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Unmet need for family planning among pastoralist community of West Omo zone, Ethiopia: A community based cross-sectional study

Shewangizaw Hailemariam, Sharew Mulugeta and Molla Asnake

Abstract

Introduction: Family planning is among the best suggested strategies to decrease the high maternal mortality and morbidity prevailing among pastoral communities. Despite this fact, there is no sufficient information regarding the unmet need for family planning in the study area. Therefore, this study was intended to assess the prevalence of unmet need for family planning and its associated factors among currently married women residing in pastoralist community of West Omo zone, Ethiopia.

Methods: Community-based cross-sectional study was conducted from 01 January to 01 April 2021 in West Omo zone. Five-hundred-sixty currently married women aged 15–49 were interviewed, and the study participants were randomly selected by employing a modified random walk approach. Data were checked manually for completeness and consistency, then entered into Epidata 3.1 and exported to SPSS version 22 for analysis. Multivariate binary logistic regression was used to identify the associated factors, and Adjusted Odds Ratio (AOR) at 95% CI with p-value < 0.05 was considered as significant variables.

Result: A total of 560 currently married women agreed to participate in this study making a response rate of 93.17%. Two hundred three, that is, about 36.3% (95% CI: 32.1, 40.2%) currently married women had an unmet need for family planning, with 119 (58.6%) wishing to delay childbirth and 84 (41.4%) seeking to limit. Have no formal education (AOR = 2.86 (95% CI: 1.61, 5.10)), having poor knowledge of family planning (AOR = 2.83 (95% CI: 1.45, 5.54)), and lack of husband support of family planning (AOR = 2.38 (95% CI: 1.22, 4.67)) are positively associated with unmet need for family planning.

Conclusion: The magnitude of unmet need for family planning in this study is fairly high as compared to previous studies done among non-pastoral community. Hence, it's important to consider the above identified factors while designing effective public health intervention.

Keywords

Unmet need for family planning, pastoralist community, West Omo zone, Ethiopia

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Introduction

Family planning is defined as the ability of an individual or a couple to decide freely and responsibly when to have children, how many children they desire in a family and how to space their children.[1] Family planning could potentially alleviate as many as one in every three maternal deaths by enabling mothers to delay childbirth, space births, prevent unwanted pregnancies and abortions, and cease childbearing when they have achieved their intended family size.[2] The impact of family planning in mitigating maternal mortality and morbidity can only be recognized if the poorest communities, and those with unmet need are addressed on a wide scale.[3]

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Unmet need for family planning offers a measurement on the capability of a woman on attaining their desired family size and spacing.[4] It is defined as the proportion of married or in-union women of reproductive age group that want to end or delay childbirth but who report that they are not using any method of family planning methods to avoid pregnancy.[5] Unmet need for family planning vividly reveals the gap between women's reproductive intents and their contraceptive uptake. This parameter is often used for tracking progress toward the target of attaining universal access to reproductive health service.[6]

Communities are regarded as pastoralist when their livelihood based on and typically stem at least 50% of their food and income originates from their livestock. Pastoralist communities are those with spatial mobility, and mobility is vital to the dynamics of their day-to-day life and mode of adaptation to semi-arid and arid environment.[7] It is estimated that in Ethiopia from the total population about 9.8 million are pastoralist.[8]

Pastoralist people in Ethiopia are the country's most susceptible and marginalized people as they live in the most inhospitable and distant areas of the country, which makes it tough for them to access health facilities and other necessary social services.[9] Several studies showed that the reproductive health care needs of mobile pastoralists have been given insufficient attention when compared with agrarian and settled communities.[10–12] The high maternal morbidity and mortality among pastoralist community might reflect the disparity in health care service access and utilization. Moreover, the health care service provided might not be tailored to the needs and expectation of the pastoralist community.[11]

