

Determinates for Institutional Delivery Service Utilizations among Mothers in Hammer District, Ethiopia: Evidence from Pastoralist Setting

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Abstract

Background: In Ethiopia, maternal mortality is one of the highest in the world. Reduction of maternal mortality is the priority area of many different countries. Institutional delivery service utilization is a critical approach in the prevention of maternal deaths. However, proportion of women utilizing institutional delivery services is very low. There are no updated evidences available for institutional service utilizations in the pastoralist areas of Hammer District, Southwestern Ethiopia.

Objective: To assess institutional delivery service utilization and factors hindering for institutional delivery utilization among mothers who gave birth in the last two years in the pastoralist Hammer District, South Omo Zone, Ethiopia.

Methods: A community-based cross-sectional study with internal comparison was conducted. All women residing in the area at least for five months and who had delivered in the last two years were included in the study.

Result: Only 30.2% of the mothers gave birth to their last baby in the health facilities. Residential set up [AOR = 2.485, 95% CI (1.325-4.659)], maternal education [AOR = 0.237, 95% CI (0.09-0.622)], age at first pregnancy [AOR = 1.83, 95% CI (0.77-4.348)], antenatal care follow-up [AOR= 0.062, 95% CI (0.019-0.201)] and total number of live births [AOR = 22.3, 95% CI (2.75-181.59)] had significant associations with institutional delivery service utilization ($p < 0.5$).

Conclusion and recommendation: Institutional delivery is unacceptably low in the study area. To make impact, there is a need of integrations of interventions to tackle factors hindering institutional delivery in these pastoralist area and health managers need to maximize promotion and advocacy to increase institutional delivery.

Keywords: Hammer district; Institutional delivery; Place of delivery; Utilization.

Introduction

Globally, 287,000 mothers die from complications of pregnancy and child birth. 1-3 Maternal death can be reduced by giving births at health facilities. Institutional delivery is any delivery that occurred in a modern health facilities and was assisted by medically trained professionals such as medical doctors, nurses and midwives. It is one of the key and proven interventions to reduce maternal death. 1-9 It ensures safe birth, reduce both actual and potential complications and maternal death, and increase the survival of most mothers and newborns. But most deliveries in developing countries occur at home without skilled birth attendants [4-9].

Many low- and middle-income countries tried their best to optimize key and effective maternal health interventions to improve maternal health. 10 But the progress made in reducing maternal deaths was very far from the Millennium Development Goal (MDGs) targets. It was very slow in African and South Asian countries. 6,7,11 Sub-Saharan Africa and Southern Asian countries accounted 85% of the global burden of the maternal deaths, yet this geographic area has only 11% of the world's population. 1-3 The proportion of birth attended by skilled health workers varies across the regions. Nearly all births in developed countries, 61.9% in less developed countries, 35.3% in the least developed countries and 33.7% births in Eastern Africa were attended by skilled health personnels [1].

Maternal mortality remains major challenges to the health system worldwide. In Ethiopia, institutional delivery service utilization at national level was very low, which is only 10%. Whereas, 6.2% in Southern Nations, Nationalities, and Peoples' Region (SNNPR) of births were assisted by skilled health care providers. 2 The Millennium Development Goals (MDGs) were adopted to reduce maternal mortality ratio by three-fourth by 2015. While, the progress towards achieving this goal is not on the track and is too slow to meet the set target in most African countries [4-6]. Home delivery is common in many developing countries including Ethiopia. For example, 42% of women in Malawi 7, 69% in Nepal 9, 70% in Northern Nigeria 11, 74% in Pakistan 12 and 87.6% in Eastern Burma 13. Similarly, 95% of women in SNNPR gave birth at their home.

