

HARAMAYA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

**HUSBANDS' BIRTH PREPAREDNESS AND COMPLICATION
READINESS PARTICIPATION and ASSOCIATED FACTORS
AMONG PREGNANT WOMEN IN HARAMAYA DISTRICT
HDSS SITE, EASTERN ETHIOPIA**

MSc THESIS

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**Husbands' Birth Preparedness and Complication Readiness
Participation and Associated Factors Among pregnant women in
Haramaya District HDSS Site, Eastern Ethiopia**

**A Thesis Submitted to the School of Nursing and Midwifery
Post Graduate Program Directorate
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**In Partial Fulfillment of the Requirements for Degree of
Masters of Science In Maternity And Neonatal Nursing**

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**August, 2021
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Thereby certify that I have read and evaluated this Thesis entitled Husbands participation and Associated Factors in Birth preparedness and complication readiness among husband whose wives are pregnant in Haramaya district, Oromia Regional state, Eastern Ethiopia. Prepared under my guidance by Seada Sufian I recommend that it be submitted as fulfilling the thesis requirement

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ACRONOMYS AND ABBREVIATIONS

ANC	Antenatal care
AOR	Adjusted Odd Ratio
CI	Confidence Interval
COR	Crude Odd Ratio
PNC	Postnatal Care
BPCR	Birth Preparedness and Complication Readiness
EDHS	Ethiopian Demographic Health Survey
MMR	Maternal Mortality Rate
NGO	Non-Governmental Organization
SBA	Skilled Birth Attendants
WHO	World Health Organization
IHRERC	Institutional Health Research Ethics Review Committee
ICPD	International Conference of Population Development
HEW	Health Extension Worker
HDSS	Health Demographic Surveillance System

Abstract

Background: Husband's participation in obstetrics care is an important strategy in reducing preventable maternal morbidity and mortality. However, most of the studies were focused on women participants.

Objective: To assess husband's plan to participate in birth preparedness and complication readiness and associated factors in Haramaya district, HDSS site from March 9 to April 08/2020 eastern Ethiopia.

Method: A community based cross sectional study was conducted among systematically selected 653 men whose wife were pregnant and living in Haramaya HDSS site. Data were collected using pretested questionnaire through face to face interview and entered into Epi-Data version 3.1 and analyzed using SPSS version 20.0. Descriptive statistical analysis such as frequency distribution were used. Bivariate and multivariate logistic regression model was used to see the associated factors. Adjusted odds ratio with 95% confidence interval and p-value <0.05 was used to declare level of statistical significance.

Results: The result showed that the magnitude of husbands' participation in birth preparedness and complication readiness was 55.4% (95% CI: 56%, 64%). Knowledge of birth preparedness and complication readiness (AOR) = 4.18 with 95% CI: (2.05, 8.51), knowledge of danger signs during labor and delivery (AOR) = 3.19 with 95% CI: (1.52, 6.71), number of wives (AOR) = 6.84; 95% CI: 4.17, 11.22) and made postpartum preparation (AOR) = 2.30, 95% CI: 1.38, 3.85 were significantly associated with husband participation in birth preparedness and complication readiness.

Conclusion: husbands' participation in birth preparedness and complication readiness was found to be low. We recommend the concerned body should give education on the importance of early birth preparedness and complication readiness.

Keyword: husband participation, birth preparedness, complication readiness, factor

1 INTRODUCTION

1.1 Background

Husbands' participation in birth preparedness and complication readiness is defined as a men accompanying their wives during antenatal care (ANC) visits, birth plans, postnatal care (PNC) visit and decision making on any maternal health-related service (WHO, 2007). Husbands involvement play an important role in the existence and continuation of care during pregnancy as well as during the care for newborn at large because pregnancy and childbirth is associated with too many health problems that lead to serious complication or even death for women and as well as her neonate (Gregory and Robert, 2019).

To tackle alarming progress, there are many strategies; and one of them is birth preparedness and complication readiness (BPCR). Though there is no single agreed definition of birth preparedness and complication readiness; it can be defined as the process of planning for a normal birth and anticipating the action needed in case of an emergency (Thaddeus and Maine, 1994). Birth preparedness and complication readiness is an approach to encourage the timely use of skillful maternal and newborn care, especially during delivery, based on the theory that preparing for childbirth and being ready for complication reduces delays in obtaining this care (Del Barco, 2004). It cannot be achieved with the effort of single individual or partly.

It cannot be achieved with the effort of single individual or partly. Therefore, it needs the involvement of the pregnant women and her partner, communities, facility setup, provider and policymakers (Thaddeus and Maine, 1994, Del Barco, 2004). As one of the key component of birth preparedness, men's involvement in the area is strongly recommended by international conference for population development (ICPD) as emphasize should be made on men's shared responsibility and to promote their active involvement in maternity care (Nations *et al.*, 1995)

Birth preparedness and complication readiness (BPCR) is key strategy to reduce maternal mortality due to pregnancy, childbirth and postpartum complications through promoting the birth plan that form birth preparedness and complication readiness measure for pregnant mother,

their husbands (Richard *et al.*, 2016). The key element of birth preparedness and complication readiness include: aware of emergency condition, plan for place of birth, plan for birth

attendants, and plan for means of transportation, plan for saving money and identifying potential blood donors and supporters (Iliyasum *et al.*, 2010).

Birth preparedness and complication readiness is important in realizing safe motherhood which is extremely influenced by husband's participation therefore husbands are the one who control decision making as key member of the family (Haftom Gebrehiwot, 2015).

BPCR important for promoting timely access to skilled maternal and neonatal service and care, based on the assumption that preparing for child birth and being ready for complication reduces delay in obtaining this care and involve husband's active preparation and decision making in each cases of pregnant woman and their families. (*Begashaw B.et.al*, 2017). The number of women dying due to complications during pregnancy and child birth estimate 30300 in 2015 (WHO and Unicef, 2015).

1.2 Statements of problem

Globally, it is estimated that more than half a million women still die annually from complications related to pregnancy and child birth that could threaten a woman's life as the result of obstetric complications. About 99% of these deaths occur in developing countries, which account for around 286,000 of these deaths due to mostly preventable problems where the potential for decision making is dominated by the husbands of the pregnant mothers (Wai *et al.*, 2015).

BPCR cannot be achieved with the effort of a single individual or party. Therefore, it needs the involvement of the pregnant woman and her partner, community facility setup, providers, and policy makers (Kakaire *et al.*, 2011a, WHO, 2007).

Maternal mortality remains a major concern in most developing countries, including Ethiopia, despite significant progress over the last year. Factors such as delayed action by family members, which result in a lot of effort such as looking for a source of money, obtaining transportation, and contacting the appropriate referral facility when dealing with a situation. As a result, when a challenge arises, families try to take action since they are not yet prepared. These delays, on average, increase the risk of maternal death (Baraki *et al.*, 2017).

The maternal mortality rate (MMR) in Ethiopia is 412 per 100,000 live births, according to Ethiopia's Demographic Health Survey (EDHS) 2016 report, which is significantly higher than the global maternal mortality rate. Husbands have typically influenced decision-making in Ethiopia, while women have had minimal autonomy in making decisions. Cultural barriers, understanding of detecting warning indicators of complication and facility service issues all play a role in husbands' participation in birth preparedness and complication readiness plans, causing delays in seeking, accessing, and receiving care. According to a previous Ethiopian study, husband rejection of prenatal automobile travel is common (Gebrehiwot.H *et al.*, 2012).

A number of studies have been conducted to evaluate women' birth preparedness and complication readiness. However, few researches have been undertaken in Ethiopia to examine the extent of husband involvement in birth preparation, and different studies have discovered distinct characteristics linked with husband involvement in BPCR. Furthermore, the majorities of the research in this field are hospital-based and do not focus on birth ready and complications readiness. They include normal services such as emergency obstetric care. Furthermore, the majority of the research was done on women. Husbands' engagement and associated factors in BPCR among husbands' has been the subject of scant research.

1.3 Significance of the study

The results of this study will help the district health office determine the husband's level of involvement in birth preparation and complication readiness. Interventions for those who do not participate adequately in BPCR were also beneficial.

As a result, maternal mortality reduction has become a top priority for the Ethiopian government, and the findings of this study can aid program managers, local NGOs, the Zonal health department, and the regional health bureau in developing a strategy to improve maternal and neonatal services for better outcomes and to combat preventable maternal death. Furthermore, the knowledge gained from this research increased the number of people who may benefit from it.

1.4 Objective

1.4.1 General objective

To assess Husbands' plan to participate and Associated Factors in birth preparedness complication readiness among Husbands Whose Wife Were Pregnant in Haramaya district HDSS site, Eastern Ethiopia, from March 9 to April 08/ 2020.

1.4.2 Specific objective

To determine the extent to which husbands are involved in birth planning and complication readiness.

To find out what factors influence husbands' readiness for birth and complication.

2 LITERATURE REVIEW

2.1 Magnitude of husbands' participation in birth preparedness and complication readiness

The majority of the participants (72%) practice birth preparedness and complication readiness, indicating that the majority of the respondents (68%) plan for birth preparedness, the majority (76.8%) plan for emergency and child birth, half (51.2%) of the participants gather money for food, and the majority (88.8%) plan for complications (Bhusal.CK et al., 2015)..

Only 32.2 percent of married males in northern Nigeria participate in BPCR such as ANC, during birth, and postnatal care, according to a cross-sectional study including 400 married men(Iliyasum et al., 2010)

A community-based cross-sectional study conducted in Axum, Ethiopia on a sample of 406 men whose wives had infants under the age of 12 months in 2017 found that nearly half (46.9%) of the husbands engaged in the practice of BP/CR, with 29.3 percent recognizing SBA, (54.6 percent identifying a preferred birth place, (59.4 percent) organizing household support, and 44.6 percent identifying a preferred birth place (Baraki et al., 2017).

