ORIGINAL RESEARCH

Magnitude and factors influencing pastoralist women's maternity waiting home utilization in Teltelle district, Ethiopia: A cross-sectional study

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Abstract

Background and Aims: Pastoralists in Ethiopia benefit the least from health-sector advances compared to the country's agrarian population. Maternity waiting homes (MWHs) have been established to provide mothers living in remote regions with access to skilled healthcare services during pregnancy, delivery, and postpartum periods. However, there is a dearth of data on the utilization of MWHs in pastoralist areas.

Objectives: To assess maternity waiting home utilization and its associated factors among pastoralist women who gave birth in the last 12 months in Teltelle district, Southeastern Ethiopia; 2021.

Methods: A community-based cross-sectional study was undertaken from March 1 to June 20, 2021. A multistage sampling technique was used to select the 458 study subjects. A pretested structured questionnaire was used to gather the data. For data entry and analysis, Epi-data version 4.4.3.1 and SPSS version 25.0 were utilized respectively. Models of bivariate and multivariate logistic regression were utilized to identify associated factors. In the multivariable analysis, variables with $p < 0.05$ were declared significantly associated with maternity waiting home utilization.

Result: A total of 458 pastoralist women participated in the study. From the total participants, 26.64% [95% confidence interval: 22.57%–30.70%] of women utilized MWHs. Women's husband education status, complications during their last pregnancy, family support to MWHs, and community involvement and support were found to be significantly associated with the utilization of MWHs.

Conclusion and Recommendation: This study found that utilization of MWHs was significantly lower in pastoralist areas of Ethiopia than in agrarian areas. Previous pregnancy complications, family support, husband's literacy, and community support were all significantly associated with improved maternity waiting home utilization. Encouraging community participation and family support are recommended to

1 | INTRODUCTION

Maternity waiting homes (MWHs) are housing facilities set up in healthcare settings to accommodate pregnant women who are in their term state of pregnancy to avoid difficulties associated to labor and delivery. Women who live far away from medical facilities can wait in residential homes before giving birth there.[1] MWHs are crucial in reducing maternal and newborn mortality because they prevent delays in getting obstetric care provided by healthcare professionals at healthcare institutions.[2]

Globally, Sub-Saharan African and South Asian countries bear a disproportionate share of the maternal mortality burden.[3] To address these problems, a new global target was set in 2015 under the Sustainable Development Goals (SDGs) to maintain the momentum gained by the millennium development goal. The SDGs aim to reduce maternal mortality to as few as 70 deaths per 100,000 live births by 2030.[4] Utilization of MWHs has been found to decrease maternal mortality by 80% and stillbirth rates by 73% in developing countries.[2] A study conducted in Ethiopia showed that hospitals with MWHs reduced direct obstetric problems by 49% and perinatal mortality by 47%.[5]

Despite a significant reduction in maternal mortality rate, Ethiopia remains one of the nations with the highest maternal mortality rates in the world. Although access to primary health coverage has increased from 50.7% in 2000 to more than 90% in 2019, the universal health coverage service coverage index remains at 43%.[6] Further, there is a disparity between antenatal care (ANC) coverage and skilled birth delivery. This implies that women receiving ANC services were giving birth at home due to different factors.[7]

Expanding MWHs usage is thus a valuable option for timely and suitable intervention. As a result, the World Health Organization (WHO) highly recommends and encourages the establishment of MWHs at every health facility in developing countries.[8] In Ethiopia, half of the health facilities had an MWH, but those in pastoralist areas were often under-resourced.[5] Pastoralists in Ethiopia, which has an estimated population of 15 million people, benefit the least from health-sector advances compared to the country's agrarian population.[9] As evidenced by a few findings in the literature, health facilities with inadequate infrastructure and budget, frequent movement of pastoralists in search of grazing space, and their traditional behaviors all contributed to limited usage of institutional delivery.[5,10] Furthermore, little has been done to document their MWHs utilization.

In Ethiopia, majority of the research did not address the reasons for home-delivered women's nonutilization of MWHs since most of them were carried out at a health facility and the remaining studies mostly focused on women's intention to use MWHs service rather than use. Moreover, little is known about the factors that specifically impede the utilization of MWHs in the pastoralist area of Ethiopia. An understanding of MWHs utilization and factors influencing its usage among pastoralist women can generate useful information to improve MWHs utilization and institutional delivery services as a whole for pastoralist communities in this country. Therefore, this study aimed to assess pastoralist women's MWHs utilization and associated factors in Southeastern Ethiopia.