The government of Ethiopia committed to improve maternal health with a target of reducing maternal mortality ratio (MMR) to 267 per 100,000 live birth through multi-pronged approaches including provision of free delivery services [14] Home delivery mostly prolongs labor and is a recipe for Obstetric Fistula [15] The 2011 Ethiopian Demographic and Health Survey (EDHS) report showed that maternal mortality ratio in Ethiopia is 676 per 100,000 live births [2,8,12] The justification for this maternal death could be unavailability and low use of the available modern health services by most of women in Ethiopia [8,12]

South Nations Nationalities Peoples Regions of Ethiopia is one of the eleven regions of Ethiopia with 15 administrative zones and 7 special Woredas. This area is the most meagerly occupied part of Ethiopia, which is inhabited by pastoralist and semi-agrarian ethnic groups. Infrastructures of the Zone can be described as weak and for the most part non-existent; this is a neglected and marginalized zone of the country. It also observed that the South Omo Zone is one of Ethiopian's socially most diverse zones, which contains nearly 20 different ethnic groups. Therefore, social diversity compounds the existing problems of isolation, acute shortage of basic healthcare infrastructures and scarcity of healthcare professional and technical man-powers.

According to the South Omo Zone, Health Department Annual Administrative Performance Report in 2019, Hammer, Dasenech, Salamago and Gngatom were achieved low institutional delivery than any other Woredas in the region [16]. Factors affecting institutional deliveries are poorly understood and there is no previous research conducted in the pastoralist settings of Hammer District. Therefore, the objective of this study was to assess institutional delivery service utilization and to identify the factors hindering for utilization of institutional delivery service among mothers who gave birth in the last two years in the Pastoralist Hammer District, South-Western Ethiopia.

Methodology

Study Area and Period

This study was conducted in Hammer District, South Omo Zone, South-Western Ethiopia. Hammer is located 750 km South of Addis Ababa and 525 km South-West of Hawassa. Hammer District have two urban and thirty-six rural Pastoralist Kebeles' (the smallest administrative unit). The district has also 3 health centers, 38 health posts, 3 private clinics and 2 drug stores. According to the 2007 Housing and Census projections, the district has a total population of 74,968 of which 17,468 women are in their reproductive age groups. With regard to number of healthcare workers, there are 7 Health Officers, 23 Clinical Nurses, 8 Laboratory Technicians, 3 Sanitarian, 6 Druggist, 8 Midwives and 41 Health Extension Workers.[16]

Study Design

A community-based cross-sectional study with internal comparison was conducted to assess institutional delivery service utilization and to identify the factors for utilization of institutional delivery service among women of reproductive age group who had at least one birth in the last two years.

Population

Source Population

All child bearing age women who gave birth in the past two years from October 2019 to November 2020.

Study Population

Study population were all child bearing age women who have gave birth within the two years' duration both at a health facility and home delivery in the selected Kebeles'.

Sample Population

Sample of child bearing age was women who gave birth in the past two years preceding the study in the kebele.

Inclusion and Exclusion Criteria

Inclusion criterion were all child bearing age women with having birth in the last two years' and the exclusion criterion were all child bearing age women who are critically ill during the data collection period and unwilling to take part in the study.

Sample Size Determination

Sample size for the first objective was determined by using a single population proportion formula by utilising the following assumptions:

Standard normal distribution (Z) = 1.96,

Confidence Interval (CI) = 95%,

Proportion (p) = 6.2%12,

Margin of error (d) = 3% (since institutional delivery utilization is low in the area),

Design effect (D) = 1.5, and

Non-response rate = 7%.

Therefore, sample size (n) = $Z^2 * p(1-p)/d = (1.96)^2 * 0.062(1-0.062)/0.03^2 = 248 * 1.5 = 372 * 0.07 = 398$.

Sample size for the second objectives was determined by utilising different risk factors of institutional service utilizations by considering case as a health facility and control home delivery. The total sample sizes for variables are illustrated in the following table, which was calculated by using Epi info software.

Table1: Summary of sample size for the second objectives.

