

Husbands' participation in birth preparedness and complication readiness and associated factors in Kucha district, GamoGofa Zone, Southern Ethiopia

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Research article

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Abstract

Background Birth-preparedness and complication-readiness (BPCR) is the process of planning for normal birth and anticipating the actions needed in case of an emergency. The involvement of husband during pregnancy and its complication helps an expectant mother to make timely decisions to avoid delays. Therefore, this study aims to assess the level of husband involvement in birth preparedness and complication readiness and associated factors in Kucha District, Gamo Zone, Southern Ethiopia.

Methods Community-based cross-sectional study was conducted 421 among husbands with a wife who gave birth within the last 12 months at Kucha District. A simple random sampling technique was used to select the study subjects. Data were collected using a pretested interviewer-administered questionnaire by trained data collectors. Binary and multivariable logistic regression with odds ratios along with the 95% confidence interval analysis were employed to find factors associated with the dependent variable. A p-value <0.05 with 95% confidence level were used to declare statistical significance.

Result Data collected from 421 husbands. One hundred twenty-seven (30.2%) husband involved in birth preparedness and complication readiness plan. Husbands who attend secondary and higher level of school (AOR=3.1, CI (1.84-5.23)), husbands whose wives had antenatal care follow up four and above (AOR=4.91, CI (2.36-10.2)), and husbands whose reside more than 5 km from health care facility (AOR=2.35, CI=1.40-3.96)), were significantly associated with husband involvement in birth preparedness and complication readiness.

Conclusion Husbands involvement during birth preparedness and complication readiness was 30.2%. Educational level, the frequency of antenatal care, and the distance to the health facility were factors significantly affect the husbands' involvement.

Background

Globally, about 287,000 mothers die each year related to pregnancy and childbirth. Among those developing countries covers about 99%. Eighty-five percent account by Southern Asia and Sub-Saharan Africa [1, 2]. Concerning maternal and child mortality status, Ethiopia is one of six countries sharing 50% of the total world burden of maternal mortality [3]. In Ethiopia, the maternal mortality ratio is 412/100,000 live births [4]. This indicates that Ethiopia is one of the countries that share the toll burden of this grave.

Most of the women in developing countries including Ethiopia do not have timely access to essential cares and only 5% of expected complications reach the medical facilities. This is because of the three delays occurred on delay in the decision to take care, delay to reach the health care center, and delay to receive adequate treatment [5]. Subsequently, these problems increase obstetric complications such as unfavorable pregnancy outcome, maternal morbidity and mortality, premature birth, low birth weight, neonatal death and infant abuse [5, 6].

Among strategies birth, preparedness and complication readiness was used as a prioritized way to reduced home delivery and to decrease maternal morbidity and mortality [7]. BPCR is the process of planning for anticipating actions needed in case of emergency, encourages women and households to make arrangements to give normal birth by reducing delays in reaching care once a problem arises [8, 9]. It is crucial to decide on timely access to skilled maternal and neonatal services[1].

Finding from studies conducted in most of Africa show that the majority of pregnant women were not ready for birth and complication [10–12]. For example, nearly sixty-five percent of pregnant women were not well prepared during birth in Uganda [13]. Twenty-seven percent of pregnant women in Nigeria were prepared for birth as well as for related complication [10]. Most of the findings from different pocket studies conducted in different parts of Ethiopia documented that <20% of women practice BPCR [6–8].

Evidence from studies conducted in Ethiopia shows that husbands were the independent decision-maker on most family issues, like the decision on selecting a health facility or trained health professional to manage delivery[2, 6, 14]. Those conditions make husbands critical for the improvement of maternal and child health. Involvement husband during pregnancy may help for pregnant women to get support during birth and to make themselves ready for emergency obstetric services if any complications occur [1, 14].

Study conducted among households targeting husbands with having at least one child of less than one year of age in Ethiopia at Mekele town showed that variables like husbands' awareness of postnatal danger signs, husband's knowledge in birth preparedness, male involvement in *antenatal care* (ANC), educational status, economic status, and place of residence were factors associated with husband involvement in BPCR [15].

Therefore, the involvement of husband in BPCR during pregnancy, Labor, the postpartum period and its complication helps an expectant mother to make timely decisions to avoid delays that bring about complications that could result in morbidity or mortality and for achieving Sustainable Development Goals which directly related to health. However, little is known about the level of husband involvement in Ethiopia including the study area. Therefore, this study aimed to assess the level of husband involvement in birth preparedness and complication readiness and associated factors in the Kuchadistrict.

Methods

Study area and period

This study was conducted in Kucha District, Southern Ethiopia. The capital town of the district is Kucha town which is located 440 Km away from Addis Ababa and 172 Km away from the capital town of GamoGofa Zone, Ethiopia. In the District, there are 35 rural and one urban kebeles. There are eight health centers, thirty-nine health posts, and 15 privet clinics. This Study conducted from March 15/2018 to April 15/2018.