2 | METHODS

2.1 | Study design and setting

A community-based cross-sectional study was conducted from March 1 to June 15, 2021. The study was conducted in the Teltelle district, Borena zone, Oromia regional state, Southeast Ethiopia, which is located about 668 km Southeast of Addis Ababa, the capital city of Oromia regional state and Ethiopia (See Supporting Information Material 1). The community in Borena zone is pastoralist and sparsely populated, with the major portion of their livelihood based on livestock. Telltale district is one of a pastoral area with an arid and semi-arid climate. The district has 4 government health centers for the 86,173 catchment area population, and all health centers have functional MWHs.

2.2 | Participant information and eligibility

2.2.1 | Source population

All women in the reproductive age group (15−49) in Teltelle district.

2.2.2 | Study population

All women living in selected kebeles who gave birth in the last 12 months before the study period in Teltelle district.

2.2.3 | Sampling unit

This study has two sampling units. The first one was kebele; the lowest administrative structure in Ethiopia comprising an average of

5000 population (1000 households).[7] The second sampling unit was women (individuals).

2.2.4 | Eligibility criteria

Women who gave birth within the last 12 months in the randomly selected kebeles were included while women who were seriously ill throughout the data collection period were excluded.

2.3 | Sample size determination, sampling technique and procedure

Sample size determination: The sample size for this study was determined for both specific objectives separately and the larger sample size was selected to become this study's sample size. For the first objective (magnitude of MWH utilization), the sample size was determined using a single proportion formula by considering the following assumptions; the proportion of MWHs, 23.6%,[11] 95% level of confidence, design effect of 1.5, and a 5% margin of error.

Therefore, $= \frac{(Z_{\alpha/2}^2)p(1-p)}{d^2}$, Where, n = required sample sizes, α = level of significance, z = standard normal distribution curve value for 95% confidence level = 1.96, p = proportion of maternity waiting home utilization, and d = margin of error.

$n = \frac{(1.96^2)(0.236(1-0.236))}{0.05^2} = 277, = 277 \times 1.5 = 415.5 \approx 416$, by anticipating a 10% nonresponse rate, the sample size for the first objective became 458.

For the second objective (factor associated with MWH utilization), the sample size was determined using two population proportion formulas and calculated using Epi-info version 7.1.5.2. The variables were chosen depending on their strength of association (adjusted odds ratio [AOR]) with a dependent variable from previously conducted studies on this particular topic.[12,13] The sample size determined for the first objective was found to be greater than the second objective. Therefore, the final sample size for this study became 458.

2.3.1 | Sampling procedure

A multistage sampling technique was used. Teltelle district has 21 kebeles, from these seven kebeles were randomly selected by lottery method. Based on the reports from the health extension workers and health development army (HAD), the total number of households with eligible women in the selected seven kebeles was identified. All women in selected kebeles who gave birth in the last 12 months before the study irrespective of delivery place (Facility or Home) and delivery outcome (live birth and stillbirth) were registered on single registration as a sample frame. Proportional allocation was done to each of the seven kebeles to draw the final sample size. Finally, the study subjects were

selected by using a simple random sampling technique (See Supporting Information Material 2).

2.4 | Variables of the study

2.4.1 | Dependent variable

Maternity waiting home utilization.

2.4.2 | Independent variables

Sociodemographic variables
Age of the mother, marital status, occupation, monthly income, women's education status, husband's education status, religion, and ethnicity.

Reproductive health and obstetrics-related variable
Parity, ANC follow-up, pregnancy-related complication, knowledge of mothers on MWH, women's attitude toward MWH utilization.

MWH-related and environmental factors
Distance from nearest MWH, mode of access to the facility, and having information about MWH benefits.

Social and family support
Have decision-making power on MWHs, and community support regarding MWH.

2.5 | Operational and key term definitions

2.5.1 | MWH utilization

Those women who stayed in the MWH before delivery starting from 24 weeks of pregnancy duration and above in their last pregnancy.[1]

2.5.2 | Knowledgeable on MWH

Responses to knowledge questions were summed up, and a total score was obtained for each respondent. The median score was calculated and those who scored equal to or greater than the median were categorized as having "good Knowledge/knowledgeable" and those who scored below the median were categorized as having "Poor knowledgeable" of MWH utilization.