According to certain systematic review and meth-analysis studies unmet need for contraceptive in sub-Saharan Africa was found to be between 22.9% and 26.90%.[13–15] Ethiopia has made a remarkable achievement in reducing Total Fertility Rate (TFR) by increasing Contraceptive Prevalence Rate (CPR) from 35% in 2016 to 41% in 2019 41% in 2019.[16] However, the success hasn't been consistent across regions; particularly, regions where inhabitants are predominantly pastoralist still have higher TFR and lower CPR.[15] Previous studies suggested structural, cultural, and individual factors for high unmet need for family planning or low CPR among pastoralist groups.[12,17,18] However, the factors exhibit variability across different areas; hence, it is important to assess both the magnitude and specific factors for unmet need for family planning in the study area. Ultimately, the information generated from this study could enable policymakers and program planners to design evidence based and context-specific intervention in the area. Figure 1 is a conceptual framework to illustrate how the outcome variable (unmet need for family planning) can be affected by various socioeconomic, reproductive, and institutional factors. Addressing these factors demands a multidimensional approach targeted intervention at individual, community, health system, and policy levels.

Methods

Study area and period

The study was carried out in 01 January 01 to 01 April 2021 in West Omo zone, which is located at the newly established (SWEPR) Ethiopian South West Ethiopian Peoples' Region. The zone is located at Ethiopian southern margin, where Maji and Surma woredas are bordering the neighboring Kenya, encircling the area to west of the Omo River. The zone has 7 woredas, 3 city administrations, and 116 kebeles (112 rural and 4 urban). According to CSA report 2007,[17] the zone has total inhabitant number of 272,943 constituting 12% of regional populations and inhabited by a pastoral community of 135,025 (49.47%) male, 137,918 (50.53%) rural residents 243,738 (89.3%), and urban residents 28,113 (10.7%). The total households are 55,703. Pertaining health system infrastructure, the zone has 2 general hospitals and 13 health centers, 94 health posts which make the zone basic health service coverage 90% and health centers and health posts coverage 98% and 90%, respectively.

Study design and population

A community-based cross-sectional study design was employed to address the study objectives. The source population of the study was all currently married reproductive age (15–49 years) women residing in West Omo zone, whereas those women who were recruited by the method of modified random walk approach from the selected kebeles were regarded as study population. Being in union, being sexually active and residing in the study area for at least 6 months were taken as inclusion criteria, and participants who were unable to respond as a result of physical impairment and illness were excluded from the study.

Sample size determination

The sample size for this study was determined after estimating independent sample size for both the descriptive and analytical objective of the study. For the descriptive objective, sample size was calculated by using single population proportion formula considering the following parameters: 5% marginal error, 95% confidence level, and assuming 23.1% unmet need for family planning (Toke Kutaye District, Oromia, Ethiopia), and design effect of 2 as the study employed multistage sampling technique and 10% none-response rate, finally result in 601. Again, independent sample size was calculated for the 2nd objective by employing double population proportion formula by using statistical software EPI info version 27. Power 80%, 5% margin of error, 95% confidence level, and adjusted odds ratio of respective factors (counseled by health extension worker/health professional, age category 25–34 years, having discussion with partner) were used to estimate the sample size. However, after comparing the calculated sample sizes, the