Study Design

A Community based cross-sectional study was conducted.

Population

All husbands whose wife gave birth in the last 12months in the selected kebeles of the district. Those who are critically ill during the data collection period were excluded from the study.

Sample Size Determination

The sample size for this study was determined using single population proportion formula with the following assumptions, Confidence level of 95%, power of 80%, 5% marginal error and $P = 50.8\%$ prevalence of husband involvement in birth preparedness and Complication readiness which is taken from study conduct in Ambo Town and 10% non-response rate [16]. The final sample size was 421.

Sampling Procedure

Simple Random sampling technique was used to select the study subjects, the district has 36 kebeles and 7 kebeles were selected by lottery method, and then the calculated sample size was allocated proportionally to each kebele with consideration of the estimated number of husbands per each kebele. Then the sampling frame containing a list of all married women, who gave birth in the last 12 months, was obtained from a family folder of health posts. Finally, from the list, wives who gave birth in the last 12 months were selected randomly and their husbands interviewed in a private place around their home. Those husbands who were not available at first visit were revisited for three times.

Data collection procedures

The data collection tool was initially adapted from the survey tools used for maternal and neonatal health program which was developed by JHPIEGO [15]. Also, it was adapted from published relevant literature [16–21]. Initially, it was prepared in English. The English version of the questionnaire was translated to the Amharic language than to local language (*Gammotho*) and back-translated to English by language experts to check for its original meaning. The data were collected by using face-to-face interviewer-administered and pre-tested structured questionnaires. A total of eleven diploma clinical nurses and 4 health officers were recruited for the data collection and supervision of data collection process respectively. Both data collectors & supervisors were given a day-long intensive training on the data collection methods.

Data quality management

The data collection questionnaire was pre-tested on (5% of sample size) in Kucha town which was one of unselected kebele. Based on the pretest, the logical sequence, as well as skip patterns of the questions, was modified. Moreover, the time needed to complete an interview and the total number of days needed for data collection was estimated. Appropriate training for data collectors and supervisors that include a briefing on the data collection process of the study, discussing the contents of the questionnaire were carried out. The overall activity of data collection was supervised and coordinated by the supervisors. Each after data collection the collected data were checked for its completeness by the principal investigator. The variables were defined or coded, then the data editing was carried out during entry of data.

Data processing and analysis

Data were entered into EpiData version 4.4 software and then exported to SPSS version 24.0 statistical package for social science (SPSS) for analysis. Then, the data were cleaned to check for errors, and missed values and error identified were corrected. Descriptive statistics using frequencies, percentages, mean and standard deviations were used to describe findings. Bivariable logistic regression analysis was used primarily to check which variables had an association with the dependent variable individually and multivariable logistic regression was conducted to identify independent predictors of husband involvement during birth preparedness and complication readiness. Those variables that had P-value of < 0.25 were selected for multivariable analysis. Both crude and adjusted odds ratios (AOR) with the respective 95% confidence intervals (CI) was reported and interpreted. Multicollinearity was checked using a variance inflation factor. The model fitness test by Hosmer and Lemeshow as well as an omnibus test which had non-significant and significant test result were tested respectively.

Results

Socio-demographic background of respondents

A total of 421 husbands were included in the study with a 100% response rate. The mean age of the respondents was 34.11 ± 5.5 years. Around half, 206 (48.9%), of them were in the range of 30 to 39 years old. Regarding their ethnicity, the majority (72.7%) were Gamo and 102 (24.2%) of them were government employees (Table 1).

Level of husband involvement in BPCR

In this study husband's involvement in at least two components of BPCR were considered as involved in birth preparedness and complication readiness. Accordingly, less than half of the husbands, 127 (30.2%) were involved in birth preparedness. Among those 174 (41.3%), 122 (29%) of husbands were having a plan for a place to give birth and saving money respectively (Table 2).

Table 1. Socio-demographic characteristics of respondents in Kucha district, Gamo Gofa zone, southern Ethiopia, 2018

Variables	Response options	Frequency	Percent
Age in years	30-39	206	48.9%
	40-49	215	51.1%
ethnicity	Gamo	306	72.7%
	Gofa	14	3.3%
	Wolaita	46	10.9%
	Amhara	55	13.1%
Husbands' educational level	No formal education	27	6.4%
	Primary education	161	38.2%
	Secondary and above	233	55.3%
Wife's educational level	No formal education	56	13.3%
	Primary education	221	52.5%
	Secondary education	93	22.1%
	College and above	51	12.1%
Occupation	Gov. employee	102	24.2%
	Private employee	13	3.1%
	Merchant	77	18.3%
	Daily laborer	79	18.8%
	Farmer	150	35.6%
Religion	Protestant	233	55.3%
	Orthodox	137	32.5%
	Muslim	51	12.1%
Source of monthly income	Yes	166	39.4%
	No	254	60.6%
Average monthly income in ETB	500-1000	34	20.5%
	>1000	132	79.5%
Place of residence	Rural	324	76.9%
	Urban	97	23.0%
No of wives currently present	One	402	95.5%
	≥two	19	4.5%

Table 2: Husband participation in birth preparedness and complication readiness in Kucha district, Gamo Gofa zone, Southern Ethiopia, 2018.