2.5.3 | Attitude of MWH

A 5-point Likert scale response was summed up and a total score was obtained for each respondent. The median score was calculated and

those who scored equal to or greater than the median were categorized as having a "favorable attitude/Positive" and those who scored below the median were categorized as having an "unfavorable attitude/Negative attitude" toward MWH utilization.

2.5.4 | Decision-making power

Are husband and wife sitting down to discuss and decide about preparations for service utilization,[14] It was determined by a combined score of answers to two questions. Women who generally made decisions independently or jointly with their husbands were considered to have decision-making power.

2.5.5 | Family support (companion support)

Women were asked if they had someone to accompany them to health facility visits (yes or no).[12]

2.5.6 | Travel time to MWH

The time it takes the pregnant woman to arrive at the nearby MWH when traveling on foot. And it was considered "fair" if it is equal and less than 1 h and "distant" if takes more than 1 h on foot.[15]

2.5.7 | Community involvement and support

Women were asked if their community involve and support MWHs establishment (yes or no).

2.6 | Data collection procedures and quality assurance

The study tool was adapted from related works of literature.[12,16] The questionnaire was first prepared in English and then translated into Afan Oromo language (Local language), and then back to English to keep its consistency. Face-to-face interviews were used to gather data using a pre-tested, structured questionnaire that was administered by the interviewer. Four diploma nurses and two BSc midwives were employed for data collection and supervision, respectively.

A validated tool was adapted from related studies that were translated into Afan-Oromo. The training was given to data collectors and supervisors for 4 days on the tool procedures, techniques, and ways of collecting the data. Before the commencement of the actual data collection process, the questionnaire was pretested on 5% of the actual sample size in Yabalo town, Southeastern Ethiopia. All the filled questionnaires were checked daily for completeness and consistency. In addition, the quality of data collection was ensured through close supervision of the data collectors by the principal investigator. The principal investigator was responsible for all stages of the procedure.

2.7 | Data processing and analysis

Data cleaning was performed to check for accuracy, completeness, consistencies, and missing values. The checked data was coded and entered into the computer using Epi-data version 4.4.3.1, and analyzed using SPSS statistical package for Windows, version 25.0. Descriptive statistics were presented using frequencies, percentages, summary measures, tables, and graphs. To assess factors associated with MWH utilization, a binary logistic regression model was fitted and, variables with a $p < 0.25$ in the bi-variable analysis were included in the multivariable analysis. All assumptions applied to the binary logistic regression model including the fitness of the model were checked by Hosmer and Lemeshow and Multicollinearity was checked by VIF. In a multivariable analysis using a backward logistic regression, an AOR with 95% CI was estimated and an independent variable with a $p < 0.05$ was considered statistically significant and an independent factor of MWH utilization.

3 | RESULTS

3.1 | Sociodemographic characteristics of the study participants

A total of 458 pastoralist women participated in the study making the response rate of 100%. More than half (58.7%) of them were found in the age group of 21–29. These study participants had a median monthly income of 650 birrs, and 92.8% of them stated earning below 2000 birr (52.72 US dollars) as monthly income. More than two-thirds (69.4%) of the women can't read or write and the majority of women's husbands (50.9%) can't read or write either (Table 1).

3.2 | Health institution-related, obstetric, family, and social characteristics of study participants

Among mothers who had given birth 12 months before the study, 86.2% of mothers had information about MWH benefits, and around 73.14% needed to travel more than 1 h to reach a health facility. Among those, nearly three fourth (74.2%) used an Ambulance for transportation, whereas 10.7% walked on foot to reach health facilities to get maternal health services.

In relation to reproductive and obstetric-related characteristics, only one-fifth (19.9%) of the respondent had a complication during their last pregnancy. From those complications, abortion and stillbirth share 39.6% and 63.7% respectively. The majority (89.7%) of the mothers had a history of ANC visits from which almost 97% had given information about MWH benefits. From the study participant,

TABLE 1 Sociodemographic characteristics of pastoralist women who gave birth in the last 12 months in Teltelle district, Southeastern Ethiopia, 2021.