Factors	Study in	Expected frequency of exposure in the control group	CI 95%	Study power 80%	OR	Ratio of ill to Not ill (1:8)	Sample size

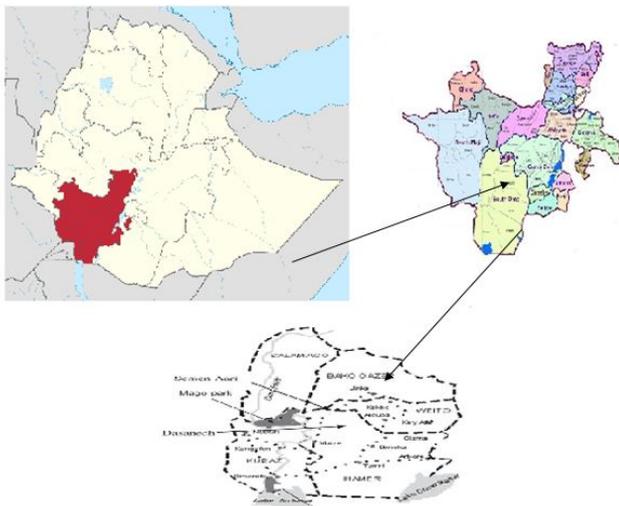
Education	(48)	74.3 %	95%	80%	5.7	37:29 6	296
Antenatal Care	(48)	72.3 %	95%	80%	6.0	33:26 4	294

The sample size calculated from first objective 398 was taken as the sample size for the study because it is greater than sample sizes computed in the second objectives and expected to show better associations.

Sampling Methods

Multi-stage sampling technique was used to select the study subjects. Hammer district has 36 Kebeles. From these 36 Kebeles, 9 Kebeles were selected by utilising simple random technique (lottery method). Mothers who gave birth in the past two years prior to the study were taken from the registrations in the health posts in nine kebeles. All eligible women were listed in the checklist. Then, proportional distribution of the sample size for each selected kebele was done. Finally, mothers were selected by using systematic random sampling methods. If women identified as critically ill in the selected household, then the next household located in the right direction with eligible women were selected based on the checklist prepared from the health posts.

Figure1: Administrative map of South Omo Zone, Southern Ethiopia.



Data Collection Tools and procedures

Socio-economic and health-related data were collected on mothers like: age, marital status, family income, place of residence, educational status, occupation, educational status of husband, occupation of husband, age difference between mothers and husband, institutional delivery service utilization, distance from health facility, family size, and presence of radio. Obstetrics variables such as: age at first pregnancy, antenatal care visit, parity, gravidity, knowledge towards the antenatal care and delivery service in the health facilities were also gathered. Data was collected through face-to-face interviews using interviewer-administered, structured questionnaires by house to

house visit. The structured questionnaire was originally prepared according to the objectives of the study. Some questions were developed from different literatures and the Ethiopian Demographic and Health Survey report, which was translated into the local language (Hammer) by a language expert. Each sections that showed any discrepancies were revised by the researcher and data collectors. Six students who completed grade 12 were recruited as a data collector. The data collectors and supervisors were trained mainly on the objectives of the study, how to conduct face-to-face interviews and how to keep confidentiality of the information gathered from the study subjects. Then, data were collected by using a face-to-face interview after pre-testing in a similar setting of the study area.

Data processing and analysis

After the collection of all the necessary data, it was checked for its completeness and consistency. Then it was coded on pre-arranged codes. Data were entered and cleaned on Epi Info version 3.5.1 and data were exported into SPSS version 24 for cleaning and analysis. Univariate analysis was done by using frequencies, percentages, tables and charts. The associations between dependent and independent variables were also assessed by using odds ratio (OR) and 95% CI. The relative contributions of each selected variables to the outcome of interest are also assessed by using bivariate and multivariate analysis. The variable with a p-value of ≤ 0.25 with 95% CI were chosen to be analysed by a multivariate analysis.

Data Quality Management

All of the data collectors and supervisors were trained for 2 days. The questionnaire was initially prepared in English and then translated into local Hammer language and then translated back to English. Before data collection, the structured questionnaire were pre-tested in Kako and Alduba Kebeles to check the its consistency. A total of 20 mothers were interviewed: 10 mothers from Kako Kebele and 10 mothers from Alduba Kebele. After the pre-test, discussions were conducted with the data collectors and supervisors. After the discussion appropriate revision was done on questions. Data were checked in the field to insure that all of the information were properly collected or recorded. Data were collected by grade 12 students who can speak both Amharic and Hammer languages. The data collection process was supervised by one Health Officer, who have a bachelor degree in health officer and had prior experiences on data collectors supervision.