Variables	Category	Frequency	Percent
Saving money	Yes	122	29%
	No	299	71%
Selection of skilled care provider	Yes	20	4.8%
	No	401	95.2%
Plan for a place to give birth	yes	174	41.3%
	No	247	58.7%
The arrangement of means of transportation	Yes	102	24.2%
	No	319	75.8%
The arrangement of blood donor in case of complication	Yes	7	1.7
	No	414	98.3
Overall husband involvement	Involved	127	30.2%
	Not involved	294	69.8%

Determinants of husband involvement in birth preparedness and complication readiness

In the bivariate analysis significant association was observed between the educational levels of husband, educational level of wife, knowledge on danger sign of pregnancy, frequency of ANC follows up, health care provider who assisted delivery, arrangement of means of transportations and distance to reach health facility with husband involvement in birth preparedness and complication readiness.

After adjusting for the effect of confounding variables using multivariable logistic regression, educational level of husbands, a number of ANC follow-up, the arrangement of transportation mechanism and distance to health facility have a statistically significant association with husband involvement in birth preparedness and complication readiness. Husbands who attend secondary and higher level of the school were 3.1 times more likely involved in birth preparedness and complication readiness than those who attend primary and below the level of school with (AOR = 3.1, CI (1.84–5.23)). Husbands whose wives had ANC follow up four and above were 4.91 times more likely to involve in birth preparedness complication readiness than those who received ANC follow up twice (AOR = 4.91, CI (2.36–10.2)). Husbands whose house located far from a health care facility with a distance greater than 5km were 2.35 times more involved in birth preparedness and complication readiness than those near to health care facility with a distance of less than 5km with AOR = 2.35, CI = 1.403–3.96)). Husbands who arranged for means of transportation before delivery were 2.9 times more likely involved birth preparedness and complication readiness than those was not arranged for means of transportation with AOR = 2.9, CI (1.62–5.2). (Table 3)

Table 3: Factors associated with Husband involvement in Birth preparedness and complication readiness in Kucha district, GamoGofa zone, Southern Ethiopia 2018.

Variables	Response options	Husband Involvement		COR (95% CI)	AOR (95% CI)
		Involved	Not involved		
		N (%)	N (%)		
Educational level	Primary and below	39(9.3%)	148(35.2%)	1	1
	Secondary and above	88(20.9%)	146(34.7%)	4.7(3.01-7.33)	3.107(1.84-5.23) *
Wife's educational level	Primary and below	52(12.4%)	225(53.4%)	1	
	Secondary and above	75(17.8%)	69(16.4%)	2.28(1.47-3.55)	1.12(0.59-2.114)
Knowledge on danger sign of pregnancy	Yes	125(29.7%)	263(62.4%)	7.75(0.47-126)	3.79(0.16-88.5)
	No	2(0.5%)	31(7.4%)	1	1
No of ANC follow up	Twice	12(2.9%)	117(27.8%)	1	1
	Three times	31(7.9%)	95(22.6%)	3.25(1.95-5.4)	2.66(1.52-4.65) *
	Four and Above	84(20%)	79(18.8%)	10.6(5.45-20.7)	4.91(2.36-10.2) *
Distance to reach health care facility	Greater than 5 km	68(16.2%)	79(18.8%)	3.13(2.03-4.84)	2.35(1.403-3.96) *
	Less than 5 km	5.9(14%)	215(51.1%)	1	1
Arrangement of transportation	Yes	80(19%)	22(5.2%)	5.49(3.29-9.15)	2.9(1.62-5.2) *
	No	47(11.2%)	272(64.6%)	1	1

Note:*= p-value<0.05

Discussion

The finding of this study shows that 127(30.17%) of husband involved in birth preparedness and complication readiness. Husband educational status, Wife antenatal care follows up and husbands whose reside more than 5 km from health care facility were significantly associated with husband involvement in birth preparedness and complication readiness.

