ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCE
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BIRTH PREPAREDNESS, COMPLICATION READINESS AND OTHER DETERMINANTS OF PLACE OF DELIVERY; THE CASE OF GOBA WEREDA, BALE ZONE, SOUTH EAST ETHIOPIA

BY: SEMERE SILESHI BELDA (BSc.)

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Abstract

Background: Ethiopia is one of the countries with the highest maternal mortality ratio 676/100,000 livebirths and the lowest skilled delivery at birth (10%) in 2011. Skilled delivery care and provision of emergency obstetric care prevents many of these deaths. Despite implementation of birth preparedness and complication readiness (BPACR) packages to antenatal care users since 2007 in the study area, yet overwhelming proportion of births take place at home. The effect of birth preparedness and complication readiness on place of delivery is not well known and studied in this context.

Objective: To determine the effect of birth preparedness and complication readiness of mothers and other factors on place of delivery among women who gave birth in the last 12 months, Goba Wereda, February, 2014.

Methodology: A community based case control study preceded by initial census was conducted on a total of 358 sampled respondents (119 cases and 239 controls) who were selected using stratified-multistage sampling technique. A pre-tested and standardized questionnaire with a face-to-face interview was used to collect the data, then data was cleaned, coded and entered in to SPSS version-21, binary logistic regression models were run to identify predictors of place of delivery, Odds ratio with 95%CI was used to assess associations at a 0.05 level of significance.

Result: The response rate was 118(99.1%) and 238(99.5%) for the cases and the controls respectively. Mean(±SD) age of 27.41(±5.8) and 28.84(±5.7) years for the cases and the controls respectively. Health facility delivery accounts to 285(32.9%) and home delivery accounts to 579(67.1%) of the deliveries. And 94(79.7%) and 81(34.0%) of the cases and the controls respectively were well-prepared for birth and complication. Maternal education, religion, distance from health facility, knowledge of availability of ambulance transport and history of obstetric complication were independent predictors of place of delivery (P-value <0.01). BPACR practice had an independent effect (AOR =2.55, 95%CI: 1.12, 5.84) on place of delivery.

Conclusion and Recommendation: The study identified abetter institutional delivery utilization among mothers who were well-prepared for birth and complication. BPACR services should be further strengthened to enables women recognize danger signs and access skilled caregiver for all deliveries.

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Acronym

ANC - Antenatal Care

BPACR - Birth Preparedness and Complication Readiness

BP - Birth Preparedness

BPP - Birth Preparedness Program

CSA - Central Statistical Agency

EDHS - Ethiopian Demographic and Health Survey

EmOC - Emergency Obstetrics Care

FANC - Focused Antenatal Care

HD - Home Delivery

ICPD - International Conference on Population and Development

ID - Institutional Delivery

IUFD - Intra Uterine Fetal Death

JHPIEGO - Johns Hopkins Program for International Education in Gynecology & Obstetrics

MDG - Millennium Development Goal

MMR - Maternal Mortality Ratio

MNH - Maternal and Neonatal Health

PNC - Post Natal Care

PROM - Premature Rapture of Membrane

SBA - Skilled Birth Attendant

SPSS - Statistical Package for Social Science

SSA - Sub Sahara Africa

TBA - Traditional Birth Attendant

TTBA - Trained Traditional Birth Attendant

UNFPA - United Nations Fund for Population Agency

UNICEF - United Nations International Children's Fund

WHO - World Health Organization

1. Introduction

Background: - Every year eight million women suffer pregnancy-related complications and, almost the entire half million maternal deaths globally are in low- and middle-income countries. A woman in Sub-Saharan Africa (SSA) has a 1-in-22 chance of dying over her lifetime as a result of pregnancy, this risk is more than 200 times greater than the risk of a woman in the United States (1, 2); yet the differential between high- and low-income countries remains higher than for any other health indicator (3). Many of these deaths can be averted through skilled delivery care and provision of emergency obstetric care (EmOC) for women who develop complications (4).

The place of delivery (health institution or home) and the type of care a woman get during childbirth determines the outcome of pregnancy. Skilled delivery care provided to women by a health professional with midwifery skills within an enabling environment in a health center or hospital is recommended to prevent maternal deaths (5). Despite the national and global efforts; utilization rates of these services in rural Subsaran Africa (SSA) with a skilled attendant (doctor, nurse, or midwife) is low; and there is no significant reduction in maternal morbidity and mortality in developing countries (6).

Birth Preparednesdss and Complication Readiness (BPACR) is an overarching program approach to improve the use and effectiveness of key maternal and newborn health services, including skilled delivery service utilization based on the premise that preparing for birth and being ready for complications reduces all three phases of delays in receiving these services (7). The lack of BPACR plan is one of the critical factors behind the sluggish progress towards the maternal target of the mellinium development goals (MDGs). It is also considered as an intervention for preventive behaviour and programmatic approach to other socio-economic and cultural barriers which limit the fundamental gain from the health facilities (6). Therefore BPACR at the individual women level; in terms of identifying a place for skilled delivery care, skilled birth attendant, saving money, arranging transportation, identified emergency signs, identifying a health facility with 24 hours emergency obstetric care and blood donor arrangement (7), is crucial to improve the outcome of delivery by advance planning and preparation for delivery and complications.

Statement of the problem:- Ethiopia is one of the countries with the highest maternal mortality ratio (MMR) 676/100 000 live births in 2011 with no change from its previous level of 673/100,000 live births in 2005 (8). Focused antenatal care known in its preparation of the pregnant women to identify birth location and a skilled attendant is the approach used in the country. Antenatal care from a skilled provider accounts to 33.9% nationaly and 31.3% in Oromia region and it remain one of the countries with the lowest skilled delivery at birth (10%) and only (8%) in Oromia region (9). Antenatal care at least once from a skilled provider in 2013 in Goba Wereda accounts to 66.4% and however only 12% of rural deliveries took place in health facilities (10).

Home deliveries are known to be associated with maternal morbidity and mortality, such as antepartum hemorrhage (APH), postpartum hemorrhage (PPH), birth trauma, infection, and fistula. Therefore women need timely access to skilled care during pregnancy, childbirth, and the postpartum period. Too often, however, their access to care is hampered by delays. The most important causes of these delays are common and predictable like transport problem to a facility (71%), followed by lack of money (68%) and distance to a health facility (66%) (9).

Despite the series of initiatives to increase utilization of institutional delivery (ID) service including implementation of BPACR packages to ANC users since 2007 in Ethiopia in general and the study area in particular (11), yet overwhelming proportion of births take place at home resulting with a potentially preventable complications (12). Meanwhile the concrete effect of BPACR on place of delivery and assistance by skilled birth attendants (SBA) is not well known and studied in this context.

Expected outcome: - This study therefore aims to fill this gap by determining the effects of birth preparednesdss and complication readiness at the individual mother's level as a main exposure variable on place of delivery of mothers, and subsequently to determine the coverage of institutional deliveries and associated factors in Goba Wereda. The findings of the study will contribute to the planning and implementation of interventions to improve the utilization of institutional delivery service.

2. Literature review

Maternal Health and MDG5

Eleven countries that had high levels of maternal mortality in 1990 (Bhutan, Cambodia, Cabo Verde, Equatorial Guinea, Eritrea, Lao People's Democratic Republic, Maldives, Nepal, Romania, Rwanda, Timor-Leste) have already reached the Millennium Development Goal (MDG) target of a 75% reduction in maternal mortality from the 1990 rate by 2015. Based on these latest trends however, many low- and middle-income countries will not achieve this goal. Sub-Saharan Africa is still the riskiest region in the world for dying of complications in pregnancy and childbirth(13).

A poor woman in Malawi, Ethiopia or Nepal is over 200 times more likely to die as a result of pregnancy and childbirth than a woman in the UK. This inequity between developing and developed countries is indefensible. In 2000, 189 governments committed themselves to achieve the millennium development goals (MDGs) by 2015. One of the goals is to improve maternal health. We know what works to avert most death and disability. The focus must be on increasing access, use and quality of health services that ensure access to a skilled attendant at birth (SBA) and an effective referral system that is able to deal with life threatening complications (14).

Based on ecological and historical evidences observed in European and Asian countries health professionals with midwifery skill were considered the key factors to decrease maternal mortality. The low maternal mortality rates reported by the Netherlands, Norway, and Sweden in the early 20th century were believed to have been the result of an extensive collaboration between physicians and highly competent, locally available midwives (15).

At a special session held by the United Nations General Assembly in 1999 (known as ICPD+5) it was agreed that all countries should continue their efforts so that globally, SBA should reach 80%, 85%, and 90% by the years 2005, 2010 and 2015 respectively (16).

Global initiatives like "The Every Woman Every Child movement" established to mobilize and intensify the international and national action needed to advance the Global Strategy for Women's and Children's health, aims to increase visibility and political support, mobilize

resources and catalyze a renewed effort to accelerate progress towards the achievement of two of the eight MDGs: to reduce child mortality (MDG 4) and improve maternal health (MDG 5) (17).

According to the recent review of the MDG, little progress has been made with respect to MDG 5 on improving maternal health (18). Skilled delivery care is considered a crucial function within the health care system for saving the lives of mothers and newborns and represents an important indicator for monitoring MDG5 (19-21). A community-based investigation of maternal deaths in Zimbabwe indicates avoidable factors were identified in 90% of the 105 rural deaths and 85 % of 61 urban deaths. Delay in seeking treatment contributed to 32% and 28% of rural and urban deaths, respectively (22).

Every year an estimated 60 million women give birth outside health facilities, mainly at home, and 52 million births occur without a SBA (23). Access to skilled care at birth and especially to emergency obstetric care (EmOC) is lowest for the poor, being the lowest rates of SBA are in South Asia and Sub-Saharan Africa (SSA), and progress to achieving universal skilled attendance is staggeringly slow, particularly in SSA, where the average increase in SBA is rising by only about 0.2% per year (24).

The recent demographic and health survey (EDHS 2011) report revealed, Ethiopia is one of the countries with highest MMR which is currently estimated at 676 per 100,000 live births, only 19 % of pregnant women made four or more ANC visits and only 10 % of births in the past five years before the survey were delivered by a skilled provider. Urban births are notably more likely than rural births to be delivered in a health facility (50 percent versus 4 percent). Sixty one percent of women stated that a health facility delivery was not necessary, and 30% stated that it was not customary. Just 7 % of Ethiopian women received postnatal care (PNC) in the first two days after their last delivery in the two years before the survey (9).

Safe Motherhood and Birth Preparedness and Complications Readiness

Today the primary goal of safe motherhood community is to improve the quality and accessibility of maternity care using the EmOC and skilled delivery care approaches. The 3 Delays (deciding to seek care, reaching care and receiving care), an explanatory model, identifies the 3 phases during which delays can contribute to the death of pregnant or postpartum women and their newborns. Many of the reasons contributing to these delays are possible to anticipate

and plan for them in many settings. Preparing for birth and complications reduces delays. Many more women and newborns would survive childbirth if they received the care they need when they need it. The maternal and newborn health (MNH) program believes that these commonly cited factors can be averted with advance preparation and rapid action. BPACR is an overarching program approach to improve the use and effectiveness of key maternal and newborn health services, based on the premise that preparing for birth and being ready for complications reduces all three phases of delays in receiving these services. BPACR provides an established set of indicators that provides guidance in assessing and monitoring an important aspect of Safe motherhood programs that intervene at multiple levels (7, 25).

Birth preparedness and complication readiness (BPACR) is a comprehensive strategy of shared responsibility at six levels: the individual woman, her family (husband/partner), the community, the health facility, the provider, and the policymaker (7).

Safe motherhood programs in developing country like Nepal have included the use of birth preparedness cards as one method of increasing timely use of skilled care. The cards help women and families to plan for safer births. They include basic information on danger signs, guidance on choosing a birth location, attendant, arrangements for supplies, transport, fees and finding a blood donor in case of emergency. A study in the same country revealed, Birth preparedness program (BPP) can positively influence knowledge and immediate health outcomes (26, 27).

A qualitative study in rural Malawi concluded "the discrepancy between the uptake of ANC and institutional delivery seems to be unintentional. Women made the choice to deliver at a health facility, but circumstances were not favorable. Information on birth preparedness needs to put more emphasis on timely planning and it calls for a more individual approach during ANC (28) .

Another qualitative study in Tanzania; women's preferences to a home birth and lack of planning for delivery are reinforced by the failure of health care providers to consistently communicate the importance of skilled delivery and immediate post-partum care for all women during routine antenatal visits. The women, husbands, TBAs, and Elders interviewed agreed that the largest obstacle to receiving skilled and EmOC is failure to plan in advance for transport (29).

A study in Uganda revealed; 35% of the women had been prepared for childbirth and the prevalence of assistance by SBAs in the sample was 68%. The final decision on location of birth

was made by the woman herself (36%), the woman with spouse (56%) and the woman with relative/friend (8%). The relationships between BP and women decision-making on location of birth in consultation with spouse/friends/relatives and choosing assistance by SBA showed statistical significance (OR=1.5, 95%CI:1.0–2.4) and (OR= 4.4,95%CI: 3.0–6.7) respectively (30).

Effects of Birth Preparedness and Complications Readiness on Place of Delivery

Studies in Nepal on birth preparedness and skilled attendance at birth revealed level of BP was high; 65% of the women reported preparing for at least 4 of the 5 arrangements (identification of delivery place, identification of transport, identification of blood donor, money saving and antenatal care check-up). It appears that the more arrangements made, the more likely were the women to have skilled attendance at birth (OR=1.51, $p<0.001$). Another study in the same country revealed, women who are well prepared for child birth have three times a greater likelihood of going for institutional deliveries than women with no preparation (31, 32).

A survey conducted in Burkinafaso to measure the impact of BPACR on the use of skilled providers at birth showed; out of the 180 women who had given birth within 12 months of the survey, 46.1% had a plan for transportation, and 83.3% had a plan to save money. Women with these plans were more likely to give birth with the assistance of a skilled provider (33).

A study in Bale Zone, Ethiopia in 2013 revealed that 29.9% of the mothers were prepared for birth and its complications. Besides, only 14.6% of study participants were knowledgeable about BPACR while 85.4% were not. BPACR of woman was higher among primary educational status and above, and women who had ANC follow up (34).

Determinants of place of delivery

Studies in Northern and Southern Ethiopia revealed that women's educational status, birth order, prenatal care use, previous delivery at health facility and birth complication encounter during labor were independent predictors of maternal utilization of safe delivery service (35-37). Mothers aged 15-19yrs were more than 2½ times as likely to give birth at health facilities as compared to those aged above 35yrs. Mothers who completed at least secondary school were 3

times more likely to give birth at health facilities than those uneducated; women with birth order above four were less likely to give birth at a health facilities than those with first order births. Mothers with family size of less than three were more than two times as likely to give birth at health facilities as compared to those living with more than five members. Women who had encountered problems in their immediate birth and received prenatal care were more likely to give birth at health facility (35).

A study in Gonder Ethiopia in 2004 indicated women who did not have any registered ANC visit were less likely to give birth at health facilities (OR= 0.09, 95%CI: 0.06, 0.15) than those received ANC. Moreover, mothers who had past history of intrapartum complication were more likely to seek safe delivery care (OR= 1.63, 95% CI: 1.1, 2.24) (38).

A study done in Jimma Ethiopia in 2005 revealed; the presence of positive association between utilization of maternal health care and residence; those living in urban and closest to health facilities tend to utilize skilled delivery services than rural dwellers. Maternal education was an important factor in determining women's delivery care seeking behavior. However, education of mothers may not maintain its effects across all levels of education and social settings (36).

A study in Adigrat town, Tigray region in Ethiopia showed women who received ANC in 2008 were 54%; while only 4.1% of women gave birth at a health facility for their recent births. Factors associated with the use of ID were mainly associated with parity, education, ANC advice, a history of difficult/prolonged labour, and husbands' occupation (39).

Previous studies elsewhere in Ethiopia point out the determinants of safe delivery can be multi factorial including; socio demographic factors, cultural/community factors, obstetric factors, health facility related factors (40, 41). A study in Sekela District, North West of Ethiopia in 2012 explored that mothers less than 20 years of age during the interview were about 6 times more likely to deliver at health institutions than mothers more than 35 and above (41) .

A case control study in 2012 in Bahirdar Ethiopia identified; the likelihood of delivering at home was greater among mothers with inadequate knowledge of pregnancy related services, and those who started attending ANC after 24 weeks of gestation, mothers having no formal education and rural residents were found determinants that favor home delivery (42).

A study on the effect of birth preparedness in south western Uganda in 2012 identified that Women who had parity of one or two were 2 times more likely to choose assistance by SBAs than those who had parity of 5 or more. Women who had their first ANC visit with a gestation age of 1–3 months were more likely to choose assistance of SBA than those who had their first ANC visit at gestation age of 4 months or above. Those women who attended ANC 4 times or more were 2 times more likely to choose assistance by SBA at the time of delivery than those who had less than 4 ANC visits (30).

A Nested Case Control study in Northwest Ethiopia in 2013 revealed that; Secondary and above level of education was associated with SBA. Similarly, women who had ANC during their pregnancy four or more times (AOR = 2.8, 95%CI: 1.56, 4.98) and who own TV (AOR = 2.5, 95%CI: 1.32, 4.76) were more likely to deliver with the assistance of a skilled attendant (43).

In summary the available evidences on maternal health agree on the high disparity in the indicators of maternal health between the developing and developed world. Based on ecological and historical evidences observed in European and Asian countries health professionals with midwifery skill were considered the key factors to decrease maternal mortality. Access to SBA and especially to emergency obstetric care (EmOC) is lowest for the poor, being the lowest rates of SBA are in South Asia and Sub-Saharan Africa (SSA). In Ethiopia, maternal mortality has also not changed from its previous level where MMR was 673 per 100,000 LB in the 2005 EDHS report, and it was 676 per 100,000 LB in the 2011 EDHS report (9).

The 3 Delays, an explanatory model, identifies 3 phases during which delays can contribute to MMR. Many more women and newborns would survive childbirth if they received the care they need when they need it. Avoidable factors were identified in 90% and 85 % of the rural and urban deaths respectively. BPACR is an overarching program approach to improve the use and effectiveness of key maternal and newborn health services, including skilled delivery service utilization based on the premise that preparing for birth and being ready for complications reduces all three phases of delays in receiving these services (7).

Review of the global literature indicates that these factors can be classified as: The background characteristics at the individual and household level (socio-demographic/economic characteristics, obstetric characteristics, reproductive health care use etc), the communal factors;

including the health facility related and cultural or community factors, the factors related to government policies and action at the national or state level. This study was planned to assess the effect of BPACR at the mother's level as the main exposure variable and other background characteristics at the individual and household level predictors of utilization of delivery care by a skilled provider in health institutions. The Conceptual framework (Figure **1**) illustrates that; there are several factors influencing skilled delivery care utilization within the dimensions of skilled maternal care definition.