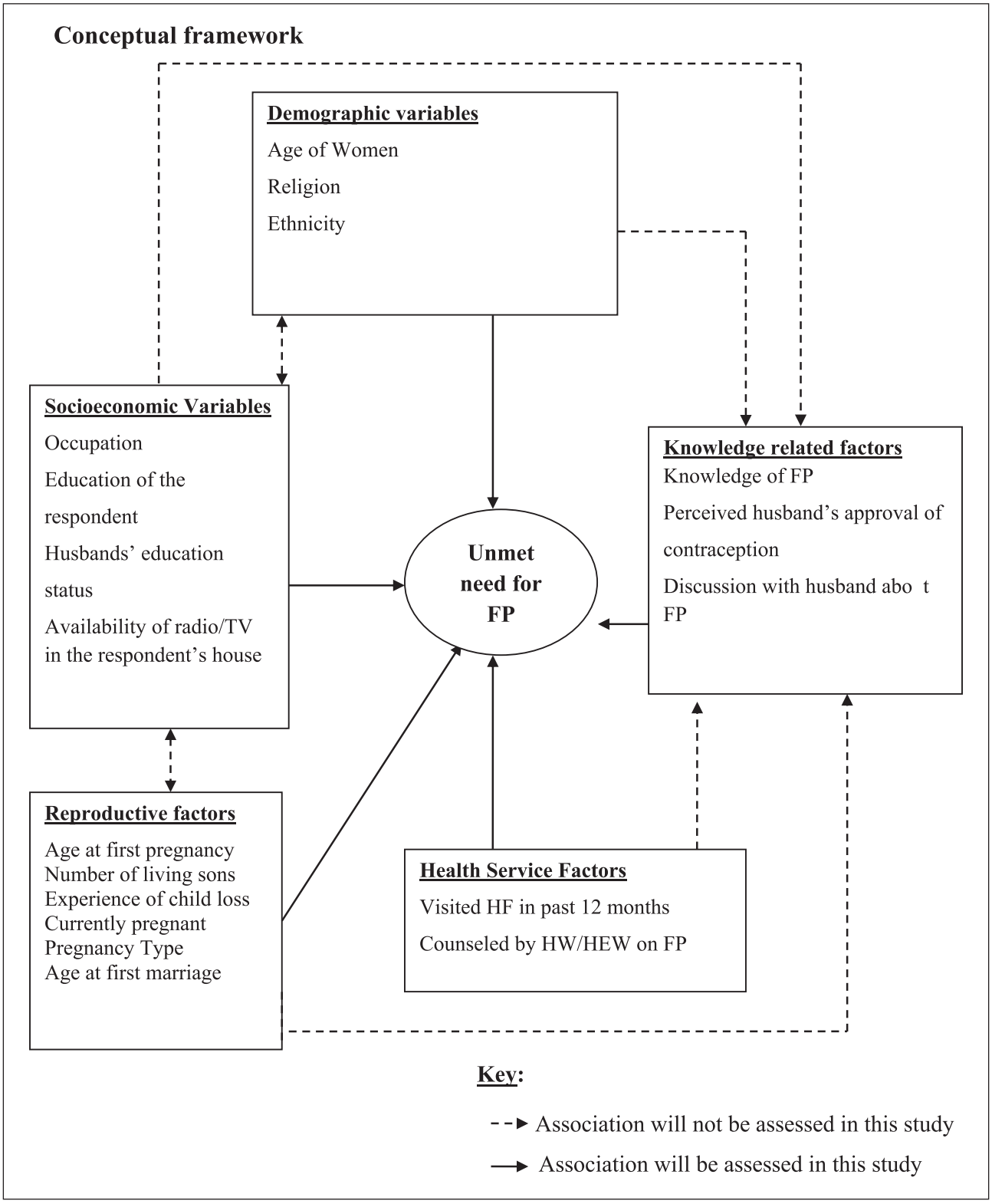

Figure 1. Conceptual framework for unmet need for family planning.

first sample size (601) was taken as it was greater than the rest.

Sampling procedure

In the West Omo zone, there are seven districts and three city administrations: Gachit Woreda, Meinit Goldia Woreda, Shasha Woreda, Maji Woreda, Suri Woreda, Bero Woreda, Gori Gesha Woreda, Bachuma city administration, Maji city administration, and Jemo city administration. Using a lottery method, one city administration and two woredas were chosen, namely Meinit Goldia Woreda, Gori Gesha Woreda, and Bachuma city administration. The number of kebeles within the selected woredas and city administration were then determined, and two kebels were selected from each woreda and city administration using the lottery method. Household where more than one eligible participant found, a lottery method was used to select one. Finally, households within the selected kebeles, where married women of reproductive age reside, were reached out using a modified random walk approach.

Data collection techniques

Data collection tool was developed after reviewing previous related studies[19–21] and contextualized to the local context. The tool was translated first into Amharic and then back to English to keep its consistency. The tool was not validated, but before actual data collection began it was pretested on 5% of the actual sample size in Bachuma Wereda, which was not part of the study area. It consists of four sections: Demographic and socioeconomic characteristics, Reproductive history, Questions related unmet need definition, Knowledge about contraceptives, and Perceived men's approval of FP. The data were collected by six trained diploma midwives having previous experience on survey data collection, and three health professional having Bachelor of Science in Nursing, supervised the overall data collection process on daily basis. During the process of house-to-house data collection, a modified random walk method was used to locate households and conduct interviews with the participants. To implement this technique, the maps of each district and city administration was obtained by consulting the respective district administrations. Subsequently, two starting points (such as rivers, roads, churches, schools) were randomly selected within each kebele. The selection of two starting points serves the purpose of minimizing the clustering effect. The allocated sample size for a particular kebele was split into two. Half of the sample size was interviewed starting from the randomly chosen starting point. The nearest household to the starting point was the first household to be included in the sample. Then, the second household was the one closest to the first household in terms of front door proximity, and this process will continue until the required number of participants was reached.

