

**DELAYS FOR UTILIZING INSTITUTIONAL DELIVERY AND
ASSOCIATED FACTORS AMONG MOTHERS ATTENDING PUBLIC
HEALTH FACILITY IN HADIYA ZONE, SOUTHERN ETHIOPIA, 2015**

By: Alemu Lire (BSc)

**Thesis Submitted to Jimma University College of Health Sciences, and
Department of Epidemiology in Partial Fulfillment of Master's Degree in
Epidemiology**

JIMMA UNIVERSITY
COLLEGE OF HEALTH SCIENCES DEPARTMENT OF
EPIDEMIOLOGY

**DELAYS FOR UTILIZING INSTITUTIONAL DELIVERY AND
ASSOCIATED FACTORS AMONG MOTHERS ATTENDING PUBLIC
HEALTH FACILITIES IN HADIYA ZONE, SOUTHERN ETHIOPIA**

By: Alemu Lire (BSc)

Advisors: 1. Abdulhalik Workicho (BSc, MPHE)

2. Haimanot Ewnetu (BSc, MPHE)

June, 2015

Jimma, Ethiopia

ACKNOWLEDGEMENT

I would like to express the deepest gratitude to my advisors Mr. Abdulhalik Workicho and Mrs. Haimanot Ewnetu for their continuous and constructive advice for any doubt throughout in my preparation and completion of thesis paper as well as the Jimma University, College of Health Sciences, for providing me the grant to prepare this thesis. Also, I express my sincerely gratitude to s/r Ejigayehu Haile and all my family members for their strong support and my colleagues for their supportive suggestion. In the last and first of all, I thank the Almighty God for his blessings, protection and guidance throughout my study.

ABSTRACT

Introduction: Labour and delivery are the shortest and most critical period during pregnancy and childbirth. The major factors that contribute to maternal death in developing countries are: delay in deciding to seek care, identifying and reaching medical facility, and receiving adequate and appropriate treatment. The study aimed to determine delays in institutional delivery and associated factors among mothers attending public health facilities, southern Ethiopia.

Methods: Facility based Cross sectional study was employed on 397 labouring mothers attending Negist Elene Mohamed memorial general hospital. The sample size was determined by using single population proportion formula and the data were collected consecutively until the required sample sizes achieved. Descriptive data analysis was conducted to identify summary values and multiple logistic regressions were performed to identify independent predictors for the delays. All the analysis was done using SPSS for windows version 16.0

Results: A total of 384 laboring mothers were participated in this study. The proportion of mothers who exhibited the first delay (delayed in decision making to seek care from the public health facilities) was 154(40.1%). Maternal unemployment [AOR, 2.5; 95%CI, 1.118, 5.441]; husband educational status [AOR, 2.3; 95%CI, 1.204, 4.408]; and antenatal care visit [AOR, 0.4; 95%CI, 0.277, 0.713] were the independent predictors of the first delay. Mothers who experienced the second delay (delayed in reaching to healthcare facility) were 114(29.7%). For this, distance [AOR, 14; CI, 7.895, 26.558]; uneducated mothers [AOR, 3; 95%CI, 1.397, 6.711]; and means of transportation [AOR, 0.6; 95%CI, 0.314, 0.995] were second delay determinants. Assessing of the 3rd delay (delayed in receiving healthcare), 125(32.6%) mothers did not get emergency obstetric care upon reaching to facility. The main predictors were multiple referral levels [AOR, 0.2; 95%CI, 0.068, 0.347]; absence of care provider [AOR, 1.7; 95%CI, 1.060, 2.697]; and lengthy admission process [AOR, 2.2; 95%CI, 1.279, 3.776]. **Conclusions:** The very high percentage of each delay in this study suggests low utilization of emergency obstetric care among labouring mothers. This study stresses the importance of addressing three delays alongside maternal health services to achieve in further reduction of delays.

Keywords: Delays; emergency obstetric care; Ethiopia

Table of contents

ACKNOWLEDGEMENT.....	I
ABSTRACT.....	II
Table of contents.....	III
List of tables and figures.....	V
List of abbreviations and acronyms.....	VI
CHAPTER ONE: INTRODUCTION.....	1
1.1 BACKGROUND.....	1
1.2 Statement of problem.....	2
CHAPTER TWO: LITERATURE REVIEW.....	4
2.1. Overview of Global Maternal Mortality.....	4
2.2. Magnitude of skilled delivery.....	4
2.3 Socio-economic and demographic characteristics associated with skilled delivery delays.....	4
2.3.1 Maternal age.....	5
2.3.2 Occupation.....	5
2.3.3 Educational status.....	5
2.4 Factors affecting delivery in health facility.....	6
2.5 Delays in skilled delivery utilization.....	6
2.5.1 Delay in decision to seek health care.....	6
2.5.2 Delay in getting access to a HF.....	6
2.5.3 Delay in receiving medical care.....	6
2.6 Significance of the study.....	8
Conceptual framework.....	9
CHAPTER THREE: OBJECTIVES.....	10
3.1. General objective:.....	10
3.2. Specific objectives:.....	10
CHAPTER FOUR: METHDOLOGY.....	11
4.1. Study area and period.....	11
4.2. Study design.....	11
4.3. Populations.....	11
4.3.1. Source population.....	11

4.3.2. Study population	11
4.4. Sample size determination.....	12
4.4.1. Sample size.....	12
4.4.2. Sampling technique	13
4.5. Study Variables.....	13
4.6. Data collection and procedures.....	13
4.7. Data quality control:	13
4.9. Operational definitions.....	14
4.10. Ethical approval	15
4.11. Dissemination plan	16
CHAPTER-FIVE: RESULTS.....	17
5.1 Socio-Demographic Characteristics of the Respondents	17
5.2 The Prevalence of Delays.....	20
5.2.1 The Delay in decision/maternal delay.....	20
5.2.2 The Delay in reaching to healthcare facility.....	20
5.2.3 The Third Delay in receiving care	20
5.3 Factors associated with three delays.....	21
CHAPTER-SIX: DISCUSSIONS.....	26
LIMITATIONS.....	29
CONCLUSIONS.....	30
RECOMMENDATIONS	31
REFERENCES.....	32
Data collecting tools	35

List of tables and figures

Table 1 Socioeconomic, demographic and behavioral factors associated with institutional delivery delays among laboring mothers, April 2015, (n = 384).	18
Table 2 multiple logistic regression analysis result on predictors of first delays in decision to seek EmOC services among laboring mothers in Hadiya zone, 2015 (n = 384).	22
Table 3 Factors associated with delays in reaching to health facility, 2015 (n = 384).	24
Table 4 Delays in getting care (3rd delay) at health facility level and associated factors, Hadiya Zone NEM general Hospital, 2015 (n = 384).	25
Figure 1 Conceptual frame work was adopted and modified after reviewing different literatures (source: Thaddeus S and D Maine. 1994 Too far to walk)	9
Figure 2 diagrammatic presentation of three delays in EmOC	21

List of abbreviations and acronyms

ANC	Antenatal care
EDHS	Ethiopian demography and health survey
EmOC	Emergency obstetric care
GNP	Gross National Product
HC	Health Center
HF	Health Facility
KM	Kilometers
MDGs	Millennium Development Goals
MM	Maternal mortality
NGOs	Non-Governmental Organizations
SNNPR	South nation nationality people region
UNFPA	United Nations Fund for Population Activities
WHO	World health organization

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND

Delay for utilizing institutional delivery refers to the time interval from deciding to seek emergency care to start in receiving of first healthcare. First delay refers to the time interval from the first onset of labour to decision to seek emergency obstetric care. It is one of the contributing factors for high maternal mortality in developing countries. Second delay refers to delay to go to health facility after the decision has been made to seek emergency obstetric care. It is a delay in physically reaching to the nearby care facility within an hour after deciding to seek healthcare. Third delay refers to receive appropriate care once present at the health facility within the first five minutes of arrival. Delays are the major contributing factors for high maternal mortality [MM] in developing countries [1, 32].

Around 15% of all pregnant women develop a possibly life-threatening complication that calls for skilled delivery care, and some will require a major obstetrical intervention to survive. About 1,000 women die from pregnancy/childbirth related complications around the world every day and more than half a million women die each year; of these, 99% occur in low-resource countries. Improving maternal health is one of the eight Millennium Development Goals (MDGs) adopted by the international community in 2000 and designed to achieve a 75% reduction in MM between 1990 and 2015 [3, 4, 26,].

Various models have been developed to strengthen the coverage and quality of maternal health services. One of the most widely applied models in maternal health programming today is the three delays model which promotes the presence of a skilled birth attendant who is linked to a functioning health system. Thaddeus and Maine (1994) has provided the safe motherhood community with an explanatory model of MM that identifies the key factors leading to maternal death. This explanatory model categorizes delays into three types: the delays of the decision to seek health care, the ability to get access to a health facility (HF), and receiving medical care timely and appropriately once the facility is reached [1, 28].

Skilled birth attendants play an important role in reducing maternal and neonatal mortality because they provide timely obstetric and newborn care for life-threatening complications [10].

The occurrence of all obstetric complications may not be preventable but almost all are treatable before resulting in serious maternal and perinatal morbidity and mortality [5, 6].

Institutional delivery is staggering low in our country. According to 2014 Ethiopian mini demographic and health survey (EDHS), only 14.9% of total pregnant women were delivered in HFs [8]. This represented an improvement from 6.2% in 2000 and 10% in 2011. But, rate is in the lowest bound by sub-Saharan Africa standard. As projected to increase at a low pace of 5.6% per annum for the MDG target year of 2015, it is very disappointed change [2].

Labour and delivery are the shortest and most critical period during pregnancy and childbirth because most maternal deaths arise from complications during delivery. Even with the best possible antenatal care, it is established that delivery could be complicated; therefore, timely referrals and access to appropriate health care had a great impact on reduction to MMs and disabilities [13].

1.2 Statement of problem

Consequently, worldwide 385,000 and in Ethiopia 20,000 women die each year from complications of pregnancy and childbirth with many more maternal morbidities occurring for each maternal death [7]. A study in Pakistan showed that 94% of the women had one or more delays, 71% mother's lack of deciding to seek healthcare, 74% delay in reaching to care facility and 48% unable to have appropriate care timely [15]. In Nigeria reported that delays contributed to 78% of maternal deaths, from this the first delay alone accounted for 57% [16]. A study in Ethiopia showed that 37.8% of delay in deciding to seek of emergency obstetric care (EmOC), 31.7% in reaching to health institutions and 30.7% of mother's after arrival at HFs did not get EmOC timely [12].

Dimension of risk factors: first, decision to seek care: 88.5% women in Pakistan were reported for delay in decision making due to lack of awareness about EmOC [15], socio-demographic and economic characteristics (i.e. decision making power, educational status, income, previous good outcome deliveries, poor attitude towards health workers, etc.) and the pregnant women's and her partner's/family's local health beliefs [11, 12]. Second, reaching to HFs: the transportation difficulties were identified in 43% of women in Ghana and 39.7% in Pakistan [13, 15], also a study on 'review of maternal mortality' at Ethiopia on women coming to service found out that

19% of the women travelled between 100 - 400 km. to reach a hospital [33]. When 10% increases in distance from a health institution, the maternal and neonatal death increased by 2% [34]. 40-60% of people living in developing countries live at a distance of >8 km. from the health care facility [29]. Third, appropriate care: difficulty in getting blood 49% women in Pakistan [15], high cost of care 27.7% in Ghana and poor quality care [13]. Generally, the mean delay time was 4 hours [12].

As a solution the various strategies being put in place such as EmOC, access to family planning, and skilled attendance at birth are three key interventions that have been implemented globally to reduce MM [9]. The three delay model, the MDG 5 and the three-tier national healthcare delivery system has been applied. Current attempts to reduce MM in developing countries have mainly focused on training and deploying skilled birth attendants and improvement of EmOC facilities [26].