Conceptual framework

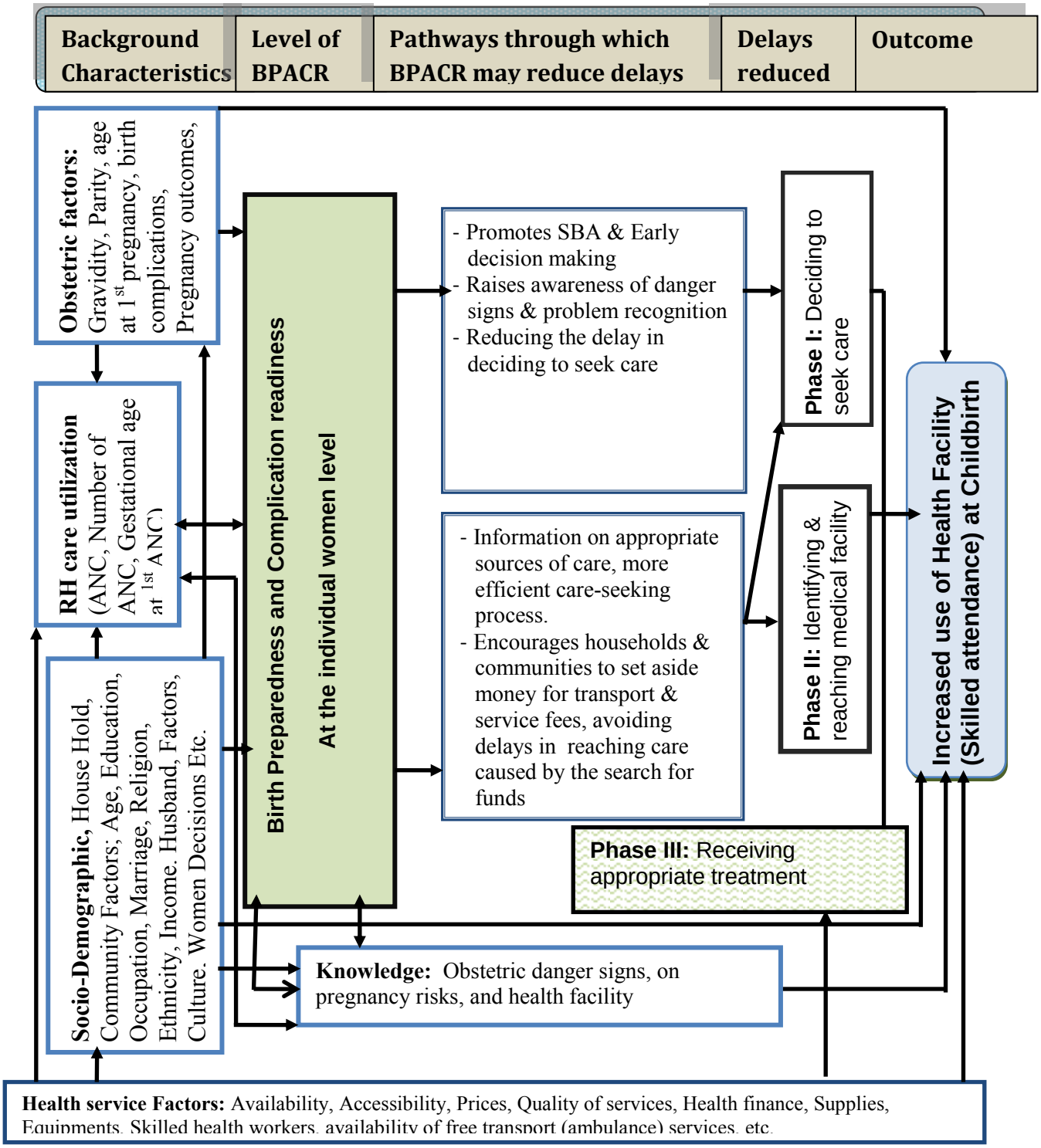


Figure 1: Conceptual diagram, how BPACR and other predictors may increase the use of skilled delivery, adapted and modified from JHPIEGO BPACR monitoring tool, February, 2014. (7)

3. Objectives

3.1. General objective

- To determine the effect of birth preparedness and complication readiness of mothers and other factors on place of delivery among women who gave birth in the last 12 months, Goba Wereda, Bale Zone, South Eastern Ethiopia, February, 2014.

3.2. Specific objectives

1. To determine the magnitude of institutional delivery service utilization in Goba Wereda
2. To determine the effect of birth preparedness and complication readiness on place of delivery
3. To identify other predictors of place of delivery among mothers that gave childbirth in the last 12 months

4. Methodology

4.1. Study area and period

The study was conducted in Goba Wereda (district), which is one of the 18 Weredas in Bale Zone, Oromia regional state, South-Eastern Ethiopia. The Wereda is located at 444 Km in the South-east direction from the capital city Addis Ababa. Goba Wereda is administratively structured into: Goba rural Wereda and Goba administrative town, with 15 rural Kebeles (the smallest administrative unit) and with 2 urban Kebeles respectively. It has an estimated total population of 89,859 (projected from the 2007 census). Of the total population 53.14% live in rural Kebeles (44). The estimated number of women of child bearing age was 20,668 and the estimated number of pregnant women was 3,774. The antenatal coverage in the Wereda was 66.4% and skilled delivery utilization by the rural mothers was 12% in 2012 (10). The health infrastructure comprises of one referral hospital, four health centers and 15 functional health posts in the rural rural Kebeles of the Wereda. The referral hospital in the town provides comprehensive emergency obstetric care while the health centers provide basic emergency obstetric care. Health extension workers provide clean and safe delivery and referral at the health posts; and the data was collected from February 10th, to 5th of March, 2014.

4.2. Study design

A community based unmatched case control study design; preceded by initial census i.e. to enumerate and prepare list of all households with eligible women in the sampled kebeles was used.

4.3. Source population

The source population were all women who gave birth within 12 months before the study period and who live in Goba Wereda. And the study participants were all mothers who gave birth in the last 12 months and live in the sampled households.

Inclusion criteria: Mothers who were permanent residents in the sampled household, who delivered after 10th of February 2013 to 09th of February 2014 and who were willing to be interviewed at the time of the study.

Exclusion criteria: Those women who were mentally or seriously ill to be interviewed during the study period.

4.4. Sample size

From previous studies, maternal age at first delivery, parity, maternal education and BPACR were assumed as factors that affect delivery service utilization (30, 34, 35, 42). Sample size was computed for each factors, finally BPACR of mothers was chosen as exposure factor to calculate optimal sample size. A two proportion formula using *Stat calc Epi-info7* sample size for unmatched case control study was used with the assumptions of; a 95% confidence level, 80% power, level of exposure to BPACR (the main exposure variable of the study) in the control group was 30.0% (34), an odds ratio of 2.0, the ratio of controls to cases of 2:1, and an additional 5% non-response rate. The calculated total sample size was 358 recently delivered mothers with the number of sampled cases (n=119) and sampled controls (n=239).

4.5. Sampling procedure

The study area was stratified in to rural and urban, and six Kebeles named "Wecho-Misinge", "Misra", "Ashuta", "Burkitu" and "Sinja" among the rural Kebeles and "West Goba" Kebele from the urban Kebeles were randomly selected. A census of the sampled six Kebeles for complete enumeration and listing of all households with women who gave childbirth from 10th of February 2013, to 09th of February 2014 (regardless of birth outcome) was made and a sample frame was prepared separately for those who delivered the last child in health facility (cases) and for those who delivered at home (controls). The estimated sample household (sample units) were drawn from each of the six Kebeles (Table 1) by simple random sampling technique and a lottery method was used in case of more than one eligible woman in a single household (Figure 5).

Table 1: Distribution of the sample size in the sampled Kebeles in Bale Zone, Goba Wereda, South East Ethiopia, February, 2014.

Sampled Kebeles	Source Population			Sample size in each Kebele		
	Recently delivered Women	Source population for cases	Source population for Controls	Sampled Cases	Sampled controls	Total sample
*Wecho	114	17	97	15	35	50
*Misra	128	30	98	15	34	49
*Ashuta	115	12	103	10	20	30
*Burkitu	74	10	64	10	20	30
*Sinja	92	21	71	10	20	30
¡W/ Goba	341	195	146	59	110	169
Total	864	285	579	119	239	358

* *Rural Kebeles*, ¡ *urban Kebele*

4.6. Variables

Dependent variable: Place of delivery (institutional delivery or home delivery).

Independent variables

- Birth Preparedness and Complication Readiness and knowledge of key obstetric danger signs related variables
- Socioeconomic and demographic factors: age, religion, ethnicity, marital status, education, decision making of women on obstetric health care seeking, income, family size, availability of Television, Radio & Telephone in the household, etc.
- Obstetric characteristics and reproductive health care utilization: gravidity, parity, age at first delivery, number of abortions, still birth and live birth, obstetric complications experienced, antenatal care use, gestational age at the first ANC, the number (frequency) of ANC.
- Health facility factors: availability and accessibility of health workers and skilled delivery care, service fee, knowledge of availability of free ambulance transportation service, average time of travel to the nearest health facility with emergency obstetric care.

Table 2: Description and measurement of selected variables, Bale Zone, Goba Wereda, South East Ethiopia, February, 2014.

Variables	Descriptions	Measurements
Place of delivery (dependent variable)	The place of delivery for the most recent childbirth in the last 12 months was dichotomized in to home delivery (control groups) and health institution delivery (health center or hospital) (the cases group) in this study.	The control (home delivery) group were coded as "0" and the controls (health facility delivery) group were coded as "1" for computer data entry purpose
Birth Preparedness and Complication Readiness (BPACR)practice (independent variable)	Birth Preparedness and Complication Readiness status of the respondent was a composite (indexed variable) based on whether the respondent ahead of time of the most recent childbirth (identified place of delivery or not, identified skilled birth attendant or not, saved money or not, identified means of emergency transport or not, arranged a blood donor for emergency or not, identified emergency signs or not and identified health institution with 24hours of EmOC or not)	Preparation or arrangement with "yes" responses were coded as "1" otherwise 'No' responses were coded as "0" and finally respondents with >= 4 "yes" responses in the individual measurement were taken as "well prepared" for birth and complication and were coded as "1" and respondents with <4 "yes" responses were taken as "not well prepared and were coded as "0"

4.7. Data collection instrument and procedures

A format was prepared and used during the preliminary census to identify and prepare a list of households with mothers who gave birth to a child from 10th of February 2013 to 09th of February 2014 (regardless of the birth outcome). And a pre-tested and standardized questionnaire with questions extracted from the Johns Hopkins Program for International Education in Gynecology & Obstetrics (JHPIEGO) BPACR monitoring and indicators for maternal and newborn health tool (7) after some modifications made to suit the local context and additional questions adopted from EDHS (9) and from some other related studies (34, 35), were used to prepare the instrument (the tool) that was used to collect the data. A face to face interview technique was used by trained data collectors. The instrument was pretested on 10% of mothers who live in an adjacent Kebele named "Shifarewo". Some findings from the pretest were used to make some adjustment especially on time per each interview and resentencing some questions. The data collectors were nurses selected based on their experience in data collection for research work and were trained for 2 days; and a health extension worker in each Kebele due to their familiarity with the respondent's place of delivery were used as a local guider during the preliminary census and the data collection periods. The respondents who were not accesed during the initial visit were revisited for the second time to complt the interview. The principal investigator and two public health officers supervised the whole data collection process.

4.8. Operational and/or standard definitions

Institutional delivery: in this study is a delivery that occurred either in a hospital or a health center where a skilled birth attendant works.

Home delivery: in this study is a delivery that occurred at home or anywhere outside of a hospital or a health center.

Cases: in this study are woman who gave childbirth with the assistance of a skilled provider in health center or hospital in the previous 12 month.

Controls: in this study are woman who gave childbirth anywhere outside a health center or hospital in the previous 12 month.

Skilled care during childbirth: Skilled care (or attendance) refers to the process by which a pregnant woman and her baby are provided with adequate care during pregnancy, labor, birth, and the postpartum and immediate newborn periods.

Key danger signs: are those that are common, can easily be recognized and are signs of serious complications and they are grouped under three phases of pregnancy, childbirth and postpartum. The key danger signs during pregnancy include; severe vaginal bleeding, swollen hands/face and blurred vision while key danger signs during childbirths are; severe vaginal bleeding, prolonged labour (labour lasting more than 12 hours), convulsions and retained placenta. The key danger signs during postpartum include; severe vaginal bleeding, foul-smelling vaginal discharge and high fever (7).

Knowledge of key danger signs: in this study only spontaneous responses recorded were used to assess Knowledge of any key danger sign during any of the three phases (pregnancy, childbirth or postpartum) were coded as "Yes"or"No", and categorized as:

Optimal Knowledge: who knew all the 3 key danger signs for each period, i.e. during pregnancy, childbirth or postpartum).

Fair knowledge: who knew 2 out of 3 key danger signs for each period, i.e. during pregnancy, childbirth or postpartum.

Poor knowledge: who knew <=1out of 3 key danger signs for each period, i.e. during pregnancy, childbirth or postpartum.

Birth Preparedness and Complication Readiness Knowledge

Knowledgeable: Those who reported at least six correct responses from 12 components.

Not knowledgeable: Those who reported less than six correct responses from 12 components.

Prepared for birth and potential complication: a woman was considered as:-

- Well Prepared; those mothers who made >= 4 of the arrangements out of 7 BPACR points (arrangements) ahead of time for birth of the last baby.

- Not well prepared; those who made < 4 of the arrangements out of 7 BPACR points (arrangements) ahead of time for birth of the last baby.

Saved money: is any money reserved by the woman or her family to be used during child birth or during emergency.

Identified place of skilled delivery: a place where a skilled attendant is available and planned ahead of time for childbirth reported by the woman.

Identified skilled birth attendant: a persons with midwifery skills (physicians, nurses, midwives) that can manage normal deliveries and diagnose, manage or refer obstetric complications

Identified mode of transport: any kind of transport which is identified ahead of time by the women or her family for the purpose of transportation to place of childbirth or for the time of obstetric emergencies.

Traditional Birth Attendant (TBA):- a traditional birth attendant who initially acquired her skills by delivering babies herself or through apprenticeship to other TBAs.

Trained Traditional Birth Attendant (TTBA):- a TBA who has received a short course of training, usually of three months, through the modern health care sector to upgrade her skills.

4.9. Data quality management

The quality of the data was assured by using a standardized questionnaire; it was translated from English to Amharic and Afan Oromo by a translator and back to English by second translators (both health professionals) and it was pre-tested a week before the actual data collection. A training that focused on understanding the research question, sampling technique, data handling, ethical conduct, and quality of data collection was given for two days for the data collectors and supervisors. Each data collector was used to check the questionnaires for completeness before winding up their visit to each study participant and each questionnaire were reviewed daily by the supervisors and the principal investigator to check for completeness and early corrections and cleaning of the data were made.

4.10. Data processing and analysis

The data was checked for completeness and consistencies during the data collection, then it was cleaned, coded and entered in to computer using statistical package for social sciences (SPSS) windows version 21, frequency distributions were run and further cleaning and missing values and errors were checked. Using binary logistic regression bivariate analysis was computed and comparisons of the proportion of women who delivered at health institution (cases) and those who delivered at home (controls) for each subset of the independent variables presented in tables and statistical significance was determined at P-value of 0.05. Odds ratios and 95% confidence intervals were used to identify associations. Multiple logistic regression models were used to determine the independent predictors of institutional delivery. Adjusted Odds ratios and 95% confidence intervals were computed for each explanatory variable to determine the strength of association of independent predictors of place of delivery while controlling the effect of potential confounders.

4.11. Ethical considerations

Ethical approval was secured from designated institutional review committee (IRC) of the University of Addis Ababa (AAU), College of Health Sciences, School of Public Health. Information on the purpose of the study and the right not to participate were given to the participants. Informed verbal consent was obtained from all participants and the information from participants was kept confidential. Cooperation to carry out the study was obtained from Goba Wereda health offices using a cooperation letter. Information on the importance of skilled attendants during pregnancy, delivery and postnatal period were provided to participants who delivered outside health institutions at the end of data collection by the data collectors.

4.12. Dissemination of the result

The results of this study will be presented or defended to and approved by the Addis Ababa University in partial fulfillment of the Degree of Master of Public Health/Reproductive Health. It will also be communicated to Madawalabu University, Bale Zone and Goba Woreda Health office/department, administrative office and other concerned bodies through report. The report will also be kept in the libraries in both hard and electronic copies for other researchers and others interested to be used as a potential reference source. On the top of this, efforts will be made to publish the findings on local, or national or international peer reviewed journals.

5. Result

From the initial census there were 864 eligible women who gave childbirth from the 10th of February 2013 to the 09th of February 2014 in the six sampled Kebeles and all of the eligible women were listed on the sample frame. Among them 285 of the women were those who delivered in health institution and 579 of the women were delivered at home. From a total of 358 sampled mothers, 356 mothers (118 cases and 238 controls) were successfully interviewed during the actual data collection period; yielding a response rate of 99.4%; (99.2% and 99.6% of within the sampled cases and controls respectively).

5.1. Socio-demographic characteristics

One hundred eighty nine (53.1%) of the respondents were from rural and 167 (46.9) of the respondents were urban residents. And about 203(57%) of the respondents were between the ages of 25 and 34 years with mean (standard deviation) age of 27.41(5.8) and 28.84(5.7) years for the cases and the controls respectively. Majority of the study participants 159(44.7%) were Muslim, and the other 149 (41.9%) were Orthodox Christian and 48(13.5%) were Protestant. Nearly three forth of the study participants 258 (72.5%) were Oromo by ethnicity. Concerning educational background, 26(22%) of the cases and 146(61.3%) of the controls had no formal education, whereas 44(37.3%) of the cases and 21(8.8%) of the controls had secondary or post-secondary level education. Regarding marital status; 101(85.6%) of the cases and 220(92.4%) of the controls were in marital union.

Regarding husband's education, 53(44.9%) of the cases and 28(11.8%) of the controls had secondary or post-secondary education, 34(28.8%) and 108(45.4%) of the cases and controls respectively had primary education. And on husband's occupation status 47(39.8%) of the husbands of the cases and 151(63.4%) of the controls are farmers.

Eighty four (71.2%) of the cases and 76(31.9%) of the controls travel less than half an hour to reach the nearest health facility (health center or hospital) that provide emergency obstetrics care. And only few 6(5.1%) of the cases and 31(13%) of the controls reported the unavailability of any radio and/or television, while 102(86.4%) and 159(66.8) of the cases and the controls respectively reported the availability of a telephone or mobile phone in their household (Table **3**).

Table 3: Socio demographic characteristics of the study participants (n = 356), Bale Zone, Goba Wereda, South-East Ethiopia, February, 2014.