Operational definition

Unmet need for family planning: if women are at risk of becoming pregnant, not using contraception, and either do not want to become pregnant within the next 2 years or are unsure if or when they want to become pregnant. Pregnant with a mistimed pregnancy or postpartum amenorrheic for up to 2 years following a mistimed birth and not using contraception.[22]

Knowledge about family planning: Knowledge was assessed by 10 knowledge items. Participants who correctly answered at least five of the knowledge items were designated as Good Knowledge; otherwise, poor knowledge

Statistical analysis

Data was checked for completeness, edited, cleaned, coded, and entered into Epi Data version 3.1 and then exported to SPSS version 20 for analysis. Descriptive statistics was computed to assess the magnitude of unmet need for family planning. In the descriptive statistic, frequencies, proportion, and mean were calculated and the results of the analysis were presented in text, tables, and graphs. Unadjusted logistic regression model was fitted to detect association between the outcome variable (unmet need for family planning) and the sociodemographic characteristics, and other relevant explanatory variables. Then, variables having $p < 0.25$ on the unadjusted logistic regression model were considered candidates for the multivariate logistic regression. Final, multivariate logistic regression model was fitted to investigate the independent effect of each explanatory variable on the unmet need for family planning. Odds ratio and their 95% confidence intervals were computed and variables with p-value less than 0.05 were considered as significantly associated with the outcome variable.

Ethical consideration

Ethical approval for this study was obtained from Mizan-Tepi University ethical committee, approval number HSE/00929/2021. The study purpose, procedures, possible risks, and benefits were explained for participants by local languages, and written informed consent was obtained. Participants were also guaranteed that confidentiality of information collected from each study participant will not be disclosed. Before embarking on the interview, participants were informed that they have full right to withdraw from the study at any time if they face any inconvenience. For participants under age of 18, parents' or legally authorized representatives' written informed consent was obtained. For illiterate participants, first, a brief description of all the required information about the study was given and then participants' thumbprints were taken as confirmation of willingness to participate in the study.

Table 1. Sociodemographic and socioeconomic characteristics of the respondents, pastoralist communities of West Omo zone, Ethiopia.

Variables	Categories	Frequency	Percentage (%)
Age	<25 years	174	31.1
	25–35 years	191	34.1
	>35 years	195	34.8
Residence	Urban	187	33.4
	Rural	373	66.7
Woman's educational status	No formal education	365	65.2
	Primary education	112	20.0
	Secondary education and above	83	14.8
Religion	Orthodox Christians	182	32.5
	Protestant	237	42.3
	Muslim	103	18.4
	Others	38	6.8
Occupational status	Housewife	289	51.6
	Farmer	82	14.6
	Private work	84	15.0
	Government employee	74	13.2
	Others	31	5.5
Husband educational status	No formal education	340	60.7
	Primary education	132	23.6
	Secondary education and above	88	15.7
Availability of radio/TV in the house	Yes	352	62.9
	No	208	37.1

Result

Sociodemographic and socioeconomic characteristics of the respondents

A total of 560 currently married women agreed to participate in this study making a response rate of 93.17%. The mean (±SD) age of respondents was found to be 34.4 (±5.1) years. Around half 237 (42.3%) of the respondents were Christian Protestant by their religion, and majority of the participants 373 (66.7%) were from rural part of the zone. With regard to educational status, 365 (62.5.8%) of respondents had no formal education. Similarly, 340 (60.7%) of respondents' husbands had no formal education. Two hundred eighty-nine (51.6%) of respondents were housewives by their occupational status. Two hundred eight (37.1%) respondents had no radio/TV in their house. The detail participants' background characteristics is summarized by (Table 1).

Reproductive characteristics of respondents

Out of the total respondents of 560, 123 (22%) were primipara, and 256 (45.7%) were married before the age of 18. Thirty-one (5.5%) of the respondents experienced a previous pregnancy loss. In terms of the number of living sons, 235 (45.2%) reported having more than three sons. Additionally, 197 (35.2%) of the respondents reported using family planning at the time of data collection, and 42 (7.5%) were pregnant, with 19 (45.2%) intended, 14 (33.3%) mistimed, and 9 (21.4%) unwanted (Table 2).

