

5. Other specify …….

16. Where did you deliver your last baby?

1. Own home

2. TBA's home

3. Health facility

4. Other specify ……

17. Was that the place you intended to deliver?

1. Yes (if yes skip to question number 20)

2. No

18. If no where did you intended to deliver?

1. Own home

2. TBA's home

3. Health facility

4. Other specify ……

19. What are the reasons that made you to deliver the place you had delivered?

    1. Lack of transport to health facility
    2. Long distance to health facility
    3. Sudden onset of labour
    4. Bad behavior of health workers
    5. Poor belief to modern medicine
    6. Other specify …….

20. Does the household own which of the following?

    1. Radio
    2. Television
    3. Fridge
    4. Phone
    5. Bicycle
    6. Motor bike
    7. Car
    8. Farm
    9. House

21. What is the means of transport when a pregnant mother referred to district hospital?

    1. Own transport
    2. Public transport
    3. Ambulance

4. Other specify ……..

22. Are you able to afford the cost of transport when referred to another health facility?

    1. Yes

    2. No

23. If yes what will you do to get money to reach a required health facility?

    1. Borrowed money from neighbor/ friend

    2. Sell property

    3. Sell a piece of land

    4. Refuse referral

24. On average how far is the health facility from your home?

    1. Kilometers…….. 2. Hours ……..

25. Are you happy with the services provided at your health facility?

    1. Yes (If yes skip to question 27)

    2. No

26. If no, what things make you unhappy with the services provided at your facilities?

    1. No drugs and supplies

    2. Bad behavior of health workers

    3. Lack of privacy

    4. Other specify …….

27. What makes women not deliver in the nearby health facility?

    1. Sudden onset of labour

2. Bad behavior of health workers

3. Long distance to health facility

4. Presence of TBA's

5. Other specify …….

28. Is there any traditional habit in your community that should be done before delivery?

……

……

……

29. Is there any traditional issue that prevents women to deliver in health facilities at community?

……

……

30. What is your recommendation for improving services in your health facility?

1. Increase number of health workers

2. Improve availability of drugs and supplies

3. The health workers should respect the women

4. We need ambulance

5. Other specify ……..

Annex 2:

Afan Oromo Version questionnaire

Addis Abaabaa Universiitii

Faakalitii medikaalaatti departimeentii Maternitii fi Reprooductiivii fayyatti.

Gaaffii magaalaa waayyuu kan naannoo oromiyaa keessatti kan argamu waa'ee yaalii mana yaalatti da'umsa haadholiif kennamanii fi sababa wal qabatan otoo daataan hin funaanamiin dura waggaa 5 keessatti da'an

1. lakk. Adda baafannoo gaaffii /____/_____/___.

2. kabalee _____ Ganda_____ Aanaa_____

3. Goodina_____

4. Amantii _____

Seensa

Maqaan koo _____ jedhama. Ani qorannoo teesisii Addis ababaa universitii tti ta'u hojjechaan jira. mata dureen ani irratti hojjedhu magaalaa waayyuu kan naannoo oromiyaa keessatti kan argamu waa'ee yaalii mana yaalatti da'umsa haadholiif kennamanii fi sababa wal qabatan otoo daataan hin funaanamiin dura waggaa 5 keessatti da'an irratti qorachuun barbaada.

Walii galtee ~~–a~~ni amma gaaffii dhuunfaa ta,an si gaafachuun barbaada. Icciitiin deebii keen i eegama. Maaankee gaafii waraaa kana irratti hin barreeffamu.gaaffii deebisuu hin barbaanne hin deebistu. Sa'atii barbaaddetti gaafii deebisuu dhiisuu keetti mirga guutuu qabda. Gruu,dhugummaa dhaan gaaffii kana yoo deebisten anaafis ummataafis qorannoon kun baay'ee faayidaa qaba. Kaayyoo guddaan orannoo kanaamagaalaa waayyuu kan naannoo oromiyaa keessatti kan argamu waa'ee yaalii mana yaalatti da'umsa haadholiif kennamanii fi sababa wal qabatan otoo daataan hin funaanamiin dura waggaa 5 keessatti da'an irratti qorachuufi dha. Gaafiif deebbin kun yoo xiqqaate daqiiqaa 20 fudhata. Kanaafuu gaffii kana deebisuuf hrmaachuu barbaadduu?"

(mallattoo sirrii dhaan agarsiisi)

Eeyyee_____ lakki _____

Mallattoo gaafataa walii galtee kana mirkaneessu _____.

5. Kooddii Gaafatamaa _____/_____Maqaa _____

6. Guyyaa___/___/___/Yeroo _____

7. soperviserii dhaan mirkaneeffamuu_____ Guyyaa _____ ji'a_____ waggaa_____

Gaaffilee gaafataman

1. umriin kee meeqa dha?----------

   guyyaa dhalootaa dhaan

2. Dubbisuu yookiin barreessuu dandeessaa?

   1. eeyyee

   2. lakki

3. Eeyyee yoo ta'e sadarkaa barumsa ati argattee jirtu maali?

   1. nama hin baranne

   2. barnoota ga'eessaa

   3. barnoota sadarkaa 1ffaa

   4. barnoota sadarkaa 2ffaa

   5. barnoota colleege

   6. kan biroo(adda baasi) …….