Variables		n (n = 458)	%
Age	≤20	41	8.95
	21–29	269	58.73
	≥30	148	32.31
Religion	Orthodox	51	11.14
	Protestant	69	15.07
	Muslim	136	29.69
	Wakefata	202	44.10
Ethnicity	Oromo	359	78.38
	Konso	52	11.35
	Burji	31	6.77
	Amhara	16	3.49
Marital status	Single	14	3.06
	Married	398	86.90
	Divorce	30	6.55
	Widowed	14	3.06
	Separated	2	0.44
Occupational status	House wife	330	72.05
	Pastoralists	80	17.47
	Merchant	42	9.17
	Employee	5	1.09
	Other[a]	1	0.22
Monthly income	<2000 birr	425	92.8
	2000–4000 birr	24	5.2
	>4000 birr	9	2.0
Women's Education level	Unable to read and write	318	69.43
	Read and write only	78	17.03
	Primary education	47	10.26
	Secondary education	13	2.84
	Diploma and above	2	0.44
Husband educational status	Unable to read and write	233	50.87
	Read and write only	123	26.86
	Primary education	49	10.70
	Secondary education	39	8.52
	Degree and above	14	3.06

[a]others in occupational status indicate; farmer, broker, labor work.

around 82.5% and 59.4% had good knowledge and attitude toward MWHs, respectively (Table 2).

Out of the total respondent, 19.7% of mothers have no decision-making power either to decide on MWH utilization or to choose a

TABLE 2 Health Institution, Obstetric, Family and social characteristics of pastoralist women who gave birth in the last 12 months in Teltelle district, South-eastern Ethiopia, 2021.

Variables		n (n = 458)	%
Distance from nearest MWH	Fair (≤60 min)	123	26.86
	Distant (>60 min)	335	73.14
Having Information about MWH benefit	Yes	395	86.24
	No	63	13.76
Mode of access to facility	Walking	49	10.70
	Public transport	32	6.99
	Ambulance	340	74.24
	Traditional ambulance	37	8.08
Parity	<2	68	14.8
	2–4	281	61.4
	≥5	109	23.8
ANC attendance in last pregnancy	Yes	411	89.74
	No	47	10.26
Receive information about MWH during ANC visits	Yes	399	97.1%
	No	12	2.9%
Presence of complication during last pregnancy	Yes	91	19.87
	No	367	80.13
Knowledge of mothers on MWH	Good	378	82.53
	Poor	80	17.47
Attitude of mothers toward MWH utilization	Positive	272	59.39
	Negative	186	40.61

Abbreviations: ANC, antenatal care; MWH, maternal waiting Home.

delivery place, and around 43.5% of the study participants have no family support to utilize MWH service.

From the respondent who attended MWH, only 61% were accompanied by their family members. Financial restrain (79.9%) was the most stated reason for family members not to accompany the pregnant women to MWH (Figure 1).

3.3 | Maternal waiting home utilization

Among the study participant, only 122 (26.6%, 95% CI: 22.6%, 30.7%) respondents utilized MWH in their last pregnancy. From mothers who utilized MWH, around 84 (68.9%) utilize MWH only once in their previous parity history. During their stay at MWH, 105 (86.1%) of respondents' interest was fulfilled.

From the respondent, 31% gave birth at home. Lack of transportation to health facilities (84.5%) and fear of procedures (64.8%) were among the reasons why they choose home rather than a health facility for delivery. Among the mothers who gave birth to
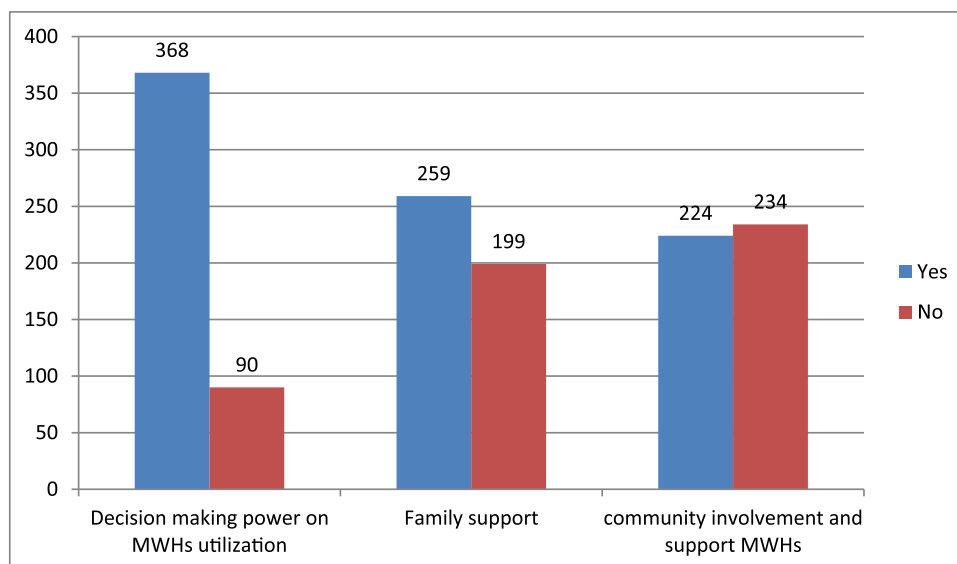
FIGURE 1 Family and social support characteristics among pastoralist women who gave birth in the last 12 months in Teltelle district, Southeastern Ethiopia, 2021.