In terms of women health, MM rate has remained at 676/100,000 which is one of the highest among the world [7]. The coverage of institutional delivery in the study area and region was 35% and 24%, respectively. The reason why for this low proportion of facility birth attendance has been stated mainly 'the three delays' with other associated factors socio-demographic and economic, cultural, community concerns and autonomy factors [14]. Both regional and zonal performance was under achieved when compared with national target plan of 67% for 2013/14.

Even if number of attempts vis-à-vis to delays and associated factors has been made to show how these factors affect EmOC, it is moving unsteadily. Specifically, the problem of maternal health service delays in skilled birth attendance at the proposed study area is still non responded question and no research addresses to this problem.

CHAPTER TWO: LITERATURE REVIEW

2.1. Overview of Global Maternal Mortality

Maternal mortality continues a major global public health concern more than twenty years after the international Safe Motherhood Initiative was launched. Despite the progress in some countries, according to recent estimate by world health organization (WHO), 99% of these deaths occur in developing countries. Millions more women survive but suffer from illness and disability related to pregnancy and child birth. Yet, most of these deaths could be avoided if preventive measures were taken and adequate care was made UNFPA [9].

MMR is estimated that the highest risks from pregnancy occur in Africa, in particular in Eastern and western Africa, with ratios over 1000 maternal deaths per 100,000 live births. More than 70% of all maternal deaths are due to five major complications: hemorrhage, infection, unsafe abortion, hypertensive disorders of pregnancy, and obstructed labor. The majority of maternal deaths (61%) occur in the postpartum period, and more than half of these take place within a day of delivery [30].

2.2. Magnitude of skilled delivery

According to mini EDHS 2014, the magnitude of skilled birth attendant in health facilities was only 15% [8]. There was similar with findings (12%) from Metekel zone's study on 'safe delivery service utilization'. Another study from Gondar zone on 'safe delivery service utilization' revealed that a total of 13.5% mothers gave birth at health institutions. A study which conducted at Woldia on 'Institutional delivery service utilization' showed that 48.3% [25]. The study was done at Goba woreda on 'Institutional delivery service utilization and associated factors' indicated that 47% mothers delivered in health facilities. But during ANC follow up only 36.1% [AOR=2.7 and 95% CI=1.42, 5.24] were delivered on health facility by health professionals. [31].

2.3 Socio-economic and demographic characteristics associated with skilled delivery delays

Greatest maternal deaths happen in poor countries and poor women have the least access to skilled birth attendants [17]. The study in Pakistan showed that almost 63% of the deceased women belonged to lower socio-economic class and another 20% belonged to lower-middle class

[18]. According to a study from Nigeria, 80% of mothers who died in relation to pregnancy belonged to the lower socio-economic class [19]. A study from sub-Saharan Africa showed a strong negative association between MM and Gross National Product (GNP) per capita as well as health expenditure per capita [20]. Poverty has also been strongly linked to the use of maternal health services irrespective of socio-cultural and demographic aspects, with the poor using fewer services than the rich [21].

2.3.1 Maternal age

Maternal age is one of the factors (determinants) for the place of delivery. Study done in Ethiopia, Zambia, Tanzania and Nepal showed that most of the younger women with age of 20-34 years having the first baby at health facilities. But women with 35 years and above with more than five children tend to deliver home because they consider themselves as having experience so they don't need assistance from skilled workers. Those young women have no experience in pregnancy and childbirths and they tend to fear complications; refer themselves to HFs early [12, 23, 24].

2.3.2 Occupation

From the study which was conducted on 'factors associated with the utilization of skilled delivery services' in Ghana among professionals, nonprofessional, and unemployed mothers showed that 100%, 53%, and 6.1% utilized skilled delivery services, respectively. In contrast, from the above study participants, 0%, 15%, and 19.2% delivered at home, respectively [13].

2.3.3 Educational status

The study done in Bahir Dar on 'Maternal delays in utilizing institutional delivery services' revealed that maternal education level has a great influence in decision making to seek health care among illiterate mothers [i.e. about seven fold [AOR, 6.71; 95%CI, 3.66, 12.29] than literate mothers [12]. Mothers who had educational level of secondary and above were more likely to utilize institutional delivery service than mothers who cannot read and write. There are a number of reasons why educational status of mothers has significant positive relationship with utilization of institutional delivery service. Education may enhance female knowledge of delivery care, the demand for utilization of institutional delivery service, and autonomy; thus increasing mothers' ability to make decisions regarding their utilization of institutional delivery service [25, 31].

2.4 Factors affecting delivery in health facility

Various studies have been conducted worldwide on the factors affecting delivery in health facilities. The study which was conducted in Ghana showed 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 [13]. Also, studies in Ethiopia was identified influencing factors as place of residence, educational status, religion, occupation, monthly income and birth order had significant association with skilled delivery service utilization [12].

2.5 Delays in skilled delivery utilization

2.5.1 Delay in decision to seek health care

Factors or indigenous health beliefs which are deep rooted among communities such as cultural, religious, bad experience in health facilities, good outcome in previous pregnancies without health care, gender inequality, unaffordable medical service cost and low education significantly contributes for the first delay, failure to seek treatment by the pregnant women or her family [15].

2.5.2 Delay in getting access to a HF

Once decision has been made difficulties in accessing to HFs is another factor which influences institutional delivery [29]. It is un-blind that the time between the onset of an obstetric emergency and definitive care is critical for the survival of the mother and her baby. A study conducted on ‘review of maternal mortality’ at Jimma Hospital on women coming to service found out that 19% of the women travelled between 100 - 400 km. to reach a hospital [33]. A study done on ‘a catalyst for achieving the MDG’ demonstrated that a 10% increase in distance from a hospital increased maternal and neonatal death by 2% [34]. Therefore, distance has a great contribution for MM as well as neonatal death.

2.5.3 Delay in receiving medical care

The study conducted in Amhara region ‘maternal delays in utilizing institutional delivery services’ after they arrive to health facilities, 30.7% mothers reported that they did not get timely the emergency obstetric care with the mean delay time 4 hours. With regard to long time

admission process, lack of supplies, and staff work load were reasons delays at health facility level [12].

Another study in Pakistan on ‘socio-demographic characteristics and the three delays of maternal mortality’ showed that 62.5% of the women belonged to lower socioeconomic class and 58% had received no antenatal care. And 94% of the women had one or more delays, with 71%, 74% and 48% having the first, second and third delay, respectively [15]. The most frequent reasons for first, second and third delays were lack of awareness in 88.5% women, long distance in 39.7% women and difficulty in getting blood in 49% women, respectively. Also a study from Nigeria reported delay to be associated with 78% of maternal deaths, found the first delay to be the most frequent 57% [16].

Many literatures in different parts of the world showed that socio-economic characteristics, cultures, three delays and other treatment procedural factors affect maternal utilization of institutional skilled delivery services. A study which conducted in Ghana on ‘factors associated with the utilization of skilled delivery service’ showed that transportation difficulties 43%, high cost of care 27.7%, and others such as the influence of family decisions, poor attitude of health workers and poor quality care as some of the challenges [13].

A study which was conducted on utilization and factors affecting delivery in health facility among recent delivered women in Tanzania has been showed us the majority of respondent attended ANC (98.6%), but only 44.0% delivered in health facilities [22].

Moreover, the study conducted in Ethiopia on ‘maternal delays in utilizing institutional delivery services’ show that 37.8% delay in deciding to seek of emergency obstetric care, 31.7% due to transportation problem to reach the health institutions for getting emergency obstetric services and after arrival at health facilities, 30.7% of the mothers did not get the emergency obstetric care service timely. Women with secondary education were six times more likely to deliver in health facility compared to those with no education [AOR=6.15, CI=1.105-34.232]. Where by those attended ANC more than four visits (47.1%) were two times more likely to deliver in health facility than those who attended less than that [AOR=2.497, 95% CI=1.500-4.156, P value <0.001] [12].

2.6 Significance of the study

This study will identify the potential risk factors contributing to delays and low institutional delivery utilization as well as for high maternal mortality in developing countries. Other rationale for selecting this problem area is to highlight the factors that make delay in EmOC utilization among labouring mothers. Also, it advances understanding on key risk factors that requiring for pertinent stakeholders with evidence based information to notify course of action on their health services in the planning and implementation of intervention activities at different level of the country.

Expectation, this study is proposed to answer why mothers are delaying and what factors are associated with and to bring an overall impact in the achieving of millennium development goal by reducing MM. Therefore, the findings will help the local and national health program managers and planners, policy makers, researchers and concerned NGOs to fill gaps on existing knowledge and tackle on the factors which delay mother's institutional delivery service utilization.

Conceptual framework

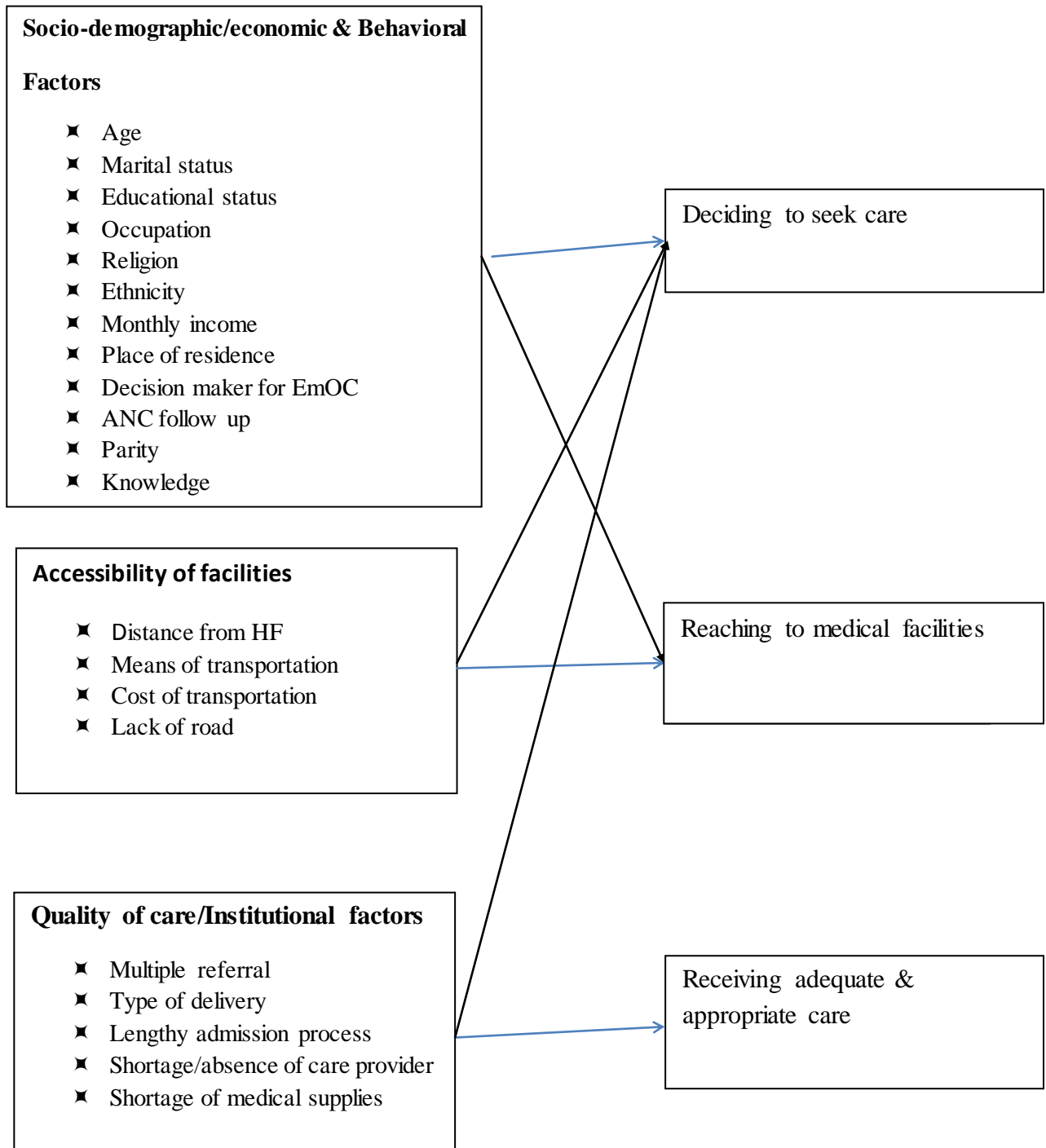


Figure 1 Conceptual frame work was adopted and modified after reviewing different literatures (source: Thaddeus S and D Maine. 1994 Too far to walk)

CHAPTER THREE: OBJECTIVES

3.1. General objective:

To determine proportion of delays for utilizing institutional delivery and associated factors among mothers attending public health facility in Hadiya zone, southern Ethiopia, 2015

3.2. Specific objectives:

1. To determine the proportion of delays for utilizing institutional delivery care at public health facility in Hosanna town
2. To identify the factors associated with delays in institutional delivery at public health facility in Hosanna town

CHAPTER FOUR: METHDOLOGY

4.1. Study area and period

Study was conducted in Hadiya zone, Hosanna town, SNNPR of Ethiopia. It is far away 232 km from Addis Ababa and 194 km from Hawassa and bordered with administrative zones of Gurage in the north, Silte & Oromia in the east, Kembata, Wolayita, & Alaba in the south, Oromia, Yem special woreda & Omo River in the west. Have socially inclusive socio-demographic characteristics. The economic status of the zone is mainly depends up on wheat and enset production. It has an estimated area of 3542.66 sq. km. The zone is divided into 10 Woredas and 1 town administration with a total of 305 Rural and 24 Urban Kebeles. Based on population projection, the total population of the zone in 2013/14 was estimated to be 1,547,846. From the total population, 49.47% male and 50.53% percent were females. Reproductive age women accounted for about 23.3% percent. The zone has one zonal hospital, 63 public health centers, 305 health posts, and 81 private clinics.