4. Amantiin kee maali dha?

   1. Musliima

   2. kiristaana

   3. kan biroo(adda baasi) ……

5. Gosni sabakee maali? …….
6. Haalli gaa'ila kee maali?

   1. qofa galeess

   2. kan heeruumte

   3. kan wal hiikte

4. kan abbaan manaa jalaa miidhame

5. kan adda bahaanii jiraatte

7. Hojiin kee maali dha?

    1. haadha manaa

    2. qotee bultuu

    3. tiksfattuu

    4. hojii dhuunfaa

    5. hojii mootummaa

    6. kan biroo(adda baasi) ……

8. Hojiin abbaa manaa kee maali dha?

    1. qotee bulaa

    2. tikfataa

    3. hojii dhuunfaa

    4. hojii mootummaa

    5. kan biroo(adda baasi) ……

9. Ijoollee meeqa godhattee turtee? ……
10. Namoota meeatu mana kee keessa si wajjin jiraatuu? ……
11. Itti gaafatamaan manaa eenyu dhaa?

    1. Ofuma

    2. Abbaa manaa kee

    3. Kan biroo (adda baasi) ……

12. Akkamiin deessee mucaakee isa dhumaa? …….
13. Ulfa kee isa dhumaa irratti, of sakatta'uuf gara eegumsa fayyaatti deddeeb'aa turtee?

    1. eeyyee

    2. lakki (lakki yoo ta'e gaaffii 15 faa irra utaali)

14. Eeyyee yoo ta'e, ulfa kee isaa dhumaa irratti si'a meeqa of illaalchisteettaa yookiin sakattaasifteettaa? ……
15. Lakki yoo ta'e, maaliif?

    1. Faayidaa ulfa ilaalchisuu waan argineef

    2. Eegumsi fayyaa fagoo wan na irraa ta'eef

    3. Gatii mi'aawaa waan ta'eef

    4. Hojjeettootni fayyaa amala gaarii waan hin qabneef

    5. Kan biroo(adda baasi) ……

16. Eessatti deessee mucaa kee isa dhumaa?

    1. Manatti

    2. Mana ogeessa deesiftuu aadaatti

    3. Eegumsa fayyaatti

    4. Kan biroo(adda baasi) ……

17. Bakkichi bakka itti ati da'uuf karoorte turee?

    1. Eeyyee (Eyyee yoo ta'e. gara gaaffii 20 tti darbi)

    2. Lakki

18. Lakki yoo ta'e eessatti da'uuf feetu tirtee?

    1. Manatti

    2. Mana ogeessa deesiftuu aadaatti

3. Eegumsa fayyaatti
4. Kan biroo(adda baasi) ……

19. Sababni bakkichatti akka deessuuf si kakaasee ture maal turee?

1. Hanqina geejibaa gara eegumsa fayyaa kan geessu
2. Fagina karaa gara eegumsa fayyaa kan geessu
3. Cinniinsuu ariifachiisaa
4. Hojjettootni fayyaa amala gadhee qabaachuu isaanii
5. kilinika ammayyaatii amanuu dadhabuu
6. Kan biroo(adda baasi) ……

20. Kanneen armaan gadii keessaa manni keessan kam qabaa?

1. Raadonii
2. Televijinii
3. Firiijii
4. Bilbila
5. Saayikilii
6. Sayikilii moaator
7. Makiinaa
8. Qonna
9. Mana

21. Yeroo da'umsa ulfaaf ariitii dhaan gara hospitaala goodinaatti ergamtu, gaeejibni fayyadamtu maalii?

1. Geejiba ofii
2. Geejibaa uummataa

3. Ambulaansii

4. Kan biroo(adda baasi) ……

22. Yeroo da'umsa ulfaaf ariitii dhaan gara hospitaala goodinaatti ergamtu,geejibaaf kaffaluu dandeessaa?

1. Eeyyee

2. Lakki

23. Miti yoo ta'e,Ariitiidhaan bakka eegumsa fayyaa sanaa ga'uuf qarshicha argachuuf maal gochuu dandeessa?

1. Ollaa yookiin hiriyyaa irraa fudhachuu dhaan

2. abeenya gurguruu dhaan

3. lafa gurguruu dhaan

4. Ergamuu diduu

24. Aavereejii dhaan eegumsi fayyaa hammam mana kessan irraa fagaataa?

1. Kiiloomeetiriidhaan…….. 2. Sa'aatiidhaan……..

25. Yaalii mana yaalaatii argatte tti gammaddaniittuu?

1. Eeyyee(Eeyye yoo jettan gara gaaffii 27 darbi)

2. lakki

26. Lakki yoo jettan, yaalii mana yaalaa irraa akka si hin gammachiifne waantootni si taasisan maalii?

1. Hanqina qorichaa yookiin meesholii

2. Hojjettootni fayyaa amala gadhee qabaachuu isaanii

3. Mixira eeguu dadhabuu

4. Kan biroo(adda baasi) ……

27. Akka eegumsa fayya isa itti aanuutti akka hin deenyeef maaltu isin dhorkaa?

1. Cinniinsuu ariifachiisaa
2. Hojjettootni fayyaa amala gadhee qabaachuu isaanii
3. Fagina eegumsa fayyaa
4. Jirracchuu ogeessota deesistuu fayyaa
5. Kan biroo(adda baasi) …….

28. Daumsa dura Amalli aadaa dhaan uummata keessatti taasifamu jiraa?

……

……

……

29. Akka mana yaalaa tti hin deenyeef, Waanti aadaa dhaan dhorkamu uummata keessaatti jiraa?

……

……

……

30. Mana yaalaa keessan keessatti akka yaalii fooyyessaniif maal akka godhuu qabuu?

1. Lakkoofsa hojjettoota fayyaa dabaluu
2. Argamsa qorichaa fi meesholii dabaluu
3. Hojjettootni fayyaa haadholii kabajuu qabu
4. Ambulaansiin nu barbaachisa
5. Kan biroo(adda baasi)……..

Declaration

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

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Signature: _____

Date: _____

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This thesis has been submitted for examination for approval as University

Advisor: Yezabnsh kibie

Signature: _____

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