Variables	Place of Delivery		
	Controls (HD) Frequency (%)	**Cases (ID)** Frequency (%)	**Total** Frequency (%)
Residence			
Urban	110(46.2)	57(48.3)	167 (46.9)
Rural	128(53.8)	61(51.7)	189(53.1)
Age of respondents			
15-19	18(7.6)	7(5.9)	25(7.0)
20-24	43(18.1)	36(30.5)	79(22.2)
25-29	82(34.5)	45(38.1)	127(35.7)
30-34	60(25.2)	16(13.6)	76(21.3)
35-49	35(14.7)	14(11.9)	49(13.8)
Mean age (± SD*)*	*28.84(±5.7)*	*27.41(±5.8)*	*27.9(±6.1)*
Religion of respondents			
Muslim	113(47.5)	46(39.0)	159(44.7)
Orthodox	88(37.0)	61(51.7)	149(41.9)
Protestant	37(15.5)	11(9.3)	49(13.5)
Ethnicity of the respondents			
Oromo	182(76.5)	76(64.4)	258(72.5)
Amahara	30(12.6)	33(28.0)	63(17.7)
Other (Tgrie, Guragie & Gamo)	26(10.9)	9(7.6)	35(9.8)
Marital status of respondents			
Married	220(92.4)	101(85.6)	321(90.2)
Widowed/Divorced/Separated	13(5.3)	11(9.3)	24(6.7)
Not Ever Married	5(2.1)	6(5.1)	11(3.1)
Maternal (Respondent's) Educational level			
No formal education	146(61.3)	26(22.0)	172(48.3)
1^0 education	71(29.8)	48(40.7)	119(33.4)
2^0 or post secondary	21(8.8)	44(37.3)	65(18.3)
Occupation			
Housewife	195(81.9)	75(63.6)	270(75.8)
Merchants	26(10.9)	19(16.1)	45(12.6)
Employed (Government/Private)	7(2.9)	20(16.9)	27(7.6)
Other	10(4.2)	4(3.4)	14(3.9)
Monthly income of the women ETB			
None	83(34.9)	56(47.5)	139(39.0)
None – 500	49(20.6)	19(16.1)	68(19.1)
501-999	48(20.2)	17(14.4)	65(18.3)
≥1000	58(24.4)	26(22.0)	84(23.6)
Total family income ETB			
< 500	42(17.6)	20(16.9)	62(17.4)
500-1000	81(34.0)	26(24.6)	110(30.9)
>=1001	115(48.3)	69(58.5)	184(51.7)

Continued table 3…

Family size			
<= 4	93(39.1)	77(65.3)	170(47.8)
>= 5	145(60.9)	41(34.7)	
Husbands age (n=327)			
<30 years	43(18.1)	30(25.4)	73(20.5)
>= 30 years	178(74.8)	76(64.4)	254(71.3)
Husbands educational level (n=327)			
No formal education	85(35.7)	19(16.1)	104(29.2)
1^0 education	108(45.4)	34(28.8)	142(39.9)
2^0 or post secondary	28(11.8)	53(44.9)	81(22.8)
Husbands' occupational status(n=327)			
Farming	151(63.4)	47(39.8)	198(55.6)
Employed (Government/Private)	29(12.2)	33(28.0)	62(17.4)
Merchant	10(4.2)	18(15.3)	28(7.9)
Other	31(13.0)	8(6.8)	39(11.0)
Type of Mass Media (working)			
Radio Working	158(66.4)	54(45.8)	212(59.6)
Television Working	49(20.6)	58(49.2)	107(30.1)
None	31(13)	6(5.1)	37(10.4)
Availability of Telephone (Mobile)			
Yes	159(66.8)	102(86.4)	261(73.3)
No	79(33.3)	16(13.6)	95(26.7)
Time spent (home to the nearest HI)			
<=30minutes	76(31.9)	84(71.2)	160(44.9)
>30minutes	162(68.1)	34(28.8)	196(55.1)

5.2. Magnitude of institutional delivery

The magnitude of institutional (health center or hospital) delivery with skilled birth attendant as identified from the preliminary census was 285(32.9%) with 95%CI (28.02%, 37.78%) and the remaining 579(67.1%) with 95%CI (62.22%, 71.98%) of the childbirths in the 12 months before the study period were took place at home or outside health institution. Institutional delivery service utilization by the rural mothers was only 90(17.2%), while 195(57.2%) of the urban deliveries took place in health institutions (**Table 4**).

Table 4: Distribution of place of delivery (health institution and home deliveries) by place of residence for the last child in the study area, Bale Zone, Goba Wereda, South East Ethiopia, February, 2014.

Kebele	Home delivery	Institutional delivery (Health center /Hospital)	Total number of deliveries (institutional + home deliveries)
	Frequency (%)	Frequency (%)	Frequency (%)
*Wecho Misinge	97(85.1)	17(14.9)	114(100)
*Misra	98(76.6)	30(23.4)	128(100)
*Ashuta	103(89.6)	12(10.4)	115(100)
*Burkitu	64(86.5)	10(13.5)	74(100)
*Sinja	71(77.2)	21(22.8)	92(100)
¡West Goba	146(42.8)	195(57.2)	341(100)
Total	579(67.1)	285(32.9)	864(100)

** Rural kebeles, ¡ urban kebele*

5.3. Obstetric characteristics and reproductive health service use

Among the mothers interviewed nearly one third 40(33.9%) of the cases and 29(12.2%) of the controls were primiparous mothers and 57(48.3%) of the cases and 151(63.4%) of the controls had their first pregnancy before the age of 20 years. Both cases and controls had nearly similar history of still birth, 9.3% and 8.4% respectively. Sixty eight (57.6%) of the cases and 48(20.2%) of the controls had 4 or more ANC follow up visits, only 15.3% of the cases, and 4.6% of the controls had their ANC visit by skilled provider in the 1st trimester. Concerning the decision maker for obstetric health service seeking in the household 35(29.7%) of the cases and only 21(8.8%) of the controls make the decision by themselves while 66(55.9%) of the cases and 163(68.5%) of the controls make the decisions jointly with their husband, and the other 17(14.4%) of the cases and 54(22.7%) of the controls reported that it is another person (husband/relatives) that makes the decision to seek obstetric health care (Table **5**).

Table 5: Obstetrics characteristics and service use of the study participants (n = 356), Bale Zone, Goba Wereda, South-East Ethiopia, February, 2014.

Variable	Place of delivery		Total
	Controls(HD) Frequency (%)	Cases (ID) Frequency (%)	Frequency (%)
Gravidity (number of pregnancies)			
1	29(12.2)	40(33.9)	69(19.4)
2-3	86(36.1)	50(42.4)	136(38.2)
>4	123(51.7)	28(23.7)	151(42.4)
Parity (birth order)			
1	29(12.2)	42(35.6)	71(19.9)
2-3	102(42.9)	54(45.8)	156(43.8)
>4	107(45.0)	22(18.6)	129(36.3)
Age at first pregnancy			
<20 years	151(63.4)	57(48.3)	208(58.4)
>= 20 years	87(36.6)	61(51.7)	148(41.6)
Number of live births			
1	34(14.3)	42(35.6)	76(21.3)
>=2	204(85.7)	76(64.4)	280(78.7)
Number of abortion			
0	192(80.7)	101(85.6)	293(82.3)
>=1	46(19.3)	17(14.4)	63(17.7)
Number of still birth			
0	218(91.6)	107(90.7)	325(91.3)
>= 1	20(8.4)	11(9.3)	31(8.7)
ANC in the very latest pregnancy			
I had ANC	171(71.8)	109(92.4)	280(78.7)
I had No ANC	67(28.2)	9(7.6)	76(21.3)
Gestational age at 1st ANC (n=280)			
<=12 weeks	11(6.4)	18(16.5)	29(10.3)
13-24 weeks	85(49.7)	72(66.1)	157(56.1)
>=25 Weeks	75(43.9)	19(17.4)	94(33.6)
Number of ANC visits (n=280)			
1-3 visits	123(71.9)	41(37.6)	164(58.6)
>= 4 visits	48(28.1)	68(62.4)	116(41.4)
Obstetric complications encountered			
Yes	24(10.1)	34(28.8)	58(16.3)
No	214(89.9)	84(71.2)	298(83.7)
Decision maker for service use			
Self	21(8.8)	35(29.7)	56(15.7)
Others (Husband/Relatives)	54(22.7)	17(14.4)	71(19.9)
Me and my husband jointly	163(68.5)	66(55.9)	229(64.3)

Obstetric complications experienced

About 58(16.3%) of the participants; that of 34(28.8%) and 24(10.1%) of the cases and the controls respectively reported that they had experienced themselves some simple or serious form of complication during the very latest pregnancy, childbirth and/or during the postpartum period. Vaginal bleeding, prolonged labour, retained placenta, intra uterine fetal death (IUFD), loss of consciousness and premature rapture of membrane (PROM) account were the common complications the respondents expreianced (Figure **2**). All of the cases and 20(83.3%) of the controls with complications had received a care from skilled provider for the complications.

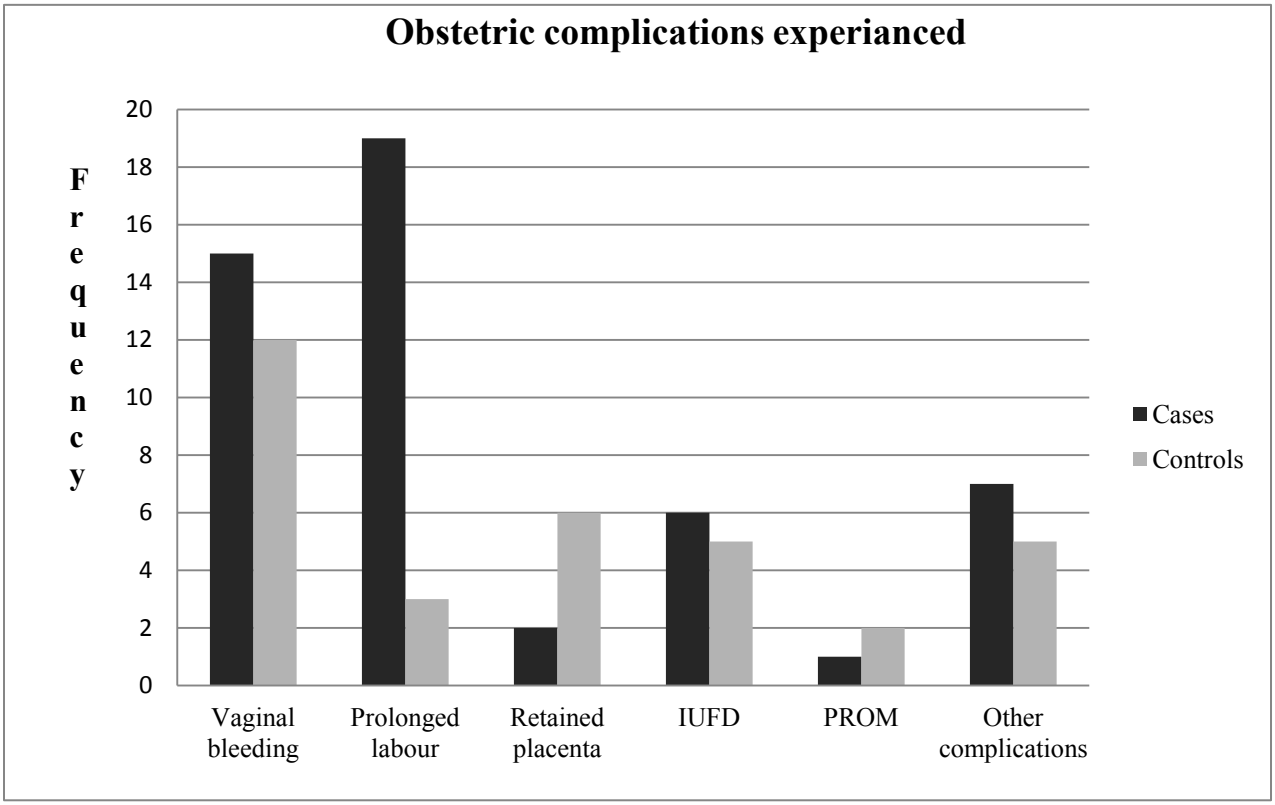


Figure 2: Types of complications faced by the study participants, Bale Zone, Goba Wereda, South-East Ethiopia, February, 2014.

Reasons for Non institutional (Home) delivery

The claimed major reasons by the respondents who delivered their last child outside health facility were; 127(54.2%) their labour was smooth and short, 110(46.2%) previous home delivery was normal, 38(16%) lack of accompany, 32(13.4%) presence of TBA and 19(8%) due the need of closer attention from relatives (Figure **3**).

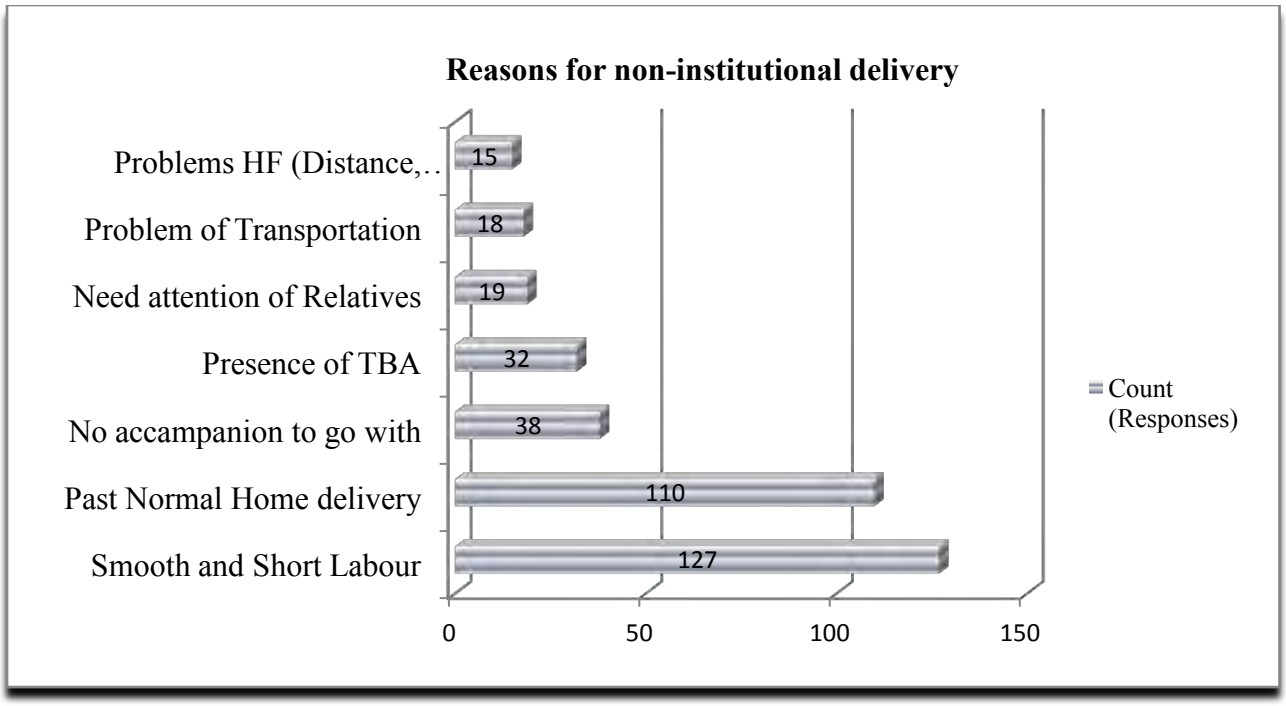
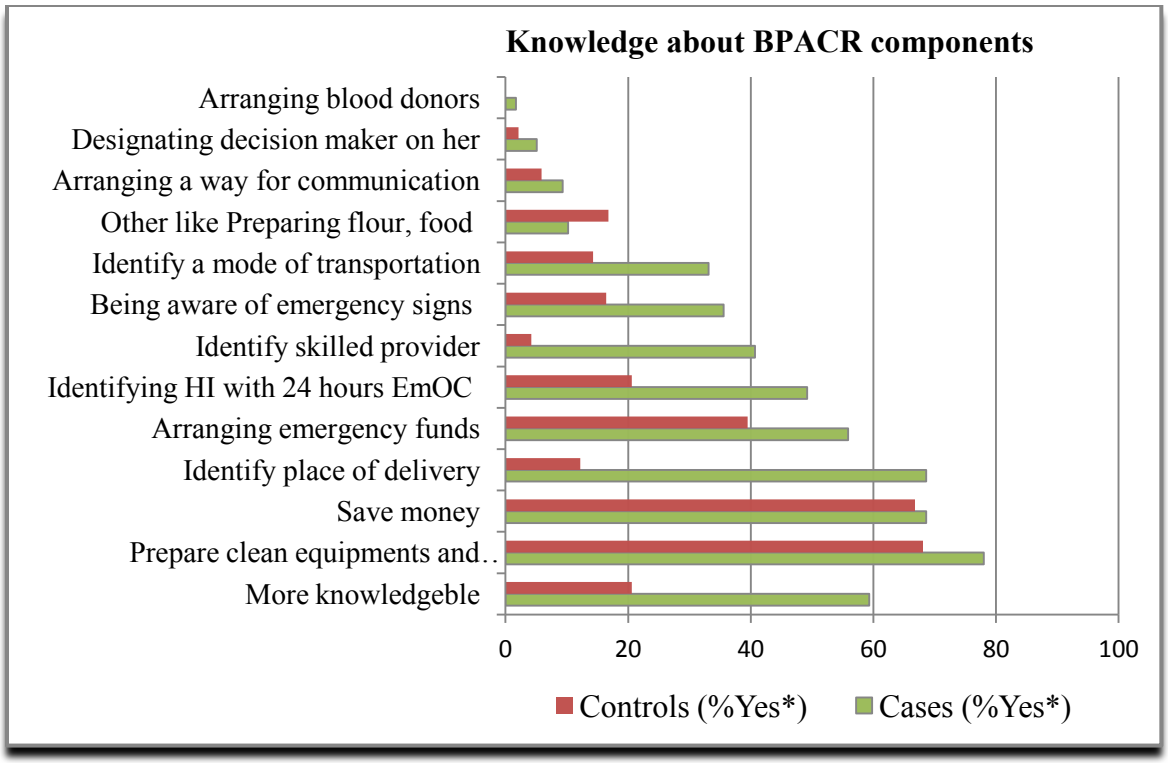


Figure 3: Reasons for non-institutional delivery of study participants that delivered the last child at their home, Bale Zone, Goba Wereda, South-East Ethiopia, February, 2014.

5.4. Birth Preparedness and Complication Readiness

5.4.1. Knowledge of Birth Preparedness and Complication Readiness

On the assessment of the awareness on concepts of Birth Preparedness and Complication Readiness (BPACR); 100(84.7%) of the cases and 108 (45.4%) of the controls have ever heard the word "BPACR" (P= .0000). The majority of the mothers 134(37.6%) reported the source of information about the word BPACR is from health professionals, followed by health extension workers, friends or family members, and mass media with 103(28.9%), 62(17.4%) and 54(15.2%) respectively. Even though great majority 337(94.7%) of the study participants believe that a women needs preparation for normal birth and potential complications; the findings of their knowledge about BPACR revealed only 70(59.3%) of the cases and 49(20.6%) of the controls were knowledgeable (mentioned at least six of the BPACR component) (Figure **4**).