Study Variables

Dependent Variables: institutional delivery service utilization of the last child

Independent variables:

Socio-demographic variables: maternal age, maternal education, parental education, ethnicity, religion, traditional beliefs, women autonomy, residence and community networks.

Scio-economic: information availability, health knowledge and household wealth.

Cultural: belief and attitude.

Health facility, obstetrics and reproductive health characters: distance to health facility, transportation method to health facility, type and quality of health services, birth complications, antenatal care visits, intention to deliver at health facility, age at first pregnancy, age at first marriage, parity and gravidity.

Operational Definitions

Pastoralist: community that practice herding as the primary economic activity of a society [17]

Institutional delivery service utilization: is expressed as the proportion of women who were in need of institutional delivery services who are actually received the care within a given period of time in a health facility [18].

Recently delivered women: women who had a delivery within the period of two years preceding to the period of data collection [19].

Maternal death: is the death of a women while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes [20].

Knowledge: at least three of the accepted danger signs mentioned [21].

Settled residence: a settlement pattern refers to the way that buildings and houses are distributed in a rural settlement [22].

Attitude: the established ways of responding to situations that have learned, based on the beliefs, values and assumptions through behavior [21]

Ethical Considerations

The study protocol was reviewed and approved by Arbaminch University, Ethical Review Committee. A letter of permission was obtained from South Omo Zonal Health Department and Hammer district health office. The purpose of the study, potential risks and benefits and the rights of participants were explained in detail for the study subjects. Verbal consent was obtained from each study subjects after explanations about the study. To ensure confidentiality, we kept the collected information in a strict secret and accessed by the research teams only. Furthermore, the data collectors did not take the name of study subjects and all records were coded.

Results

Out of 398 women, 397 have been participated in the survey which gave a the response rate of 99.75%. The majority of the participants 131 (33%) were in the age group of 30+ years and the least of the participants 13 (3.3%) were between 15-19 years old. Of the total respondents, 257 (64.7%) were followers of Traditional Religion, which is followed by Protestant Religion 88 (22.2%). Regarding to the marital status of the participants, majority, 364 (91.7%) were found to be married. Out of the total respondents, 278 (70%) mothers reported that their husbands

are pastoralists. The majority of the respondents, 339 (85.4%) were not settled permanently in one place. About 236 (59.4%) of the respondents were not attended formal education. Whereas, 36 (9.1%) of the mothers have had attended secondary school and above. With regard to household average monthly income, 270 (68%) mothers reported that they earn less than 1000 Ethiopian Birr (Table 2).

Table2: Socio-demographic characters of women in Hammer District, South-West Ethiopia.

Variables		Frequency (n = 397)	Percent (%)
Age in years	15-19	13	3.3
	20-24	87	21.9
	25-29	131	33
	30+	166	41.8
Religion	Orthodox	52	13.1
	Protestant	88	22.2
	Traditional	257	64.7
Marital status	Divorced	7	1.8
	Married	364	91.7
	Separate	7	1.8
	Widowed	19	4.8
Residential setup	Settled permanently	58	14.6
	Not settled permanently	339	85.4
Educational status of mothers	Illiterate	236	59.4
	Grade 1-8	125	31.5
	Grade 9 and above	36	9.1
Estimated household income in Ethiopian birr	≤ 500	69	17.4
	500-1000	205	51.6
	≥ 1000	123	31

Obstetric characteristics of the respondents

The age at which first marriage and pregnancy begins can have a major impact on the health of both mother and child. In this study, the mean (\pm SD) age at first marriage and at first pregnancy were 14.2 ± 2.5 years and 18.3 ± 2.45 , respectively. Sixty-seven percent (67%) of the participant married at the age of ≤ 18 years and fifty-eight percent (58%) of the mothers had got their first pregnancy at their early age (≤ 18 years). Of the total number of pregnancies, 72.8% had five and less number of pregnancies and only 69.5% of the mothers had got antenatal care services for current birth. Most (88.8%) of the mothers responded that behavior of the healthcare workers providing antenatal care services is good. Out of 397 respondents, only 48% were visited by health extension workers at home in the