In 2012, a community-based cross-sectional survey of 376 Ethiopian husbands found that more than half (48.6%) of them had participated in birth preparedness as a complication readiness during labor and delivery (Gebrehiwot.H et al., 2012). The study, which took place in the Jimma Zone in Southwest Ethiopia, looked at characteristics that affect birth preparedness and complication readiness in 612 pregnant women, finding that 23.3 percent (95 percent CI: 21.8 percent, 24.9 percent) of them had BPCR (Debelew et al., 2014a).

2.2 Factors that associated with husband participation in birth preparedness and complication readiness

2.2.1. Socio Demographic Factors

Age is one of the socio-demographic characteristics that determine birth readiness. In a study conducted in a community in northern Nigeria, men under the age of 30 years (44.3 percent) accompanied their wives to the hospital for maternity care, compared to 82 (28.1 percent) of

292 men 30 years or older (Iliyasum *et al.*, 2010); in contrast, a study conducted in rural Uganda found that the age of a woman's spouse is 25 or more, the likelihood of planning for birth in the future increases ((Kakaire *et al.*, 2011a). Another study conducted in Ambo town employing a community-based cross-sectional study with 408 participants found that spouses in the 20 to 29 and 30 to 39 age groups were 16 times and 3 times more likely to be divorced, respectively (Demissie *et al.*, 2016).

Men's involvement can also be influenced by the age of the woman. Male involvement was 1.2 times higher in a Kinshasa study among men whose female partners were 25 years or older (Sumankuuro *et al.*, 2016). Similarly, compared to their polygamous counterparts, being in a monogamous marriage increases men's participation in maternity care by accompanying their spouses to maternity care (Iliyasum *et al.*, 2010, Sumankuuro *et al.*, 2016).

Husbands exposed to maternal health education, accompanying their wives more than once during ANC follow-up, having a birth plan, and postnatal accompaniment are more likely associated with husband involvement in birth preparedness and complication readiness, according to a community-based cross-sectional study conducted among 426 people in Yangon, Myanmar readiness (Wai *et al.*, 2015).

A cross-sectional study of 388 participants in Naverago found that the respondents' educational level, place of residence, experience of stillbirth or miscarriage, and socioeconomic status were all strongly linked to the husband's involvement in birth preparation and complication readiness (Gregory and Robert, 2019). According to a study conducted in Mekele town, men in monogamous marriages who could read and write, had an employed husband, and had a monthly income of more than 1000 birr were more likely to participate in the practice of birth preparedness, and a significantly higher proportion of men in monogamous marriages accompanied their spouses for maternity care than men in polygamous marriages (Gebrehiwot, 2015).

A cross-sectional research of 380 males and their spouses done in Western Kenya found that the male partner's level of education ($P=0.0000$) and occupation ($P=0.4259$) have an impact on his involvement and support for his spouse in obtaining expert attendant delivery services (Nanjala and Wamalwa, 2012).

Other socio-demographic characteristics linked to birth preparedness and complication readiness include religion and ethnicity (Iliyasu.Z et al., 2010), income and employment (Bhatta, 2012).

According to a cross-sectional study of 3612 pregnant women in the Jimma Zone, where they live and whether or not they have access to a health center have a statistically significant relationship with BPCR practice. Women from urban regions were more likely than women from rural areas to be prepared for birth and associated complications (OR=6.01; 95 percent CI; 2.56, 14.08) (Debelew et al., 2014a). Another element that has been linked to male engagement in BPCR is the number of children. According to a cross-sectional study conducted in Khairahani VDC of Chitwan district, the size of the family has an impact on the participation of husbands in postpartum activities (Alio et al., 2013).

2.2.2. knowledge related factors

One of the factors connected with birth preparedness and complication ready is having information, education, and knowledge. For example, providing sufficient information to husbands on pregnancy-related topics may boost their participation and involvement (Kakaire et al., 2011b, Bhatta, 2012). Knowledge of antenatal care and delivery difficulties prior to conception, for example, if male partners can name three ANC services and their spouse's last delivery was in a health facility, the rate of accompanying wives is significantly higher than if they can name two or fewer ANC services and their spouse's last delivery was either at home or at a traditional birth attendant (Tweheyo et al., 2010).

According to a study conducted in rural Tanzania, spouses who were aware of danger indications throughout pregnancy were considerably more likely to be involved in birth preparation and complication readiness (August et al., 2015). According to a community-based cross-sectional study conducted among pregnant women and their partners in rural Tanzania, more than half of both men and women could not recall any danger signs during pregnancy (321, 58.8%), childbirth (370, 67.8%), 42 days after delivery (418, 76.6 percent), or the neonatal period (381, 69.8%), respectively (Moshi et al., 2018).

Husbands who knew the place of birth, discussed it with their wives, and accompanied their wives to ANC visits were considerably more likely to participate in birth preparation and

complication readiness than those who did not, according to a study done in Walaita Sodo, eastern Ethiopia (Tadesse et al., 2018b). Male attendance during ANC visits was low, according to a cross-sectional study done in the Bale Zone, Southeast Ethiopia, to analyze male attendance and associated characteristics among 609 expectant mothers in a health facility. Another research of 555 ANC consumers in Kofale area, South-east Ethiopia, found that 41.1 percent were well prepared for birth and related complications (Kassahun et al., 2018, Tafa A et al., 2018).

The knowledge of women was significantly associated with their husbands' knowledge of respect for women's rights related to MNH, availability of MNH services, and awareness of at least three danger signs in all categories (during pregnancy, birth, postpartum, and neonate ($p < 0.05$) in a study of 317 women and their husbands in rural Bangladesh (Rahman et al., 2018).

Another cross-sectional survey of 2178 Nepalese men found that those had a primary education, were 25 or older, had a monthly NPR of 5001 or more, and had formal work were more likely to arrange for transportation, SBA, join their women during ANC, and arrange money for delivery (Bhatta, 2012).

2.2.3. Information access

The majority of knowledge about BPCR came from health care professionals, (159) 15.8% from radio/television, and (29) 7.8% from HEW, according to a cross-sectional survey done in Ambo Town among 385 males whose wives had given birth in the previous 12 months (Demissie *et al.*, 2016). Another study of 765 newly delivered women in Southwestern Uganda found that listening to the radio (OR 1.3, 95 percent CI 0.8-2.2) and viewing television (OR 0.7, 95 percent CI 0.3-1.5) had no significant effect on birth readiness (Asp et al., 2014).

2.3 Conceptual Framework

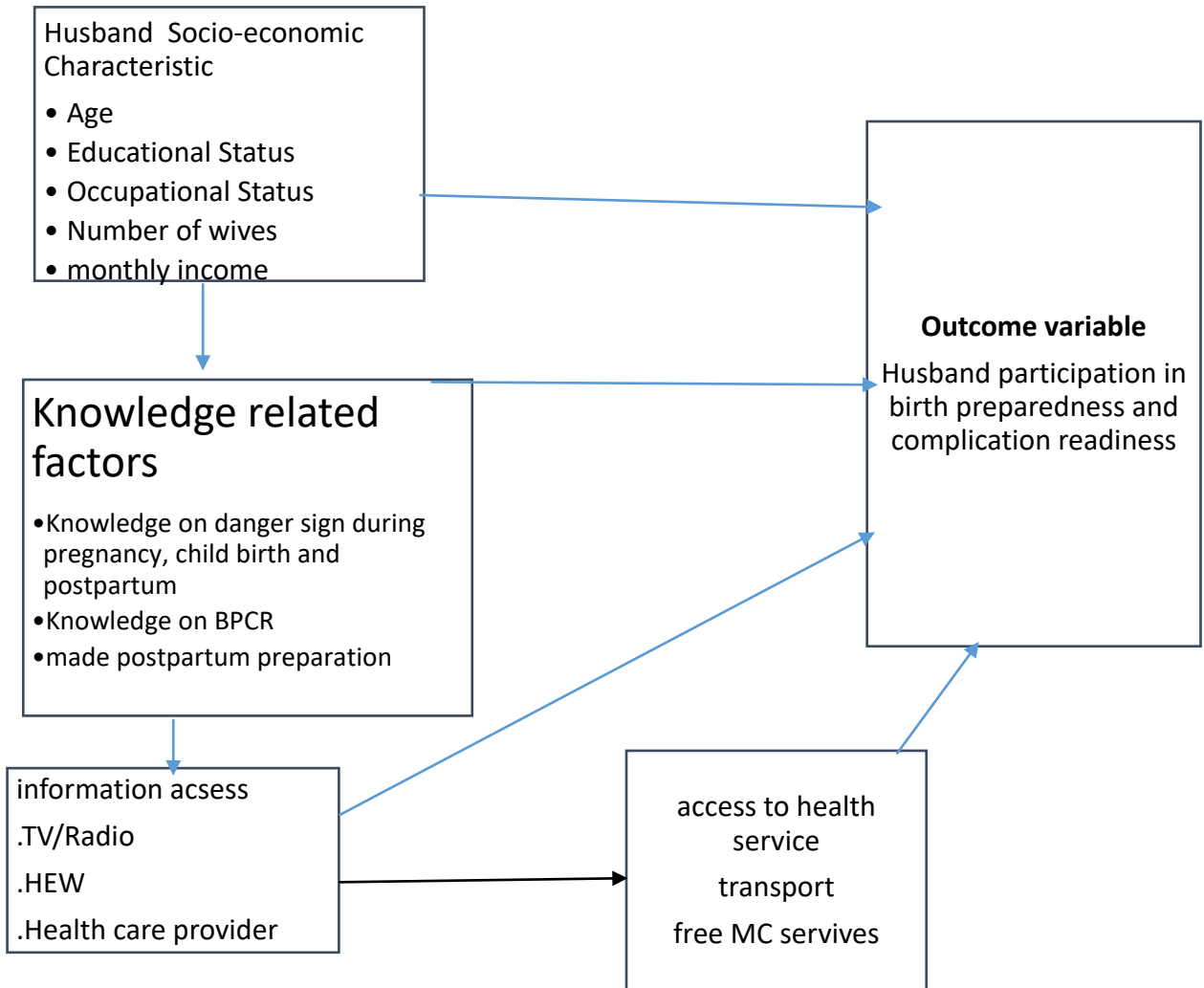


Figure 1: - Conceptual framework on Birth preparedness and complication readiness (developed by researcher from different literatures) (Gebrehiwot.H et al., 2012, Gize et al., 2019).