their child in a health facility, 56.3% faced challenges to go to a health facility during labor time. Among the challenges lack of transportation (88.2%) and lack of finance (37.1%) were among the top-mentioned ones. More than four-fifths (86.5%) of women had a spontaneous vaginal delivery. Only 17.9% of women did face health problems during labor and delivery at their delivery.

3.4 | Factors associated with the utilization of MWH

Bi-variable and multivariable logistic regressions were used to identify factors associated with MWHS utilization. The results of the bi-variable analysis revealed that age of the mother, the husband's educational status, knowledge of MWH, distance from the facility, having information about the benefit of MWH, ANC attendance history, complications during pregnancy, decision power, family allowance to attend MWH, mode of access to MWH and community support were found to be candidate variables for further Analysis. In multivariable logistic regression; husbands' educational status, complications during the last pregnancy, family support, and community involvement and support of MWHs were significantly associated with the utilization of MWH.

Those women whose husbands can read and write utilize MWH 2.15 times more likely compared to those women whose husbands can't read and write [AOR; 2.153, 95% CI: (1.090, 4.252)]. Moreover, those women whose husbands have primary, secondary, and degree & above educational level were 85.7% [AOR; 0.143, 95% CI: (0.056, 0.367)], 82.7% [AOR; 0.173, 95% CI: (0.070, 0.432)] and 95.6% [AOR; 0.044, 95% CI: (0.005, 0.361)],

respectively, less likely utilize MWH compared to women whose husbands cannot read and write. The odds of utilizing MWH were 1.87 times higher among mothers who had a complication during their last pregnancy compared with their counterparts (AOR; 1.873, 95% CI: [1.952–3.685]). Likewise, women who had family support were 11.61 times more likely to utilize MWHs than those who have no family support (AOR; 11.61, 95% CI: [5.42–24.87]). Lastly, mothers who live in a community that involves and support MWHs were 8.4 times more likely to utilize MWHs than their counterparts (AOR; 8.411, 95% CI: [4.236–16.70]) (Table 3).

4 | DISCUSSION

This study found that 26.6% of mothers utilized MWH services. The current study was conducted exclusively in the pastoralist area, and the findings indicate that the current utilization of MWH services is relatively low, which is corroborated by other prior studies. This finding is lower than pooled prevalence (44.9%) of the meta-analysis study done among 12 observational studies in Ethiopia,[17] although none of these studies was done in the pastoralist area. This finding is also lower compared to the study done in the semi-pastoral area, Bench Maji, Ethiopia (39%)[18] and Tanzania (31.3%).[19] The disparities may be due to variations in study settings, in that the above-mentioned studies were conducted at the institution setting, and also some of the studies focused on the intention to use rather than the actual utilization of MWHs. Meanwhile, the current study was conducted at a community level, and also addressed home deliveries. For instance, in the current study, 30.0% of women gave birth at home, and lack of transportation to health facility (84.5%) and fear of procedures (64.8%) was among the reasons why they choose home

TABLE 3 Factor associated with maternal waiting home utilization among pastoralist women who gave birth in the last 12 months in Teltelle district, South-Eastern Ethiopia, 2021.