*%*Yes represents those who say ''Yes'' and its percentage is calculated from total (Yes+No)*

Figure 4: Place of recent delivery versus knowledge of preparation for birth and its complication Bale Zone, Goba Wereda, South-East Ethiopia, February, 2014.

5.4.2. Birth Preparedness and Complication Readiness Practice

This study used to construct a summary indicator of BPACR (arrangements) suggested by the JHPIEGO Birth Preparedness and Complication Readiness monitoring tool. Based on the seven arrangements (identified place of delivery or not, identified skilled birth attendant or not, saved money or not, identified means of emergency transport or not, arranged a blood donor for emergency or not, identified emergency signs or not and identified health institution with 24hours EmOC or not). Then weight (factor score) is given and the resulting asset scores standardized in relation to a normal distribution with the mean of zero and standard deviation of one. The resultant BPACR index was used to examine the levels of BPACR practice among women. Women were categorized in to not well prepared (less than average preparation) and well prepared (more than average preparation).

Accordingly among the arrangements made ahead of the last delivery; 111(94.1%) of the cases and 89(37.4%) of the controls reported that they had identified a place for skilled delivery

service, 87(73.7%) of the cases and 127(53.4%) of the controls reported they had saved money for emergency, only 9(7.6%) of the cases and none of the controls had arranged a blood donor for emergency. On aggregate; 94(79.7%) of the cases and 81(34.0) of the controls arranged at least 4 out of seven (more than average) steps and hence were found well prepared for birth and complication ahead of last childbirth (Table **6**).

Table 6: Number of BPACR arrangement steps taken by study participants ahead of last childbirth, Bale Zone, Goba Wereda, South-East Ethiopia, February, 2014.

Variables	**Place of Delivery**		
	Controls(n=238) Count (%)yes*	Cases(n=118) Count (%)yes*	Total Count (%)yes*
Identified place of skilled delivery	89(37.4)	111(94.1)	200(56.2)
Identified skilled provider	53(22.3)	73(61.9)	126(35.4)
Saved money	127(53.4)	87(73.7)	214(60.1)
Identified means of emergency transport	76(31.9)	101(85.6)	177(49.7)
Arranged a blood donor for emergency	0(0.0)	9(7.6)	9(7.6)
Identified emergency signs	127(53.4)	88(74.6)	215(84.0)
Identified HI with 24hours EmOC	171(71.8)	109(92.4)	280(78.6)
Number of steps(arrangements) taken			
0	35(14.7)	2(1.7)	37(10.4)
1	45(18.9)	2(1.7)	47(13.2)
2	44(18.5)	7(5.9)	51(14.3)
3	33(13.9)	13(11.0)	46(12.9)
Well Prepared (>=4 arrangements made)	81(34.0)	94(79.7)	175(49.2)
Not well Prepared (<4 arrangements made)	157(66.0)	24(20.3)	181(50.8)

Yes represents those who say ''Yes'' and its percentage is calculated from total (Yes+No)*

5.4.3. Knowledge of key obstetric danger signs

The most common type of key danger sign during pregnancy, childbirth and the postpartum period known by the respondents was vaginal bleeding; 86(72.9%) of the cases 117(49.2%) of the controls knew vaginal bleeding is a key danger sign during pregnancy, 93(78.8%) of the case and 89(37.4%) knew excessive vaginal bleeding is a key danger sign during labour and delivery, and 71(60.2%) of the cases and 76(31.9%) of the controls knew excessive vaginal bleeding is a key danger sign during the post partum period. Only 26(22%) of the case and 26(10.9%) of the controls spontaneously reported difficulty of seeing or blurred vision is a key danger sign during pregnancy. Only 13(11.0%) of the case and 2(0.8%) of the controls spontaneously reported

convulsion is a key danger sign during labour and delivery. And only 8(6.8%) of the case and 11(4.6%) of the controls knew increased body temperature (fever) is a key danger sign during the post partum period (Table **7**).

Table 7: Type of key obstetric danger signs spontaneously reported by respondents, Bale Zone, Goba Wereda, South-East Ethiopia, February, 2014.

Key obstetric danger signs	**Place of delivery**		Total Frquency(%*yes)
	Controls Frquency (%*yes)	Cases Frquency(%*yes)	
Key danger sign during pregnancy			
Vaginal bleeding	117(49.2)	86(72.9)	203(57.0)
Swelling of the face and hands	35(14.7)	56(47.5)	91(25.6)
Bluring (difficult) vision	26(10.9)	26(22.0)	52(14.6)
Key danger sign during Labour and delivery			
Excess vaginal bleeding	89(37.4)	93(78.8)	182(51.1)
Prolonged labour (> 12 hours)	113(47.5)	76(64.4)	189(53.1)
Retained placenta (> 30 minutes)	74(31.1)	54(45.8)	128(36.0)
Convulsions	2(0.8)	13(11.0)	15(4.2)
Key danger sign during postpartum period			
Vaginal bleeding	76(31.9)	71(60.2)	147(41.3)
Increased body temp (fever)	11(4.6)	8(6.8)	19(5.34)
Offensive vaginal bleeding	13(5.5)	21(17.8)	34(9.6)

*%*Yes represents those who say ''Yes'' and its percentage is calculated from total (Yes+No)*

Accordingly only 20(16.9%) of the cases and only 5(2.1%) of the controls had optimal knowledge (knew the 3 key danger signs during pregnancy), 41(34.7%) of the cases and 29(12.2%) of the controls knew the 3 key danger signs during childbirth, and only 4(3.4%) of the cases and 4(1.7%) of the controls knew the 3 key danger signs during the postpartum period (Table **8**).

Table 8: Knowledge of key obstetric danger signs during pregnancy, childbirth, and the postpartum periods; Goba Wereda, Bale Zone, South East Ethiopia, February, 2014

Knowledge category of Key Danger Signs	Place of Delivery		
	Controls Frequency (%)	Cases Frequency (%)	Total Frequency (%)
During Pregnancy			
Poor (Knew <=1 of the key danger signs)	201(84.5)	58(49.2)	259(72.8)
Fair (Knew 2 of the key danger signs)	32(13.4)	40(33.9)	72(20.2)
Optimal (Knew 3 of the key danger signs)	5(2.1)	20(16.9)	25(7.0)
During Childbirth			
Poor (Knew <=1 of the key danger signs)	151(48.3)	37(31.4)	188(52.8)
Fair (Knew 2 of the key danger signs)	58(24.4)	40(33.9)	98(27.5)
Optimal (Knew 3 of the key danger signs)	29(12.2)	41(34.7)	70(19.7)
During Postpartum			
Poor (Knew <=1 of the key danger signs)	220(92.4)	95(80.5)	315(88.5)
Fair (Knew 2 of the key danger signs)	14(5.9)	19(16.1)	33(9.3)
Optimal (Knew 3 of the key danger signs)	4(1.7)	4(3.4)	8(2.2)

5.5. Factors associated with Place of delivery

5.5.1. Bivariate Analysis

On Bivariate analysis: the socio-demographic/economic characteristics that are significantly associated with place of delivery includes; the respondents and their husband's occupational and educational status, average time of travel from the respondents house to the nearby health facility with EmOC, family size, availability of television and telephone, decision maker in the house hold to get obstetric health care. From the obstetric characteristics; gravidity, parity, age at first pregnancy, number of live births and mothers with obstetric complication, reproductive health care use like ANC visit, gestational age at first ANC, and number of ANC visits during the last pregnancy showed significant association with place of delivery. And variables related to BPACR including; knowledge and practice of BPACR, knowledge of key obstetric danger signs during pregnancy, labour/delivery and postpartum period were significantly associated with place of delivery.

Socio-demographic predictors of place of delivery

Mothers with formal education are more likely to deliver in health institution than those who had no formal education; those with primary and secondary or post-secondary education were more likely to deliver in health institution with (COR = 3.80, 95% CI: 2.18, 6.61) and (COR = 11.77, 95% CI: 6.04, 22.91) respectively. Mother's occupational status was significantly associated with place of delivery; those government or private employed mothers were more likely to deliver in health institution than those mothers who are house wives (COR= 7.43, 95% CI: 3.02, 18.29). Mothers from household of more than 4 members are 66% less likely to deliver in health institution than those from household less than or equal to four members (COR= 0.34, 95% CI: 0.22, 0.54), mothers who access health facility with EmOC with in less than 30 minutes travel are 5 times more likely to deliver in health institution than who travel more than half an hour (COR=5.27, 95% CI: 3.25, 8.53). Respondents who could make the decisions to get obstetrics health care by herself is 4 times more likely to deliver in health institution than those respondents who look for their husband for the decision (COR = 4.12, 95% CI: 2.23, 7.59) (Table 9).

Table 9: Bivariate analysis of selected socio-economic and demographic characteristics of study participants with place of delivery, Bale Zone, Goba Wereda, South-East Ethiopia, February, 2014

Variables	Place of Delivery			Crude OR(95%CI)
	Controls Frequency (%)	Cases Frequency (%)	Total Frequency(%)	
Religion of respondents				
Muslim	113(47.5)	46(39.0)	159(44.7)	1
Orthodox	88(37.0)	61(51.7)	149(41.9)	**1.70(1.06, 2.73)***
Protestant	37(15.5)	11(9.3)	49(13.5)	0.73(0.34, 1.55)
Ethnicity of the respondents				
Oromo	182(76.5)	76(64.4)	258(72.5)	1
¥ Others	56(23.5)	42(35.6)	98(27.5)	**1.79(1.11, 2.91)***
Educational level				
No formal education	146(61.3)	26(22.0)	172(48.3)	1
1^0 education	71(29.8)	48(40.7)	119(33.4)	**3.80(2.18, 6.61)****
2^0 or post secondary	21(8.8)	44(37.3)	65(18.3)	**11.77(6.04, 22.91)****
Occupation				
Housewife	195(81.9)	75(63.6)	270(75.8)	1
Merchants	26(10.9)	19(16.1)	45(12.6)	1.90(0.99, 3.63)
Employed	7(2.9)	20(16.9)	27(7.6)	**7.43(3.02, 18.29)****
Other	10(4.2)	4(3.4)	14(3.9)	1.04(0.32, 3.42)
Family size				
<= 4	93(39.1)	77(65.3)	170(47.8)	1
>= 5	145(60.9)	41(34.7)	186(52.2)	**0.34(0.22, 0.54)****
Husbands educational level (n=327)				
No formal education	85(35.7)	19(16.1)	104(29.2)	1
1^0 education	108(45.4)	34(28.8)	142(39.9)	1.41(0.75, 2.64)
2^0 or post secondary	28(11.8)	53(44.9)	81(22.8)	**8.47(4.31, 16.65)****
Husbands' occupational status(n=327)				
Farming	151(63.4)	47(39.8)	198(55.6)	1
Employed	29(12.2)	33(28.0)	62(17.4)	**3.66(2.01, 6.64)****
Merchant	10(4.2)	18(15.3)	28(7.9)	**5.78(2.50, 13.39)****
Other	31(13.0)	8(6.8)	39(11.0)	0.83(0.36, 1.93)
Type of mass media (working)				
Radio Working	158(66.4)	54(45.8)	212(59.6)	1.77(0.70, 4.46)
Television Working	49(20.6)	58(49.2)	107(30.1)	**6.12(2.36, 15.87)****
None	31(13)	6(5.1)	37(10.4)	1
Availability of telephone (Mobile)				
Yes	159(66.8)	102(86.4)	261(73.3)	**3.17(1.75, 5.73)****
No	79(33.3)	16(13.6)	95(26.7)	1
Travel time(home to the nearest HI)				
<=30minutes	76(31.9)	84(71.2)	160(44.9)	**5.27(3.25, 8.53)****
>30minutes	162(68.1)	34(28.8)	196(55.1)	1
Decision maker to seek health care				
Self	21(8.8)	35(29.7)	56(15.7)	**4.12(2.23, 7.59)****
Husband and/or relatives	54(22.7)	17(14.4)	71(19.9)	0.78(0.42, 1.44)
Me & Husband jointly	163(68.5)	66(55.9)	229(64.3)	1

**p-value <0.05,* ***p-value <0.01,* ¥ stands for Amahara, Tigrie, Guragie and Gamo

Obstetric characteristics and service use predictors of place of delivery

Mothers who had ANC follow up are nearly 5 times more likely to deliver in health institution than mothers who had no ANC follow up in the last pregnancy (COR=4.74, 95% CI: 2.27, 9.91) and mothers who had four or more ANC visits were 10 times more likely to deliver in health institution (COR= 10.55, 95% CI: 4.80, 23.19) than those mothers with no ANC follow up. Mothers whose recent pregnancy faced any form of complication were more likely to deliver in a health facility than mothers who did not have a complication (COR = 3.61, 95% CI: 2.02, 6.45). Among other obstetric variables first time pregnancy, first birth order, and mothers age less than 20 years in the first pregnancy are predictors of institutional delivery with (COR = 6.06, 95% CI: 3.23, 11.38), (COR = 7.04, 95% CI:3.64, 13.62) and (COR = 1.86, 95% CI: 1.19, 2.90) respectively (Table **10**).

Table 10: Bivariate analysis of selected obstetric characteristics and services use of study participants with place of delivery, Bale Zone, Goba Wereda, South-East Ethiopia, February, 2014.

Variable	Place of delivery		COR (95%CI)
	Controls Frequency (%)	Cases Frequency (%)	
Gravidity (number of pregnancies)			
1	29(12.2)	40(33.9)	6.06(3.23, 11.38)**
2-3	86(36.1)	50(42.4)	2.55(1.49, 4.38)**
>= 4	123(21.7)	28(23.7)	1
Parity (birth order)			
1	29(12.2)	42(35.6)	7.04(3.64, 13.62)**
2-3	102(42.9)	54(45.8)	2.57(1.46, 4.53)**
>= 4	107(45.0)	22(18.6)	1
Age at first pregnancy			
<20 years	151(63.4)	57(48.3)	1.86(1.19, 2.90)*
>= 20 years	87(36.6)	61(51.7)	1
Number of live births			
1	34(14.3)	42(35.6)	3.32(1.96, 5.60)*
>=2	204(85.7)	76(64.4)	1
ANC follow up			
I had ANC	171(71.8)	109(92.4)	4.74(2.27, 9.91)*
I had no ANC	67(28.2)	9(7.6)	1
Gestational age at the first ANC visit			
<=12 weeks	11(4.6)	18(15.3)	1
13-24 weeks	85(35.7)	72(61.0)	0.52(0.23, 1.17)
>=25 Weeks	75(31.5)	19(16.1)	0.15(0.06, 0.38)**
No ANC follow up	67(28.2)	9(7.6)	0.08(0.03, 0.23)**
Number of ANC visits			
1-3 visits	123(51.7)	41(34.7)	2.48(1.14, 5.42)*
>= 4 visits	48(20.2)	68(57.6)	10.55(4.80, 23.19)**
No ANC visits	67(28.2)	9(7.6)	1
Obstetric complication encountered			
Yes	24(10.1)	34(28.8)	3.61(2.02, 6.45)**
¡No	214(89.9)	84(71.2)	1
Knew the availability of free ambulance service			
Yes	33(13.9)	84(71.2)	15.35(8.93, 26.39)**
¡No	205(86.1)	34(28.8)	1

**p-value <0.05, **p-value <0.01, ¡ includes"not sure"*

Birth Preparedness and Complication Readiness related predictors of place of delivery

Mothers with better knowledge regarding preparations for birth and complications are more than five times more likely to deliver in health institutions than mothers who are less knowledgeable (COR=5.62, 95% CI: 3.47, 9.12).

On Bivariate analysis, those mothers who were well prepared (taken >=4 of the steps or arrangements) are more than 7 times more likely to deliver in health institution than mothers who are not well prepared (COR = 7.59, 95% CI: 4.50, 12.80). And mothers who knew 3 key danger signs during pregnancy and childbirth were found more likely to deliver in health institution than mothers who didn't know the 3 key danger signs during the periods with (COR = 9.51, 95% CI: 3.47, 26.05), and (COR = 3.84, 95%CI: 2.23, 6.60) respectively (Table 11).

Table 11: Bivariate analysis of Birth Preparedness and Complication Readiness related variables with place of delivery, Bale Zone, Goba Wereda, South-East Ethiopia, February, 2014.

Variable	Place of delivery		COR (95%CI)
	Controls Frequency (%)	Cases Frequency (%)	
Knowledge about BPACR			
More knowledgeable	49(20.6)	70(59.3)	5.62(3.47, 9.12)**
Less knowledgeable	189(79.4)	48(40.7)	1
BPACR(number of steps/arrangements taken)			
Well Prepared	81(34.0)	94(79.7)	7.59(4.50, 12.80)**
Not well prepared	157(66.0)	24(20.3)	1
Knowledge of key danger signs in pregnancy			
Poor	201(84.5)	58(49.2)	1
Fair	32(13.4)	40(33.9)	4.33(2.50, 7.50)**
Optimal	5(2.1)	20(16.9)	13.86(4.99, 38.54)**
Knowledge of key danger signs in childbirth			
Poor	151(48.3)	37(31.4)	1
Fair	58(24.4)	40(33.9)	2.82(1.64, 4.83)**
Optimal	29(12.2)	41(34.7)	5.77(3.18, 10.47)**
Knowledge of key danger signs in postpartum period			
Poor	220(92.4)	95(80.5)	1
Fair	14(5.9)	19(16.1)	3.14(1.51, 6.53)**
Optimal	4(1.7)	4(3.4)	2.32(0.57, 9.45)

**p-value <0.05, **p-value <0.01*

5.5.2. Multivariate Analysis

Based on findings from the Bivariate analysis, variables were recruited for multivariate analysis using binary logistic regression models. To be a candidate for multiple logistic regression a level of association (P-value <=0.05) and recognizing the confounding effect of each variable with BPACR (the main exposure variable), and with the other variables in the model was considered.

On multiple logistic regressions analysis it was identified that; maternal education, religion, distance of home from the nearest health facility that provide EmOC, status of BPACR (number of BPACR steps/arrangements made), mothers who know the availability of free ambulance transport service and history of obstetric complication were the independent predictors that determine institutional delivery. Respondents with primary and secondary level or post-secondary education were more likely to deliver in health institution than those mothers without formal education (AOR=4.21, 95% CI: 1.91, 9.32) and (AOR= 3.40, 95%CI: 1.15, 10.11) respectively. Respondents of Protestant religion followers were found less likely to deliver in health institution as compared to Muslim religion followers (AOR= 0.24, 95% CI: 0.08, 0.70). Respondents who access a health facility that provide EmOC with in less than 30 minutes travel are 4 times more likely to deliver in a health institution than mothers who travel more with (AOR = 4.19, 95% CI: 2.07, 8.49). Those mothers who are well prepared (taken >=4 of the BPACR steps/arrangements) ahead of the last delivery are more than two and half times more likely to deliver in health institution than those mothers who are not well prepared with (AOR = 2.55, 95% CI: 1.12, 5.84). Mothers who knew the presence of free ambulance transportation service for laboring mothers were more than 8 times more likely to deliver in health institution than mothers who didn't know the availability of the service (AOR = 8.41, 95% CI: 3.98, 17.79). And mothers who had reported obstetric complications in the recent pregnancy and/or childbirth and/or postpartum period were more likely to deliver in health facility than mothers who hadn't encountered complications (AOR= 8.89, 95% CI: 3.51, 22.52) (Table **12**).