Knowledge and health service-related factors

A significant majority of the study participants 292 (52.1%) demonstrated poor knowledge about family planning. Two hundred fifteen (48.4%) reported that they have support from their husbands regarding contraceptive use, while 267 (47.7%) indicated having discussed contraceptives-related issues with their husbands. When it comes to healthcare service utilization, 244 (43.6%) participants mentioned having visited a health facility within the past 12 months, and 243 (43.4%) claimed to have contacted health professional or health extension workers to receive family planning counseling.

The magnitude of unmet need for family planning

The finding showed that 203 (36.3%) currently married women have an unmet need for family planning, with 119 (58.6%) wishing to delay childbirth and 84 (41.4%) seeking to limit the number of children. Several reasons were stated for not utilizing family planning methods even though they want to space or limit childbirth. The most commonly stated reasons were apprehension about side effect 97 (47.8%), religious concerns 43 (21.2%), lack of approval from their husbands 27 (13.3%), limited access to preferred method of

Table 2. Reproductive characteristics of respondents, pastoralist communities of West Omo zone, Ethiopia.

Variables	Categories	Frequency	Percentage (%)
Parity	One	123	22.0
	2–4	340	34.1
	>5	97	17.3
Age at first pregnancy	<18	256	45.7
	>18	304	54.3
Experience of child loss	Yes	31	5.5
	No	529	94.5
Number of living	Two and less	307	54.8
	Three and more	253	45.2
Current contraceptive use	Yes	197	35.2
	No	363	64.8
Currently pregnant	Yes	42	7.5
	No	518	92.5
Pregnancy type	Intended	19	45.2
	Mistimed	14	33.3
	Unwanted	9	21.4

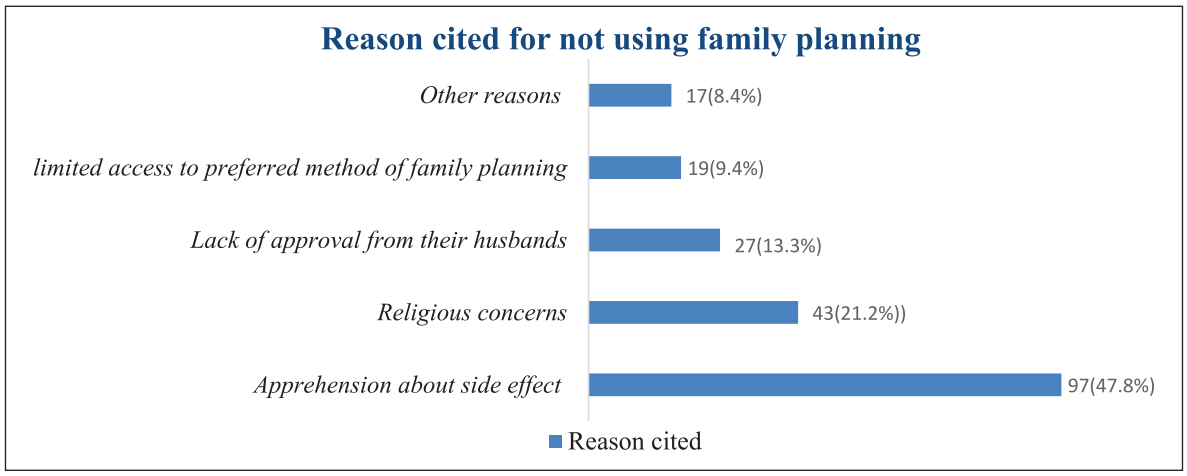

Figure 2. Reason cited for not using contraceptives, pastoralist communities of West Omo zone, Ethiopia.

family planning 19 (9.4%), and other reasons account 17 (8.4%) (Figure 2).