3 MATERIALS AND METHODS

3.1 Study area and periods

The research was carried out in Ethiopia's Oromia Region's Haramaya district, East Hararghe zone. Haramaya district was 500 kilometers from Ethiopia's capital, Addis Ababa. This district's elevation ranges from 1400 to 2340 meters above sea level. Haramaya town, the administrative center, was given the name. Kurfa Chele lies to the south, Kersa to the west, Dire Dawa to the north, Kombolcha to the east, and the Harari Region to the southeast. Haramaya district consists of 36 rural kebeles (Ethiopia's smallest administrative unit) and five urban kebeles. According to the national census of 2007, this district had a total population of 271,018, with 138,282 males and 132,736 women. In the study region, there are eight health centers and one general hospital (central statistical agency, 2017). Haramaya University maintains the Haramaya HDSS field site, which was founded in the year 2018 GC. The location was developed in Haramaya district's 12 rural kebeles. There are 93,363 people living on the site, including 1,712 pregnant women (HDSS, 2020). Biftu Geda, Ifa oromia, Gobe Chala, and Kuro were the kebeles chosen. The research was carried out between March 09 and April 08, 2021.

Study design

Community based cross sectional study design was conducted.

3.2 Population

3.2.1 Source population

All husbands whose wives were pregnant in Haramaya District, HDSS site during the study period

3.2.2 Study population

All systematically selected husbands whose wives were third trimester pregnant in the selected kebeles of Haramaya District HDSS site where the sample populations.

3.3 Inclusion and exclusion criteria

3.3.1 Inclusion criteria

All husbands whose wives were third trimester pregnant living in the selected kebeles of Haramaya District HDSS site.

3.3.2 Exclusion criteria

Husbands who were not staying with their wives during pregnancy and child birth during data collection were excluded from the study.

3.4 Sample Size Determination

A single percentage formula was used to compute the sample size for specified objective 1. The sample size was determined using the single proportion calculation with a 95% level of confidence, a 4% margin of error, and a 10% non-response rate. The prevalence of spouse engagement in BPCR was 45 percent according to a study conducted in Walaita Sodo, southern Ethiopia (Tadesse et al., 2018a). As a result of this information, the final sample size was calculated using the formula below.

$$n = (z (\alpha/2))^2 p (1-p)/d^2$$

where, n=the minimum sample, $z (\alpha/2)$ = level of confidence interval 95% (1.96).

p = prevalence

d = tolerable margin of error (d= 4% = 0.04), 4% is used to increase the representativeness of the sample size and to boost the precision.

$$n = \frac{z\alpha/2^2 p(1-p)}{d^2} = \frac{(1.96)^2 (0.45)(1-0.45)}{(0.04)^2} = 594$$

By taking 10% (0.1) non-response rate the total sample size (n) was $594 * 0.1 = 59 + 594 = 653$

A twofold population proportion formula was used to establish the sample size (n) for the second specific aim (to identify factors impacting husband involvement in BPCR in Haramaya district, HDSS site, Oromia region, eastern Ethiopia, 2020).

Table 1: Sample size estimation for specific objective 2 of husbands participation in birth preparedness and complication readiness and its associated factors

Associated factors	Proportion	AOR	Sample size	Reference
Knowledge of LAD danger signs	% outcome unexposed(no)=27.72 % outcome exposed(yes)= 43.56 Ratio: 1:1 CI: 95% and power: 80%	1.85	402	(Andarge et al., 2017)
Knowledge on pregnancy danger signs	% outcome un exposed (no)=30.67 % outcome exposed (yes)=44.6 Ratio: 1:1 CI: 95% and power: 80%	1.82	406	(Gebrehiwot, 2015)
Husband who heard from Television about BPCR	% outcome un exposed (no)= 57.53 % outcome exposed (yes)=70.5 Ratio: 1:1 CI: 95% and power: 80%	1.76	462	(Tadesse et al., 2018a)

The sample sizes for 1st specific objective is greater than that of the 2nd specific objective. If that is the case the final sample size was from 1st specific objective which is **653**

3.5 Sampling procedure

The Haramaya HDSS site contains 12 rural kebeles. Four kebele were chosen using a basic random sampling procedure (SRS). Haramaya University's Haramaya HDSS database was utilized as a sample frame to identify a list of pregnant women with their household ID in each kebele. There are 1,712 pregnant women in the kebele, with 225, 238,204, and 176 pregnant women in Biftu Geda, Gobe Chala, Kuro, and Ifa Oromia, respectively (HDSS, 2020). The next family in each kebele was sampled using a systematic random sampling method, with every Kth interval being determined. Rescheduled events were held for those who were unable to attend. If the chosen household did not meet the inclusion requirements, the study was moved on to the next family, and if more than one candidate was available in a single household, one of them was chosen at random to be questioned.

Sampling procedure

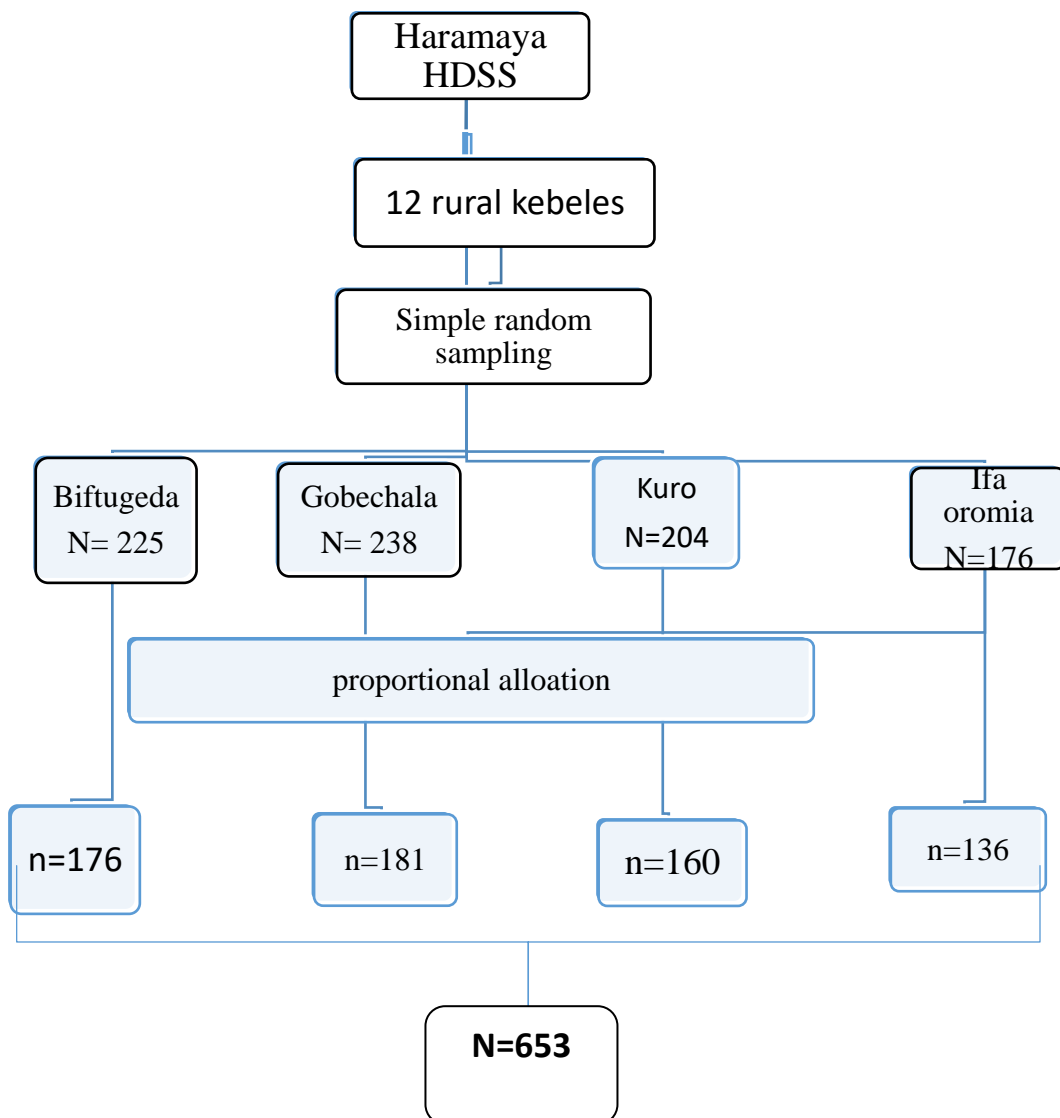


Figure 2 schematic representation of sampling procedure

Data collection method

Data collection tools

The data collection questionnaire was created based on previously published research (Wai et al., 2015). The adopted questionnaire placed the local situation and research goals in context. The questionnaire was corrected after a face-to-face interview using a structured pretest questionnaire with similar characteristics to those living outside of the study area. The questionnaire was written in English at first, and then translated into Afan Oromo and then back into English by a language expert to ensure consistency.

The questionnaire has four sections

section 1- Socio- Demographic Characteristics of respondents.

Section 2- knowledge of danger signs during pregnancy, LAD and postnatal

section 3- Knowledge of BPCR

section 4- Husbands participation in BPCR

3.5.1 Data collection procedures

Twenty data collectors and four BSC nurses served as supervisors for the data collecting. Under the direction of the lead investigator and a trained supervisor, data collectors and supervisors received two days of training on how to approach study groups and fill out the questionnaire. House-to-house visits were used to collect information. If the responder is not at home when the data collector arrives, the data collector returns the following day. It's considered a non-response if you're gone for three days. The significance of the study was explained to the selected participants in order to get them to participate. Respondents gave their informed, voluntary consent, and the data was collected. After all, those fathers who are willing and sign in the voluntary consent form was requested to answer the questionnaire after through face to face interview.