Table 12: Multivariate analysis of factors associated with place of delivery, Bale Zone, Goba Wereda, South East Ethiopia, February, 2014.

Variable	Place of delivery		COR (95%CI)	AOR (95% CI)†
	Controls Frequency (%)	Cases Frequency (%)		
Respondent's educational level				
No formal education	146(61.3)	26(22.0)	1	1
1^0 education	71(29.8)	48(40.7)	3.80(2.18, 6.61)**	**4.21(1.91, 9.32)****
2^0 or post secondary	21(8.8)	44(37.3)	11.77(6.04, 22.91)**	**3.40(1.15, 10.11)***
Religion of respondents				
Muslim	113(47.5)	46(39.0)	1	1
Orthodox	88(37.0)	61(51.7)	1.70(1.06, 2.73)*	1.29(0.62, 2.70)
Protestant	37(15.5)	11(9.3)	0.73(0.34, 1.55)	**0.24(0.08, 0.70)****
Husband education (n=327)				
No formal education	85(35.7)	19(16.1)	1	1
1^0 education	108(45.4)	34(28.8)	1.41(0.75, 2.64)	0.42(0.17, 1.06)
2^0 or post secondary	28(11.8)	53(44.9)	8.47(4.31, 16.65)**	0.62(0.19, 2.01)
Time spent (home to the nearest facility)				
<=30minutes	76(31.9)	84(71.2)	5.27(3.25, 8.53)**	**4.19(2.07, 8.49)****
>30minutes	162(68.1)	34(28.8)	1	1
Family size				
<= 4	93(39.1)	77(65.3)	1	1
>= 5	145(60.9)	41(34.7)	0.34(0.22, 0.54)**	0.55(0.26, 1.17)
Age at 1^{st} pregnancy				
<20 years	151(63.4)	57(48.3)	1.86(1.19, 2.90)*	0.97(0.48, 1.95)
>= 20 years	87(36.6)	61(51.7)	1	1
Number of live births				
1	34(14.3)	42(35.6)	3.32(1.96, 5.60)*	1.49(0.59, 3.73)
>=2	204(85.7)	76(64.4)	1	1
BPACR status				
Well Prepared	81(34.0)	94(79.7)	7.59(4.50, 12.80)**	**2.55(1.12, 5.84)***
Not well prepared	157(66.0)	24(20.3)	1	1
Knew availability of free ambulance service				
Yes	33(13.9)	84(71.2)	15.35(8.92, 26.39)**	**8.41(3.98, 17.79)****
No	205(86.1)	34(28.8)	1	1
Obstetric complication encountered				
Yes	24(10.1)	34(28.8)	3.61(2.02, 6.45)**	**8.89(3.51, 22.52)****
¡No	214(89.9)	84(71.2)	1	1

**p-value <0.05, **p-value <0.01, † "ENTER" method model of multiple logistic regression used, ¡ includes"not sure"*

6. Discussion

The most important predictors that were independently associated with place of delivery include; the birth preparedness and complication readiness status of the women, maternal education, religion, distance of home from the nearest health facility with EmOC, knowledge of the availability of free ambulance transport service and history of obstetric complication.

Findings from the initial census identified that the magnitude of institutional delivery service utilization in the study area accounts to 32.9% with 95% CI (± 4.88%) of the deliveries that took place in the Wereda in the 12 months before the study period, which is relatively higher than the national prevalence of institutional delivery service reported by EDHS 2011. On the other hand the study revealed that the magnitude of institutional delivery service utilization by the rural mothers was 17.2% which is much lower than the urban mothers of 57.2% as compared to the national where urban births are notably more likely than rural births to be delivered in a health facility(50 percent versus 4 percent) and which is in agreement with other studies conducted under similar settings (9, 41, 43).

This study revealed that birth preparedness and complication readiness status of the women ahead of childbirth is an important predictor of place of delivery. Those women who were well prepared for birth and complication were more than two and half times more likely to give in a health facility (health center or hospital) than those women who were not well prepared (AOR = 2.55, 95% CI:1.12, 5.84); this finding was in agreement with studies in other developing countries (45). Besides to the aggregated effect of BPACR, this study tried to investigate the effect of the number of steps/arrangements required for BPACR and it was identified that as the number of preparations increases the tendency to use institutional delivery service by the mothers also increases on the Bivariate analysis; while this effect did not persist in the multivariate analysis. Furthermore the study revealed that mothers that had made the following preparations ahead of time for the last delivery; who identified place of skilled delivery care, identified skilled birth attendant, saved money, identified means of emergency transportation, identified health facility that provides emergency obstetrics care for 24 hours were significantly associated with institutional delivery service utilization (P–value < 0.001) which agrees with findings from other studies (31-33).

Knowledge of mothers about key obstetric danger signs was also found an important factor that determines the place of delivery of women. A mothers who had better knowledge on key danger signs during pregnancy and childbirth periods were found more likely to deliver in health institution ($P < 0.01$) than mothers who are less knowledgeable; which was in line with studies done in other developing countries (28, 30-32). Though spontaneous knowledge of respondents about key danger signs have significant associations with place of delivery, this study revealed that awareness of mothers to key danger signs in all the three critical periods was very low especially in those mothers who delivered at home (the controls) having 5(2.1%), 29(12.2%) and 4(1.7%) respectively knew 3 key danger signs in these periods as compared to other studies (39, 46). This could be attributed to presence or absence of relevant intervention to promote BPACR, utilization of health care services and information given during ANC visits.

Furthermore this study revealed that among the respondents who mentioned at least one key danger sign during pregnancy, childbirth and the post partum periods; 252(70.8%), 282(79.2%) and 218(61.2%) of the respondents respectively believe that the mentioned problem can kill a women if not receive a care. This indicates even in cases where awareness of danger signs helps individuals to recognize a problem, how severe they consider the problem to be is also an important determinant of deciding when to act; knowing a danger sign does not guarantee that an individual will recognize it in practice, these indicators of knowledge of danger signs do not fully measure an individual's ability to recognize problems when they occur. These indicators do not capture the severity aspect of danger sign recognition that needs to be further studied (7).

Among the socio demographic/economic variables respondents educational status was found an independent predictor that determine place of delivery; respondents who had formal education; primary level of education and secondary or post secondary level of education were more likely to deliver in health facility (AOR=4.21, 95% CI: 1.91, 9.32) and (AOR= 3.40, 95%CI: 1.15, 10.11) respectively, which was consistent with studies done in Northern and Southern Ethiopia (35-37). There are a number of explanations that speculate as to why education is a key determinant of skilled care demand. For example education is likely to enhance female autonomy so that mothers develop greater confidence and capabilities to make decision regarding their own health, as well as their children. It is also more likely that educated women demand higher quality service and pay more attention to their health in order to insure better health for

themselves. Moreover, educated women are more likely to be aware of difficulties during pregnancy and as a result, they are more likely to use institutional delivery (42).

The study also revealed that average time of travel from respondent's household to the nearest health facility with EmOC was found an important independent predictors determining place of delivery among the socio-demographic predictor. Women who travel lessthan 30 minutes from their home to the nearest health facility with EmOC were 4 times more likel to give birth in a health institution than women who travel more; which was consistent with studies done elsewhere and in other developing countries (30, 36). This could be due to problems related to transportation access for those mothers who live far from EmOC facilities.

Though ANC visit and number of ANC visits were not included in the multiple logistic regression models due to multi-collinearity effect with BPACR status of mothers; most of the obstetric variables including; gravidity, parity, age at first pregnancy, number of live births, ANC visit and number of ANC visits during the last pregnancy were significant association with place of delivery on Bivariate analysis which agrees with findings of other studies (41, 43, 47).

Another important finding of the current study was that mothers who know the availability of free ambulance transport service that is currently providing service to mothers if they call at any time. There is highly significant association that mothers who knew the service is available in the district for all pregnant mothers who are in labour and those who faced problems related to the pregnancy were more likely to deliver in health institution with (AOR = 8.41, 95% CI: 3.98, 17.79) than those who did not know the service. Which could be due to being aware of free transport service makes women ready to use the service and hence resolves the transport barrier to reach health facilities and it agrees with other studies (41).

And another important highly significant independent predictor p-value <0.001 revealed by this study is respondents faced problems (complications) related to pregnancy were nearly 9 times more likely to give birth at health facility (AOR = 8.89, 95% CI: 3.51, 22.52) than those respondents who had no such complications. This agrees with other studies conducted in Sheka zone, Gonder, and elsewhere in Ethiopia that showed similar findings (35, 38). This could imply that women visit health facilitys only when difficulties arise and home trials fail which might be attributed to poor knowledge and possible health facility factors.

7. Strength and Limitations

Strengths of the Study

- The study used stratified sampling to increase efficiency and a preliminary census as groundwork to pave the way for the actual case control study design implementation.
- Data collectors worked jointly with HEWs to maximize response rate and possibly reduce selection and information biases since they know all the localities of their respective Kebeles.
- Recall bias minimized since mothers were asked about events occurred in the previous 12 months (1 year) that is better than other studies with 3-5 years of recall period.
- The study recruited mothers who used institutional delivery service for the recent childbirth proportionally to home deliveries that can enable us to compare their actual BPACR practice.

Limitations of the Study

- Possibility of information bias especially observer or interviewer bias and impending sampling error due to the two staged sampling design.
- For time and logistic reasons the study was limited to assess BPACR at the individual (mother's) level, and it was better to assess the other BPACR levels as well.

8. Conclusions

The magnitude of institutional delivery in the study area was 32.9% which was about three times more than the national level (9). The main exposure variable of intererest of this study (birth preparedness and complication readiness status of the mothers ahead of childbirth) had an independent effect on place of delivery. The study identified abetter institutional delivery utilization among mothers who were well-prepared for birth and complication. The other factors that were associated with place of delivery in the study area includes; maternal education, religion, distance of home from the nearest health facility with EmOC, knowledge of the availability of free ambulance transport service and history of obstetric complication. Although the awareness of the concept of birth preparedness and complication readiness was relatively good, recognition of key obstetric danger signs in the study area was found poor. Therefore in order to develop, implement and evaluate programs for improving utilization of maternity services, it is essential to study the existing effects of programs like BPACR at different level.

9. Recommendations

- Health workers, the regional health service administrators, NGO's, etc should work to further strengthen Birth Preparedness and Complication Readiness services to enables women recognize danger signs and access skilled caregiver for all deliveries.
- The regional or woreda administrators should work towards making the women, family/husbands, and the community at large to be aware of the available services like the free ambulance services provided to pregnant and laboring mothers and should be further strengthened and sustainably available in the community and other mechanisms to help mothers receive skilled care on time should be created.
- Increase collective knowledge and practice of preventative behaviors, as well as recognition, identification, and care seeking for danger signs and symptoms: for example, through increasing the quality of counseling in the ANC sessions, women's groups and engaging key stakeholders to enhance individual behavior change and to shift community norms from unskilled care towards getting a skilled delivery services.
- Women education should be strengthened that will be helpful to enable them decide by themselves about their delivery place.
- Promote broader community action to address major barriers to care: for example, engaging with village health committees or through the health development army (HDA) to address transport and financial barriers to care.
- Community leadership has an important role to play in removing barriers in deciding to seek care and improving access to a skilled care provider/attendant for women and therefore needs promotion in the study area.
- Further studies should be conducted to assess the effects of BPACR at family/household, community, health facility, health worker's and policy levels in various settings and using different approaches to come up with more representative findings, which will be helpful in designing interventional activities targeted at improving institutional delivery service utilization.

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11. Annexes

11.1. Sampling procedure

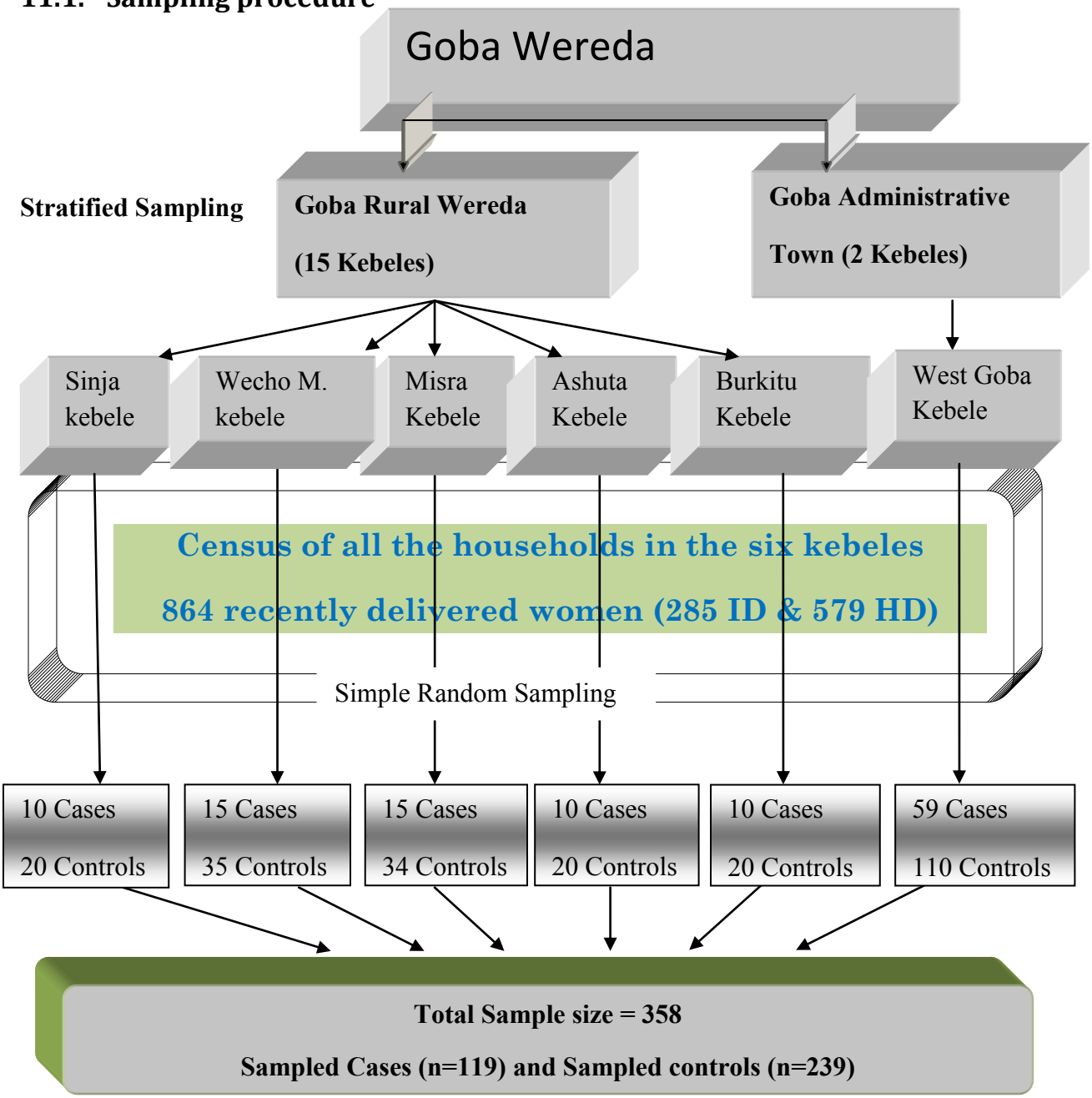

Figure 5: Schematic presentations of the sampling procedure of cases & controls study on BPACR and other diterminants of place of delivery, Goba Wereda, Bale Zone, South East Ethiopia, February, 2014.

11.2. Format used during preliminary census

This format is used to list mothers who gave childbirth from February/01/ 2013 till 01/02/2014, dates of delivery, place of delivery and birth out come in Goba Wereda, South East, Ethiopia.

Wereda: _____ Kebele: _____ Date: _____

S. No	Mother's Name	Date of delivery (DD/MM/YYYY)	Place of birth (HF/HD)	Birth out come	Remark

11.3. English Version participant information sheet, consent and questionnaire

Participant Information sheet

Description of the study

TITLE: Determinants of Place of Delivery; Does Birth Preparedness and Complication Readiness make a difference to institutional delivery? The Case of Goba Wereda, Bale Zone, South East Ethiopia.

Objective: To determine factors affecting place of delivery among women who gave birth in the last 12 months, Goba Woreda, South East Ethiopia, February, 2014.

Introduction: Rationale and benefits of the study

Ethiopia is one of the countries with the highest maternal mortality ratio (MMR) 676/100 000 live births and lowest skilled delivery at birth (10%). Historical evidence shows that no country has managed to bring its MMR below 100 per 100 000 live births without insuring that all women are attended by an appropriately skilled health professional during labour, birth and the period immediately afterwards.

Furthermore, it remained a problem why mothers in the era of zero tolerance to maternal death still give birth outside health institutions. In many studies done in Africa, most mothers express their wish to deliver in a health unit; in reality, the majority of them end up either not being attended or attended by non-trained people during delivery.

Knowing specific factors is very important in order to successfully act towards the factors that hinder the utilization of institutional delivery by a skilled provider. Therefore this study was planned to assess the effect of BPACR at the mother's level as the main exposure variable and other background characteristics at the individual and household level predictors of utilization of delivery care by a skilled provider in health institutions.

Consent (Verbal Consent) form

My name is. ---------- (Interviewer)

I am working with a graduate student researcher from Addis Ababa University, School of Public Health. This is a study to be conducted with the objective of determining the influence of Birth Preparedness and Complication Readiness and other determinants on place of delivery among women who delivered in the last twelve months. You are one of the women who have been selected randomly to participate in this study. Therefore, you are kindly requested to participate in this study and provide the information required from you. 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. You can also refuse to participate in the study entirely. Your refusal will not restrict you from obtaining the required medical care when you need. The interview will last approximately 30-45 minutes. Your responses will be kept confidential and there will be no way of linking your individual responses to the final results of the study findings. I would like to inform you that the responses that you provide to the questions are very essential, not only for the successful accomplishment of the study, but also for producing relevant information which will be helpful in the planning and implementation of intervention to prevent delays, increase institutional delivery and use of skilled birth attendant.

Given all the above information, may I Proceed with the questions?

Yes; ----proceed with the interview No; ---- thank her and End.

If you have any question, you can contact the following person with these address

Semere Sileshi (Mob No 0911990843 or 0920682030) (Email: sem_sileshi@yahoo.com)

Name of interviewer: _____ Signature _____ Date: _____

Name of supervisor: _____Signature: _____

Questionnaire code ---------- Kebele ---------- House number----------

Instruction: - Circle the responses for questions with alternatives and write for open ended questions on the space provided.