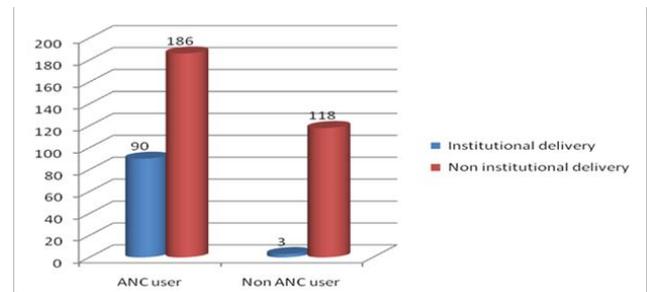
last pregnancy. Sixteen (4.1%) of the mothers make decision to went to the healthcare facility to utilize services was made by themselves, 261 (65.7%) mothers went to healthcare facilities a decisions made by themselves and their partner/husband and the remaining 120 (30.2%) mothers were attended based on a decision taken by male partner/husband. With regarding to place of delivery, 304 (76.6%) of respondents delivered at home and the rest 93 (23.4%) mothers were delivered at the health institutions. Majority of the home deliveries 58.5% (N=161) were assisted by traditional birth attendants, which is followed by relatives 22.7% (n=63). The following table illustrated the obstetrics and other characteristic variables of mothers.

Table3: Obstetric characteristics of mothers in Hammer District, South-West Ethiopia.

Variables		Frequency (n=397)	Percent (%)
Age at marriage	<18 years	266	67.0
	>18 years	131	33
Age at first pregnancy	<18 years	230	57.9
	>18 years	167	42.1
Number of pregnancy/gravity	One	17	4.3
	2-4	228	57.4
	≥ 5	152	38.3
Outcome of last pregnancy	Live birth	378	95.2
	Still birth	19	4.8
Total number of live birth/Parity	Five and less	315	79.3
	Six and more	82	20.7
ANC visit in last pregnancy	Had at least one ANC	276	69.5
	Had no ANC	121	30.5
Knowledge on danger signs of pregnancy	Yes	160	40.3
	No	237	59.7
Final decisions	Self	16	4.1
	Husband	261	65.7
	Both wife and husband	120	30.2
Place of delivery for last child	Home	304	76.6
	Institutional	93	23.4
Assistance at home delivery	Traditional birth attendant	161	58.5
	Relatives/friends	63	22.7
	Neighbors	51	18.3

(Figure 1) have shown that out of 186 antenatal care users, 90 women were attended institutional delivery services. Whereas, only 3 women were attended institutional delivery services from those who had no history of antenatal care follow-ups (Figure 2).

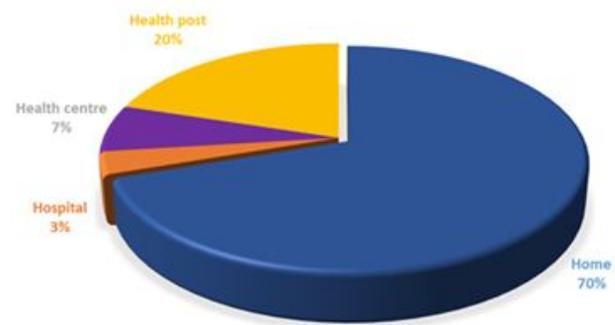
Figure2: Place of last delivery categorized by ANC service use during pregnancy.



(Figure 2) Place of last delivery categorized by ANC service use during pregnancy

Out of the total 397 women who gave birth in the last two years, 30.2% of them had delivered in the health facilities (hospitals, health centers and health posts), while other women were delivered at home (69.8%). Figure 3 below showed that 3.3% of the mothers were gave births at hospitals, 20.1% were delivered at the health centers and the remaining 6.8% were delivered at the health posts.

Figure3: Place of delivery for the last child.



Factors associated with Institutional delivery service utilizations

In order to identify factors associated with institutional delivery service utilizations, bivariate and multivariate analysis were applied. Variables with p-value of ≤ 0.25 in bivariate analysis were included in the next multivariate analysis. Crude and adjusted odds ratio were calculated by considering level of significance 5% and 95% confidence interval. After controlling for possible confounders, the association between selected variables and institutional delivery service utilizations was analyzed.