3.6 Study variable

3.6.1 Dependent variable

Husband participation in birth preparedness and complication readiness (Yes/No)

3.6.2 Independent variable

Demographic and socio economic characteristic: Age, Religion, number of children and occupation, Level of education and marital status, income

Obstetric factors: Knowledge of husbands on key danger sign of pregnancy, labor and postpartum period, knowledge of husbands on birth preparedness and complication readiness.

3.7 Operational definition

Birth preparedness and complication readiness: is strategies to encourage husbands to know the danger sign of obstetric complications and emergencies, choose a preferred birth place and attendant at birth, arrange for transport to the skilled care site in case of an emergence, saving or arranging alternate funds for cost of emergency and accompany her to emergence care. Identifying a blood donor, preparing clean clothes for the mother and baby(Del Barco, 2004).

Husbands' participation in BPCR: was measured by six item, those who was respond 'Yes' scored 1 and if 'No' scored 0 then the respondents who was score above the mean value of the indicators of BPCR(Tadesse et al., 2018a)

Good participation in BPCR: Those husbands who practiced above mean (Tadesse et al., 2018a)

Poor participation in BPCR: Husbands who practiced below mean score (Tadesse et al., 2018a)

Knowledge of danger sign: The respondents who knew above the mean value (danger sign assigned from 1 to 10) were better knowledge.(Gebrehiwot, 2015)

Good knowledge: the respondent who knew bellow mean value (<5 danger sign) (Gebrehiwot, 2015)

Poor knowledge: if the respondent not know about danger sign(Gebrehiwot, 2015)

Knowledge of BPCR: Husbands who mention five and above components of BPCR which is the mean value (component assigned 1- 9) were referred as better knowledge(Gebrehiwot, 2015)

Good knowledge: the respondent who knew bellow mean value (<5 components) (Gebrehiwot, 2015)

Poor knowledge: if the respondent not know about components(Gebrehiwot, 2015)

3.8 Data quality control

Before the actual data collection, a pre-test was conducted on 10% of the sample to ensure the questionnaire's reliability and construct validity. Second, data collectors and supervisors were well-informed about the study's goal, the contents of the questionnaire, the study's confidentiality, and the study participants' rights. Finally, as part of data management, the data was entered into Epi info software. Logic checking techniques were used to uncover flaws during data cleansing. Additionally, data collectors, supervisors, and the lead investigator evaluated the acquired data every day, taking corrective action if problems arose.

3.9 Data Processing and Analysis

Each questionnaire was reviewed for completeness and correctness after data collection, and those that were returned were rechecked for completeness and cleaned in the field with a physical inspection. Those questionnaires that lacked key factors, such as outcome variables, were eliminated and no longer serve as predictor variables. The data was sorted in a secure location for privacy and data backup in the event of a disaster.

Epi-data 3.1 was then used to enter and sanitize the data, as well as to undertake double data verification. Finally, for analysis, the data was exported to SPSS (version 20.0). Simple frequency tables, graphs, and text were used to analyze and show the processed data. After that, bi-variate regression analysis was used to determine the relationship between individual factors and the study's dependent variable. To investigate factors linked to the dependent variable, multivariate logistic regression was used.

All variables with a p-value less than 0.25 that are shown to be linked with the dependent in the bivariate analysis were candidates for the multivariate model and were given an AOR with a 95% confidence interval of: A statistically significant p-value of 0.05 were determined. The Hosmer-Lemeshow goodness of fit test was also employed to assess model fitness, and the result was 2.10. The correlation between independent variables was tested using multicollinearity tests, and the mean variance inflation factor (VIF) was found to be 1.36 were a potential multivariate model candidate

Knowledge of danger signs was assessed using a set of ten questions, with each question's response categorized as YES or NO, and the total score was calculated by adding all of the items together. The results were divided into two categories: above and below the mean. Those with higher than average scores were classified as knowing more about danger signs.

The key end variable was husbands' participation in BPCR, which was measured using a set of six questions derived from previously published literature (Tadesse et al., 2018a). Each question's response was classed as 1=yes and 0=no. The mean score from the six questions was then calculated, and 1=poor participation I was assigned.

The principle component analysis (PCA) approach was used to calculate the family wealth index. Items were categorized into five categories based on household assets and agricultural land ownership (poorest, poorest, medium, rich, and richest) (EDHS, 2016).

3.10 Ethical considerations

The Institutional Health Research Review Committee (IHRERCB) of Haramaya University's College of Health and Medical Sciences granted ethical approval. Prior to data collection, an official letter was addressed to the Haramaya woreda bureau management. Participants were properly informed about the study's goal and benefits, as well as the anonymity of their responses. Because participation in this study was entirely voluntary, each volunteer provided written and signed informed consent.

4.RESULTS

4.1. Socio-demographic characteristics of study participants

A total of 630 men participated in the study, with a response rate of 96.5 percent. The study participants ranged in age from 18 to 60 years old, with a mean (SD) age of 31.7 7.4 years. The majority of the participants, 237 (65.3%), were between the ages of 30 and 39. 240 (38.1%) of the participants had no formal education, followed by primary school (30.8%), college and higher education (16.5%), and secondary school (14.6 percent).

Farmers (68.3 percent) were the most common occupation among respondents, followed by merchants (15.4 percent). About 584 (92.7%) of those polled were in monogamous marriages. More than half of the respondents (56.5%) had 1-4 children, and nearly one-third had three or more. Table 2

Table 2: Socio-demographic characteristics of husbands in Haramaya district, HDSS site, Eastern Ethiopia, August 2020(n=630)

Variables	Frequency	Percentage
Husband's Age N=(630)		
18-29	18	5
30-39	237	65.3
40-49	90	24.8
50 and above	18	5
Religion N=(630)		
Muslim	611	97
Orthodox	15	2.4
Protestant	4	0.6
Number of children N=(630)		
0	85	13.5
1-4	356	56.5
>4	189	30
Husband's Education N=(630)		
No formal education	240	38.1
Primary (1-8)	97	30.8
Secondary (9-12)	92	14.6
College and above	104	16.5
Husband's Occupation N=(630)		
Farmers	430	68.3
Merchant	97	15.4
Gov't employee	69	11
Marital status N=(630)		
Monogamous	584	92.7
Polygamous	46	7.3
Wife's educational n=(630)		
No formal education	344	54.6
Primary (1-8)	160	25.4
Secondary (9-12)	62	9.8
College and above	64	10.2
Family wealth index		
Poorest	160	25.3
Poor	98	15.5
Medium	133	21.1
Rich	115	18.3
Richest	125	19.8

4.2. Knowledge on danger signs and birth preparedness and complication readiness

324 (51.4%) of respondents noted the above mean score for danger signals during pregnancy, which implies they listed five or more out of ten main danger indications during pregnancy and classified them as having greater knowledge. Almost half of the respondents, 352 (55.9%), and 195 (31%), respectively, cited five or more danger indications during childbirth and the postoperative period. About 536 (85.1 percent) of husbands were aware of government or community resources that could assist the lady during pregnancy, delivery, or the post-natal period. On the other hand, over half of the husbands, 272 (43.2%), were found to have five or more-components.

Table 3: Knowledge on danger signs and birth preparedness and complication

Indicators	Frequency	Percent
Knowledge on danger signs during pregnancy		
Poor knowledge	58	9.2
Good knowledge	248	39.4
Better knowledge	324	51.4
Knowledge on danger signs during LD		
Poor knowledge	79	12.5
Good knowledge	199	31.6
Better knowledge	352	55.9
Knowledge on danger signs during PNC		
Poor knowledge	151	44
Good knowledge	284	45.1
Better knowledge	195	31
Knowledge components of BPCR		
Poor knowledge	130	20.6

Good knowledge	228	36.2
Better knowledge	272	43.2
government or community service	536	85.1
Knowledge on importance of ANC	Yes (597)	94.8
	No (33)	5.2

4.3. Husbands' participation in birth preparedness and complication readiness

The study discovered that 55.4 percent of husbands participate. The bulk of those who had heard about BPCR were among the responses (89.7 percent) 467 (82.7%) of respondents heard from HEW, 347 (61.4%) from the health professions, and 281 (49.7%) via the media.

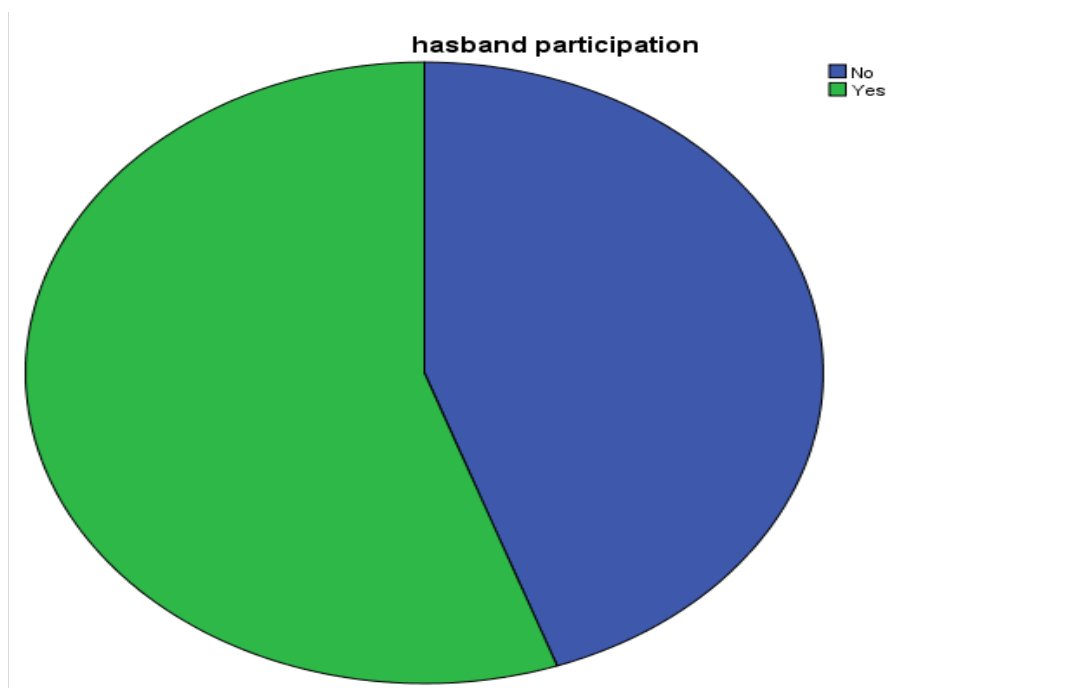


Figure 3 Magnitude of husband participation for birth preparedness and complication readiness

Table 4: Husbands participation in birth preparedness and complication readiness in Haramaya District HDSS site, Eastern Ethiopia, August, 2020 (n=630).