Questionnaire

Section 1.Sociodemographic Information

S.no.	Questions	Alternative responses	Code	Skip
101	What is your age?	_____Year		
102	To which religion do you belong?	1. Muslim 2. Orthodox 3. Protestant 4. Other		
103	What is your ethnicity?	1. Oromo 2. Amhara 3. Tigrae 4. Guragie 5. Other (specify)_____		
104	What is your current marital status?	1. Married/in Union 2. Single 3. Widowed 4. Divorced 5. Separated		
105	What is the highest grade you completed?	1. None 2. Read and write 3. Primary 4. Secondary and above		
106	What is your occupation?	1. Housewife 2. Gov't. employee 3. Private employee 4. Merchant 5. Other specify……..		
107	Monthly income in Eth.Birr	_____Eth.birr.		
	If married or in union			
108	Age of husband in completed years	_____years.		
109	What is the highest grade your husband completed?	1. None 2. Read and write 3. Primary 4. Secondary and above		

110	What is your husband's current occupation?	1. Farming 2. Gov't. employee 3. Private employee 4. Merchant 5. Other specify……		
111	Monthly income of your husband.	_____Eth.birr		
112	Total household income per month.	_____Eth.birr		
113	Which Mass media do you access in your house? (more than one option is possible)	1. Radio working order 2. Television working order 3. Other specify _____		
114	Does any member of your house hold have a Telephone/Mobile Phone?	1. Yes 2. No		
115	Family size	……		
116	How long it takes from your home to health center/hospital in minutes?	1. <15minutes 2. 15-30minutes 3. >30minutes		
117	Who is the decision maker for health service seeking during pregnancy, delivery and postpartum period?	1. Self 2. Husband 3. Self and Husband jointly 4. Other specify_____.		

Section II: gravidity and parity/obstetric information.

S.no.	Questions	Alternatives responses	Code	Skip
201	According to your birth order where does the last birth belongs?	1. First 2. Second 3. Third 4. Fourth and above		
202	How old were you in your **first** pregnancy?	_____years		
203	How old were you in your **last** pregnancy?	_____years		
204	How many times you became pregnant in your life?			

205	What were the outcomes of the pregnancies? (Ask for each item and put numbers on the space for each event)	1. Total lives birth……. 2. Abortion……. 3. Still birth…… 4. Others (specify)…..		

Section III: Service use and planning actions: intention and behaviors/knowledge

S.no.	Questions	Alternatives responses	Code	Skip
301	Did you attend ANC before your last pregnancy?	1. Yes 2. No 3. It was my first		
302	Did you planned to attend ANC visits during your last pregnancy?	1. Yes 2. No		
303	Did you attended ANC visits during your last pregnancy?	1. Yes 2. No →		Q307
304	If yes, Whom did you see during your last ANC visits?	1. Physician 2. Health Officer 3. Nurse 4. HEWs 5. Others (specify) ----------		
305	At how many weeks /months of pregnancy you start ANC?	_____weeks/months.		
306	How many times you attend ANC in last pregnancy?	1. One 2. Two 3. Three times 4. Four and above		
307	Have you ever heard the term "birth preparedness?	1. Yes 2. No →		Q309
308	If yes; From whom did you get the information? **(more than one answer is possible)**	1. Health professional 2. CHW /HAD or one-in-five 3. TTBA 4. Friends and relatives 5. Media: TV or Radio 6. Other(specify)_____		
309	In your opinion, does a woman need preparation for birth?	1. Yes 2. No →		Q401
310	In your opinion, what are some	1. Identify place of delivery 2. Save money		

	things a woman can do to prepare for birth? (**more than one answer is possible)**	3. Prepare essential items for clean delivery & post partum period 4. Identify skilled provider 5. Being aware of the signs of an emergency & the need to act immediately 6. Designating decision maker on her 7. Arranging a way to communicate with a source of help 8. Arranging emergency funds 9. Identify a mode of transportation 10. Arranging blood donors 11. Identifying the nearest institution that has24 hours functioning EmOC services 12. Other (specify) ----------		
Section 4: Practices of respondents on preparation and readiness for birth and related problems				
401	Did you identify place of delivery for the last delivery?	1. Yes 2. No →		Q403
402	If yes, Where was the place of delivery you planned?	1. Home 2. Gov. hospital 3. Health center 4. Health post 5. Others specify		
403	Where did you deliver your last child?	1. Home 2. Health post 3. Gov. hospital 4. Health center → Q405 5. Others (specify)----------		
404	If **home**, Why did you prefer to deliver at home? (**More than one response is possible**)	1. Too much cost of HFs 2. Facility too far 3. Poor quality service of HFs 4. No female provider at HFs 5. Husband will not allow 6. Need to be with relatives 7. Presence of TBAs 8. Labor was smooth and short 9. Previous HDs was normal 10. Lack of accompanies 11. I was told my pregnancy is normal 12. Lack of transport 13. Others specify.		

405	If HFs, Why did you prefer to deliver in health facilities? (more than one answer is possible)	1. HF was near to me 2. Need better service 3. Previous better outcome with delivering at HF 4. I was told to deliver at health facilities 5. Difficult labor 6. Bad outcome with previous delivery 7. HF delivery is always needed 8. Other		
406	What was the mode of your last delivery?	1. Spontaneous vaginal delivery 2. Instrumental delivery 3. Cesarean section 4. I did not remember 5. Other specify……..		
407	Did you plan skilled assistant during delivery?	1. Yes 2. No →		Q409
408	If yes, Whom were you planned to assist you?	1. Physician 2. Health officer 3. Midwife/Nurse 4. HEW 5. Other (specify)		
409	During your last childbirth, who was your birth attendant?	1. Health Professional 2. Health extension worker 3. A Traditional birth attendant 4. Relatives 5. If other, explain -----		
410	Had you plan to save money for obstetric emergency?	1. Yes 2. No		
411	Did you saved money for obstetric emergency?	1. Yes 2. No		
412	Had you plan a mode of transport to place of delivery during emergency?	1. Yes 2. No →		Q413
413	If yes, What was a mode of transport you had planned? (ask those planned for emergency transport)	1. On foot 2. By cart 3. On horseback 4. Carried by other people 5. By car 6. Ambulance address 7. Others specify……		
414	Did you plan blood donor during obstetric emergency?	1. Yes 2. No		

415	Can you detect early signs of an Emergence?	1. Yes 2. No		
416	Did you encounter any health problems during labour, delivery and immediately after birth during your last delivery?	1. Yes 2. No →		Q420
417	If yes, what were the problems? more than one answer is possible)	1. Excessive vaginal bleeding 2. Prolonged labour(> 12hrs) 3. Retained placenta(>1hrs) 4. Mal-presentation 5. Fetal death 6. Early rupture of membrane 7. Loss of consciousness 8. Other specify		
418	Were you referred to HF further? (ask those who faced the problem)	1. Yes 2. No		
419	If you were referred to HF, who accompanied you to HF(ask referred)	1. Husband 2. Relatives 3. Community emergency committee 4. Alone 5. Others specify…		
420	If you were referred to health facility, what mode of transport you used to reach to the health facility?(ask referred)	1. On foot 2. By cart 3. On horseback 4. Carried by other people 5. By car 6. Ambulance 7. Others specify……		
421	Do you know the availability of free ambulance transport providing service for mothers who are in labour or who encounter pregnancy related problems, if they call the telephone?	1. Yes I know 2. I don't know		
422	Have you Identified institution with a 24 hr EmOC services	1. Yes 2. No		

Section IV: - Obstetric danger signs awareness

S.no	Questions	Alternatives/ Choices of responses	Code	Skip

501	Are there any obstetric danger signs that can occur during pregnancy, labour and postpartum?	1. Yes 2. No →		Q503
502	If yes, from where did you hear these danger signs? (more than one answer is possible)	1. Health workers 2. HEWs 3. Community H volunteers/HDA 4. Radio 5. Television 6. Read from books 7. Others		
503	Are there any danger signs that can occur during pregnancy?	1. Yes 2. No →		Q506
504	What are these danger signs? (Wait them to spontaneously mention some or not) more than one answer is possible)	1. Vaginal bleeding 2. Severe headache 3. Blurred vision 4. Convulsions 5. Swollen hands/face. 6. High fever 7. Loss of consciousness 8. Difficulty breathing 9. Severe weakness 10. Severe abdominal pain 11. Accelerated/reduced fetal movement 12. Water breaks without labor 13. Other (Specify)----------		
505	In your opinion, could women die from [this problem] any of these problems?	1. Yes 2. No 98. Don't know		
506	Are there any danger signs that can occur during labour or child birth?	1. Yes 2. No →		Q509
507	What are these danger signs? (Wait them to spontaneously mention some or not) more than one answer is possible)	1. Severe vaginal bleeding 2. Severe headache 3. Convulsions 4. High fever 5. Loss of consciousness 6. Labor lasting>12hours 7. Placenta not delivered 30 minutes after delivery 8. Other (Specify)		
508	In your opinion, could women die from [this problem] any of	1. Yes 2. No		

	these problems?	98. Don't know		
509	Are there any danger signs that can occur during postpartum period?	1. Yes 2. No →		Finish
510	What are danger signs that Can occur during postpartum? (Wait them to spontaneously mention some or not) more than one answer is possible	1. Severe vaginal bleeding 2. Severe headache 3. Blurred vision. 4. Convulsions 5. Swollen hands/face 6. High fever 7. Loss of consciousness. 8. Difficulty breathing. 9. Severe weakness 10. Malodorous vaginal discharge 11. Others (specify)_____		
511	In your opinion, could women die from [this problem] any of these problems?	1. Yes 2. No 98. Don't know		

This is all what I want to ask you. Thank you for spending your time and valuable information you gave us. Do you have any question that I can address for you?

_____

_____

_____

11.4. Afan Oromo version information sheet, consent form and questionnaires

Yunivarsitii Finfinee, school of public healthitii

Guca Odeeffannoo Qu'annaa

Oddefannoo Gafatamtootaaf

Mataduree Qu'anoo: Sababotaa Murtessoo Iddoo Da'umsaa; Qophiin da'umsaa fi Balaawwaan ulfaa, fi da'umsaan walqabatanii dhufaniif qopha'uun iddo da'umsaa irratii garagarumaa nifiduu?

Kayyoo: Haawwan ji'otaa 12 asi da'anif Sabbaboota iddoo da'umsaa murteessoo ta'aan addan basuu Anna Goobbaa, Godina Baale , kibaa Bahha Itiyoopha. Gurnadhaala, 2014.

Seensa : barbaachisumaa fi bu'aawwaan qu'annoo.

Biyyoota duti haawwani ol'aana keessatti mul'aatu keessaa Itiyyophiyaan ishi takka dooqa(ratio) (MMR) 676/100 000 dha. Akkasummaas , haawwn haarka ogeesoota fayyatiin dahan dhibeentaa 10. Akkaata seenan darbee muldhisuuti biyyi tamiyyu du'aa haawwani 100 000 keessaa 100 gaddi busuf; yeroo cinsuu, da'uumsaa fi bataalumatti da'umsaan booda guttumman guttuti tajjajilaa ogesoota fayyaa irra argaachu dirqaama.

Kaara birattin, jaara haati taakkalee da'umsaaan waalqabate du'u hinqaabdu jedhaamu keessatti , ammas haawwan bufaata fayyati alaati dahuu rakko ta'ee itti fufee jira. Akkaata qu'aanno heedu Afrika keessatti hojettamman muldhisaanti , haawaan heedu buftaa fayyati dahu barbaadu; guru irra jireesi isaani gargaarsa tokko maale ykn namoota ogumaa hinqabneen gargaarammu.

Sabbabota akkaa haawwan guddugalaa fayyati ogeesota fayyaatin gargaagarammani hindeenyee gufu ta'aan beekun bayy'ee barbaachisaadha. Kaanfu, qu'aannon kun kan karroorfameef dhibbaa Qophiin da'umsaa fi Balaawwaan ulfaa, fi da'umsaan walqabatanii dhufan Saddarkaa haawwantii sabbabota gurguddo fi ammaalota saddarkaa dhunfaa fi manatti ka'umsaa ta'aan akkaa bufata fayyatti ogeesa fayyatiin gargaarammuu hin denyee addaan basudhaa,.

Guca waalgaalte (Verbal Consent)

Akkam jirtu? Ani Maqaankoo _____jedhama. Qo'annaa qophii haawwan da'umsaaf taasisaniifi beekkumsa isaan balaawwan ciccimoo yeroo ulfaa, da'umsaafi battaluma da'umsaan booda qunamuu danda'niif qopha'ina godhachuufii fii wantootaa kanaan walqabatee bakee da'umsaa irratti murtessaa ta'an waliin ilaalchisee hojjatamaa jiruuf odeeffannoo funaanuudhaafan as dhufe. Qo'annaan kun aanaa Gobbaa keessatti hojjatamaa jira. Isin immoo qo'annaa kanaaf filannoo carraadhaan taasifameen filatamtanii jirtuu. Kaayyoon qo'annichaa haawwaan qophiin isaan da'umsaafii balaawwan tasaa yeroo da'umsaa isaan mudataniif taasisan fii haaloota bakka da'umsaaf murtessaa ta'an baruufi. Inni kun immoo tattaaffii mootummaan biyya keenyaa fayyaa haadholiifi daa'immanii fooyyessudhaaf taasisaa jiru keessatti gahee ol'aanaa qaba. Qo'annaa kanarratti hirmaachuu keessaniin miidhaan isirirra gahu tokkolee hin jiru. Akkasumas qo'annaa kanarratti hirmaachuu keessaniif faayidaan isin har'a ykn boru kallattiidhaan argattan hin jiru haata'umalee odeeffannoon isin har'a nuuf laattan fulduraaf fayyaa haadholii fooyyessuu keessatti eddoo ol'aanaa qaba. Gaafiif deebiin keenya daqiiqaa 30 hanga 45 tti fudhachuu danda'a. Maqaan hirmaataa kamiyyuu waan hin barroofneef qo'annaa kanarrattii hirmaachuu keessan namuu hin beeku. Yeroo barbaaddanitti gaafif deebii waliin taasifnu addaan kutuu nidandeessu akkasumas gaafii deebisuu hinbarbaanne dhiisuu nidandeessu.

Hala oddefanoo armaan olitiin, qo'annaa kanarratti hirmaachuudhaaf hayyamamoodhaa?

1. Eyyee: ... itti fufii 2. Miti ; .... galatonfadhuu tii dhabii

Wantii iffa isiniif hintanee yoo jiratee lakkofsa bilbiloota armaan gadiitiin gafachuu nidandetuu.

Sammara Sillashii(Mob No 0911990843 or 0920682030) (Email: sem_sileshi@yahoo.com)

Maqaa gafataa : _____ Mallatoo _____ Guyyaa: _____

Maqaa supervisaraa: _____Mallatoo: _____

Codii questionaraa ---------- Ganda: ---------- Lakkofsa manaa ----------

Kutaa I: - odeeffanno haala hawaasummatii fi qabeenya ilaallatu

Lakk.	Gaaffilee	Filanno	Koodii	Irra darbi
101	Umriin keessan hagami?	Waggaa _____		
102	Amantaa kam hordoftan?	1. Muslima 2. Ortodooksi 3. Prootestaantii 4. Kan biroo…..		
103	Sabni keessan kami?	1. Oromoo 2. Amaaraa 3. Guraagee 4. Kan biro…….		
104	Haalli fuudhaaf heeruma keessani amma akkami?	1. Heerume 2. Hin heerumne 3. Lubbun hin jiran 4. Wal-hikne 5. Iddoo garagaraa jiraanna		
105	Sadarkaan barnoota keessan gola meeqa?	1. Homaa 2. Dubbisuu fi barressu 3. Sadarka tokkoffa 4. Sadarka lammaffafi sana oli		
106	Hojiin keessan maali?	1. Haadha manaa 2. Hojjataa mootumma 3. Hojjataa waajjira dhuunfaa 4. Daldalaa 5. Kan biro…….		
107	Galiin keessan ji'aan meeqa?	Qar. Itop._____		
	Yoherumtee			
108	Umriin abba warraa keessan meeqa?	Waggaa _____		
109	Sadarkaan barnoota abbaa warra keessani gola meeqa?	1. Homaa 2. Dubbisuu fi barressu 3. Sadarkaa tokkoffaa 4. Sadarkaa lammaffaa fi sana oli		
110	Hojiin abbaa warraa keessanii amma maali?	1. Qote bulaa 2. Hojjataa mootumma 3. Hojjataa waajjira dhuunfa 4. Daldalaa 5. Kan biro…….		
111	Galiin abbaa warraa keessanii kan ji'aa meeqa?	Qr. Itiyoopiyaa_____		

112	Galiin ji'aa walii gala mana keessanii meeqa?	Qr. Itiyoopiyaa_____		
113	Mass midian dhihenaan isiniin argitan kamii?	1. Radio 2. Television 3. Other specify ___		
114	Miseensi manakessan kanta'ee fii bilbila (telephona) kanqabuu jiraa?	1. Eyee 2. Hinjiruu		
115	Baay'inni maatii keessanii meeqa?	_____		
116	Daqiiqaa hangam buufanni fayyaa, KF ykn hospitaalii mana keessanirra deemsisa?	1. <15 daqiqaa 2. 15-30 daqiqaa 3. >30 daqiqaa		
117	Eenyu murteessaan dhimma mana yaalaa dhaquu kessatti yeroo ulfaa fi da'umsa?	1. Isin 2. Abbaa warraa 3. Isin lamaan waliin 4. Kan biraa……		

Kutaa II:- Odeefanno haala ulfaatii fi da'umsaatiin wal-qabate

Lakk.	Gaaffilee	Filanoo	Koodii	Irra darbi
201	Akkataa da'umsa keessaniitiin, daa'imni isa dhuma isa meeqafaadha?	1. Tokkoffaa 2. Lammaffaa 3. Sadaffaa 4. Afraffaa fi sana oli		
202	Yeroo ulfa isa duraa umriin keessan meeqa?	Waggaa ……..…		
203	Yeroo ulfa isa dhuma umriin keessan meeqa?	Waggaa ……...		
204	Umrii keessan keessatti yeroo meeqa ulfooftan?			
205	Walii galli ulfa keessanii maal maal ture?(tokko tokkon gaafadhu lakk. Guuti)	1. Lubbun kan dhalatan……. 2. Kan isinirra bahan…….. 3. Lubbun kan hin dhalatin…… 4. Kan biro……		