Negest Elene memorial general hospital is the only tertiary (zonal) hospital found in the Hossana town, capital city of Hadiya. It serves for over 1.5 million people residing in urban and rural parts of the zone. The study was conduct from March 08 to April 08, 2015 in Negist Elene Mohamed memorial general public hospital.

4.2. Study design

A facility based cross-sectional study was employed

4.3. Populations

4.3.1. Source population

All labouring mothers utilizing delivery services in Negist Elene Mohamed memorial general hospital were the source populations.

4.3.2. Study population

The sampled mothers who came for institutional delivery in Negist Elene Mohamed memorial general hospital during consecutive data collection period

Inclusion and Exclusion Criteria

Inclusion

- ♣ Mothers who were presented in person at study area for institutional delivery service during the data collection time and giving consent to participate

Exclusion

- ♣ Concomitant severe medical problem preventing participation

4.4. Sample size determination

4.4.1. Sample size

The sample size for this study was determined by using the single population proportion formula and considering 37.8% proportion of EmOC delay of the study done in Ethiopia [12] Therefore, to calculate the sample size a single population proportion formula was used as follows:

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

Where:

n= represents the required sample size

Z $\alpha/2$ = the confidence level at 95% (with standard value of 1.96)

p= prevalence of 37.8% delays

d= is margin of error at 5% (with standard value of 0.05%)

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

$$n = (1.96)^2 \times 0.378(1-0.378) / (0.05)^2$$

$$n = 361$$

Finally, the minimum sample size required for the study was 397 labouring mothers after including a 10% non-response rate.

4.4.2. Sampling technique

The study population included labouring mothers who presented to receive the services of delivery. The selection of labouring mothers for the interview was based on consecutive sampling until the required sample size was obtained.

4.5. Study Variables

Dependent variables

- ✦ Delays in emergency obstetric care (delay in decision, reaching to HF, & receiving care)

Independent variables

- ✦ **Socio demographic, economic and behavioral variables:** age, marital status, education status, religion, ethnicity, decision making power, Place of residence, monthly income, mothers and husbands occupation, knowledge on danger signs, ANC follow up.
- ✦ **Accessibility factors:** distance, means of transport, cost of transport, lack of road
- ✦ **Institutional factors/quality of care:** admission process, multiple referrals, absence of care provider, type of delivery, shortage of medical supplies

4.6. Data collection and procedures

A pre-tested structured questionnaire was originally prepared in English and translated into local language Hadiyisa and Amharic (for some non-native language users) was used for data collection; and then back translated into English by two independent experts. The questionnaires were mainly addressing on: socio-demographic characteristics, obstetric history, delays, and knowledge about maternal healthcare services. On data collection, four diploma nurses and two BSc supervisors were participated. In all cases, each mother was informed about the study before data collection for informed consent and the right to withdraw interviewing at any point.

4.7. Data quality control:

The questionnaire was pre-tested one week ahead of data collection. It was tested on 5% of the sample size (i.e. on skilled birth attending mothers) to test clarity of the data collecting tools. Questionnaire which were showed the discrepancies was corrected and managed accordingly.

One day training was given for data collectors and supervisors focused on: purpose of the study, data collection procedures, and handling ethical issues (privacy, confidentiality, cultural sensitivity, etc.). For consistency and completeness of the collected data, daily cross-checking was undertaken by supervisors and main investigator.

4.8. Data analysis and presentation

Following the data collection, data were coded, and entered to a computer using Epi data version 3.1 and then exported to SPSS windows for version 16.0 for analysis. Descriptive statistics and binary logistic regressions analyses were performed. In descriptive part, summary statistics were used to describe and summarize the results. In the binary logistic regression, both binary and multiple logistic regression analyses were carried out. All the variables were entered into binary logistic regression and those explanatory variables with a p value ≤ 0.25 in the cross tabulation were considered as a candidate for multiple logistic regression and those variables with a p value < 0.05 in multiple logistic regression analyses was considered as significant predictor of delays in institutional delivery. And the model fitness was tested by Hosmer and Lemeshow goodness-of-fit tests; finally, the result of the analyses was presented in texts, tables and graphs as appropriate.

4.9. Operational definitions

Maternal delay: refers to the time interval from the first onset of labour to decision to seek emergency obstetric care from health a facility and time longer than the expected time one hour will be considered as indicative of maternal delay

Access to health facility: the pregnant women being no more than an hour from HF or availability of health facility within one hour's travel by local means of transportation (foot, animal ride). (JHHPIGO, 2004)

Health care system delay: refers to the time interval from the mother's first arrive to a health facility to commencement of first care and time greater than five minutes without any healthcare process will be considered indicative of institutional delay (BPR , 2000 E.C.)

Knowledge about maternal health care service: Awareness of the factors situation: the fact, information and understanding that one has gained about maternal health care service and how to utilize the service through learning and experience

- **Knowledge:** the mean of the correct answers for knowledge questions ≥ 0.75 , when 1 is given for correct answer and 0 is given for incorrect answer
- **Not knowledge:** the mean of the correct answers for knowledge questions < 0.75 , when 1 is given for correct answer and 0 is given for incorrect answer

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

Skilled birth attendant: A medically qualified provider with midwifery skills who has been trained to proficiency in the skills necessary to manage normal deliveries and diagnose, manage, or refer obstetric complications.(WHO, 2000)

Skilled Birth Attendance: is the process by which a woman is provided with adequate care during labour, delivery, and the early postpartum period.

Maternal Mortality 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'. (WHO, 2004)

4.10. Ethical approval

Ethical approval and clearance for the study was obtained from the Research Ethical Review Board of the Jimma University, College of Health Sciences. Permission to conduct the study was also obtained from the Hadiya ZHD & Negist Elene Mohamed memorial general hospital. Individual verbal informed consent was obtained from every study participant who agreed to participate in the study. All interviewers were instructed on how to comply with confidentiality practices for all clients both during and after data collection by using coded questionnaire. Participants was informed the option to stay out of the study at any point during the interview.

4.11. Dissemination plan

The study findings will be presented to Jimma university, RHB/ZHD, local Government of the study area, and/or general source population. All attempts will be made to publish the findings on national and international Journals and used as a reference for those who are interested on conducting studies concerning delays for institutional delivery utilization.

CHAPTER-FIVE: RESULTS

5.1 Socio-Demographic Characteristics of the Respondents

A total of 397 laboring mothers were sampled to participate in this study in Hadiya zone, Hosanna town, at Negist Elene Mohamed memorial hospital. In this study 384 of the study subjects were interviewed to retrieve an intended information/data from them, resulting in a response rate of 96.7%. Of these, 220(57.3%) were rural dweller and 164(42.7%) were in urban.

A large proportion of the respondents, 301 (78.4%) were found in the age group of 20-34 years. The age interval ranges from 16 to 45 years and the mean age of respondents being 27(SD±2.0234) years.

Regarding to ethnicity, 274(71.4%) were Hadiya, 45(11.7%) Kambata, 30(7.8%) Silte, 19(4.9%) Gurage, 10(2.6%) Amhara, and 6(1.6%) were others.

The religion composition of respondents were 236(61.5%) protestant, 75(19.5%) orthodox, 55(14.3%) Muslim and 18(4.7%) were catholic. And more than ninety five percent 366(95.3%) were married or living together and the rest 18(4.7%) of respondents were single, divorced and widowed (table 1).

Table 1 Socioeconomic, demographic and behavioral factors associated with institutional delivery delays among laboring mothers, April 2015, (n = 384).

Variable		Frequency (n=384)	Percent (%)
Residence	Urban	164	42.7
	Rural	220	57.3
Age Group	<20	37	9.6
	20-34	301	78.4
	>=35	46	12.0
Ethnicity	Hadiya	274	71.4
	Kambata	45	11.7
	Silte	30	7.8
	Amhara	10	2.6
	Gurage	19	4.9
	Others	6	1.6
Religion	Protestant	236	61.5
	Orthodox	75	19.5
	Muslim	55	14.3
	Catholic	18	4.7
Marital status	Married	366	95.3
	Single	10	2.6
	Divorced	8	2.1
Education of mothers	Can't read & write	85	22.1
	Can read & write	88	22.9
	Formal education	47	12.2
	Primary education	59	15.4
	Secondary & above	105	27.3
Education of husbands	Can't read & write	51	13.3
	Can read & write	71	18.5

	Formal education	39	10.2
	Primary education	58	15.1
	Secondary & above	165	43.0
Husband occupation	Employed	129	33.6
	Unemployed	255	66.4
Monthly income	≥ 2000 ETB	148	38.5
	1001-1999ETB	26	6.8
	≤ 1000 ETB	210	54.7
Decision maker for EmOC	Family	269	70.1
	Mothers	53	13.8
	Husband	62	16.1
Parity	Primi-para	240	62.5
	Multipara	144	37.5
Delay in decision	Not-delayed	230	59.9
	Delayed	154	40.1
Number of ANC visits	<4 visits	262	68.2
	≥4 visits	122	31.8
Knowledge	Below median	203	52.9
	Above median	181	47.1
Delay in reaching	Not delayed	270	70.3
	Delayed	114	29.7
Delay in receiving care	Not delayed	259	67.4
	Delayed	125	32.6
Type of delivery	SVD	273	71.1
	NSVD	111	28.9

Note: SVD= spontaneous vaginal delivery, NSVD= non spontaneous vaginal delivery

Others: Tigre, Wolayita,

5.2 The Prevalence of Delays

5.2.1 The Delay in decision/maternal delay

It is one of the contributing factors for high maternal mortality in developing countries. The finding of this study showed that 154(40.1%) of the study subjects didn't make decision to seek emergency obstetric care from health facilities within one hour of the commencement of labour. The mean delay time was three and half an hours with a SD \pm 4.174. The mothers tried to explain their delay with many reasons from which normal previous pregnancy outcome in 47(41.2%) of the mothers, labour starting at night in 35(30.7%) of the mothers, no money for transportation 12(10.5), no care for children remain at home 5(4.4) and others 15(13.2). Unusual reason were reported from 158(91.3%) mothers for why delay in decision making was when the labouring mother carried on by stretcher (community transport) she ought to cover all the cost (food and drinking) of the accompanied individuals her to health facility.