Factors affecting unmet need for family planning

First, bivariable logistic regression was carried out to select candidate variables for multivariate logistic regression analysis. Consequently, eight variables (age the women, woman's educational status, husband's educational status, discussing contraceptive issue with husband, availability of radio/TV in the house, age at first marriage, knowledge of family planning, and perceived husband support for family planning) become candidate variables for the final multivariate logistic regression analysis as they fulfilled the minimum stated cutoff point for candidacy. Then, the identified candidate variables were entered into a multivariable logistic regression model to control the effects of potential confounders and declare independent factors of the unmet need for family planning. Hence, the final multivariable logistic regression analysis showed that woman's educational status, Knowledge of Family Planning and perceived husband's support for family planning use were found to be independent factors of the unmet need for family planning.

Women with education background of no formal education had odds ratio of 2.86 for experiencing unmet need for family planning as compared to women with educational background of secondary education or above (AOR = 2.86 (95% CI: 1.61, 5.10)).

Again, women exhibiting poor knowledge about family planning showed odds ratio of 2.83 for experiencing unmet need for family planning when compared with those who exhibited good knowledge of family planning (AOR = 2.83 (95% CI: 1.45, 5.54)).

Furthermore, the odds of experiencing unmet need for family planning among women who perceived their husband

Table 3. Factors affecting unmet need for family planning, pastoralist communities of West Omo zone, Ethiopia.

Variables	Unmet need for family planning		COR at 95% CI	AOR at 95% CI	*p*-Value
	No (%)	Yes (%)			
Age of the women					
<25 years	109 (62.6)	65 (37.4)	1.03 (0.81, 1.92)	1.18 (0.76, 1.83)	0.466
25–35 years	116 (60.7)	75 (39.3)	2.03 (0.89, 2.06)	1.24 (0.80, 1.92)	0.329
>35 years	132 (67.7)	63 (32.3)	Ref.		
Women's educational status					
No formal education	211 (57.8)	154 (42.2)	2.83 (1.59, 5.02)	**2.86 (1.61, 5.10)**	0.000
Primary education	80 (71.4)	32 (28.6)	1.55 (0.79, 3.04)	1.69 (0.86, 3.33)	0.129
2nd education and above	66 (79.5)	17 (20.5)	Ref.		
Husband educational status					
No formal education	211 (60.3)	139 (39.7)	1.98 (1.16, 3.35)	1.06 (0.48, 2.35)	0.888
Primary education	80 (65.6)	42 (34.4)	1.57 (0.86, 2.89)	1.13 (0.42, 3.00)	0.808
2nd education and above	66 (75.0)	22 (25.0)	Ref.		
Discuss about contraceptive with husband					
Yes	169 (63.3)	98 (36.7)	Ref.		
No	188 (64.2)	105 (35.8)	0.96 (0.68,1.36)	1.18 (0.63, 2.21)	0.606
Availability of radio/TV in the house					
Yes	218 (61.9)	134 (38.1)	Ref.		
No	139 (66.8)	69 (33.2)	0.81 (0.56, 1.16)	0.75 (0.52, 1.09)	0.136
Age at first pregnancy					
<18	157 (61.3)	99 (38.7)	1.21 (0.76, 2.52)	1.30 (0.45, 3.72)	0.622
>18	200 (65.8)	104 (34.2)	Ref.		
Knowledge of family planning					
Poor	169 (59.9)	123 (40.1)	1.95 (1.08, 3.97)	**2.83 (1.45, 5.54)**	0.002
Good	188 (67.6)	70 (32.4)	Ref.		
Perceived husband support					
Yes	158 (73.5)	57 (26.5)	Ref.		
No	199 (57.7)	146 (42.3)	2.03 (1.69,5.39)	**2.38 (1.22, 4.67)**	0.011

don't support the use of contraceptive was 2.38 higher as compared to those who perceived that their husband support the use of family planning (AOR = 2.38 (95% CI: 1.22, 4.67)) (Table 3).

Discussion

The current study was intended to assess the magnitude of the unmet need for family planning and its associated factors among currently married women residing in pastoralist community of West Omo zone, Ethiopia. The finding revealed that 36.3% (95% CI: 32.1, 40.2%) of the participants had unmet need for family planning despite their demand for birth limitation or child spacing. In this study, unmet need for family planning was also affected by several independent factors such as woman's educational status, knowledge of family planning, and perceived husband's support for family planning use.