Variables	Result	Frequen cy(n)	%
Decide place of delivery	Yes	361	57.3
	No	269	42.7
Indented skilled birth attendant	Yes	358	56.8
	No	272	43.2
Save money	Yes	372	59.0
	No	258	41.0
Identify for blood donner	Yes	204	32.4
	No	426	67.6
Identified accompany	Yes	483	76.7
	No	147	23.3
Arrange transport	Yes	470	74.6
	No	160	25.4
Husbands participation in birth preparedness and complication readiness	Good participation (\geq mean)	349	55.4
	Poor participation ($<$ mean)	281	44.6
Information access			
Health extension worker	Yes	467	82.7
	No	163	17.3
Health professional	Yes	347	61.4
	No	283	38.6
Media	Yes	281	49.7
	No	349	50.3
Friends	Yes	127	22.5
	No	503	77.5

4.4. Factors associated with husbands' participation in birth preparedness and complication readiness

Women were more likely to participate in birth preparedness and complication readiness when their education status, occupation, ANC needed, knowledge of danger signs during pregnancy, knowledge of BPCR, knowledge of danger signs during labor and delivery, discussed place of delivery, government support for BPCR, and planned PNC follow up were considered in a bivariate analysis. In multiple logistic regressions, however, knowledge of BPCR, understanding of danger indicators during labor and delivery, the number of wives, and postpartum preparedness remained substantially related to husbands' plans to participate in BPCR.

Better and good understanding of BPCRs were four times (AOR=4.18, 95 percent CI: 2.05, 8.51) and almost four times (AOR=3.99, 95 percent CI: 2.20, 7.25) more likely than low knowledge. Poor knowledge of danger indicators during labor and delivery was three times less likely to participate in BPCR (AOR= 3.19, 95 percent CI; 1.52, 6.71) and roughly three times less probable (AOR= 2.84, 95 percent CI; 1.34, 6.02) than good and excellent knowledge.

Furthermore, participants who discussed the location of their delivery with their wife were around seven times more likely to participate in BPCR than those who did not (AOR= 6.84).

Table 5: Factors associated with husband participation in BPCR and associated factors in Haramaya District, Oromia region, Eastern Ethiopia 2020

Variables		Participated BPCR		COR (95% CI)	AOR (95% CI)
		Yes	No		
Husbands education	No formal education	102 (42.5%)	138 (57.5%)	1	
	Primary school	129 (66.5%)	65 (33.5%)	2.68(1.81, 3.98)***	1.59 (0.95, 2.67)
	Secondary school	70 (76.1%)	22 (23.9%)	4.30 (2.50, 7.41)***	1.33 (0.62, 2.87)
	College & above	78 (75%.0)	26 (25.0%)	4.06 (2.43, 6.77)***	0.63 (0.29, 1.38)
Husbands occupation	Farmer	241 (56.0%)	189 (44.0%)	1	
	Merchant	64 (66.0%)	33 (34.0%)	1.52 (0.96, 2.41)	0.86 (0.44, 1.67)
	Gov't employee	49 (71.0%)	20 (29.0%)	1.92 (1.10, 3.34)*	0.55 (0.22, 1.37)
	Private employee	25 (73.5%)	9 (26.5%)	2.18 (0.99, 4.78)	0.80 (0.29, 2.23)
ANC needed during Pregnancy	Yes	373 (62.5%)	224 (37.5%)	7.49 (3.05, 18.43)***	2.04 (0.63, 6.58)
	No	6 (18.2%)	27 (81.8%)	1	
Heard BPCR	Yes	368 (65.1%)	197 (34.9%)	9.17 (4.69, 17.94)***	1.43 (0.56, 3.67)
	No	11 (16.9%)	54 (83.1%)	1	
DS knowledge during Pregnancy	Poor knowledge	15 (25.9%)	43 (74.1%)	1	
	Good knowledge	122 (49.2%)	126 (50.8%)	2.78(1.47, 5.25)**	0.62 (0.25, 1.59)
	Better knowledge	242 (74.7%)	82 (25.3%)	8.46 (4.47, 16.03)***	1.11 (0.40, 3.10)
BPCR Knowledge	Poor knowledge	23 (17.7%)	107 (82.3%)	1	
	Good knowledge	159 (59.6%)	92 (40.4%)	6.88 (4.08, 11.60)***	3.99 (2.20, 7.25)***
	Better knowledge	220 (80.9%)	52 (19.1%)	10.68(7.44,12.86)***	4.18 (2.05, 8.51)***
knowledge of danger signs during L& D	poor knowledge	20 (25.3%)	59 (74.7%)	1	
	good knowledge	109 (54.8%)	90 (45.2%)	3.57 (2.00, 6.37)***	3.19 (1.52, 6.71)**
	Better knowledge	250 (71.0%)	102 (29.0%)	7.23 (4.14, 12.62)***	2.84 (1.34, 6.02)**
Number of wives	Yes	304 (84.4%)	56 (15.6%)	14.11(9.56, 20.85)***	2.24 (1.07, 4.94)***
	No	75 (27.8%)	195 (72.2%)	1	
Community support	Yes	332 (61.9%)	204 (38.1%)	1.63 (1.05, 2.53)*	1.34 (0.72, 2.52)
	No	47 (50.0%)	47 (50.0%)	1	
Made Post Natal preparation	Yes	215 (79.6%)	55 (20.4%)	4.67 (3.25, 6.71)***	11.0 (0.63, 18.24) **
	No	164 (45.6%)	196 (54.4%)	1	

Key: *= <0.05= **= <0.01, ***= <0.001

5.DISCUSSION

The proportion of husbands participating in BPCR in Haramaya District HDSS site, Eastern Ethiopia, was 55.4 percent in this study. Understanding of BPCR, knowledge of danger indications during labor and delivery, the number of wives, and postpartum preparation were all found to be strongly linked to husband participation in BPCR in this study.

In this study, 55.4% of husbands engaged in BPCR. Similar findings were found in investigations done in the Tigray area, Endarta woreda, Northern Ethiopia, Mekele Town, Northern Ethiopia and Northern Uganda, Gulu district. (Gebrehiwot.H et al., 2013, Weldearegay, 2015, Tweheyo et al., 2010).The national study such DHS and other African countries also showed similar findings. This underscore the level of male participation in low income countries like Ethiopia is low which could be associated with high maternal and child mortality under preventable maternal causes. (Baraki et al., 2017, Kassahun et al., 2018, Bhusal.CK et al., 2015, Ditekemena et al., 2012)

This disparity could be explained by differences in sample size and study duration. Another factor could be that the populace has improved access to maternal health care information. This figure was lower than those found in studies conducted in India (81%) and Nepal (82.6%), when husbands took part (Tweheyo et al., 2010) (Singh and Ram, 2009, Dutta et al., 2014). This might be due to different socio-demographic factors like a low level of educational and economic status in the district.

One of the linked elements of the husband's participation in BPCR is his awareness of danger signs during labor and delivery. BPCR participants with good and greater understanding of danger indications during labor and delivery were 3.19 and 2.84 times more probable than those with poor knowledge. This outcome is consistent with research conducted in Ethiopia, Burayu, Jimma, Kofele, and other nations such as Nepal (Dutta et al., 2014, Gize et al., 2019, Debelew et al., 2014b, Tafa A et al., 2018). This could mean that husbands who are aware of danger indications are more likely to seek medical help and participate in BPCR, as increasing husbands' awareness and skills could improve their awareness and abilities (Thapa and Niehof, 2013).

When men are aware of the risk indicators of pregnancy and childbirth, they can act as gatekeepers, ensuring that their wives receive the care they need in cases of pregnancy-related emergencies (Alio et al., 2013). Furthermore, when males are able to recognize danger indications, they make it easier for women to access health care, particularly in emergency situations (Tweheyo et al., 2010, Kakaire et al., 2011b).

In addition, husbands with good and greater knowledge of BPCRs were 4.18 and 3.99 times more likely to participate in BPCR than those with low knowledge, respectively. This finding is comparable to that of studies conducted in Burayu and India. Bhatta, 2012; (Bhatta, 2012, Gize et al., 2019). This could be because having information can improve one's ability to participate in problems that are beneficial to maternity care, such as BPCR.

Participants with one wife were 6.84 times more likely to participate in BPCR than those with two or more wives. This is in line with the findings of a research conducted in southern Ethiopia (Tadesse et al., 2018a). this could be having two wives may get busy the husbands and also they may have big family so they have no enough time to give care for their wives.

Participants who prepared for postpartum with their wife were 2.30 times more likely to participate in BPCR than those who did not. The findings of a study conducted in Woliata Sodao, southern Ethiopia, show that having no postpartum preparation is a significant risk factor that puts the mother's life in jeopardy or causes death due to the first two delays in providing care, namely seeking care and reaching a health facility. As a result, getting the necessary items for birth and postpartum, as well as for unanticipated complications, as soon as feasible can save the mother's life.(Tadesse et al., 2018a).