5.2.2 The Delay in reaching to healthcare facility

This is a delay in physically reaching to the nearby care facility within an expected time. The findings in this study revealed that 114 (29.7%) of mothers unable to arrive at the place of delivery for getting emergency obstetric services within one hour of travelling on foot/local transportation. The mean walking time took one and half hours with a SD \pm 0.457 to reach the healthcare facilities.

5.2.3 The Third Delay in receiving care

At health facilities, out of 384 study subjects 125 (32.6%) mothers did not get an emergency obstetric care within the first five minutes of arrival to health facility. The mean delay time was two hours and with the SD \pm 0.469.

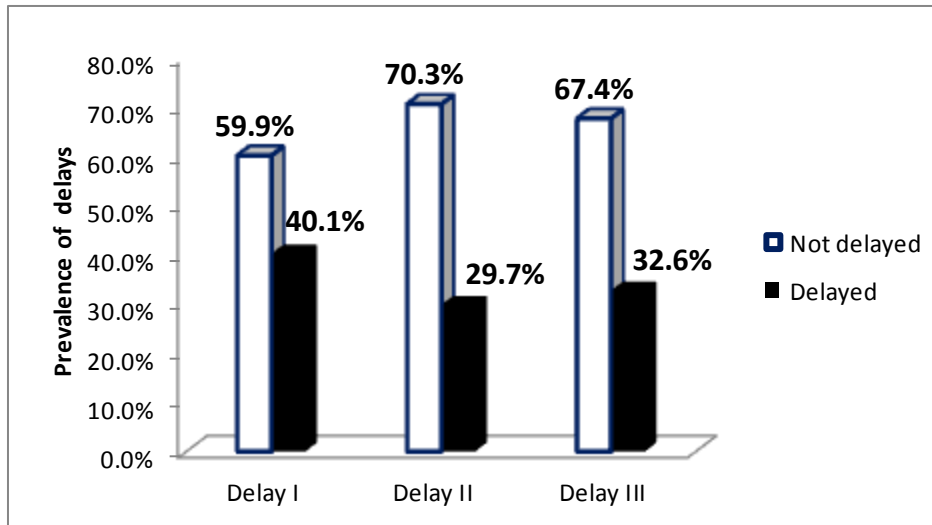


Figure 2 Proportional distributions of three delays in EmOC

5.3 Factors associated with three delays

Factors for first delay

A logistic regression was done to assess the main predictors for the delay in seeking emergency obstetric care. In binary analysis: mothers' age, place of residence, mothers and husbands' occupation, educational status of spouse, monthly income, parity, decision maker, knowledge on institutional delivery importance, and ANC follow up were found to be significantly associated with the first delay at a p-value ≤ 0.25 ; to control the confounding effect of variables and identify the independent predictors a multiple logistic regression analysis was done for those found to have statistically significant explanatory variables during the binary analysis.

In doing so, mother's delay in decision to seek emergency obstetric care was 2.5 times higher among unemployed mother [AOR, 2.5; 95%CI, 1.118, 5.441] than employed ones it was also found that mothers with illiterate husbands were at higher risk of delaying in seeking emergency obstetric care than their counterparts [AOR, 2.3; 95%CI, 1.204, 4.408]; mothers who attended less than four ANC visits were [AOR, 0.4; 95%CI, 0.277, 0.713] more likely to delay than attended four and above visits.

Table 2 multiple logistic regression analysis result on predictors of first delays in decision to seek EmOC services among laboring mothers in Hadiya zone, 2015 (n = 384).

Variables	First delay		COR (95% CI)	AOR (95% CI)
	Delayed	Not delayed		
Age				
15-20	8(21.6%)	29(78.4%)	0.4(0.165, 0.843)	0.6(0.200, 1.658)
20-34	128(42.5%)	173(57.5%)	1	1
>=35	18(39.1%)	28(60.9%)	0.9(0.461, 1.639)	1.7(0.831, 3.410)
Residence				
Urban	58(35.4)	106(64.6)	1	1
Rural	96(43.6)	124(56.4)	1.4(0.933, 2.146)	1.0(0.707, 1.791)
Mothers' education				
illiterate	105(47.7)	115(52.3)	2.1(1.399, 3.282)	0.8(0.386, 1.458)
literate	49(29.9)	115(70.1)	1	1
Husband education				
literate	68(30.5)	155(69.5)	1	1
illiterate	86(53.4)	75(46.6)	2.6(1.716, 3.982)	2.3(1.204, 4.408)*
Mothers occupation				
Employed	30(27%)	81(73%)	1	1
Unemployed	124(45.4)	149(54.6)	3.4(1.880, 6.141)	2.5(1.118, 5.441)*
Husband occupation				
Employed	35(27.1)	94(72.9)	1	1
Unemployed	119(46.7)	136(53.3)	2.4(1.484, 3.721)	1.1(0.530, 2.222)
Monthly income				
>=2000	48(32.4%)	100(67.6%)	1	1
1001-1999	11(42.3)	15(57.7)	1.5(0.653, 3.577)	1.2(0.482, 3.230)

<=1000	95(45.2)	115(54.8)	1.7(1.110, 2.668)	0.8(0.437, 1.369)
Parity				
Primi-para	87(36.2)	153(63.8)	0.6(0.429, 0.995)	0.7(0.431, 1.104)
Multipara	67(46.5)	77(53.5)	1	1
Decision maker for EmOC				
Family	106(39.4)	163(60.6)	1	1
Mothers	17(32.1)	36(67.9)	0.7(0.388, 1.359)	0.8(0.388, 1.507)
Husband	31(50)	31(50)	1.5(0.883, 2.678)	1.4(0.760, 2.602)
Knowledge				
Below median	108(43.9)	138(56.1)	1.6(1.014, 2.417)	0.8(0.480, 1.306)
Above median	46(33.3)	92(66.7)	1	1
No. of ANC visit				
<4 visits	84(32.1)	178(67.9)	0.4(0.225, 0.546)	0.4(0.277, 0.713)**
≥4 visits	70(57.4)	52(42.6)	1	1

Note: 1= reference, **= p-value ≤ 0.001 [**shows highly significant], *= p-value < 0.05 [*shows significant],

Factors for second delay

In the same fashion of identifying predictors in the first delay, the same statistical analysis was employed to isolate the independent predictors for the second delay. In binary analysis: educational status of the mother and husband, monthly income, distance from health facility, means of transportation (ambulance against others), and road accessibility were found to be significantly associated with the second delay at a p-value of ≤ 0.25 ; and after regressed for final model: distance, means of transportation, and educational status of the mother were independently associated at a p value of < 0.05 .

Accordingly, mothers those travelling beyond 5 kilometers from health facilities were 14 times more likely to delay in reaching to healthcare facility [AOR, 14; CI, 7.895, 26.558] compared to those living within five kilometers; educational status of the mother was also found to predict the second delay putting not-educated mothers at 3 times higher risk [AOR, 3; 95%CI, 1.397,

6.711]; and mothers who used other means of transportation [AOR, 0.6; 95%CI, 0.314, 0.995] more likely to delays than those used ambulance.

Table 3 Factors associated with delays in reaching to health facility, 2015 (n = 384).

Variable	Second delay		COR 95% CI	AOR 95% CI
	Delayed	not delayed		
Mothers education				
illiterate	88(40%)	132(60%)	3.5(2.150, 5.824)	3.1(1.397, 6.711)*
literate	26(15.9%)	138(84.1)	1	1
Husband educ.				
literate	44(19.7)	179(80.3)	1	1
illiterate	70(43.5)	91(56.5)	3.1(1.988, 4.926)	1.4(0.693, 2.940)
Monthly income				
>=2000	26(17.6)	122(82.4)	1	1
1001-1999	4(15.4)	22(84.6)	0.8(0.271, 2.685)	0.6(0.148, 2.649)
<=1000	84(40)	126(60)	3.1(1.887, 5.186)	1.4(0.743, 2.749)
Distance				
>=5km	93(58.5)	66(41.5)	13.7(7.906, 23.699)	14(7.895, 26.558)**
<5km	21(9.3)	204(90.7)	1	1
Means of transport				
Ambulance	57(39.6)	87(60.4)	1	1
Others	57(23.8)	183(76.2)	0.5(0.304, 0.743)	0.6(0.314, 0.995)*
Road accessibility				
Yes	60(25.3)	177(74.7)	1	1
No	54(36.7)	93(63.3)	1.7(1.097, 2.673)	1.4(0.844, 2.640)

Note: 1= reference, * = p-value < 0.05, and **= p-value ≤ 0.001 **NB:** by considering 1 hour = 5 km.

Factors for third delay

To identify predictors in the third delay, the same statistical analysis was tracked as applied in first delay. Initially, each independent variable such as requesting multiple referrals, absence of care provider, lengthy admission process, and type of delivery was regressed against dependent variable. Except the type of delivery other variables were established statistically significant association with the third phase delay at a p-value of < 0.05.

The findings in this study showed that mothers who experienced multiple referral levels were [AOR, 0.2; 95%CI, 0.068, 0.347] more likely to delay than utilized institutional delivery at first contact of visit; it was also found that mothers who didn't get appropriate care provider and faced lengthy admission process were 1.7&2.2 times at higher risk of delaying in receiving EmOC than their cohorts [AOR, 1.7; 95%CI, 1.060, 2.697] and [AOR, 2.2; 95%CI, 1.279, 3.776], respectively.

Table 4 Delays in getting care (3rd delay) at health facility level and associated factors, Hadiya Zone NEM general Hospital, 2015 (n = 384).

Variables	Delay in getting services		COR 95% CI	AOR 95% CI
	delayed	Not delayed		
Multiple referral				
Yes	7(8.4%)	76(91.6%)	0.2(0.064, 0.320)	0.2(0.068, 0.347)**
No	118(39.2%)	183(60.8%)	1	1
Absence of care provider				
No	71(28.4)	179(71.6)	1	1
Yes	54(40.3)	80(59.7)	1.7(1.095, 2.645)	1.7(1.060, 2.697)*
Lengthy admission process				
Yes	36(47.4)	40(52.6)	2.2(1.326, 3.700)	2.2(1.279, 3.776)**
No	89(28.9)	219(71.1)	1	1
Type of delivery				
SVD	82(30)	191(70)	1	1
NSVD	43(38.7)	68(61.3)	1.5(0.929, 2.336)	1.4(0.832, 2.206)

Note: 1= reference, *= p-value < 0.05, **= p-value ≤ 0.001

CHAPTER-SIX: DISCUSSIONS

This study is planned to determine the three phases of delay and its associated factors among labouring mothers. All pregnant women are at risk of obstetric complications. Numerous factors contribute to hinder the utilization of health facility in developing countries at the time of obstetric complication and childbirth. Thaddeus and Maine have categorized the factors as: 1) delay in decision to seek care; 2) delay to arrive at a health facility; and 3) delay to receive adequate care. If these barriers could be overcome, the outcome of the pregnancy would be satisfactory [1].

First delay

The main finding of this investigation in the first delay was that 154 [40.1%] of mothers had delayed in deciding to seek emergency obstetric care. This is consistent with the study findings in Ethiopia [12]. But inconsistent with the study findings noted in Pakistan/Karachi Civil Hospital, 71%, in Bangladesh 69.3%, and in Nigeria 57% [15, 35, 16]. This might be population difference, place and time of study, cultural diversity, health service delivery system, methodological difference, lack of health extension program implementation, and accessibility of primary education for females.

Though the prevalence of this study was lower than other countries study findings, the burden of maternal and newborn mortality and morbidity in our setting which could be attributed to delayed decision in seeking emergency obstetric care is still higher.

Regarding predictors, mothers' occupation, husbands' education, and number of ANC visits were independently associated with first delay of emergency obstetric care. In this study, unemployed mothers were three times more likely to delay than employed ones. It was similar finding with a study done at in Nigeria, and Ethiopia [12, 16]. This might be dependence on their husbands in the aspect of financial constraints, consequently, which decreases mothers' decision making power to seek emergency obstetric care.