Variables		MWH utilized		COR (95% CI)	AOR (95% CI)	p Value
		No (n = 336)	Yes (n = 122)			
Age	≤20	36	5	0.27 (0.10–0.74)	1.37 (0.35–5.25)	0.650
	20–30	202	67	0.65 (0.42–1.01)	0.75 (0.39–1.45)	0.392
	≥30	98	50	1	1	
Husband educational status	Unable to read and write	171	62	1	1	
	Read and write only	79	44	1.54 (0.96–2.45)	2.15 (1.09–4.25)	**0.027**
	Primary education	42	7	0.46 (0.12–1.08)	0.14 (0.06–0.37)	**<0.001**
	Secondary education	31	8	0.71 (0.31–1.63)	0.17 (0.07–0.43)	**<0.001**
	Degree and above	13	1	0.21 (0.03–1.66)	0.04 (0.01–0.36)	**0.004**
Knowledge of MWH	Good	263	115	4.56 (2.04–10.20)	1.36 (0.36–5.20)	0.648
	Poor	73	7	1	1	
Distance from nearest MWH	Fair	84	39	1.41 (0.90–2.22)	0.73 (0.37–1.45)	0.371
	Distant	252	83	1		
Having information about MWH benefit	Yes	274	121	27.38 (3.75–39.7)	3.02 (0.21–41.03)	0.407
	No	62	1	1	1	
ANC attendance in last pregnancy	Yes	291	120	1	1	
	No	45	2	0.19 (0.03–0.45)	3.02 (0.33–27.71)	0.328
Complication during last pregnancy	Yes	57	34	1.89 (1.16–3.08)	1.873 (1.952–3.685)	**0.049**
	No	279	88	1	1	
Have decision making power	Yes	248	120	1	1	
	No	88	2	0.05 (0.01–0.19)	0.29 (0.06–1.47)	0.135
Family support	Yes	148	111	12.82 (6.65–24.69)	11.61 (5.42–24.87)	**<0.001**
	No	188	11	1	1	
Mode of access to facility	Walking	33	16	1	1	
	Public transport	21	11	1.08 (0.42–2.77)	0.55 (0.15–1.98)	0.360
	Ambulance	251	89	0.73 (0.38–1.39)	0.80 (0.31–2.06)	0.650
	Traditional ambulance	31	6	0.40 (0.14–1.15)	0.39 (0.09–1.68)	0.205
Community involvement and support MWHs	Yes	116	108	14.63 (8.02–26.67)	8.41 (4.24–16.70)	**0.001**
	No	220	14	1	1	

rather than health facility for delivery. Due to the inclusion of women who gave birth at home in this study, the prevalence of MWH utilization might be lower compared to the aforementioned studies.

In contrast, the MWH utilization of the current finding is higher than another study conducted in Arba Minch Zuria, Ethiopia (8.4%)[20] and in Jinka, Ethiopia (16.7%).[21] The possible disparity might be related to the presence of complications in their previous pregnancy among the participants. Only 5% of the participant had complications in their previous pregnancy in the Arba Minch Zuria study whereas, in

this study around 19.9% of the women had faced complications in their previous pregnancy. This study's findings prove that having complications in their previous pregnancy can increase MWH utilization among pregnant women.

The other explanation for the higher proportion might be related to differences in health facility accessibility, since only 18.0% of the overall study participants in the Arba Minch Zuria district travel more than 2 h to the nearest health institution. Meanwhile, in this study, 73.1% of the participants traveled for more than an hour to reach the

nearby health facilities. Despite the finding, that distance was not associated with MWH utilization in this study. Other studies suggested that distance from a local health institution is one determining factor for MWH utilization,[11,22] also distance from a health facility is one of the criteria to attend MWH at a health facility. Moreover, the study done in Jinka was conducted in a hospital setting; therefore the discrepancy in the study setting could be another explanation for the disparity.