5.1. STRENGTHS and LIMITATIONS of STUDY

Husbands of pregnant women have a unique place in the Haramaya district because of the community-based cross-sectional study that led to those conclusions. Data collectors have a lot of expertise collecting data, which makes it easier for them to answer any queries participants may have, and they know the local languages, which makes it easier for them to give the participants the genuine information.

The causal relationship between the variable and the outcome in the analysis cannot be determined due to the nature of the study design, and conclusions for urban areas cannot be drawn due to rural residences. By questioning respondents about the event, these were reduced to a minimum.

6. CONCLUSION AND RECOMMENDATIONS

6.1. Conclusions

The involvement of husbands in birth preparation and complication readiness was found to be minimal (55.4). Husband engagement in BPCR was substantially linked with awareness of BPCR, knowledge of risk indications during labor and delivery, number of wives, and postpartum preparedness.

6.2. Recommendation

The regional health office in East Hararge

- ✓ The government should seek to raise public understanding of the risk indications of labor and delivery, as well as BPCR.
- ✓ To promote husbands' participation, the health office should increase health education on labor and delivery hazard indications.
- ✓ The district health bureau should develop a knowledge improvement intervention to help husbands learn more about risk signs and BPCR.

Providers of healthcare

- ✓ Health extension workers should reach out to spouses and wives to raise awareness about the need of BPCR testing.
- ✓ To reduce maternal mortality and morbidity, all stakeholders should focus on ensuring husbands' involvement in all aspects of care.

Researchers

- ✓ A qualitative additional study needs to be done to investigate factors associated with male participation in BPCR to supplement the findings from this study.

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8. ANNEXES

8.1. participant information sheet and informed voluntary consent form for husbands

My name is----- . I am working as a data collector for the study being conducted in this community by Seada Sufian who is studying for her master's degree at Haramaya University, the college of health and medical science. You are randomly selected to be participant in this study. I kindly request you to lend me your attention to explain you about study and being selected as a participant.

Study title: Husbands Involvement on Birth Preparedness and Complication Readiness and its Associated Factors in Haramaya District, Oromia Regional State in Eastern Hararghe Zone, Eastern Ethiopia.

Aim of study: The finding of this study was have a paramount importance for the regional health department to plan Intervention programs to increase Husbands Involvement on BP/CR in the community; thereby improve Maternal and child health and survival. Moreover, the aim of this study is to write a thesis as partial requirement for the fulfillment of Master's program Reproductive Health for the principal investigator.

Procedure and duration: I was interviewing you Husbands whose wives are pregnant using questionnaire to provide me with pertinent data that is helpful for study. There are about ---- question about husbands' participation on BPCR and associated factors. I was fill the questionnaire by interviewing you, so the interview was take about 40 minute. Therefore, I kindly request them give me attention and time for the interview.

Risks and benefits: The risk of participating in this study is very minimal, but only taking few minutes from your time. There would not be direct payment for participating in this study. But the findings from this research may reveal important information for the local health planners.

Confidentiality: The information you provide us w confidential. There was no information that was identify them in particular. The findings of the study were general for the study community and was not reflect anything particular of individual persons. The questionnaire was coded to exclude showing names. No reference will be made in oral or written reports that could link participants to the research

Rights: Participation for this study is fully voluntary. They have the right to declare to participate or not in this study. If they decide to participate, you have the right to withdraw from the study at any time and this will not label them for any loss of benefits which you otherwise are entitled to. You do not have to answer any question that you do not want to answer.

Contact address: If there are any questions or enquires any time about the study or procedures, please contact in the following address.

Principal investigator: Seada Sufian email; seadasufian53@gmail.com

Mobile phone 0972201169/0983138989

Institutional Research Ethics review Committee: office phone 0254662011 or

P.O.Box 235, Harar, Ethiopia

Declaration of informed voluntary consent:

I have read/ was read to me the participant information sheet. I have clearly understood the purpose of the research, the procedures, the risks and benefits, issues of confidentiality, the rights of participating and the contact address for any queries. I have been given the opportunity to ask questions for things that may have been unclear. I was informed that I have the right to withdraw from the study at any time or not to answer any question that I do not want. Therefore, I declare my voluntary consent to participate in this study with my initials (signature) as indicated below.

Name and signature of participant _____ Date _____

Name and signature of data collector _____ Date _____

N.B

This is to be signed face to face in the presence of the data collector.

Please provide a copy of this signed consent to the participant

Thank you for your cooperation

8.2. Afan Oromo Version Participant Information Sheet and Informed Consent Form for Husband

Odeeffannoo hirmaattota qorannoof kennamuu fi uunkaa walii galtee

Maqaan koo_____ jedhama Aanaa Haramaayaa kana keessatti qorannoo Addee Seada Sufiyaan, digrii lammaaffaaf yunivarsiitii Haramaayaa, kolleejjii Saayinsii Fayyaatti barachaa waaninin jiruuf odeeffannoo qu'annoo funaanaan jira. Waa'ee qorannoo kanaa fi akkaataa qorannoo kanatti akka hirmaattan ittin filatamtan akkan isiniif ibsuuf yeroo muraasa akka naaf kennitan isin gaafadha.

1. Mata duree Qorannichaa

Hirmanaa warri dhiiraa Qophii Da'umsaa fi rakkolee isaa fi wantoota sababa isaa ta'an ilaalchisee Aanaa Haramaya kessaatti qorannoo gaggeefamuu dha.

2. Kaayyoo Qorannichaa

Sababni guddaan qorannoon Kun barbaachiseef abbaan qorannichaa Addee Seada Sufiyaan qorannoo digrii lammaffaa argachuuf isaan barbaachisu guutuufi dha. Dabalataanis, bu'aan qorannoo kanaa galtee hoggantoota fayyaa fi deeggartoota fayyaa biroof kan fayyaduudha.

3. Adeemsaa fi turtii qorannichaa

Qoranichi Abbaa manaa dubartiin isaanii daa'ima waggaa tokkoo gadii qaban irratti kan geggeeffamu ta'ee,waliigala gaafilee kanaan of harkaa qabu ta'ee gaafilee kana Abbaan manaa kan deebisu ta'a. Walumaagalatti qoranichi Abbaa manaa tokkoof naannoo daqiiqaa 40 ni fudhata. Kanaaf qorannoo kana haadholee waa'ee qophii yeroo da'umsaa rakkolee isaa ilaalchisee akkaan isin gaafadhuu fi odeeffanno barbaachisu akka naaf kennitan[obsaan isin gaafadha.

4. Faayidaa fi miidhaa qoranichaa

Sababa qorannoo kanarratti hirmaattaniif rakkoon guddaa isin irra gahu hin jiru, yeroo keessan muraasa isin irraa fudhachuu keenyaan alatti. Faayidaa kallattiin sababa hirmaannaa keessaniin argattan hin jiru.Garuu odeeffannoon isin kennitan bu'aan qorannaa isaa karoorsitoota fayyaa sadarkaa gaditti jiraniif galtee guddaa dha.

5. Iccitii eeguu

Ragaan isin nuuf kennitan iccitiin qabama. Kallattiin wanti addatti isin calaqqisu/ibsu asirratti barreeffamu hin jiru.bu'aan qorannoo kanaa ummata naano kana malee addatti hirmaattota kan calaqqisu miti. Deebiin keessan yommuu galmeeffamu maqaa keessan hin dabalatu, afaaniinis tahe barreeffamaan hirmaattota addatti qorannoo kanaan walitti kan hidhu hin jiru.

6. Mirga Hirmaataa

Hirmaannaan fedhii keessan irratti kan hundaa'e dha. Qorannoo kana irratti hirmaachuuf murteessuu yookiin dhiisuu dandeessu. Hirmaachuuf murteessitan illee yeroo barbaaddan qorannoo kana addaan kuttanii bahuuf mirga guutuu qabdu. Sababa kanaan faayidaa isin argachuu qabdan kan dhabdan hin jiru. Gaafii isini deebisuu hin barbaanne yoo jiraate deebisuuf dirqama hin qabdan.

7. Teessoo

Gaafii ykn qeeqa qo'annoo kana ilaallatu kamiyyuu, teessoo armaan gadiitiin gaafachuu fi quunnamuu ni dandeessu

Mobaayilii: Seada Sufiyaa +251972201169.

E-meelii: seadasufian53@gmail.com

Waajjira dhimma naamusaa qo'annaa fayyaa dhaabbatichaa (IHRERC)

Lakkofsa bilbilaa: 0254662011 ykn L.S.P: 235, Harar

8. Ibsa fedhiin qorannoo irratti hirmaachuu mirkaneessuu

Ibsa hirmaattota qorannoof kennamuu dubbiseera/ naa dubbifameera. Faayidaan qorannoo kanaa sirriitti naaf galee jira, akkaataa, rakkoo fi faayidaa akkasumas waa'ee iccitii eeguu, mirgaa hirmaataan qabu, akkasumas walquunnamtii kamuu barbaachiseef teessoon natti himameera. Waan naa hin galle gaafachuuf carraan naa kennameera. wayita kam iyyuu qorannoo kana addaan kutee bahuu akkan dandahu, akkasumas gaaffiin debisuu hin barbaanne deebisuuf akkaan hin dirqamne. Kanaafuu qorannoo kanatti fedhiin kan hirmaadhu ta'uu mallattoo koon nan mirkaneessa.