Mothers who attended less than four visits of antenatal care were [AOR, 0.4; 95%CI, 0.277, 0.713] more likely to delay than who attended four and above visits. As antenatal care is one of the pillars of the maternal health services; when a mother had less antenatal contacts, it may have less opportunity to consult care provider on: birth preparedness, decision making about place of delivery and seek early emergency obstetric care.

Similarly, mothers with illiterate husbands were 2.3 times more likely to delay than with literate husbands. This was parallel with study conducted in rural Tanzania, and Ethiopia [23, 31]. This might be uneducated husband may not perceive the pattern of decision-making power within the family members as key determinants of the place of delivery. Also, the less educated husband's may have poor awareness in delivery care importance; thus affect family member's involvement in decision making.

The mean delay time of first delay was three and half hours; this figure is lower than the mean time (8hrs.) in Amhara region and higher than the study findings in rural Bangladesh in which time required to make a decision to seek care was 72 minutes [12, 35].

Basically, deciding to seek emergency obstetric care should be made before labor initiated i.e. during the birth preparedness but practically we see that all of the mothers decide to seek EmOC after the labor was initiated. This does not augur well for government efforts to reduce delays as a principal point for laboring mothers.

Second delay

Concerning to second delay, in this study 114[29.7%] mothers were encountered transportation problem to reach the health facilities for getting emergency obstetric cares. This finding is coherent with the findings in Ethiopia [31.7%]; but inconsistent with the study findings in Ghana [43%] and Pakistan [74%]; this might be topography difference, expansion and/or closeness of care giving facilities to community, infrastructure improvements, and ambulance facilitation.

Even though the finding in this study showed lower figure than others and there is a number of strategies put in place to solve the transportation problem, the magnitude of maternal and newborn morbidity and mortality in our country is still high which could be characterized to delay in reaching to EmOC facility within the recommended one hour.

In this study distance, means of transportation, and mothers' education was independently associated with the second delay.

Mothers those travelling beyond 5 kilometers from health facilities were fourteen times more likely to delay in reaching to healthcare facility compared to those living within five kilometers. Similarly, the study conducted in Ethiopia, rural Zambia and Pakistan showed independently association of distance with 2nd delay [15, 24, 33]. The study which conducted on "International Federation Rural Transport Development" inferences that as 10% increases in distance from a hospital, maternal and neonatal death increased by 2% [34]

The possible reasons might be: place of residence, road and/or transport inaccessibility, and absence of functioning nearby HF on EmOC services. As health facility too far to reach, the laboring mother might be delayed in getting there and missed lifesaving EmOC solutions and developed a life-threatening complication, thus could result in both maternal and newborn morbidity and mortality. A study conducted in rural Zambia showed that facility delivery for a birth within 1 kilometer of a comprehensive health facility are over 10 times higher for a birth whose closest facility is 20 kilometer away or above [24].

Mothers who used other means of transportation were [AOR, 0.6; 95%CI, 0.314, 0.995] more likely to delays than those used ambulances. It is known that the time between onset of an obstetric emergency and definitive care is critical for the survival of the mother and her baby. According to this study, ambulance was used for means of transportations by 144[37.5%] of the mothers, renting car for 150(39%) which including ‘Bajaj’ and the rest 51(13.3%) and 39(10.2%) were traveled by private car and on foot/wooden stretcher, respectively. This indicates majority of laboring mothers were not used ambulance services.

Illiterate mothers were 3 folds more likely to delay than literate mothers. This was consistent with findings in Ethiopia [12]. The possible reasons might be education: poor knowledge on birth preparedness and lack of awareness on danger signs and birth complication

Third delay

The findings of delay three revealed 125[32.6%] of mothers were not got the emergency obstetric care as early as possible upon reaching the healthcare facility. Which was on line with the findings in Ethiopia [30.7%], but lower than findings in Pakistan (48%) [12, 15]; the mean delay time was 1.5 hours; this is lower than the mean delay time (4 hours) of Amhara region.

This discrepancy could be due to the time gap between these studies, population size, difference in study setting, mother’s demographic and socioeconomic characteristics, fee free delivery services implementation, study design, improved in medical logistic supply and professional staff in skilled delivery.

Request multiple referrals, lengthy admission process, and absence of care provider were main predictors of third delay. The mothers who experienced multiple referrals were [AOR, 0.2; 95%CI, 0.068, 0.347] more likely to delay than those having emergency obstetric service at first contact. This was consistent with done in United Kingdom on a systematic review of the third delay [36]. This might be non-functioning health facility in EmOC, lack of basic medical

equipment for care giving, absence of skilled delivery service provider or beyond primary health care unit level that needs further investigation.

Mothers faced lengthy admission processes were 2.2 times higher risk of delaying in receiving EmOC than their cohorts. The possible reasons for this might be lack of awareness the severity of EmOC in some non-professionals such as data clerks, absence of senior professional at labouring mother's arrival, shortage of admission bed and other medical supplies.

Mothers encountered with absence of skilled delivery care providers were 1.7 times more likely to delay compared to their counterparts. This was consistent with done in United Kingdom on a systematic review of the third delay [36]. This might be shortage of skilled man power, staff work load and/or attitude.

In general, the findings showed that the three delays are interlinked; one factor is independently associated to more than one delay. Poor quality of care at the facility level contributes to a perception that adequate care is not available and thus affects the mother's decision about whether or not to seek care. Reaching to healthcare facility may be influenced by income constraints. Therefore, interventions that address quality of care would also help address some of the factors that contribute to delays in the family decision to seek care. Similarly, efforts to shift appropriate care closer to the community would reduce both the transport burden on the family in terms of cost as well as time required to reach care and could affect decision making about where and when to seek care.

LIMITATIONS

First, this study was based at the health facility and the labouring mothers do not represent the general populations of Hadiya zone because only mothers seeking institutional delivery were eligible for the study, making hard to make inferences. Second, labouring mothers were selected based on consecutive sampling strategy which is not based on random selection. Third, midwives working in the hospital administered the questionnaires and this may have led to social desirability bias. Lastly, the findings may be affected by recall bias since mothers were interviewed soon after birth while mothers physically and emotionally exhausted. Despite these limitations, the study identified a number of barriers that can delay proper utilization of EmOC services among delivery attendees. These barriers can be easily mitigated if properly planned and addressed.

CONCLUSIONS

This study highlights how focuses on the delays for utilizing institutional delivery care. The very high proportion of each delay in this study suggests low access of labouring mothers to health services. Major factors which contributed to delays for utilizing institutional delivery were: mother's occupation, distance, mothers' education, husband education, number of ANC visits, means of the transportation, lengthy admission process, multiple referrals, and absence of care provider. This study stresses the importance of addressing three delays alongside institutional delivery services to achieve in further reduction of delays. The development of simple, interlinked means to end these three phase hinders should be seen as a priority for future research.

RECOMMENDATIONS

Hospital should be provided with adequate human resources.

Strengthen an internal supervision, monitoring, and on-job training activities to avoid lengthy admission process.

The hospital should work with their subordinate primary health care provision units to improve a means for mothers' referral system.

Educating the health development army (HDA) leaders should be strengthened in order to arrange fee free local transport and to create sense of family's ownership on pregnant mothers' birth preparedness to seek emergency obstetric care.

Emphasis should be given for the transportation mechanisms like the ambulance services and orientation should be given for ambulance drivers about risk of delays and its consequence both on mothers and newborn.

The health sectors and other responsible bodies should make efforts to increase adult education, income generating mechanism for mothers and encourage women's education to higher levels and improve better access to information for action regarding to early decision to seek EmOC.

Finally, I recommend further investigation.

REFERENCES

1. Thaddeus S, Maine D. Too far to walk: maternal mortality in context. *Social Science & Medicine* .1994; 38(8):1091–1100.
2. UNFPA, Trends in Maternal Health, Challenges in achieving the MDG for maternal mortality In-depth Analysis of the EDHS 2000-2011
3. See A. Starrs, “Safe Motherhood Initiative: 20 years and conducting,” *The Lancet*, UN, 2006
4. Millennium Project, Investing in Development: A practical plan to achieve the Millennium Development Goals, UNDP, 2005.
5. Khan KS, Wojdyla D, Say L, Gülmezoglu AM, Van Look PFA. WHO analysis of causes of maternal death: a systematic review. *Lancet* 2006; 367: 1066–74.
6. Hunt P, De Mesquita JB. Reducing maternal mortality: the contribution of the right to the highest attainable standard of health. London: Human Rights Centre, University of Essex and UNFPA, New York, 2010.
7. FMOH: Maternal Death Surveillance and Response (MDSR) Technical Guideline, Addis Ababa, Ethiopia, 2012.
8. FMOH: Mini Ethiopian Demographic and Health Survey, 2014.
9. WHO. Reviewing maternal deaths and complications to make pregnancy safer; beyond the numbers. Department of Reproductive Health & Research. 2004, Geneva.
10. Skilled Attendance at Birth. Available from: <http://www.unfpa.org/public/cache/offonce/home/mothers/pid/4383> [cited 12 March 2014].
11. Hunt P, De Mesquita JB. Reducing maternal mortality: the contribution of the right to the highest attainable standard of health. London: Human Rights Centre, University of Essex and UNFPA, New York. 2010. Available at: http://www.unfpa.org/webdav/site/global/shared/documents/publications/reducing_mm.pdf
12. Worku A. and Kenie S.: Maternal delays in utilizing institutional delivery services, Bahir Dar, Ethiopia Vol.5, No.6, 1026-1031 (2013)
13. Reuben K. Esena, Mary-Margaret S.: Factors associated with the utilization of skilled delivery services, international journal of scientific & technology research volume 2, issue 8, august 2013 issn 2277-8616
14. SNNP Regional Health Bureau: manual for improving institutional delivery, 2013/2014, Hawassa.
15. Nusrat S., Nazli H, Rizwana S, et al. Socio-demographic Characteristics and the Three Delays of Maternal Mortality: *Journal of The College of Physicians and Surgeons Pakistan* 2009, Vol. 19 (2): 95-98

16. Okusanya BO, Okogbo FO, Momoh MM, et al. Maternal mortality and delay: socio-demographic characteristics of maternal deaths with delay in Irrua, Nigeria. *Niger J Med* 2007; 16:38-41.
17. Mathews Z. Maternal mortality and poverty. DFID resource centre for sexual and reproductive health. 2002.
18. Pakistan population assessment. Government of Pakistan. UNFPA Jan. 2003.
19. Obi SN, Ozumba BC, Okaro JM. Emergency obstetric referrals at a university teaching hospital, Nigeria. *East Afr Med J* 2001; 78:262-4.
20. Buor D, Bream K. An analysis of the determinants of maternal mortality in sub-Saharan Africa. *J Womens Health (Larchmt)* 2004; 13:926-38.
21. Kone-Pefoyo A, Rivard M. Poverty and sociocultural factors in the use of maternal health services in Ivory Coast. *Rev. Epidemiol Sante-Publique* 2006; 54:485-95.
22. Gwamaka S, utilization and factors affecting delivery in health facility among recent delivered women in nkasi district, Tanzania 2012
23. Mrisho, M, Schellenberg, J.A, Mushi, A.K, Obrist, B., Mshinda, H., Tanner, M., and Schellenberg, D., Factors affecting home delivery in rural Tanzania, 2007.
24. Gabrysch S, Cousens S, Cox J, Campbell OM: The influence of distance and level of care on delivery place in rural Zambia, 2011
25. Worku A, Jemal M. and Gedefaw A. Institutional Delivery Service Utilization in Woldia, Ethiopia, *Science Journal of Public Health*. Vol. 1, No. 1, 2013, pp. 18-23. doi: 10.11648/j.sjph.20130101.13
26. UNFPA: Emergency obstetric care: Reducing life-threatening delay. <http://www.unfpa.org/public/home/mothers/pid/4385>, 2012
27. Ahmed Abdella, Maternal Mortality Trend in Ethiopia, *Ethiop. J. Health Dev.* 2010;24 Special Issue 1 : 115 - 122
28. Kamara, A. the international federation of gynecology and obstetrics; lessons learned from the PMM network experience. *Int J Gynecol Obstet*, 1997. V59 (Suppl 2) 253-258.
29. Babinard J. Transport for health in developing countries: Overview of issues and measures to improve access --MDG 4&5 context. 2006. <http://siteresources.worldbank.org/INTTSR/Rresources/06-01-30-Transport>
30. Starrs A. The safe motherhood action agenda: Priorities for the next decade- Report on the Safe Motherhood Technical Consultation, 18- 23 October 1997, Colombo, Sri Lanka.
31. Daniel B. and Desalegn M. Institutional Delivery Service Utilization and Associated Factors among Child Bearing Age Women in Goba woreda, Ethiopia. *Journal of Gynecology and Obstetrics*. Vol. 2, No. 4, 2014, pp. 63-70.