Kutaa III:- beekumsa

Lak	Gaaffilee	Filanno	Koodii	Irra darbi
301	Ulfa keessan isa dhumaa dura hordoffi tajaajila ulfaa gootanii jirtuu?	1. Eeyye 2. Miti		
302	Yeroo ulfa dhumaa hordoffi tajajila ulfaa godhuuf karoorfattanii turtani?	1. Eeyye 2. Miti		
303	Yeroo ulfa dhumaa hordoffi tajajila ulfa gootanii jirtuu?	1. Eeyye 2. Miti →		G307
304	Yoo eeyye ta'e, eennutu isin ilaale?	1. Haakima 2. Qondaala fayya 3. Narsii 4. Ekisteeshini fayya 5. Kan biraa…..		
305	Torbaan ykn baatii meeqati tajajila hordoffi ulfa eegaltan?	Torbaan/Baatii _____		
306	Ulfa keessan kan dhumaa irratti yeroo hagam hordoffi tajaajila ulfa deddebitan?	1. Tokko 2. Lama 3. Sadi 4. Afurii fi sana oli		
307	Kana dura jecha **'qophii dahumsaa'** jedhu dhageessanii beektu?	1. Eeyye 2. Miti →		G309
308	Eeyye yoo jettan essaa dhageessan? (deebii tokkoo ol qabaachuu nidanda'a)	1. Ogeessa fayyaa irraa 2. Hojjattuu Ekistenshinii fayyaa irraa 3. Addaan deessiftootarraa 4. Hiriyyaa fi fira irraa 5. Midiyaalee garagaraa irraa 6. Kanbiroo_____		
309	Dubartiin ulfaa takka da'umsaan dura qophii da'umsaa gochuu qabdi jettanii yaadduu?	1. Eeyyee 2. Lakki 3. Hin beeku		
310	Eeyyee yoo jettan maalfa'a qophaa'uu qabdi? (deebii	1. Eddo daumsaa 2. Qarshii kuufachuu 3. Wantoota qulqullina yeroo da'umsaa fi da'umsaan boodaaf barbaachisan irratti qophaa'uu		

	tokkoo ol qabaachuu nidanda'a)	4. Ogeessa fayyaa yeroo da'umsaa nama hordofu adda baafachuu 5. Mallattoolee balaa addabaafachuufi tarkaanfii barbaachisu fudhachuuf qophaa'uu 6. Nama murtee kennu murteessuu 7. Nama yeroo ciniinsuu ykn balaa cimaa dursinee dubbisnu adda baafachuu 8. Qarshii balaa tasaatif barbaachisu qopheessuu 9. Haala geejjibaa qophaa'uu 10. Nama dhiiga nuuf laachuu danda'u qopheessuu 11. Dhaabbata tajaajila fayyaa sa'aatii 24 kennu adda baafachuu 12. Kan biraa _____		
Lak	Gaaffilee	Filanno	Koodii	Irra darbi
401	Iddoo itti deettan saganteeffatanii jirtu?	1. Eeye 2. Miti →		G403
402	Eeyye yoo ta'e, Eessattida'uuf saganteeffatan?	1. Mana 2. Hospitaala mootumma 3. Buufata fayya 4. Keella fayya 5. Kan biraa……..		
403	Daa'ima keessan isa dhumaa eessatti deettan?	1. Mana 2. Hospitaala mootumma 3. Buufata fayya 4. Keella fayyaa 5. Kan biraa……..		G405
404	Maaliif manatti da'uu filattan? (kan manatti da'an qofa gaafadhu) (deebii tokkoo ol qabaachuu nidanda'a)	1. Gatiin tajaajila fayyaa qaalii waan ta'ef 2. Iddon fayya baay'ee fagata 3. Tajaajilli fayyaa baay'ee laafadha 4. Dubartiin tajaajila kennitu hin jirtu 5. Abban warraa na hin eeyyamu 6. Waan firatti hajamuuf 7. Ogeettiin aadaa waan jirtuuf 8. Ciniinsuun waan daddaftuu fi laaftuuf 9. Dura nagumaan waan manatti da'eef 10. Nama na waliin deemu dhabuu 11. Ulfi kee nagaha jedhanii naaf himan 12. Geejjiba dhabuu 13. Kan biraa…….		
405	Maaliif buufata fayyatti deettan?	1. Waan iddon fayyaa kaluu ta'eefi 2. Tajaajila fooyya'aa argachuuf 3. Waan bu'aa gaarii tajaajila fayya keessatii		

	(kan buufata fayyatti dahan qofa gaafdhu) (deebii tokkoo ol qabaachuu nidanda'a)	tana dura argadheefi 4. Buufata fayyatti akka da'u natti himame 5. Ciniinsuun waan natty cimeef 6. Daha duraa keessatti rakkoon waan narra ga'eef 7. Kan biraa……		
406	Daha dhumaa tana akkamitti deettan?	1. Ofumaan kara gadamessatiin 2. Meeshadhaan kara gadamessatiin 3. Garaa baqaqsuudhaan 4. Hin yaadadhu 5. Kan biraa……		
407	Ogeessa fayyaa isin deesisu adda baastanii qopheffattanii turtani?	1. Eeyye 2. Miti →		G409
408	Eeyye yoo ta'e, Ogeessa fayyaa gosa kamitu akka isin deesisu saganteefatan?	1. Haakima 2. Qondaala fayya 3. Narsii 4. Ekisteenshinii fayyaa 5. Kan biraa……..		
409	Da'ima isa dhuma kaissin desisee egnuu?	1. Ogessa fayaa 2. Ekisteenshinii fayyaa 3. Ogettii adaa 4. Kan biraa yota'ee ibsii ----		
410	Rakko yeroo ulfaa fi da'umsaa tasa uumamuf mallaqa kuufachuuf saganteefatanii turtanii?	1. Eeyye 2. Miti		
411	Rakko yeroo ulfaa fi da'umsaa tasa uumamuf mallaqa kuufatanii turtanii?	1. Eeyye 2. Miti		
412	Rakko tasa yeroo da'umsa uumamuf gosa geejibaa gara tajaajila da'umsaatti isin geessuuf saganteeffattanii turtanii?	1. Eeyye 2. Miti →		G 413
413	Gosti geejjiba rakko tasaatiif karoorfattan maal ture?(isaan karoorfatan gaafadhu)	1. Miilaan 2. Gaarii 3. Fardaan/Gaangeen 4. Naman baadhatamuun 5. Konkolaatan 6. Kan biraa……..		
414	Rakko yeroo ulfaa fi da'umsaa tasa uumamuf qaama dhiiga isinii kennu	1. Eeyye 2. Miti		

	karoorfattanii turtani?			
415	Mallattoolee balaa tasaa yeroo ulfaa, da'umsaa fi da'umsaan booda nama qunnamuu danda'an adda baaftanii nibeektuu?	1. Eeyye 2. Miti		
416	Rakkon fayya yeroo ciniinsuu,da'umsaa fi battala da'umsa boodaa, da'umsa dhumaa irratti isin qunname jiraa?	1. Eeyye 2. Miti →		G 420
417	Yoo eeyye ta'e, rakkon maal ture? (deebii tokkoo ol qabaachuu nidanda'a)	1. Dhiigni hedduun jiguu 2. Ciniinsuun dheerachu (sa'a 12 oli) 3. Hobbatiin turu (sa'a tokko oli) 4. Daa'imni akka maleetti dhufuu 5. Daa'imni garatti du'uu 6. Bishaan fuulaa dursee jiguu 7. Of wallaaluu 8. Kan biraa…….		
418	Gara tajaajila fayyaatti ergamtanii? (kan rakkoon isaan mudate gaafadhu)	1. Eeyye 2. Miti		
419	Yoo gara tajaajila fayyatti ergamtan, eennutu isin fide? (kan ergaman gaafadhu)	1. Abbaa warraa koo 2. Fira 3. Garee rakkoo tasaa hawaasumma 4. Kophaa koo 5. Kan biraa……		
420	Yoo gara tajaajila fayyatti ergamtan, gosti geejjibaa ittii fayyadamtan kami?	1. Miilaan 2. Gaarii 3. Fardaan/Gaangeen 4. Naman baadhatamuun 5. Konkolaatan 6. Kan biraa……..		
421	Tajajilli abmulansii kafaltii malee dubartii cininsuu dhan qabamtee yokiin rakoo ulfaa waliin qabatee qunameef bilbila bilbiluudhan akka argachuu dandeetuu nibektuu?	1. Eyee 2. Hinbeekuu		
422	Dhaabbata fayyaa sa'aatii 24 tajaajila da'umsaa kennu adda baafattanuu jirtuu?	1. Eeyye 2. Miti		

Kutaa IV:- odeeffannoo mallattoolee hama yeroo ulfaa fi da'umsaa

Lakk.	Gaaffilee	Filannoo	Koodii	Irra darbi
501	Mallattooleen hamaan yeroo ulfaa, ciniinsuu fi da'umssa booba uumaman jiru?	1. Eeyye 2. Miti →		G 503
502	Yoo eeyye ta'e, mallattoolee hamaa kana eessaa dhageetan? (deebii tokkoo ol qabaachuu nidanda'a)	1. Hojjataa fayyaa 2. Ekisteenshinii fayyaa 3. Raayyaa fayyaa kan fedhii hawaasa keessa 4. Raadiyoo 5. Televizniinii 6. Kitaabarraa dubbisuun 7. Kan biraa……		
503	Mallattooleen hamaan yeroo ulfaa uumaman jiruu?	1. Eeyye 2. Miti →		G 505
504	Mallattooleen hamaan yeroo ulfaa uumaman kunniin maal fa'i? (deebii tokkoo ol qabaachuu nidanda'a)	1. Dhiigni gadamessa keessaa dhangala'uu 2. Dhukkuba mataa cimaa 3. Ittii dukanaa'uu/lafti maruunii 4. Gagabuu 5. Fuulli/harki iita'uu 6. Hoo'a qaamaa cimaa 7. Of wallaaluu 8. Afuura baafachuu dadhabuu 9. Dadhabbii cimaa 10. Dhukkubbii garaa cimaa ta'e 11. Sochiin daa'imni gadameessa keessatti godhu xiqqaachuu 12. Bishaan mataa dhangala'uu 13. Kan biro_____		
505	Ilalcha ketiin mallatowan asii olii hadha tokko ajeesuu danda'aa?	1. Eyeen 2. Mitii 98. Anii hinbeeku		
506	Mallattooleen hamaan yeroo ciniinsuu uumaman jiru?	1. Eeyye 2. Miti →		G 507
507	Mallattooleen sunniin maal fa'i? (deebii tokkoo ol qabaachuu	1. Dhiigni hedduun gadamessa kessaa jigu 2. Dhukkuba mataa cimaa 3. Gagabuu 4. Hoo'a qaamaa cimaa		

	nidanda'a)	5. Of wallaaluu/gaggabdoo 6. Ciniinsuun dheerachuu (sa'a 12 oli) 7. Hobbaatiin hafu (daqiiqaa 30 caalaa turuu) 8. Kanbiroo_____		
508	Ilalcha ketiin mallatowan asii olii hadha tokko ajeesuu danda'aa?	1. Eyeen 2. Mitii 98. Anii hinbeeku		
509	Mallattooleen hamaan yeroo da'umsaan boodaa uumaman jiru?	1. Eeyye 2. Miti →		Xummuri
510	Mallattooleen sunniin maal fa'i? (deebii tokkoo ol qabaachuu nidanda'a)	1. Dhiigni hedduun gadamessa keessaa jigu 2. Dhukkuba mataa cimaa 3. Ittii dukanaa'uu/lafti maruunii 4. Gagabuu 5. Fuulli/harki iita'uu 6. Hoo'a qaamaa cimaa 7. Of wallaaluu 8. Afuura baafachuu dadhabuu 9. Dadhabbii cimaa 10. Jiidhini hafuurri isaa dhahu/ajaa'u gadamessa keessa yaa'uu 11. Kan biro_____		
511	Ilalcha ketiin mallatowan asii olii hadha tokko ajeesuu danda'aa?	1. Eyeen 2. Mitii 98. Anii hinbeeku		

Gaaffiin ani qabu hanganuma.Waan yeroo keessan fixxanii odeeffanno barbachisaa naa kennitaniif baay'ee isin galateefadha.Gaaffiin akka isinii ibsu barbaddan jiraa?

Maqaa nama odeeffannoo funaanee:_____malattoo:_____guyyaa_____

11.5. Amaharic version information sheet, consent form and questionnaire

የአማርኛ ቋንቋ መጠይቅ

<u>በአዲስ አበባ ዩኒቨርስቲ የህብረተሰብ ጠና ትምህርት ቤት</u>

<u>የተጠያቂዉ ዐይነት</u>(Case or Control)

<u>ለተሳታፊዎች ግንዛቤ ማስጨበጫ ክፍል</u>

<u>የጥናቱ ርእስ</u>፡ የመዉለጃ ቦታን የሚወስኑ ሁኔታወች፤ ለወሊድ ዝግጅትና ሊያጋጥሙ የሚችሉ ችግሮችን ተዘጋጅቶ ስለመጥበቅ የመዉለጃ ቦታን ሊወሰን ይችላል?

መግቢያ፣ የጥናቱ አስፈላጊነትና ጥቅሞቹ

ኢትዮጵያ የእናቶች ሞት በ ከፍተኛ ደረጃ ከሚከሰትባቸዉ ሀገሮች ተርታ ትገኛለች (676/ነ00000)እንዲሁም በጤና ተቐማት የሚወልዱ እናቶች ቁጥር በጣም አነስተኛ ነዉ (ነ0 ከ መቶ)፡፡ ታሪክ እንደሚያመለክተዉ የናቶች ሞትን ከ ነ00/ነ00000 በታች ለማዉረድ ማንኛዋም እናት በሰለጠነ ባለሞያ በእርግዝና ጊዜ ፣ በወሊድ ጊዜ እንዲሁም ከወሊድ በሓላ በሰለጠነ ባለሞያ መታገዝ ይኖርባታል፡፡ ለወሊድ ዝግጅትና ሊያጋጥሙ የሚችሉ ችግሮችን ተዘጋጅቶ መጠበቅ ሲባል የእናቶችን ጤንነት ለማሻሻል የሚያስችል ጠቅላላ አቅጣጫ ሲሆን፣ በ6 የተለያዩ ደረጃዎች የሚተገበር ነዉ፣ ማለትም በእናቶች፣ በቤተሰብ፣ በማህበረሰቡ፣ በጤና ድርጅትወች፣ በጤና ባለሞያተኛዉ እና በፖሊሲ ደረጃ ሊከፈል የሚችል ነዉ፡፡ ምንም እንኳን ለወሊድ ዝግጅትና ሊያጋጥሙ የሚችሉ ችግሮችን ተዘጋጅቶ ስለመጥበቅ የተለያዩ ስራወች ቢተግበሩም ከፍተኛ የሆነ (80%) ሥለ አደገኛ ምልክቶች በነፍሰጡር ምክር ጊዜ ያለመስጠት ችግር ይታያል፡ ስለዚህም እናቶች በከፍተኛ ደረጃ በየቤቶቻቸዉ እየወለዱ ለአደገኛ ችግሮች እየተጋለጡ ይገኛሉ፡፡

በጤና ድርግቶች እናቶች እናቶች እንዳይወልዱ የሚያደርጉ ኩነቶችን ማወቅ ወሳኝ የችግሩ መፍቻ መንገድ መሆኑ የታመናል፡፡ ስለዚ ይህ ጥናት የለወሊድ ዝግጅትና ሊያጋጥሙ የሚችሉ ችግሮችን ተዘጋጅቶ መጠበቅ የመዉለጃ ቦታን መወሰን ላይ የሚኖረዉን ድርሻ ለይቶ ለማወቅ ነዉ፡

<u>የስምምነት ማስገንዘቢያ ቅጽ</u>

ጤና ይስጥልኝ፤ _____እባላለዉ እኔ በ**አዲስ አበባ ዩኒቨርስቲ የህብረተሰብ ጤና ትምህርት ቤት ለመመረቅያ** በሚደረገዉ ጥናት በመረጃ ሰብሳቢነት እየሰራሁ እገኛለዉ። ይህ ጥናት የሚካሄደው እናቶች ለወሊድ ዝግጅትና ሊያጋጥሙ የሚችሉ ችግሮች ተዘጋጅቶ ስለመጥበቅ ያላቸው ሁኔታ እንዲሁም እውቀትና ተግባር እንዲሁም የህ ተግባር የመዉለጃ ቦታ ላይ የሚኖረዉን ተጽእኖና ሌሎች ይመዉለጃ ቦታን የሚወስኑ ሁኔታዎችን ለመፈተሽ ነው። በጥናቱ እንዲሳተፉ በእጣ ከተመረጡ ሴቶች አንዷ እርስዎ ኖዎት። ስለዚህ እዚህ ጥናት ላይ እንዲሳተፉና አስፈላጊዉን መረጃ እንዲሰጡን በትህትና እንጠይቃለን። ይሁን እንጂ ማንኛውም ጥያቄ አለመመለስ ይችላሉ። እንዲሁም በማንኛውም ጊዜ ጥያቄውን ማቋረጥና በጥናቱ አለመሳተፍ ይችላሉ።

በጥናቱ በመሳተፍዎ የሚደርስቦት ችግር ወይም ግዜያዊ ጥቅም የለም። ጥያቄና መልሱ 30-45 ደቂቃ ይወስዳል። ይህ በግልዎ የሚሰጡት መልስም በሚስጥር የሚጠበቅ ስለሆነ ከጥናቱ ውጤት ጋር በምንም የሚያያዝ አይደለም። ላረጋግጥልዎ የምፈልገው ነገር ቢኖር ይህ የሚሰጡት መልስ በጣም አስፈላጊ የሚሆነው ጥናቱን ለማጥናት ብቻ ሳይሆን በእርግዝና ውቅት ፣ በወሊድ ጊዜ እና ከወሊድ በኋላ ለሚያጋጥሙ የጤና ችግሮችን ለመፍታት ያለ መዘጋጀትንና በጤና ድርጅት እንዲሁም በሰለጠነ ባለሞያ ያለመውለድ ችግርን ለመቀነስ አስፈላጊ የሆነ እቅድ ለማውጣትና በተግባር ለማዋል የእናቶች እና አዲስ ለሚወለዱ የህፃናትን ህይወት ለማዳን የሚጠቅም ነው።

ከላይ ባገኙት መለጃ መሰረት በጥናቱ ለመሳተፍ ተስማምተዋል

1. እስማማለዉ....
2. አልስማማም

ያልገባዎት ነገር ካለ ከዚህ ቀጥሎ በሚያገኙት አድራሻ ይደዉሉ

ሰመረ ስለሺ ፡ - (ስልክ፡- 0911990843 ወይም 0920682030) (ኢሜል: sem_sileshi@yahoo.com)