Maqaa hirmaataa _____ Mallattoo _____ Guyyaa _____

Maqaa funaana ragaa _____ Mallattoo _____ Guyyaa _____

8.3. English version questionnaire form

Part 1: socio-demographic characteristic:

#	Questions	Response and codes	Skip to
Q1	Age in completed year	-----	
Q2	What is your religion	1. Muslim 2. Orthodox 3. Protestant 4. Other (specify)-----	
Q3	What is your ethnicity	1. Oromo 2. Amhara 3. Other specify	
Q4	What is your educational status	1. can't read or write 2. Primary 3. Secondary 4. College and above	
Q5	Currently how money children do you have	In number	
Q6	What is your occupational status	1. Employed 2. Unemployed	Skip if respondent is unemployed
Q7	What is your monthly income	In number-----	
Q8	How many wives do you have	1. Monogamous	

		2. Polygamous	
Q9	Are you currently with your wife?	1. Yes 2. No	
Q10	How old is your wife	In number	
Q11	What is your wives educational status	1. Illiterate 2. Read and write 3. Primary education 4. Secondary education 5. College and above	
Q12	What is your wives occupational status	1. Employed 2. Unemployed	Skip if unemployed
Q13	How much your wives monthly income	In birr	

Part 2: Husbands knowledge of danger sign during pregnancy, child birth and postpartum

Sr no	Questions	Responses	Code	Skip
Q14	In your opinion does a women need to have ANC checkup at health facility?	1. Yes 2. No		If 2 Q16
Q15	How many times the women need to have ANC checkup?	Number of times-----		
Q16	Why a women need to have ANC follow up?	1. To examine condition of mother and child		If no to Q17

		<ol style="list-style-type: none"> 2. To confirm condition of the fetus 3. To detect any problem in time 4. To get TTI vaccine 5. To detect Anemia 6. To get medicine for Anemia 7. Others (specify-----) 		
Q17	In your opinion can you unpredicted problem related to pregnancy that endanger life of women?	<ol style="list-style-type: none"> 1. Yes 2. No 		Q19
Q18	If yes, what are they?	<ol style="list-style-type: none"> 1. Vaginal bleeding 2. Severe headache 3. Blurred vision 4. convulsions 5. Swollen hands/face 6. High fever 7. Loss of consciousness 8. Accelerated/reduced fetal movement 9. Severe abdominal pain 10. Leakage of liquor 11. Other (specify-----) 		

Q19	In your opinion, should a woman receive delivery services from a health facility?	1. Yes 2. No		
Q20	If yes, circle response given	1. To manage complication 2. To check position of the bay 3. To have clean and safe delivery 4. Other specify----		
Q21	Do you know any/some serious health problems that can occur during labor and delivery? That could endanger the life of a pregnant women	1. Yes 2. No		23
Q22	If yes, mention	1. Vaginal bleeding 2. Severe headache 3. Blurred vision 4. convulsions 5. labor lasting >12hours 6. High fever 7. Loss of consciousness 8. Placenta not delivered 30 minute after delivery 9. Other (specify-----)		
Q23	Do you know any/some serious health	1. Yes		25

	problems that can occur during the first 42 days after birth? That could endanger the life of the women	2. No		
Q24	If yes, mention	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 of breathing 9. Malodorous vaginal discharge 10. Other (specify-----)		

Part 3: Husbands knowledge of the Birth preparedness and complication readiness

	Questions	Responses	Code	Skip to
Q25	Have you heard about birth preparedness and complication readiness?	1. Yes 2. No		27
Q26	If yes, from where?	1. health professional 2. Health extension workers		

		<ul style="list-style-type: none"> 3. Media 4. Family 5. Friends 6. Other (specify-----) 		
Q27	Do you know the things a husband can do to prepare for birth?	<ul style="list-style-type: none"> 1. Yes 2. No 		29
Q28	If yes, what are some things a husband can do?	<ul style="list-style-type: none"> 1. Identify mode of transport 2. save money for delivery 3. Identify blood donor 4. identify skilled care provider 5. Accompanied wife to ANC 6. Identify health facility 7. Aware of emergency condition 8. Made postpartum plan 9. save money for emergency Other specify 		
Q29				
Q30	Did you plan anywhere outside a health facility about where to go if your wife has danger signs of serious health problems?	<ul style="list-style-type: none"> 1. Yes 2. No 		
Q31	If yes, where to go	1. Home (1. Yes/2. No)		

		2. TBAs home (1. Yes/2. No)		
Q32	Does community/government provide services to assist women in preparing for birth?	1. Yes 2. No		
Q33	If yes, what service?	1. Transport 2. Financial 3. Free MC service 5. Other (specify-----)		
Q34	Made postpartum preparation	1 yes 2 No		

Part 4: Husbands plan to participate in Birth preparedness and complication readiness

S.no	Questions	Responses	Code	Skip to
Q34	Have you decided place of delivery with your wife?	1. Yes 2. No		36
Q35	Where you have decided with your wife to deliver the last pregnancy?	1. Home 2. Health facility		
Q36	Have you identified skilled birth attendant?	1. Yes 2. No		38
Q37	Whom you have planned to attend for delivery?	1. Midwife 2. Doctors		

		3. Nurses 4. Other, specify-----		
Q38	Have you save money for delivery?	1. Yes 2. No		40
Q39	How money birr you have saved for this purpose	In birr-----		
Q40	Have identified any one for blood donation in case of emergency?	1. Yes 2. No		42
Q41	If yes who will be your blood donor?	1. Husband 2. Father 3. Mother 4. Brother 5. Sister 6. Other, specify-----		
42	Have you identify any one who accompany your wife while will go to place of delivery	1. Yes 2. No		
Q43	Whom you identified to accompany your wife?	1. Husband 2. Father 3. Mother 4. Brother 5. Sister		

		6. Other, specify-----		
Q44	Have you arranged transport towards delivery services?	1. Yes 2. No		
Q45	If yes, mention	1. Ambulance 2. Private car 3. Tax/bus 4. on foot 5. Other, specify-----		
Q46	During ANC period did your wife face any serious of health problems?	1. Yes 2. No		
Q48	If yes, what problem did she experience?	1. Vaginal bleeding 2. Severe headache 3. Blurred vision 4. convulsions 5. Swollen hands/face 6. High fever 7. Loss of consciousness 8. Accelerated/reduced fetal movement 9. Severe abdominal pain 10. Leakage of liquor		

		11. Other (specify-----)		
Q48	Have you aware of emergency condition ?	1. Yes 2. No		

8.4. Afaan Oromo Version Questionnaire

Kutaa 1ffaa: Gaaffilee waa'ee haala ummataa fi hawaasummaa

Lakk	Gaafii	Deebisaa	Dabruu
O1	Umriin keessan meeqa?	-----	
O2	Ammantii Kam Hordoftu?	1. Muslima 2. Ortodoksii 3. Protestaantii 4. Katoolikii 5. Kan biroo(ibsi)_____	
O3	Sabni keessan maali?	1. Oromo 2. Amaara 3. Tigree 4. Kan biroo	
O4	Sadarkaan Barnoota keetii maali?	1. kan hin baratin 2. Dubbisuu fi	

		barreessuu kan danda’u 3. Sadarkaa 1ffaa (1-8) 4. Sadarkaa lammffaa fi qophaa’inaa (9-12) 5. Kollejjii fi isaa ol	
05	Yeroo ammaantanaa ijoolee meeqa qabdu?	Lakk.-----	
06	Hojiin keessan maali?	1. hojjataa mootummaa 2. Dhunfaa	Yoo dhunfaa ta’e dabri
07	Galiin keessan kan ji’aa hangami?	Maallaqaan-----	
08	Haadha manaa meeqa qabda?	1. Takka 2. lamaa fi isaa ol	
09	Yeroo ammantanaa haadha manaa tee waliin jirtuu?	1. Eeyye 2. Lakki	
10	Umriin haadha manaa keetii meeqa?	Lakk-----	
11	Sadarkaan barnoota Haadha manaa keessani maali?	1. Tan hin baratin 2. Dubbisuu fi barressuu 3. Sadarkaa 1ffaa (18-) 4. Sadarkaa lammffaa fi qophaa’inaa (9-12) 5. Kollejjii fi isaa ol	

12	Hojiin haadha manaa keessanii maali?	1. hojjatuu mootimmaa 2. dhunfaa	Yoo dhunfaa ta'e dabri
13	Galiin haadha manaa ji'aan hangami/meeqa?	Maallaqaan-----	

Kutaa 2ffaa: beekumsa waa'ee mallattoo hamaa yeroo ulfaa, cimimmuu fi dhala boodaa

Lakk	Gaafii	Deebisaa	koodii	Dabruu
14	Akka yaada keessaniitti dubartii ulfaa tiif hordoffiin da'umsa duraa dhaabbiilee fayyaatti ni barbaachisa jettanii yaaduu?	1. Eyye 2. lakki		16
15	Yeroo meeqa hordoffiin kun barbaachisa jettanii yaadu	Lakkoofsaan-----		
16	Maalif hordoffiin da'umsa duraa barbaachise?	1. haala fayyaa haadhaa fi ulfaa beekuuf 2. haala ulfi irra jiru mirkaneessuuf 3. yeroodhaan rakkoo jiru adda baasuuf 4. tajaajila talaalii yeroo ulfaa argachuudf 5. hanqina dhiigaa adda baasuuf 6. qorricha hanqina dhiigaa arkachuuf 7. kan biraa (ibsi-----)		

17	Akka yaada keesaniiti ulfaan walqabatee rakkoon tilmaamamuu hin dandeenye, kan lubbuu haadhaa balaa irraan gahu uumamuu ni danda'aa?	1. Eyyee 2. Lakkii		19
18	Yoo eyyee jettan, maalfaadha, maqaa dhawaa?	1. dhiiguu gadameessaa 2. sibiirrii ijaa (ija dura waa nama faca'uu) 3. Iita'uu harkaa/fuulaa 4. Sochii daa'ima gadaamessa keessa jiruu dhabamuu, xiqqaachuu ykn dabaluu 5. garbi ykn bishaan gubbee cimimmuun dura dhangala'uu 6. Dhukkubii mataa imalmaanaa 7. Leydaa hamaa cimaa 8. Gagabuu, akka tasaa sumuu 9. Garaa dhukkubbii cimaa 10. afuura baafachuu dadhabuu 11. Kanbiroo (ibsi)-----		
19	Akka yaada kessaniitti dubartiin tajaajila da'umsaa dhaabbiilee fayyaa irraa arkachuu ni qabdii?	1. Eyyee 2. Lakkii		