32. Berhan Y, Berhan A, Yifru B, and Asres B, Reasons for persistently high maternal and perinatal mortalities in Ethiopia: Part I, II, and III – Socio-economic and cultural factors. 2014; Special issue 1.
33. Gaym A. A review of maternal mortality at Jimma Hospital, Southwestern Ethiopia. 2000; 14(2):215-223.
34. De Silva R. Transport - The Missing Link? A catalyst for achieving the MDG, Presentation for the International Federation of Rural Transport Development. Retrieved from: <http://www.transaid.org/images/>
35. Kaji, T., Keya, Moshur, R., Ubaidur, R., et al. Barrier of Distance and Transportation Cost to Access Maternity Services in Rural Bangladesh, 2013
36. Knight HE, Self A, Kennedy SH: Why Are Women Dying When They Reach Hospital on Time? A Systematic Review of the ‘Third Delay’. (2013) PLoS ONE 8(5): e63846. doi:10.1371/journal.pone.0063846

ANNEXES:

Data collecting tools

Jimma University

College of Health Sciences

Department of Epidemiology Studies

Consent form

Dear respondents, Good morning/afternoon/evening. My name is _____

I am MPH student in Epidemiology of Jimma University. You have been selected to participate in this Post Graduate Research Study on the topic: *Delays for utilizing institutional delivery and associated factors among mothers* in this facility. Thus, the main purpose of this data is only to collect relevant information for this research work.

I would like to ask you a few questions if I may, but you can refuse to answer any question I ask. You may end the interview at any time. Your honest and genuine response to each question is very important. The data will be used only for academic purposes and the information we collect from you will not be shown to anyone outside of this project.

I approve my agreement to take part in the study as an interviewee with my signature.

Signature _____ Date _____

May I proceed with the questions? Yes/No

Name of interviewer _____ Name of institution _____

SECTION 1: SOCIO-DEMOGRAPHIC INFORMATION

Instruction: First, I would like to ask you some questions about background information of you and your family had. Please fill the necessary answers for each item properly by circling or written in a given space.

Q.#	Questions	Responses	Remarks
101	Kebele/sub-city/woreda	_____	
102	Place of residence	1. Urban 2. Rural	
103	What is your age?	_____in years	
104	What is your ethnicity?	1. Hadiya 2. Kambeta 3. Silte 4. Amhara 99. Others_____	
105	What is your religion?	1. Orthodox 2. Muslims 3. Protestant 4. Catholic 99. Others specify_____	
106	What is your marital status?	1. Married 2. Divorced 3. Widowed 4. Unmarried	
107	What is your educational status?	1. Cannot read & write 2. Can read and write 3. Primary 4. Secondary and above	
108	What is your husband's educational status?	1. Cannot read & write 2. Can read and write 3. Primary 4. Secondary and above	
109	What is your occupation?	1. House wife 2. Civil servant 3. Merchant 4. Servant 5. Student 6. Daily laborer	

		99. other specify_____	
110	What is your husband's occupation?	1. Farmer 2. Civil servant 3. Merchant 4. Student 5. Daily laborer	
111	What is your monthly income?	1. _____ETB 2. No any income 98. I don't know	
112	Who is the head of the household?	1. My husband 2. My self 3. My father 4. My mother 99. Other, specify_____	
113	From which source(s) did you see, hear, or read about institutional birth? PROBE: Any other sources?	1. Radio 2. TV 3. Written sources 4. Interpersonal sources 99. Other specify_____ 98. Don't remember	circle all Responses given

Section II. Obstetric history

Instructions: Now, I would like to ask you some more questions about the pregnancies you have had in the past of your life focusing on pregnancies and childbirths including place of delivery.

Q.#	Question	Response	Remark
201	How many pregnancies have you ever had?	1. Number of gravid----- 2. Number of parity_____ 3. Number of abortion----- 4. Number of live birth_____	
202	Have you attended ANC for last pregnancy?	1. Yes 2. No	If 'No', skip to Q. 205
203	If yes, number of visits	_____	

204	Where did you attend ANC visit?	<ol style="list-style-type: none"> 1. Health post 2. Health center 3. Hospital 99. Other (specify) 	
205	Where is the place of first child delivery?	<ol style="list-style-type: none"> 1. Home 2. Health post 3. HCs / hosp. 4. On road/referral____ 	
Part III: DELAYS			
<p>Instruction: In the next three sets of questions, I am going to be asking about your experiences related to the three phases women go through when having a child that we discussed earlier: deciding to seek care, reaching to health facilities and receiving appropriate care/treatment.</p>			
Delay in deciding to seek care			
301	At the very beginning, when the labour was started?	_____ in hour	
302	When you leave from home to go to health facility?	_____minutes/hours	
303	Who made the final decision about you would go to HFs for childbirth assistance?	<ol style="list-style-type: none"> 1. No one 2. Respondent 3. Respondent & husband 4. Husband 5. Resp.'s mother 6. Resp.'s father 7. Mother-in-law 8. Father-in-law 9. Sister/sister-in-law 10. Other member of resp.'s family. 11. Other member of husband's family. 12. Friend/neighbor 13. Health professional 14. TBA 99. Other (specify)_____ 	

		98. Don't know	
304	How long did it take reach to consultation to make the decision about to go health facility for assistance? (If less than 1 hours, record in minutes)	1. _____minutes 2. ----- hours 98. Don't know	
305	ASK: If the decision was made more than one hour, why late? PROBE: Any others?	1. Outcome of previous delivery was good 2. Labour initiated at night 3. No childcare 4. No money for transport 5. No money for service 99. Other specify_____ 98. Don't know	
306	How long did it take to find transport once a decision was made to seek care? (If less than 1 hours, record in minutes. Otherwise, record in hours).	1. _____Hours 2. _____Minutes 98. Don't know	
307	Who accompanied you to the place where you gave birth?	1. No one 2. Husband 3. Resp.'s mother 4. Resp.'s father 5. Mother-in-law 6. Father-in-law 7. Sister/sister-in-law 8. Other member of resp.'s family 9. Other member of husband's family 10. Friend/neighbor 11. Health professional 12. TBA 99. Other (specify)_____ 98. Don't know	
Delay in reaching to health facilities			

308	How long would it take to reach this health facility? (If less than 1 hours, record in minutes. Otherwise, record in hours)	1. _____minutes 2. _____hours 98. Don't know	
309	To reach to the health facility, were there any challenges which tackle you to get here?	1. Yes 2. No	If 'No', go to Q. 313
310	If 'YES', what problems were happened? PROBE: Any others?	1. Too far to reach 2. Lack of road 3. Cost of transportation 4. lack of transportation 99. Other specify_____	
311	What type of transportation would you use to get to this health facility? PROBE: Any others?	1. Ambulance 2. Private car 3. Taxi/bus rent 4. Cart 5. On foot 6. Stretcher 99. Other (specify)_____ 98. Don't know	
312	If your answer is number '1' or 'AMBULANCE', was there any paid?	1. Yes 2. No	If 'No', skip to Q. 316
313	If 'YES', how much?	_____ETB.	
314	If on STRETCHER , what favors did you do for them? PROBE: Any others?	1. Paid money 2. Cover food and drinking cost 3. If night, bed services 99. Other specify_____	
Delay in receiving appropriate care			
315	How long after reaching the HC/Hosp. did it take for you to get services from the health personnel?	_____minutes	
316	After arrived first HC/Hosp., did you experience any challenges to get service?	1. Yes 2. No	If 'NO', go to Q.320

		98. Don't know	
317	If 'YES' what was it? Probe: Any others?	1. Long waiting time 2. Refer to higher level 3. absence of appropriate care provider 4. shortage of bed 99. Other specify_____	
318	What is the type of delivery?	1. SVD 2. NSVD	
319	Did you have to purchase any supplies to get birth services?	1. Yes 2. No 98. Don't know	
320	If 'yes', what items did you purchase? PROBE: Any others?	1. Gloves 2. Iv solutions 3. Suture materials 4. Soap 5. Medications/medicines 6. Sanitary pads 7. Antiseptic solutions 8. Blood 9. Powder 10. Gauze/cotton 99. Other (specify)_____ 98. Don't know	

Knowledge part

Instructions: Now I would like to ask you some questions about pregnancy and childbirth. Specifically, I am going to be asking you questions about three different phases that make women delay in institutional delivery utilization.

401	Do you know any danger signs which may appear during pregnancy/childbirth?	1. Yes 0. No 0. I don't know		If 'no', skip to Q 404
	If 'yes', what did you know/experience? PROBE: Any others?	Yes	No	Circle if YES '1' if NO '0'
4011	1 Bleeding	1	0	
4012	2 Severe headache	1	0	
4013	3 Blurred vision	1	0	
4015	4 Swollen hands/face	1	0	
4016	5 High fever	1	0	
4017	6 Loss of consciousness	1	0	
4018	7 Difficulty breathing	1	0	
4019	8 Severe weakness	1	0	
40110	9 Severe abdominal pain	1	0	
40111	10 Accelerated/ reduced fetal movement	1	0	
40112	11 Water breaks without labor	1	0	
402	In your opinion, could a woman die from [this problem] any of these problems?	1. Yes 0. No 0. Don't know		
403	Do you know that above problems and their outcome are manageable by institutional delivery?	1. Yes 0. No 0. Don't know		
404	Have you ever heard the term "birth preparedness"?	1. Yes 2. No		
405	If yes, what are some things	Yes	No	Circle '1'

	a woman can do to prepare for birth? PROBE: Any other			if yes '0' if no
	1. Identify mode of transport	1	0	
	2. Save money	1	0	
	3. Identify blood donor	1	0	
	4. Identify skilled provider	1	0	

Note: SVD= spontaneous vaginal delivery; NSVD= non spontaneous vaginal delivery

Thank you for spending your time and valuable information you gave us. Do you have any question that I can address for you?

የአማርኛ ትርጉም

ጅማ የህክምና ሳይንስ ትምህርት ኮሌጅ፤ የኢ.ፒ.ዲ.ሞሎጂ ትምህርት ክፍል

በደቡብ ክልል፤ በሀዲያ ዞን ሆሳዕና ከተማ ጤና ጣቢያ እና ሆስፒታል እናቶች የወልድ አገልግሎትን እንዳይጠቀሙ የሚያደርገውን ሶስቱን ማዘገፊያ ለማጥናት የተዘጋጁ ጥያቄዎች ናቸው።

የፍቃድ ጥያቄ ፎርም

መግቢያ ሰላምታ፤

ስሜ _____ ይባላል። እኔ የምሰራው በጅማ ዩኒቨርሲቲ የድህረ ምረቃ የጥናት ጽሑፍ አበላት ውስጥ ነው። በመቀጠልም በሶስቱ የወልድ ማዘገፊያዎች ላይ የተወሰነ ጥያቄዎችን መጠየቅ ፈልጌ ነበር። የዚህ ጥናት ዓላማ እናቶች በጤና ተቋማት እንዳይወልዱ የሚከላከሉ ማናቆዎችን ለመለየት የሚደረግ ጥናት ነው።

በመጠይቁ ላይ የእርሶን ስም ወይም ማንነትዎን የሚገልፅ ማንኛውም ነገር አይጠቀስም እንዲሁም እርሶ የሚሰጡት መረጃዎች ሚስጥራዊነት ይጠበቃል። መጠይቁ የሚከናወነው በእርሶ ፍቃድና ነገት ብቻ የተመሠረተ ሲሆን በመጠይቁ ወቅት መመለስ የማይፈልጉትን ማንኛውም አይነት ጥያቄ ይለፈኝ ማለት ይችላሉ። በተጨማሪም በማንኛውም ሰዓት ማቋረጥ ይችላሉ። ይሁን እንጂ እርሶ የሚሰጡት ትክክለኛ መረጃዎች የተቋም ወልድ አገልግሎትን የሚያስተዳዳሉ ችግሮችን በመለየት መስተካከል እና መሻሻል ስላለባቸው ነገሮች ከፍተኛ ጠቀሜታ አለው።

በመጥይቁ ላይ ለመሳተፍ ፍቃደኛ ነዎት?