የጠያቂዉ ስም : _____ ፊርማ _____ ቀን: _____

የሱፐርቫይዘሩ ስም : _____ ፊርማ _____ ቀን: _____

የመጠይቁ ኮድ፡ ---------- ቀበሌ ----------

የቤት ቁጥር : - ----------

ክፍል 1፡ ስነ ህዝብና ማህበረዊ ጉዳዮች

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች	ኮድ	ዝለል
101	እድሜ	_____አመት		
102	ሐይማኖት፡	1. ሙስሊም 2. ኦርቶዶክስ 3. ፕሮቴስታንት 4. ሌላ ከሆነ ይጠቀስ ----------		
103	ብሄር	1. ኦሮሞ 2. አማራ 3. ትግሬ 4. ጉራጌ 5. ሌላ ከሆነ ይጠቀስ_____		
104	የጋብቻ ሁኔታ	1. ያገቡ 2. ያላገቡ 3. ባል የሞተባቸው 4. የፈቱ 5. የተለያየ ቦታ የሚኖሩ		
105	የትምህርት ደረጃ	1. ያልተማሩ 2. ማንበብ ና መፃፍ የሚችሉ 3. አንደኛ ደረጃ 4. ሁለተኛ ደረጃ ና ከዚያ በላይ		
106	የስራ ድርሻ	1. የቤት እመቤት 2. የመንግስት ሰራተኛ 3. የግል ተቀጣሪ 4. የግል ንግድ ሥራ 5. ሌላ ከሆነ ይጠቀስ		
107	ወረርሃዊ ገቢ በብር	_____		
	ያገባች እናት ከሆነች የባል ሁኔታ ይጠይቁ			
108	የባል እድሜ	_____አመት		
109	የባል የትምህርት ሁኔታ፡-	1. ያልተማሩ 2. ማንበብ ና መጣፍ የሚችሉ 3. አንደኛ ደረጃ 4. ሁለተኛ ደረጃ ና ከዚያ በላይ		

110	የባል ስራ	1. ግብርና 2. የመንግስት ሰራተኛ 3. የግል ተቀጣሪ 4. የግል ንግድ 5. ሌላ ካለ ይገለፅ		
111	የባል የወር ገቢ	_____ብር		
112	ጠቅላላ የቤተሰብ የወር ገቢ	_____ ብር		
113	በቅርበት የሚያገኙት ይመገናኛ ብዙሃን የትኛዉ ነዉ	1. ቴሌቪዥን 2. ሬድዮን 3. የለም		
114	እርስዎ ወይንም የቤተሰብዎ አባል ስልክ ያለዉ ይኖራል	1. አዎ 2. የለም		
113	የቤተሰብ ብዛት በቁጥር	_____		
114	ከቤቶ ቅርብ እስከሚገኘዉ ጤና ተቓም ለመሄድ ምን ያህል ጊዜ ያስኬዳል?	1. <15 ደቂቃ 2. 15-30 ደቂቃ 3. > 30 ደቂቃ		
115	በእርግዝና፡ወሊድና ከወሊድ ቦሀላ የሚደረገዉን ጤና አገልግሎት አስመልክቶ የሚወስነዉ ማን ነዉ?	1. እኔ እራሴ 2. ባለቤቴ 3. ሁለታችን ቢጋራ 4. ሌላ ካለ ይጠቀስ		

ክፍል 2፡ የዕርግዝና እና የወሊድ ሁኔታ

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች	ኮድ	ዝለል
201	መጨረሻላይ የወለዱት ስንተኛ ልጆት ዎት ነበር?	1. አንደኛ 2. ሁለተኛ 3. ሶስተኛ 4. አራተኛና ከዚያ በላይ		
202	ለመጀመሪያ ግዜ ሲያረግዙ እድሜዎት ስንት ነበር?	_____አመት		
203	በመጨረሻዉ እርግህና እድሜዎት ስንት ነበረ	_____አመት		
204	በህይወቶት ስንት ግዜ አርግዘዋል?	_____		
205	በአጠቃላይ የ እርግዝናዎት ዉጤት	1. በህይወት የተወለደ_____ 2. ዉርጃ_____ 3. ሞቶ የተወለደ_____		

	ምን ነበር? በቁጥር ይጠቀስ	4. ሌላ_____		

ክፍል 3፡ እውቀት

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች	ኮድ	ዝለል
301	ከመጨረሻ እርግዝናዎት በፊት በሌሎቹ እርግዝናዎት ወቅት የቅድመ ወሊድ ጤና ክትትል ያደርጉ ነበር?	1. አዎ 2. አይደለም 3. ይህ የመጀመርያዬ ነዉ		
302	በመጨረሻዉ እርግዝናዎት ግዜ የቅድመ ወሊድ ጤና ክትትል ለማድረግ አቅደዉ ነበር?	1. አዎ 2. አይደለም		
303	በመጨረሻዉ እርግዝናዎት ግዜ የቅድመ ወሊድ ጤና ክትትል አድርገዋል?	1. አዎ 2. አይ → 307		ጥ.ቁ 307
304	አዎ ካሉ መጨረሻላይ ባደረጉት የቅድመ ወሊድ ጤና ክትትል ያዮት ባለሞያ ማን ነዉ?	1. ሀኪም 2. ጤና መኮንን 3. ነርስ 4. የጤና ኤክስቴንሽን 5. ሌላ (ይገለቀፅ)_____		
305	ስንተኛ ሳምንቶት ላይ ነዉ ክትትሉን የጀመሩት?	_____ሳምንት		
306	የቅድመ ወሊድ ጤና ክትትል ለማድረግ ስንት ግዜ ተመላልሰዋል?	1. አንድ ግዜ 2. ሁለት ግዜ 3. ሶስቴ 4. አራቴና ከዚያ በላይ		
307	የወሊድ ዝግጅት የሚል ሀረግ ሰምተው ያውቃሉ?	1. አዎ 2. አላውቅም → 309		ጥ.ቁ 309
308	መልስዎ አዎን ከሆነ መረጃዉን ከማን አግኝተዋል (ካንድ በላይ መልስ ሊኖረዉ ይቻላል)	1. ከጤና ባለሙያ 2. ከ ጤና ኤክስቴንሽን 3. የሰለጠነ የልምድ አዋላጅ 4. ከ ጓደኛ እና ዘመድ 5. ከመገናኛ ብዙሃን 6. ሌላ ካለ ይጥቀሱ _____		
309	በእርስዎ አስተያየት ሴቶች ለወሊድ መዘጋጀት ያስፈልጋቸዋል ብለዉ ያምናሉ?	1. አዎ 2. አይ → 401 3. አላዉቅም		ጥ.ቁ 401
310	በእርስዎ አስተያየት	1. የምትወልድበት ቦታን ለይቶ ማወቅ 2. ገንዘብ ማጠራቀም 3. ለንጽህና፣ለወሊድ እና ከወሊድ በኋላ ላሉት ጊዜያት ጠቃሚ		

	ሴቶች ለወሊድ ሲዘጋጁ የሚያደርጉት መሰናዶ ምንድን ነው? (ካንድ በላይ መልስ ሊኖረዉ ይቻላል)	የሆኑትን ነገሮች ማዘጋጀት 4. የሰለጠነ ባለሙያ አዋላጅ ለይቶ ማወቅ 5. ስለ አደገኛ ምልክቶች ማወቅ እና ቶሎ እርምጃ መውሰድ 6. ውሣኔ ሰጪን መወከል 7. እርዳታ የምታገኝበትን መላ ለይቶ ማወቅ 8. የአደጋ ጊዜ ገንዘብ ማዘጋጀት 9. በአደጋ ጊዜ የትራንስፖርት አይነት ለይቶ ማወቅ 10. ደም ለጋሾችን ማዘጋጀት 11. በቅርብ ያለው እና ለ24 ሰአት የድንገት ሕክምና አገልግሎት የሚሰጥ ተቋምን ለይቶ ማወቅ 12. ሌላ (ይግለፁት) ----------		

ክፍል 4: ለወሊድ ያለውን ዝግጅት አስመልክቶ የመልስ ሰጪዎች ተግባር

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች	ኮድ	ዝለል
401	የወሊድ ቦታን ለይተው አውቀዉ ነበር?	1. አዎ 2. አይ →		ጥ.ቁ 403
402	መልሶ አዎ ከሆነ ቦታዉ የት ነዉ?	1. ቤት 2. ሆስፒታል 3. ጤና ጣቢያ 4. ጤና ኬላ 5. ሌላ ካለ ይጠቀስ_____		
403	የመጨረሻ ልጆትን የት ነበር የወለዱት?	1. ቤት 2. ሆስፒታል → 3. ጤና ጣቢያ → 4. ጤና ኬላ 5. ሌላ ካለ ይጠቀስ_____		ጥ.ቁ 405
404	መልሶት ቤት ከሆነ ለምን ቤት መዉለድን መረጡ? **(ካንድ በላይ መልስ ሊኖረዉ ይችላል)**	1. ጤና ተቻም ወጪ ስላለዉ 2. ጤና ተቻም ስለሚርቀኝ 3. ጤና ተቻምላይ ጥሩ አገልግሎት ስለማይሰት 4. ጤና ተቋምላይ አገልግሎቱ በሴቶች ስለማይሰጥ 5. ባለቤቴ ስለማይፈቅድልኝ 6. ከዘመዶቼ መለየት ስለማልፈልግ 7. የልምድ አዋላጆች ስላሉ 8. ምጤ ቀላልና አጭር ስለነበር 9. በፊትም ቤትዉስጥ በሰላም ስለተገላገልኩ 10. አብሮኝ የሚሄድ ሰዉ ስላልነበረ 11. እርግዝናዉ በጥሩ ሁኔታላይ መሆኑ ስለተነገረን 12. መጓጓጥ ስላልነበረ 13. ሌላ ካለ ይጠቀስ_____		
405	በ ጤና ተቋማት ወልደዉ ከሆነ ለምን መረጡት? (ካንድ በላይ መልስ	1. ጤና ተቋሙ ቅርብ ስለሆነ 2. ጥሩ አገልግሎት ስለምፈልግ 3. ከዚህ በፊት በጤና ተቋም በሰላም		

	ሊኖረዉ ይቻላል)	ስለተገላገልኩ 4. በጤና ተቋም እንድወልድ ስለተነገረኝ 5. ምጥ ስለቆየብኝ 6. ከዚህ በፊት ስወልድ ችግር ገጥሞኝ ስለነበር 7. ሌላ_____		
406	የቅርቡን እርግዝናአዎትን በምን አይነት ሁኔታ ነበር የተገላገሉት?	1. አምጬ በመዉጸን 2. በማዋለጃ መሳሪያ (Instrumental delivery) 3. በኦፕሬሽን 4. አላስታዉስም 5. ሌላ		
407	ልምድ ያለው አዋላጅ ለይተው ተዘጋጅተዉ ነበር?	1. አዎ 2. አይ →		ተ.ቁ 409
408	መልሶት አዎ ከሆነ በማን ለመረዳት ነዉ የተዘጋጁት	1. ሀኪም 2. ጤና መኮንን 3. ነርስ 4. የጤና ኤክስቴንሽን 5. ሌላ (ይገለቀፅ)_____		
409	የመጨረሻ ልጅትን ሲወልዱ ያዋለዶት ማን ነበር?	ı. ጤና ባለሞያ 2. የጤና ኤክስቴንሽን 3. የልምድ አዋላጅ 4. የቤተሰብ አባል 5. ሌላ ከሆነ ይጠቀስ ----------		
410	የአስቸኳይ ጊዜ ገንዘብን ለማጠራቀም አቅደዉ ነበር?	ı. አዎ 2. አይደለም		
4111	የአስቸኳይ ጊዜ ገንዘብን አጠራቅመዉ ነበር?	1. አዎ 2. አይ		
412	የትራንስፖርት አይነትን ለይተው አውቀዋልን?	1. አዎ 2. አይ →		ተ.ቁ. 413
413	የትራንስፖርት አይነትን ለይተው ካወቁ ምን አይነት ትራንስፖርት ለመጠቀም አቅደዋል	1. በ እግር 2. በጋሪ 3. በፈረስ 4. በሰዉ ሸክም 5. በመኪና 6. ነፃ የአምቡላነስ አገልግሎት 7. ሌላ_____		
414	ደም ለጋሾችን አዘጋጅተዉ ነበር?	1. አዎ 2. አይደለም		
415	አደጋን የሚጠቁሙ ምልክቶችን ለይተው አውቀዋል	1. አዎ 2. አይደለም		

416	ከዚህ በፊት በእርግዝና፡ወሊድና ወዲያዉኑ ከወሊድ በሓላ ችግር ገጥሞት ነበር?	1. አዎ 2. አይ →		ተ.ቁ. 420
417	መልሶት አዎ ከሆነ ችግሩ ምን ነበር? (ካንድ በላይ መልስ ሊኖረዉ ይቻላል)	ነ. የማህፀን መድማት 2. ምጥ ከ12 ሰዓት በላይ የቆየ 3. ከወለዱ በኋላ ለ30 ደቂቃ የእንግዴ ልጅ አለመውጣት 4. የህፃኑ በትክክል ያለመምጣት 5. ህፃኑ በመህፀን ዉስጥ መሞት 6. ምጥ ከመጀመሩ በፊት የ እንሽርት ዉሃ መፍሰስ 7. እራስን መሳት 8. ሌላ ካለ ይጥቀሱ፡		
418	በዚያን ግዜ ወደ ጤና ተቋም ተወስደዉ ነበር?	1. አዎ 2. አይደለም		
419	ወደ ጤና ተቋም ተወስደዉ ከሆነ ማን ነበር አብሮት የሄደዉ?	1. ባለቤቶት 2. ዘመዶች 3. የህዝብ ያደጋ ግዜ ሰራተኞች 4. ብቻዬን 5. ሌላ_____		
420	ወደ ጤና ተቋም ተወስደዉ ከሆነ በምን ነበር የተወሰዱት?	1. በ እግር 2. በጋሪ 3. በፈረስ 4. በሰዉ ሸክም 5. በመኪና 6. ነፃ የአምቡላነስ አገልግሎት 7. ሌላ_____		
421	ምጥ ለያዛት እናት ወይንም ከእርግዝና ጋር በተያያዘ ችግር ላጋጠማት ማ ንኛዋም እናት ነፃ የአምቡላነስ አገልግሎት ስልክ በመደወል ማግኘት እንደሚችሉ (መኖሩን) ያዉቃሉ?	1. አዎ 2. አይደለም/አላዉቅም		
422	የ 24 ሰአት የድንገተኛ ሕክምና አገልግሎት የሚሰጥ ተቋምን ለይተው አውቀዋልን?	3. አዎ 4. አይደለም		
ክፍል 5፡ በእርግና፤ወሊድ አና ወዲያዉኑ ከወሊድ በሓላ የሚከሰቱ አደገኛ ምልክቶችን አስመልክቶ				
501	በእርግዝና፤ወሊድና ወዲያዉኑ ከወሊድ በሓላ ህይወትን አደጋ ላይ ይጥላል ወይም ይጥላሉ የሚባሉ የጤና ችግሮችን ያዉቃሉ?	1. አዎ 2. አላቅም →		ጥ.ቁ. 503
502	መልሶት አዎ ከሆነ እዬንን መረጃ ከየት ነዉ የሰሙት? (ካንድ በላይ መልስ ሊኖረዉ ይቻላል)	1. ከጤና ባለሞያ 2. ከጤና ኤክስቴንሽን ሰራተኛ 3. ከበጎ ፈቃደኞች 4. ከሬዲዮ 5. ከቴሌቪን 6. ከመፃፍ አንብቤ		

		7. ሌላ _____		
503	በእርግዝና ወቅት ህይወት አደጋ ላይ ይጥላል ወይም ይጥላሉ የሚባሉ የጤና ችግሮች ያውቃሉ	1. አዎ 2. አላውቅም →		ጥ.ቁ. 506
504	መልስዎ አዎ ከሆነ የጤና ችግሮችን መጥቀስ ይችላሉን (ካንድ በላይ መልስ ሊኖረዉ ይቻላል)	1. የማህፀን መድማት 2. ከፍተኛ የራስ ምታት 3. የማየት ብዥታ ችግር 4. መንቀጥቀጥ/ የማርገፍገፍ 5. የፊት/የእጅ እብጠት 6. ከፍተኛ ትኩሳት 7. እራስን መሳት 8. የመተንፈስ ችግር 9. ከፍተኛ ድካም 10. ከፍተኛ የሆድ ህመም 11. የተፋጠነ/ወይም የዘገመ የሽል እንቅስቃሴ 12. የእንሽርት ውሃ መፍሰስ 13. ሌላ ካለ ይጥቀሱ2		
505	በእርስዎ አመለካከት ከላይ የተጠቀሱት ችግሮች አንድን እናት ሊገድሉአት የችላሉ	1. አዎ 2. ይለም 98. አላዉቅም		
506	በምጥና በልጅ መውለጃ ጊዜ ሊከሰቱ የሚችሉ ለእናት አደጋ ላይ ሊጥሉ የሚችሉ የጤና ችግር ያውቃሉ	1. አዎ 2. አላውቅም →		ጥ.ቁ. 509
507	መልስዎ አዎ ከሆነ የጤና ችግሮችን መጥቀስ ይችላሉን (ካንድ በላይ መልስ ሊኖረዉ ይቻላል)	1. የማህፀን መድማት 2. ከፍተኛ የራስ ምታት 3. መንቀጥቀጥ 4. ከፍተኛ ትኩሳት 5. እራስን መሳት 6. ምጥ ከ12 ሰዓት በላይሲቆይ 7. ከወለዱ በኋላ ለ30 ደቂቃ የእንግዴ ልጅ አለመውጣት 8. ሌላ ካለ ይጥቀሱ፡		
508	በእርስዎ አመለካከት ከላይ የተጠቀሱት ችግሮች አንድን እናት ሊገድሉአት የችላሉ	3. አዎ 4. ይለም 98. አላዉቅም		
509	የወለደች ሴትን ህይወት አደጋ ላይ ሊጥሉ የሚችሉ እና ከወሊዱ በኋላ በመጀመሪያዎቹ 42 ቀናት ውስጥ	1. አዎ 2. አላውቅም →		ጨርስ

	ሊከሰቱ የሚችሉ ማንኛውም ወይም በጤና ላይ ከፍተኛ ችግር የሚያስከትሉ ነገሮችን ያውቃሉ			
510	መልስዎ አዎ ከሆነ የጤና ችግሮችን መጥቀስ ይችላሉን? (ካንድ በላይ መልስ ሊኖረዉ ይቻላል)	1. ከባድ የማህፀን ደም መፍሰስ 2. ከፍተኛ የራስ ምታት 3. የማየት ችግር 4. መንቀጥቀጥ 5. የፊት/የእጅእብጠት 6. ከፍተኛትኩሳት 7. እራስን መሳት 8. የመተንፈስ ችግር 9. ከፍተኛ ድካም 10. ሽታ ያለው ከሴት ብልት የሚወጣ ፈሳሽ 11. ሌላ ካለ ይጥቀሱ:----------		
511	በእርስዎ አመለካከት ከላይ የተጠቀሱት ችግሮች አንድን እናት ሊገድሉአት የችላሉ	1. አዎ 2. ይለም 98. አላዉቅም		

ስለነበረን ቆይታ እጅግ አድርጌ እያመሰገንኩ ጥያቄዬን ጨርሻለዉ። እንዳብራራሎት የምትፈልጉት ነገር ካለ ዝግጁነኝ

የመረጃ ሰብሳቢዉ ስም:_____ፊርማ:- _____ቀን:- _____

11.6. Declaration

I the undersigned, declare that this thesis is my original work and has never been presented in this or any other university, and that all resources and materials used in herein, have been duly acknowledged.

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Date of Submission: - June, 2014

This thesis has been submitted for examination with my approval as a university Advisor.

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