20	Eyyee yoo jettan maalfaadha?	<ol style="list-style-type: none"> 1. Rakkoo da'umsaan walqabatee dhufu furuuf 2. haala taa'umsa daa'ima adda baasuuf 3. Tajaajila da'umsaa qulqulluu fi balaa irraa bilisa ta'e arkkachuuf 4. Kan biro (ibsi-----) 		
21	Rakkoon fayyaa hammataan kan yeroo da'umsaa uumamuuf malu kan lubbuu hadhaa balaa irra buusuu danda'u maali?	<ol style="list-style-type: none"> 1. Eyyee 2. Lakkii 		23
22	Yoo eyyee jettan, maalfaadha, maqaa dhawaa?	<ol style="list-style-type: none"> 1. dhiiguu gadameessaa 2. Gagabuu, tasa sumuu 3. Cimimmuun sa'aa 12 ol irra turuu 4. Hobbaatiin daa'imni erga dhalate booda daqiiqaa 30 keessati bahuu dhabuu 5. Dhukkubii mataa imalmaanaa (cima) 6. Leydaa imalmaanaa 7. Of walaaluu 8. Kan biroo(ibsi)----- 		
23	Rakkoon fayyaa hammaataan yeroo da'umsa boodaa torbaan jahan duraa mudachuu danda'u	<ol style="list-style-type: none"> 1. Eyyee 2. lakkii 		25

	, kan lubbuu haadhaa balaa irraan gahu maali ni beektuu?			
24		<ol style="list-style-type: none"> 1. Hedduu dhiiguu gadameessaa 2. dhangala' aan foolii (shurufkaa) hamaa qabu qaama dhalaa keessaa yaa'uu 3. Leydaa hamaa (imalmaanaa) 4. mataa dhukkubbii cimaa 5. Ija dura/ lafaan maruu 6. of walaaluu 7. akka tasaa sumuu of walaaluu 8. afuura kukkutuu 9. Kan biro----- 		

Kutaa 3: fayyaa- fi hirmaannaa abbaan manaa qophii da'umsaa fi rakkolee isaa waliin walqabatu keessati qabu

lakk	Gaafii	Deebisaa	koodii	Dabruu
25	Waa'ee qophii da'umsaa fi rakkoo tasa dhufuuf iti qophaa'uu dhageesee ni beeytaa?	<ol style="list-style-type: none"> 1. Eyye 2. Lakkii 		27
26	Eeysaa dhageessan	<ol style="list-style-type: none"> 1. Ogeeyyii fayyaa irraa 2. Hojjattuu ekisteenshinii fayyaa 		

		<p>irraa</p> <p>3. Midiyaalee hawaasaa irraa</p> <p>4. Maatii</p> <p>5. Hiriya</p> <p>6. Kan biro ibsi-----</p>		
27	Waa'ee qophii da'umsaa fi rakkoo tasa dhufuuf iti qophaa'uu ni beeytaa?	<p>1. Eyyee</p> <p>2. Lakkii</p>		
28	Yoo beeytan ta'e, wantooni abbaan manaa da'umsaaf of qopheesuu danda'u maali?	<p>1. haala geegibaa addaan baasuu</p> <p>2. maallaqa qusachuu</p> <p>3. Nama dhiiga kennu adda baasuu</p> <p>3.Ogeeyyii fayyaa ga'umsaan tajaajilan adda baasuu</p> <p>5. Kan biroo (ibsi)-----</p>		
29	Yoo haadha manaa kee mallattoon hamaan mudatu ta'e akka geesitu karoorfatee beeytaa?	<p>1. Eyyee</p> <p>2. Lakkii</p>		
30	Eyye yoo jettan eessa geessuuf karoorfate?	<p>1. Mana tursiisuu</p> <p>2. Mana deeyisistuu Aadaa</p> <p>3. Dhaabbiilee fayyaa mootumma</p> <p>4. Dhaabbilee fayyaa dhunfaa</p> <p>5. Kan biro ibsi----</p>		

31	Mootummaan naannoo hawwan tajaajila qophii da'umsaaf taasisan irratti ni gargaaraa?	1. Eyye 2. Lakkii		
32	Yoo eyyee jettan tajaajila kamin?	1. Geejjibaan 2. Maallaqaan 3. Tajaajila haadhaa fi daa'imani bilisa gachuun 4. Kan biro -----		

Kutaa 4ffaa: Hirmaannaa Abbaan manaa qophii da'umsaa fi balaa tasa dhufuuf qophaa'uu keessatti qabu

Lakk	Gaafii	Deedisaa	koodii	Dabruu
33	Iddoo dahumsaa haadha mana kee waliin murteesitani jirtu?	1. Eyyee 2. Lakkii		35
34	Haati manaa tee ulfa boodaa kana eessatti akka deessu murteesittan?	1. Mana 2. Mana deeysistuu gandaa 3. Dhaabilee fayyaa mootummaa 4. Dhaabilee fayyaa dhunfaa		

		5. Kan biroo-----		
35	Ogeeyyii fayyaa muxannoo deesisuu qaban adda baastee jirtaa?	1. Eyyee 2. Lakkii		37
36	Haadha manaa kee eenyu akka deesisu karoorsittan?	1. Doktora 2. Miidwayfii 3. Narsii 4. Kan biro-----		
37	Dahumsaaf maallaqa kuufattanii jirtuu	1. Eyyee 2. Lakkii		39
38	Dhimma kanaaf qarshii meeqa kuufattan	Lakkofsaan -----		
39	Rakkoon tasa yoo mudate nama dhiiga kennuuf adda baaftee jirtaa?	1. Eyyee 2. Lakkii		41
40	Eyyee yoo jettan eenyuutu dhiiga kennaaf?	1. Abbaa manaa 2. Abbaa 3. Haadha 4. Obboleessa 5. Obbaleeytii 6. Kan biroo-----		
41	Yeroo haata manaa tee dahuuf deemtu nama isii waliin deemu	1. Eyyee		43

	adda baaftee jirtaa?	2. Lakkii		
42	Eyyee yoo jettan eenyuutu wajjiin deema	1. Abbaa manaa 2. Abbaa 3. Haadha 4. Obboleessa 5. Obbaleeytii 6. Kan biroo-----		
43	Gara iddoo itti deessu geeysuuf haala geejjiba mijjeefattanii jirtuu?	1. Eyyee 2. Lakkii		45
44	Eyyee yoo jettan ibsi?	1. Ampulaancii 2. Konkolaataa dhunfaa 3. Taksii/baasii 4. Miilaan 5. Kan biro Ibsi_____		
45	Yeroo hodiffii dahumsa duraa rakkoon hammaataan qunname ni jiraa?	1. Eyyee 2. Lakkii		47
46	Eyyee yoo jettan rakkoon sun maal ture?	1. dhiiguu gadameessaa 2. sibiirrii ijaa (ija dura waa nama faca'uu) 3. Iita'uu harkaa/fuulaa 4. Sochii daa'ima gadaamessa		

		<p>keessa jiruu dhabamuu, xiqqaachuu ykn dabaluu</p> <p>5. garbi ykn bishaan gubbee cimimmuun dura dhangala'uu</p> <p>6. Dhukkubii mataa imalmaanaa</p> <p>7. Leydaa hamaa cimaa</p> <p>8. Gagabuu, akka tasaa sumuu</p> <p>9. Garaa dhukkubbii cimaa</p> <p>10. afuura baafachuu dadhabuu</p> <p>11. Kanbiroo (ibsi)-----</p>		
48	Haadha manaa kee waliin karoora dhala (dahumsa) boodaa karoorsitanii jirtuu?	<p>1. Eyyee</p> <p>2. Lakkii</p>		

8.5. Curriculum vitae

Personal information

Name Seada Sufian Mume Date of Birth Oct, 1994
 Place of Birth Eastern Harargie zone, eastern Ethiopia
 Sex Female
 Nationality Ethiopia
 Contact Address Mobile number: +251-972201169/+251-983138989
 E-mail: sdmumme2020@gmail.com

Work experience

From Oct 2011 to April 2016 as a midwife and MCH and labor and Delivery ward in Kullubi health center, East Harargie Zone, Eastern Ethiopia.

From May to June 2016 as a teacher in Harar health science college, Eastern Harargie Zone, Eastern Ethiopia.

Language ability

S no	Language	Speaking	Reading	Writing
1	Afan Oromo	Excellent	Excellent	Excellent
2	English	Excellent	Excellent	Excellent
3	Amharic	Excellent	Excellent	Excellent
4	Somali	Very good	good	good
5	Harari	Very good	Very good	Very good

Education Qualification

Period	Type of qualification	Institution	Qualification
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2008-2011	Midwifery	Hamlin Ethiopia, College of Midwives	Fistula Hamlin	Bsc in Midwifery
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Skills

- Computer and software Evaluating and monitoring skills
- Managing skills
- Teaching/lecturing

HOBBIES

- Reading
- Research activities
- Clinical activities
- Creativity
- Consultancy

Special training

- Long term family planning methods
- HMIS health management and information system
- prevention of Mother to child Transmission of HIV (PMTCT)
- TOT in prevention of Mother to child Transmission of HIV (PMTCT)
- Basic Emergency Obstetric and Newborn Care (BEmONC)
- Comprehensive Abortion Care (CAC)
- Participation different review meeting

References

- Hamlin college of midwife
- SrmebkiyuTadesse, Hamlin midwife mentor, +251912033835
- Mrs Zelalem, dean of Hamlin College of Midwife

Finally, I, the under signed, assure that the above piece of information are true and correct to the best of my knowledge

Signature

Name: Seada Sufian

Date: -----