አዎ----- አይደለም-----

መልሱ አዎ ከሆነ በማመስገን መጠይቁን ይቀጥሉ

ክፍል አንድ፣ ነባራዊ መረጃዎች

መመሪያ፣ ከዚህ በታች የቀረቡትን ጥያቄዎች ምርጫ ያላቸውን በመከብብ፤ ባዶ ቦታ የተሰጡትን ደግሞ አጭር ሀሳብ በመጻፍ ቅጹን ይሞሉ። ማሳሰቢያ፡- ክአንድ በላይ ምላሽ ያላቸው ስለሚኖሩ ሁሉንም መልስ ይምረጡ።

ተ.ቁ	ጥያቄ	መልስ	ምርመራ
101	ወረዳ ክ/ከተማ/ቀበሌ	_____	
102	የመኖሪያ ቦታ ዬት ነዉ?	0. ከተማ 1. ገጠር	
103	ዕድሜ ስንት ነዉ?	_____ ሙሉ ዓመት	
104	ብሔር?	1. ሃዲያ 2. ከምባታ 3. ስልጤ 4. አማራ 5. ጉራጌ 99. ሌላ ካለ ይገለጽ _____	
105	ሃይማኖት ?	1. ኦርቶዶክስ 2. ሙስልም 3. ፔንጤ/ፕሮትስታንት 4. ካቶሊክ 99. ሌላ ካለ ይገለጽ _____	
106	የትዳር ሁኔታ?	0. ያገቡ 1. ያለገቡ 2. የታፋቱ 3. ባል የሞተባት	
107	የእርሶ ትምህርት ደረጃ/ሁኔታ?	1. ማንበብና መጻፍ የማይችሉ 2. ማንበብና መጻፍ የሚችሉ 3. መሠረታዊ ትምህርት የተማሩ 4. የመጀመሪያ ደረጃ የተማሩ 5. ሁለተኛና ከዚያ በላይ የተማሩ	
108	የባለቤትዎ ትምህርት ደረጃ?	1. ማንበብና መጻፍ የማይችሉ 2. ማንበብና መጻፍ የሚችሉ 3. መሠረታዊ ትምህርት የተማሩ 4. የመጀመሪያ ደረጃ የተማሩ 5. ሁለተኛና ከዚያ በላይ የተማሩ	
109	የእርሶ ስራ?	1. የቤት እመቤት 2. የመንግስት ሠራተኛ 3. ነጋዴ 4. ተማሪ 5. በሰዉ ቤት አገልጋይ 6. የቀን ሠራተኛ 99. ሌላ ካለ ይገለጽ _____	
110	የባለቤትዎ ሥራ?	1. እርሶ አደር 2. ነጋዴ 3. መንግስት ሠራተኛ 4. ተማሪ 5. የቀን ሠራተኛ	
111	የወር ገቢ ምን ያህል ነዉ?	1. _____ ኢት. ብር 2. -----ኩንታል (በዓመት) 98. መገመት አልቻልም	

112	የቤት አባወራ/አስተዳደሪ ማነዉ?	1. ባለቤቴ 2. እኔ 3. አባቴ 4. እናቴ 99. ሌላ ካለ ይገለጽ _____	
113	ስለ ጤና መረጃ የሚያገኙበት ከየት ነዉ?	1. ከራዲዮ 2. ከቴሌቪዥን 3. ከተጻፉ ጽሑፎች 4. እርስ በርስ ስናወራ 99. ሌላ ካለ ይገለጽ _____ 98. አላስታወስም	

ክፍል ሁለት፤ የባለፈዉ እርግዝና ታሪክ

መመሪያ፡ አሁን እርሱን ስለ ባለፈዉ ልጅ እርግዝና ክትትልን እና የወለዱበትን ቦታ በሚመለከት መረጃ እንድሰጡኝ እጠይቃለሁኝ

ተ.ቁ	ጥያቄ	መልስ	ምርመራ
201	ስንት ጊዜ እርግዝናዎ?	1. የእርግዝና ብዛት----- 2. እስከ ወሊድ የደረሰ እርግዝና ብዛት _____ 3. የወርጃ ብዛት _____ 4. በህይወት ያሉ ልጆች ብዛት _____	
202	በባለፈዉ እርግዝና ወቅት የቅድመ ወሊድ ምርመራ ክትትል አድርገዋል?	0. አይደለም 1. አዎ	አይደለም ከሆነ ወደ ጥያቄ ቁ. 205 ይሻገሩ.
203	አዎ ከሆነ የክትትል ብዛት ይግለጹ፡፡	_____	
204	ለተ.ቁ 202 አዎ ከሆነ ክትትል ያደረጉበት ቦታ የት ነዉ?	1. ጤና ኬላ 2. ጤና ጣቢያ 3. ሆስፒታል 99. ሌላ ካለ ይገለጽ ----- -----	
205	የመጀመሪያ ልጅዎን የወለዱበት የት ነበር?	1. ቤት 2. ጤና ኬላ 3. ሆስፒታል/ጤና ጣቢያ 99. ሌላ ካለ ይገለጽ _____	

ክፍል ሁለት፤ ሦስቱ የመዘገዥ ሁኔታዎችን ለመለየት የታሰቡ ጥያቄዎች

መመሪያ: ከዚህ ቀጥሎ ባለዉ ክፍል ሦስቱንም የመዘገዥ መንስኤዎች ለመጠየቅ ነዉና አስፈላጊዉን ምላሽ በመስጣት እንድትባበሩ እጠይቃለሁኝ። እነዚህ ሶስቱ የዚህ ጥናት ዋናዉ ክፍሎች ስለሆኑ ጥንቃቄ በተሞላ መልኩ ምላሽ እንድሰጡና መረጃ ሰብሳቢዎችም ልዩ ትኩረት እንድሰጡ ይሁን።

መዘገዥ አንድ

301	ሚጥ በስንት ሰዓት ጀመርዎት ?	-----በሰዓት ይሞሉ	
302	ከቤት ወደ ሆስፒታል/ጤና ጣቢያ ለመምጣት በስንት ሰዓት ተነሱ?	-----ደቅቃ/ሰዓት	
303	የመዉለጃ ቦታን የሚወስነዉ ማን ነዉ?	<ol style="list-style-type: none"> 1. ማንም አይወስነም 2. እኔ 3. እኔና ባለቤቴ 4. ባለቤቴ 5. እናቴ 6. አባቴ 7. የባለቤቴ እናት 8. የባለቤቴ አባት 9. የባለቤቴ እህት 10. ቤተሰቦቼ 11. የባለቤቴ ቤተሰቦች 12. ጎረቤት/ጓደኛ 13. የጤና ባለሙያ 	

		<p>14. የልምድ አዋላጅ</p> <p>98. ሌላ ካለ ይጥቀሱ _____</p> <p>98. አላውቅም</p>	
304	ወሳኔውን ለመወሰን ምን ያህል ጊዜ ፈጅ?	<p>1. -----ደቅቃ</p> <p>2. -----ሰዓት</p> <p>98. አላውቅም</p>	
305	ከአንድ ሰዓት በላይ ቆይተዉ ከሆነ፣ ለምን?	<p>1. በባለፈው እርግዝና ችግር ስላልገጠመኝ</p> <p>2. ሚጥ የጀመረኝ ማታ ስለነበር</p> <p>3. ቤት ለሚቀሩ ልጆች ጠባቂ ስለሌላ</p> <p>4. ለጉዞ ገንዘብ ስለሌኝ</p> <p>5. ለአገልግሎት ገንዘብ ስለሌኝ</p> <p>99. ሌላ ካለ ይገለጽ-----</p> <p>98. አላውቅም</p>	
306	ለጉዞ የሚሆን ተሽከርካሪ እስከሚያገኙ ምን ያህል ሰዓት ይፈጃል?	<p>1. -----ደቅቃ</p> <p>2. -----ሰዓት</p> <p>98. አላውቅም</p>	
307	ወደ ጤና ተቋም የመጡት ከማን ጋር ነበር?	<p>1. ብቻዬን</p> <p>2. እኔ</p>	

		3. ከባለቤቱ ጋር 4. ከእናቱ ጋር 5. ከአባቱ ጋር 6. ከባለቤቱ እናት ጋር 7. ከባለቤቱ አባት 8. ከባለቤቱ እህት 9. ከቤተሰቦቹ ጋር 10. ከባለቤቱ ቤተሰቦች 11. ከጎረቤት/ጓደኛ 12. ከጤና ባለሙያ ጋር 13. ከልምድ አዋላጅ 99. ሌላ ካለ ይጠቀስ___ 98. አላውቅም	
መዘገየት ሁለት			
308	ከቤት እስከ ሆስፒታል/ጤና ጣቢያ ለመድረስ በመንገድ ላይ የቆዩበት ሰዓት?	1. _____ ደቂቃ 2. _____ ሰዓት 98. አላውቅም	
309	ከወሳኔ በኋላ ለጉዞ እንቅፋት የሆነ ነገር ነበር?	0. አዎ 1. የለም	ከሌለ ወደ 313 ይሻገሩ
310	አዎ ካሉ፤ ምን ዓይነት ችግር ነበር ያጋጠመዎት?	1. የተቋሙ ሩቅ መሆን 2. መንገድ ያለመኖር 3. የትራንስፖርት ዋጋ ወደ	

		መሆን 4. ትራንስፖርት ያለመገኛት 99. ሌላ ካለ ይገለጽ	
311	ወደ ጤና ተቋም ስመጡ በምን ታግዘዉ መጡ?	1. በአምቡላንስ 2. በግል መኪና 3. በታክሲ/በመኪና ኮንተራት 4. በፈረስ ጋሪ 5. በእግር 6. በቃሬዛ 99. ሌላ ካለ ይገለጽ----- 98. አላዉቅም	
312	በአምቡላንስ ከሆነ፤ ለአምቡላንሱ ይከፍላሉ?	0. አይከፈልም 2. አዎ	አይከፈልም ካሉ 316 ይለፉ
313	አዎ ከሆነ፤ የገንዘብ መጠንን ይጥቀሱ?	-----ኢ.ት. ብር	
314	ወደዚህ የምመጡት በቃሬዛ ሲሆን ለሚሸከሙት ምን ያደርጋሉ?	1. ጥሬ ገንዘብ ይከፈላል 2. የሚበሉበትና የሚጠጡበት ወጪ ይሸፈናል 3. ማታ ከሆነ የማደራያ ወጪ ይሸፈናል 99. ሌላ ካለ ይገለጽ-----	
መዘገየት ሦስት			
315	ሆስፒታል ከደረሱ በኋላ አገልግሎት እስኪያገኙ ድረስ ምን ያህል ጊዜ ቆዩ?	-----ደቂቃ	
316	ሆስፒታል ከደረሱ በኋላ ያጋጠምዎት ችግር ነበር?	0. የለም 1. አዎ	የለም ከሆነ