The magnitude of unmet need for family planning in this study is quite in agreement with other studies conducted in Burundi (32.4%), in India (39%), and in Pakistan (23.5%).[18,21,22] On the other hand, the finding of this study is much higher than other studies' finding: Malawi (15.8%), and systematic review and meta-analysis East Africa (20.68%).[23–25] The possible justification for this discrepancy might be due to differences in health services coverage, knowledge, and attitudes toward family planning services, as sociodemographic and cultural factors. Besides this, variation in sample size might lead to substantial variation in the report.

The current research findings showed a statistically significant association between women's educational attainment and their unmet need for family planning. The study identified that women with no formal education were more than twice as likely to have an unmet need for family planning compared to women with secondary level of education and above. These results align with prior research conducted in Pakistan, Ethiopia (systematic review and meta-analysis), Saudi Arabia, Toke Kutaye district, Ethiopia, Damot Woyde district Ethiopia, Enemay district, and Northwest Ethiopia.[20,22,23,26–28] This pattern may be attributed to the limited decision-making power and economic dependence of married women with low educational attainment, as well as their limited understanding of health information and access to family planning services, in contrast to their more educated counterparts. Consequently, it is recommended to prioritize interventions for less-educated women to reduce the unmet need for family planning.

Again, women who demonstrated poor knowledge about family planning were more than two times more likely to experience unmet need for family planning when compared with those who had good knowledge of family planning. This finding also substantiated by other recent studies also.[29,30] There could be several explanations why poor knowledge of family planning results in unmet need for family planning: limited knowledge about where and how to access contraceptives can prevent individuals from utilizing these methods. Furthermore, those individuals with poor knowledge about the range of contraceptive methods available may not know which method would be best suited to their needs, leading them to avoid using family planning methods altogether.

Lastly, perceived husband support showed strong association with unmet need for family planning; according to the finding, women who perceived their husband don't support the use of contraceptive were two times more likely to experience unmet need for family planning as compared to those who perceived that their husband support the use of family planning. This finding is substantiated by other studies conducted in Cameroon, Burkina Faso, and Zambia,[29–31] this might be due to the fact that men, particularly in cultured societies, may hold significant decision-making power within the family, and women may have limited autonomy when it comes to making decisions about family planning. Moreover, gender inequalities and power imbalances within the household can make it necessary for women to seek their husband's approval for family planning service utilization.

Limitation

The finding of this study should be viewed in the light of the following limitations. First, sufficient comparison and discussion was not made with similar studies conducted among pastoralist community as there were limited studies. Second, it is important to note that the tool used in this study was not undergone formal validation; however, a pretest was conducted on 5% of the sample size in Bachuma Bench Wereda to ensure a degree of reliability and relevance in our data collection process.

Conclusion

The magnitude of unmet need for family planning in this study is fairly high as compared to previous studies. Having no formal education, having poor knowledge of family planning, and perceived husband approval were the factors that exhibited positive association with unmet need for family planning in the pastoralist community of West Omo zone in Ethiopia. Hence, concerned entitles (Zonal health office, NGOs, and health facilities) have better provide tailored health education and counseling regarding the available family planning methods' benefits and potential side effects to the local community, by giving due emphasis for those who had no formal education. Given the nature of the communities' social structure, it's also important to consider other contextual factors such as gender issues in designing effective public health interventions that aimed at enhancing family planning uptake. Above all, in order to comprehend the deep cultural and religious factors affecting family planning uptake in the area, future researchers should endeavor to conduct qualitative study, that would better explain community aspects that would not be addressed by mere quantitative method.

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Author contributions

Shewangizaw H have contributed by data collection, designing the method, analysis and manuscript preparation. Sharew M is involved in data analysis, result interpretation, and participated in addressing reviewers' comments. Molla A is involved in tool development, data collection, critical review, and editing of the final manuscript.

Availability of data and materials

The datasets collected and analyzed for the current study is available from the corresponding author and can be obtained upon reasonable request.

Consent for publication

Not applicable.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Ethics approval

Ethical approval for this study was obtained from Mizan-Tepi University ethical committee, approval number HSE/00929/2021)*.

Informed consent

Written informed consent was obtained from all participants before the study. For participants, under age of 18, parents' or legally authorized representatives' written informed consent was obtained. For illiterate participants, first, a brief description all the required information about the study was given and then participants' thumbprints were taken were taken as confirmation of willingness to participant in the study.

Trial registration

*Not applicable.

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