Residential set up, educational level of mothers, age at first pregnancy, antenatal care visit, final decision on institutional delivery, preference for burial of the placenta and number of live births were found to have statistically significant association with the dependent variable: institutional delivery service utilizations. This is presented in Table 3 below. Mothers who are settled permanently in one place were 2.485 times more likely to deliver at the health institution than those mothers who were not settled permanently [AOR=2.485, 95% CI (1.325-4.659)].

Additionally, mothers who was not attended any formal education were less likely to delivery at health institutions as compared with those mothers who were attended grade 9 and above education [AOR=0.237, 95% CI (0.09-0.622)]. Regarding to age at first pregnancy, mothers with age 18 years and above were more likely to deliver at health institutions than those mothers who had first pregnancies with age less than 18 years [AOR=1.83, 95% CI (0.77-4.348)]. Furthermore, Among mothers who have attended ANC services during last pregnancy were found to be more likely to use health institutions for child birth when compared with mothers who had ANC visit [AOR = 0.062, 95% CI (0.019-0.201)]. Concerning to the final decision made to attend institutional services, mothers who made decisions on institutional delivery with their husbands were found to be 1.73 times more likely to deliver at health institutions than those mothers who decided by themselves [AOR=1.73, 95% CI (0.764-3.9)]. Mothers who prefers for burial of placenta around home were less likely to deliver at health institutions than those mothers who did not want to buried their placenta [AOR=22.3, 95% CI (2.75-181.59)]. Mothers who delivered for the first time at health institutions were 37.9 more likely to deliver again at the health institution than mothers with five and more live birth [AOR=37.9, 95% CI: (9.7,148.1)].

Table3: Factors associated with institutional delivery in Hammer district, Southwestern Ethiopia.

Explanatory characteristics	Institutional delivery		Crude OR (95% CI)	Adjusted OR (95% CI)	P-value
	Yes	No			
Residence					
Settled permanently	26	32	1	1	
Not settled permanently	67	272	3.299 (1.842,5.906)	2.485 (1.325,4.66)	<0.0001
Mothers educational status					
Illiterate	23	213	0.461 (0.217,0.978)	0.237 (0.09,0.622)	
Grade 1-8	49	76	0.077 (0.035,0.17)	0.67 (0.29,1.55)	0.03
Grade 9 and above	21	15	1	1	
Age at pregnancy					
Less than 18 years	48	218	1	1	<0.0001
18 years and above	45	86	0.42 (0.261,0.678)	1.83 (0.77,4.348)	
ANC at last pregnancy					

Had no ANC visit	3	118	0.053 (0.016,0.17)	0.06 (0.019,0.201)	<0.0001
Had at least one visit	90	186	1	1	
Decision delivery place					
Both	51	69	5.57 (1.13,23.779)	1.73 (0.764,3.9)	
Husband	40	221	1.267 (0.277,5.789)	0.59 (0.314,1.116)	<0.0001
Self	2	14	1	1	
Preference for burial of placenta around home					
Yes	1	74	29.6 (4.055,216)	22.3 (2.75,181.59)	0.004
No	92	230	1	1	
No. of live births/parity					
One	13	4	41.7 (11.6,149.48)	37.9 (9.7,148.1)	
02-Apr	69	159	5.56 (2.831,10.93)	4.233 (2.11,8.478)	0.01
≥5	11	141	1	1	

Discussion

This study is community-based study among a randomly selected Kebeles in Hamar District, Southwestern Ethiopia. It examines institutional delivery service utilizations and identify factors affecting mother's preferences of place of delivery. This study showed that institutional delivery service utilization in the study area was very low (30.2%). This finding is greater than the report made by EDHS in 2011 for Southern Nations Nationalities Peoples Region, which is 6.2%.^{23,24} The reason for the differences might be due that the government had committed to enhance institutional delivery services in the region and as well as in the district through utilising advocacy workshops at different levels. The delivered this services by making any pregnancy related services including delivery free of charge, distributing ambulances and integrating maternal services into the health development army. Additionally, the time gap from 2011 upto 2019 is almost eight years that could bring improvements in accessing and utilizing the services. The study also revealed that proportion was much lower than other studies done in Afar region, Dupiti and Asayta Towns in which institutional delivery service utilization rate was 54.2%.²⁵

Concerning to the residential set up, mothers living in rural areas were less likely to give birth at health institution than urban mothers.²⁴⁻²⁹ The report from 2011, EDHS revealed that large differences existed in many key health indicators in relation to residential set up in Ethiopia. This showed that living in rural area in unsettled manner were a barrier to seek a modern healthcare services. Additional explanation might be also those

women who are residing in urban areas might have been a better chance for exposure into health-related information, easy accessibility for health facilities and low exposures for traditional beliefs.