The level of husband involved in birth preparedness and complication readiness in this study found that 30.2% (95% CI: 25.8–34.6%) were involved in BPCR during pregnancy, labor and the postpartum period. This finding was relatively lower than studies conducted in rural Bangladesh, Endarta district, Ambo town and Wolaita Sodo town where 60.4%, 60%, 50.8% and 40% of husbands participated in birth preparedness and complication readiness respectively[5, 7, 9, 11, 22]. This might be due to different socio-demographic factors like a low level of educational and economic status in the district. However, this finding was relatively higher than the study done in the GamoGofa Zone and stud conducted in a rural hospital of Rwanda were 9.4% and 22.3% were involved during BPCR [4, 23]. This could be related to the time of the study, where the Ethiopian Governments give special

emphasis on health extension program to create awareness for rural communities on maternal health-related issues, in which the women and their family in the current study had sufficient opportunities to hear about the important components of birth preparedness and complication readiness. The community benefited from the arrangements by the government like free ambulance service.

In this study, husbands' educational level was one of the significant factors in promoting husband involvement in birth preparedness and complication readiness, Husbands who attend secondary and higher level of the school were more likely to be involved in birth preparedness and complication readiness than those who attend primary and below the level of school. This finding is supported by the study done in northern Nigeria and Ambo Ethiopia [10, 22]. This may indicate that as the educational status of the family gets improved, the health-seeking behavior of family may increase.

The frequency of ANC follow-up was a significant predictor for husband involvement in birth preparedness and complication readiness. Husbands whose wives had four and above ANC follow up were more likely to be involved in birth preparedness complication readiness than those who received ANC follow up. This finding was supported by a study conducted in WolaitaSodo town, Southern Ethiopia[2]. This might be due to the reason that most of the time information and counseling related to birth preparedness and complication readiness were provided for ANC attending women in the fourth or last visit.

Distance to the health care facility was one of the significant factors affecting husband involvement in BPCR. Husbands whose residence located far from a health care facility with a distance greater than 5 km were more involved than those near to health care facility with a distance of less than 5km. This finding in line with the studies conducted in WolaitaSodo town and Addis Ababa Ethiopia [2, 24]. This might be due to the husband located in a distance less than 5km was most of the time neglect due to the assumption that if the problem happens the health facility is nearly by their house and take birth preparation and complication readiness process as an easy task. This study showed there is a significant association between prior arrangements of means of transportation with husband involvement on BPCR. Accordingly, husbands who were arranging means of transportation before delivery were more likely to be involved in birth preparedness and complication readiness. This might be due to the assumptions that being ready by planning and arranging one component of BPCR prevent the occurrence delay in reaching health care facility.

Strength and limitations of the study

The finding of this study was unique that present BPCR in the form of a perspective of husbands' in a low-income country. The use of a standard tool, pretesting of the questionnaire before actual data collection and training and supervision to control the quality of the data add to the strength of this study. The limitation of this study is the use of a cross-sectional design, which may present difficulties in ascertaining the direction of causality between the variables analyzed. The study might be vulnerable to social desirability bias could arise from the fact that most men in this context would want to uphold or affirm social norms and masculinity values regarding the role of men as providers for the family and are potentially more likely to over-report their preparedness and readiness prior to delivery.

Conclusion

Husband's involvement in BPCR was 30.13% in this study area. Husband's level of education, the number of ANC follows up, distance to the health facility and arrangement of means of transportation were significant factors associated with the husband's involvement in BPCR. Therefore, interventions should be the focus on improving husband participation through promoting targeted policies and advocacies across all relevant stakeholders' levels, including community education for men and women. Efforts should be made by the health care system to assist and welcome both men and women at ANC and delivery care.

Abbreviations

ANC, Ante-Natal Care: AOR, Adjusted odds ratio: BPCR, Birth Preparedness and Complication Readiness (BPCR): CI, confidence interval: IRB, institutional review board: MMR, maternal mortality: VIF, variance inflation factor

Declarations

Ethics approval and consent to participate:

Before the study conducted ethical clearance obtained from the ethical review committee of Arba Minch University, College of Medicine and Health Sciences institutional review board (IRB). Written informed consent obtained using standard disclosure procedures. Individual identifiers were removed during transcription to maintain the anonymity of information.

Consent for publication: Not applicable

Availability of data and material: The data used to support the findings of this study are available from the corresponding author upon request.

Competing interests: The authors declare that there is no conflict of interest regarding the publication of this paper.

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Authors' contributions

Zinash Tantu participated in proposal writing, data collection, analysis, interpretation and critical review of the manuscript. *Teklemariam Gultie* participated in proposal writing, data collection, analysis, interpretation and critical review of the manuscript. *Wubshet Estifanos* participated in proposal writing, data collection, analysis, interpretation and critical review of the manuscript. *Negussie Bot* participated data analysis, interpretation and critical review of the manuscript. They also read and approved the final manuscript.

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