The present study indicates that the presence of complications in their previous pregnancy is one significant factor for MWH utilization. Thus, mothers who experienced a complication during their last pregnancy were about 1.87 times more likely to utilize MWHs than their counterparts. This could be due to women who have experienced birth complications may be worried about having similar occurrences during the next delivery; therefore they prefer to be near to the health facility by staying at MWHs. Other studies conducted in Ethiopia also support this finding.[20] Moreover, some studies have revealed that the majority of intended MWH users had past delivery complications[13] or expected delivery complications and so required proximity to health institutions.[12]

The current study confirmed that women who had family support were 11.61 times more likely to use MWH than women who did not have family support. The explanation for this might be due to women who have their spouses interested in their health and receive assistance with various home responsibilities are more likely to use MWH. The presence of family members to encourage, support, and reassure women during pregnancy and birth is critical and may even impact the health and well-being of the mother and baby.[23] This is particularly the case in areas where pastoralist families move frequently and rely on cattle for daily livelihood. When women are gone to stay at MWH, sometimes for several weeks, there may be worries about caring for other children and dependents. As a result, male partners may be hesitant to allow their women to stay at MWH.

Another relevant finding of the current study is that women who had marriage partners that can read and write were 2.15 times more likely to use MWH than women who had husbands that can't read and write. The fact is education enhances the chance of risk perception, comprehension, and easy acceptance of health-related information and guidance. As a consequence, educated husbands would look after their wives' health throughout pregnancy and delivery. In contrast, in this study woman whose husbands had primary, secondary, and degree and above educational status were 14.3%, 17.3%, and 4.4% less likely to utilize MWH than those women whose husbands can't read and write, respectively. This might be because educated folks frequently prefer to reside in urban areas where health facilities for delivery are conveniently accessible to their women; therefore their wives do not intend to utilize MWH.

Lastly, this study revealed that mothers who had community involvement and support MWHs were 8.4 times more compared to women who didn't have community involvement and support MWHs [AOR; 8.411, 95% CI: (4.236–16.70)]. In various low- and middle-income countries, community support has been identified as a major facilitator of MWH utilization.[24] The presence of community involvement and support may bring comfort to women during childbirth, and it may even impact the health and well-being of both mother and child.[23] The role of the community is crucial not only in mothers' MWH utilization but also in sustaining and improving MWH service because, many MWHs were built from locally available materials with the support of the community in this pastoralist area.

4.1 | Limitations of the study

We hope that this study will provide valuable insight into the present gap in MWH usage in pastoralist areas and will aid in the reduction of maternal and perinatal mortality. One of its strengths is that the study was undertaken at the community level and included women who gave birth at home. However, the study has limitations that readers should be aware of when they plan to use this study for different purposes. One of the limitations is the study design; the study's cross-sectional design may obscure the influence of the identified predictors on MWH usage. Recall bias and social desirability bias can also be considered since most of the variables were recalled from past experiences. Moreover, some factors, such as cultural and behavioral factors, need to be assessed using qualitative research methods.

5 | CONCLUSION AND RECOMMENDATIONS

Out of the total respondent, 86.24% of the mothers knew the benefit of MWH; however, only 26.64% of them utilized MWH. It was significantly lower compared to other studies done in Ethiopia. Such a low utilization of MWHs with pastoralist living condition and demography could consequently result in high maternal and neonatal mortality. Meanwhile, women who experienced complication during their last pregnancy, had family support, whose husband can read and write and women who live in community which involve and support MWH were more likely utilize MWH. Whereas, women whose husband had primary, secondary and degree and above educational status were less likely to utilize MWH than those women whose husbands can't read and write. Therefore, encouraging community participation, and family support are recommended to improve its utilization. Moreover, increasing community involvement in MWH establishment and sustainability will be expected from the stakeholders.

AUTHOR CONTRIBUTIONS

Firaol Worku Bedada: Supervision; writing—original draft. **Debisa Eshatu Wendimu**: Formal analysis; validation; writing—original draft. **Derese Bekele Daba**: Data curation; formal analysis; methodology; validation; writing—review and editing. **Mosisaa Bekele Degefa**: Writing—original draft; writing—review and editing.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data supporting the findings of this study are available from the corresponding author upon request. The corresponding author had full access to all of the data in this study and takes complete responsibility for the integrity of the data and the accuracy of the data analysis.

ETHICS STATEMENT

Ethical clearance was obtained from the Institutional Review Board (IRB) of Arba Minch University, College of Medicine and Health Sciences. An official support letter was obtained from Arba Minch University and Borena zone health office and Teltelle woreda health office. Written informed consent was obtained from every study participant after they all briefed why the study is needed. For participants aged < 18, written informed Assent was taken from their parents.

TRANSPARENCY STATEMENT

The lead author Derese Bekele Daba affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.