This finding also showed that mothers who had educational level of secondary and above were more likely to utilized healthcare services than those mothers who had not attended any formal education. This finding was consistent with previous studies done in different part of the country [22-27] They stated that educational status of mothers were the most significant associated factors for utilization of institutional delivery services. This may be due that education enhances female autonomy and increasing mother's ability to make decision by them regarding to utilization of institutional delivery services. It also increases the knowledge of anticipating danger signs of pregnancy and what services are provided by different health facilities. Consequently, the more educational status attained by the mothers, the higher to be aware of difficulties happened during their pregnancy period and child birth, the more likely to utilised institutional services provided by healthcare facilities.

Age at first pregnancy was showed a statistical significant association with institutional delivery. This finding is consistent with previous studies.28-30 The possible explanation might be that negative attitude towards health seeking behaviors and they might be prone to different types of cultural beliefs.

In this study, antenatal care had a significant association with institutional delivery. This study is consistent with studies done in different parts of Ethiopia which revealed that receiving early and on time ANC advice will prepared mothers for child-birth and encourage them to give birth in the health institutions. This may be supported by that majority (68.3%) respondent were not read and write, so ANC follow-up had great effects in changing of attitude and behavior of the women. This might make illiterate women not to easily acquire new knowledge and health information. From this finding we can say that focused antenatal care follow-up is very important to enhance institutional delivery service utilizations.

Decision making was an important factor on the attendance of services provided by health facilities at different levels. Mothers who made decision on institutional delivery service utilizations with their husbands were more likely to give births at the health institutions. This finding is also consistence with a study done by Abera, Gebremariam & Belachew 2011. There is a growing awareness of need to involve men in all stages of healthcare service delivery. Men need to be targeted as key elements in improving institutional delivery service utilizations.

Women who were preferred to buried placenta around home were less likely utilize institutional delivery services than those who did not want buried. This finding is contrarily to the advice offered by health professionals at health facilities, where placenta should be discard by a placenta pit. But, on the other side, this finding is consistence with study done in Woldia, Ethiopia [34]. The reason may be due to traditional belief of by the community as placenta should be buried in the dry soil so that the child would not suffer from any cold or cough at later age. Also they believed that placenta must be buried in certain

manner for a woman to continue bearing children. Regarding to mothers with five and more live births were [41]. Times less likely to deliver at health institution than mothers with one live birth. There are numerous explanations for this predictor.35-38 Women who has one child or few number of children had motivated and interested to utilize maternal health services than those mothers with more than five children, because of social and economic factors [39]

Other variables like age and marital status did not showed any statistically significant between dependent and independent variables. These could be because of differences in research methodology, sample size and selection of dependent and independent variables. Strengths of the study were we tried to reveal the proportion of women who utilised healthcare services and factors that hinders them not to attend institutional deliveries. The limitations of our study is that the effect and temporal relationship between the outcome variable and independent variables might be weak due to the cross-sectional nature of the study. Additionally, this study was conducted in pastoralist community, so further study will be necessary to generalize the finding into other agrarian districts.

Conclusion

This study has revealed that institutional delivery by mothers in the area is very low, 30.2%. Residential set up, maternal education, age at first pregnancy, ANC visit, final decision made on institutional delivery, preference on burial of placenta and number of live births are associated factors that hinders institutional delivery utilization. A collaboration efforts between governmental and non-governmental organization should focused on the designing of interventions to tackle these factors for institutional delivery utilization. Women educational programs and empowerments are essential concepts to improve institutional delivery utilization. Health professionals and healthcare program managers should be aware of these hindering factors to promote quality of pregnant mothers cares.

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