		98. አላጠቅም	ወደ 320
317	አዎ ካሉ፣ ምን ነበር?	1. ብዙ ጊዜ መጠበቅ 2. ብዙ የራጫራል ደረጃዎች መኖር 3. ትክክለኛ አገልግሎት አለማገኘት 99. ሌላ ካለ ይገለጽ	
318	የወሊድ ሁኔታ እንዴት ነበር?	1. ያለ ምንም መሣሪያ አገዛ 2. በመሣሪያ የታገዘ	
319	ተቋም ከደረሱ በኋላ የወሊድ አገልግሎት መስጫ ቁሳቁስን ይሸምታሉ?	1. አዎ 2. አይደለም	
320	አዎ ካሉ፣ ምን ዓይነት ቁሳቁስ? ሌላ ካለ ምራ	1. ግላቭ 2. ግሉኮስ 3. የቀዶ ጥገና ቁሳቁስ 4. ሳሙና 5. መድኃኒት 6. የንጽህና ቁሳቁስ/ፓድ/ 7. ጀርም ማጥፊያ 8. ደም 9. ዱቄት/ፖዴር 10. ጥጥ/ማሸጊያ 99. ሌላ ካለ ይጠቀስ 98. አላጠቅም	

የዕድሜ ምዕራፍ

401	በእርግጠኛና በወሊድ ወቅት የሚከሰቱ የአደጋ ምልክቶችን ያወቃሉ?	1 አዎ 0.አላወቅም		አላወቅም ካሉ ወደ ተ.ቁ. 404 ይሻገሩ
	አዎ ከሆነ፤ ምን ዓይነት ምልክቶችን ያወቃሉ? እየደገፍክ ምራ	1. አዎ 2. አላወቅም		
401.1 401.2 401.3 401.5 401.6 401.7 401.8 401.9 401.10 401.11 401.12	የደም መፍሰስ ከባድ የራስ ምታት የመየት ችግር ከአፍ አረፋ መድፈቅ የእጅ/የፊት እብጠት ከፍተኛ ትኩሳት ራስን መሳት የመተንፈስ ችግር ከፍተኛ ድካም ከባድ የሆድ ቁርጠት የጽንሰ እንቅስቃሴ ችግር ከማህፃን ፈሳሽ መኖር አላወቅም	አዎ 1 አዎ አዎ አዎ አዎ አዎ አዎ አዎ አዎ አዎ አዎ አዎ	አላወቅም 0 አላወቅም አላወቅም አላወቅም አላወቅም አላወቅም አላወቅም አላወቅም አላወቅም አላወቅም አላወቅም አላወቅም	
402	እነዚህ ችግሮች አንድን እናት ለሞት ይዳርጋል ብለው ያስባሉ?	1 አዎ 2 አይደለም		
403	እነዚህን ችግር/ሮች በተቋም ደረጃ መከላከል/ መቆጣጠር እንደሚቻል ያወቃሉ?	0.አዎ 1. አይቻልም 98. አላወቅም		

404	የመወለጃ ቅድመ-ዝግጅት የሚለወጥን ቃል ሰምቶ ያወቃል?	0. አዎ 1.አላወቅም	
405	በቅድመ-ዝግጅት ወቅት ምን ምን ያደርጋሉ?	1. የመጓጓዣ ዓይነትን መለየት 2. ገንዘብ ማስቀመጥ 3. ደም ለጋሾችን መለየት 4. ሐኪም መለየት 99. ሌላ ካለ ይገለጽ-----	

ተጨማሪ ሀሳብ ካለዎት-----

----- አመሰግናለሁ::

Jimmi Unversite'e

Jimmi Unversite'enne Minaadaphi Faya'oom Losa'n kolleja Epidemologe'i

Lossa'in Baxancha

Hayyidanitakko'oo xa'imichchuwa dabaraani,

Anni Jimmi unversite'enne la'im digire'i losaanichcho. Ka lossanno guulaqeena 'Amoi ciluwwa Qariminna fayaoomi mine Awaximinsi Dasimma' yoo horoori woshshanne saarayimi baxxo Wachami Beroone, Haddiyyi Zoonane, Dabuuphi'i Giir-Giichch Adilanonne baxxumuuyyi yoommmo. Ehani bikkina ki'inuwwi uwitakam dabachchi Iikka baxxa shuuyyiseena shooto'i ihubbikkina danaamissa sawittakka'a awonnoo xamichchuwwina dabachcha laaboo'isinne uwwehe.

Xaimicha xaimanchina iitamtaaka? 1. Eyaa 2. Itamumoyo

I. Lule'i xamich dabaranch bikina kuro luwa/meraja'a

Awonnisse: ku xa'immich baxxanichi amadukkoki xuffamaa xuffamubee'i xa'imichchuwwa. Ebikkinna laboo'isinne uwwammu xa'immichuwiina labo danachcha uwwehe.

Xigo	Xa'imicha	Dabacha	Sorooba
101	Qoxoo	_____	
102	Heech gandisi	1. Beero'o 2. Gaxraa	
103	Umurhincho	
104	Shumoo	1. Hadiyicho 2. kambaticho 3. silxekicho 4. amacho/gandimancho 99. mulane'e	
105	Amainat bikinna	1. ortodokisa 2. isilancha 3. amainanacho 4. kaatolikicho	

		99. mulek ihulas caakise.....	
106	Mine isim bikina	<ol style="list-style-type: none"> 1. mine isitoohane 2. mine isitaa fitoohane 3. miinani letoohane 4. mine isito be ane 	
107	Losain bikina	<ol style="list-style-type: none"> 1. maham losain mine ago beane 2. qananaachaa kitabimaa xantamane 3. lux'I gabala losoohane 4. lai'm gabala'a hanaan losoohane 	
108	Kimanchi Losain bikina	<ol style="list-style-type: none"> 1. maham losain mine agu beane 2. qananaachaa kitabimaa xanohane 3. lux'I gabala losakohane 4. lai'm gabala'a hanaane losakohane 	
109	Marcho baxoh?	<ol style="list-style-type: none"> 1. miin amate 2. adiil baxaanchote 3. dadaraanchote 4. losaanchte 5. bal baxo baxaanchote 	
110	Kimanch'I baxi bikinaa	<ol style="list-style-type: none"> 1. abuulaancho 2. adiil baxaanchote 3. dadaraancho 4. losaancho 5. bal baxo baxaanchote 	
111	Mat agana hinkaina siido	_____	
112	Mi'ini anichi ayetee	<ol style="list-style-type: none"> 1. imancho 2. anetee 3. iyanaa 4. iyumatee <p>99. mulane</p>	
113	Faoom'I bikina mahi xamboosido'o?	<ol style="list-style-type: none"> 1. radoi's 2. televjini's 3. mahami macesumoyoo 	

		99. mulanisetee	
II. Amoi fayaomibkinaa			
201	Siirim bikina	1. Meei kore qataka____ 2. Meei kore godabo aphphixitaka__ 3. Mei'osi fori'yoo____	
202	Ilagein siromane fayaomi mine lasesaka?	1. Eyaa 2. Aai	Aei'yitakolsi205 xigon calehe
203	Me'ikore matakoo?	_____	
204	Hano matakoo?	1. Xeni'kela 2. Xeni'xaba 3. Huspitaala 99. Mul'beyo_____	
205	Higukiamane hanone katako?	1. Minene 2. Xeni'kelane 3. Xeni'xabane 4. Huspitaalane 5. Mule'yolasi kulehe_____	
III. Dalasimi'bikinaa			
Awoonissa: Kanne worrone uwwamo xa'immichchuwwinna uwammu doiloo bonne beyyoo moilakuyi haniqqo dabachcha dollehe			
301	Xuchi hinka'amne asheruko?	_____	
302	Mini kilakoi'amne kitabehe	_____	
303	Qacho qatakmi'beyoo qodo ayetee?	1. Ayimi bee 2. anetee 3. Anetee imancho 4. Imancho 5. Iyumate 6. Iyana 7. Ibalotee 8. ibaloo 9. Nimin'manaa 10. Iabarosaa	

		11. Imanchi abroosa 12. Hegeqi'manaa 13. Fayaooma egeraano 99. Muleki'yolasi kulehe___	
304	Qodakebe hinkan amane dalasuko?	1. _____sataa 2. _____daqiqqa 98. Laomoyoo	
305	Mati satii lobka dssakolsi, mahina?	1. Ilageni qachone qedubebikina 2. Xuchi himone amadatee 3. Osso egaromani beibikina 4. kameina miqoi bebikna 5. Awaxi miqoi bebikina 99. Muleki yolasi 98. Laumoyoo	
306	Kamei sidameibe hinkani amane massuko?	1. _____sataa 2. _____daqiqqa 98. Laomoyoo	
307	Fayaom'mine ayene watakoo?	1. Ayimi bee 2. anetee 3. Anetee imancho 4. Imancho 5. Iyumate 6. Iyana 7. Ibalotee 8. ibaloo 9. Nimi'nmanaa 10. Iabarosaa 11. Imanchi abrosaa 12. Hegeqi'manaa 13. Fayaooma egeranoo 99. Muleki'yolasi kulehee___ 98. Laumoyoo	

Googone dasim bikkina			
308	Qodaka lasege fayaoomi mine afakena horo qedi yoonihe?	1. Eyaa 2. Bee	Belasi, xigi 312ne calehe
309	Eyaa yitakolsi marucho?	1. Gogi horeemi qelaa 2. Gogi bea 3. Gogina miqomi majji bea 4. Kamei becha 99. Muleki yolse	
310	Keyee afakebee hinkana amanee messukoo?	1. _____daqiqaa 2. _____sataa 98. Laumoyoo	
311	Mahine watakoo?	1. Ambulaansinete 2. Gaqi kameinete 3. Hoffi kameinete 4. Hali gareinete 5. Lokinete 6. Halaqinete 99. Muleki yoolsi 98. Laumoyoo	
312	Ambulasineti'ihakolssi, miqoi yoonihee?	1. Eyaa 2. Bee	
313	Yolasi meo miqakoo?	_____	
314	Haleqnee Iyakateti ihukilsii, iyukimanina mahaisitekoo?	1. Majja miqumoo 2. Icha aga xanumoo 3. Himogatti beyika miqumoo 99. Muleki yolasii	
Fayaoomi'minee			
315	Awado asherekebee hinkan amane egatakoo?	_____daqiqaa kitabehee	
316	Afuki'qedi yoonihee?	1. Eyaa 2. Bee 98. Laumoyoo	Beilsii xiqi 320 calehee

317	Marucho?	<ol style="list-style-type: none"> 1. Lobkati'amane egerimaa 2. Mulbeyoo asseimaa 3. Qasisso hakinchi beimaa 99. Muleki yolasi 	
318	Qeramuukis henkidetee?	<ol style="list-style-type: none"> 1. Ixi'amaneenetemee 2. Mutine bakisakatetee 	
319	Awadinaa bito alakami luwi yoonihee?	<ol style="list-style-type: none"> 1. Eyaa 2. Bee 98. Laumoyo 	
320	Yolsii marucho?	<ol style="list-style-type: none"> 1. Angi keraxitta 2. Gulukossa 3. Gobakami fatirra 4. Samunna 5. Qerare 6. Mucuromi mutta 7. Mada anshakami woo 8. Xigga 9. Qemma 10. Xixxa 99. Mulki yolasi 98. Laumoyoo 	
Laimi'bikinna			
401	Siromi'amane/te qarimi'amane egerakoi'bei jabi qocamena xanokoytamonihhee?	<ol style="list-style-type: none"> 1. Eyaa 2. Aae 98. Laumoyoo 	Beilasi xiqi 404 ne calee
402	Kakeninsi ihena xanokoyitakamoki hinkanee?	<ol style="list-style-type: none"> 1. Keimal xigi'dunacha 2. Keimal horoil damumma 3. Aqine hambo ebisimma 4. Keimal ibba 5. Gaga hushisimma 6. Lobkati'amani xuchacha 7. Ami' qaramoin dasimma 99. Muleki' yolsi kulehee__ 	

403	Hanani kitabamukikeninna fayaomi'minene qarri heokoyita sawitoohine?	1. Heokoo 2. Heoyoo 98. Laumoyoo	
404	Qeriminna gudoo yimma lqakamonihe?	1. Eyaa 2. Aae	
405	Laqekami'lasi, marucho?	1. Mahine marakami'dae laima 2. Majja guddisimma 3. Xiga sidkami beyoo laimma 4. Qasisso manna laimma 99. Muleki yolasi	

Sawilti yoo'lase

Araqa galaxoomo!