

# Unmet Need for Contraception Among Young Married Women in Eastern Ethiopia

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**Purpose:** Addressing the contraceptive needs of young married women is critical to improve their health and well-being. In patriarchal societies, young married women are under intense pressure to demonstrate their fecundity. Therefore, research that specifically address the needs for contraception of young married women have been generally given less emphasis in Ethiopia. This study assessed the extent of unmet needs for contraception and its associated factors among young married women in Eastern Ethiopia.

**Methods:** A community-based cross-sectional study was conducted among young married women (14–24 years of age) in Eastern Ethiopia. Data were collected using a structured questionnaire. The prevalence ratio (PR) with 95% confidence intervals (CIs) was calculated, and factors associated with unmet needs for contraception were identified using log-binomial regression statistical model.

**Results:** Among 2933 young women interviewed, the unmet need for contraception was 1014 (34.6%; 95% CI, 32.9%–36.4%). The prevalence of unmet needs for contraception decreased with increased young women's household decision-making autonomy score (APR= 0.76; CI=0.62–0.94). Exposure to family planning (FP) information during the last 12 months (APR= 1.24; CI=1.1–1.42), age 18 or more years (APR=1.25; CI=1.04–1.5), multiparity (APR= 1.9; CI=1.7–2.1) and desire to have 5 children or lesser than 5 children (APR= 1.2; CI=1.06–1.32) were associated with higher prevalence of unmet needs for contraception.

**Conclusion:** One-third of married young women had unmet needs for contraception. More efforts to empower women to make decisions that affect their own life and providing appropriate family planning information are necessary to reduce the burden of unmet needs among young married women in rural settings in Ethiopia.

**Keywords:** unmet need, contraception, married adolescent, decision-making autonomy, family planning information, Kersa HDSS

## Introduction

In sub-Saharan Africa, more than 20% of 15–19-year-old adolescents and 60% of 20–24-year-old young adult women are estimated to be in marital union. More than 10% of adolescent girls in the region had their first marriage by the age of 15 years.<sup>1–3</sup> In most parts of the region, girls are traditionally expected to give birth immediately after marriage and continue to do so uncontrolled for cultural, religious, gender and other factors, which expose them to the risk of unintended pregnancy that leads to fatal maternal and infant adverse outcome. Unintended pregnancy among married young women accounts for about half of all unintended pregnancies among reproductive-age women.<sup>4–6</sup> Although various socio-cultural

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factors hinder pregnancy planning in these settings,<sup>7</sup> unmet needs for contraception are primarily attributed to unintended pregnancies in young married women.<sup>6,8,9</sup> Unmet need for contraception refers to the proportion of currently married women of reproductive age not using contraception while wishing either to delay the timing of the next birth for at least 2 years or to prevent if would have preferred to limit childbearing.<sup>10</sup>

Globally, young married women between the ages of 15 and 24 years experience greater unmet needs than that by married young and sexually active unmarried young women aged between 25 and 49 years.<sup>11–13</sup> In sub-Saharan Africa, about half of young married women reported unmet need for contraception.<sup>6,14</sup> The Ethiopian Demographic and Health Survey (DHS) revealed that 18.7% of 15–19-year-old married women reported unmet needs for contraception, which is significantly higher as compared to 14.8% of adult married women.<sup>2</sup>

Many factors are known to contribute to the unmet needs for contraception among young married women. The supply-side factors including inaccessibility of comprehensive contraceptive services and poor information dissemination are among the factors related to young women unmet need for contraception.<sup>15–17</sup> Limited knowledge of contraceptive methods was also found to have a significant effect on the unmet need for contraception.<sup>18,19</sup> Demographic and economic characteristics including women's age, age of marriage, educational status, residence of living, duration after marriage, and wealth status were also associated with young married women unmet need for contraception in previous studies.<sup>15,20,21</sup> Moreover, reproductive experience including living and ideal number of children, previous history of child or fetal loss and parity as well as interpersonal factors such as household decision-making autonomy, and partner approval of contraception were among the factors that influenced the unmet needs for contraception.<sup>16,22–26</sup>

In patriarchal societies like Ethiopia, young married women are under strong pressure to conceive immediately after marriage to demonstrate their fecundity and ability to continuously engage in reproduction. More than one in three (32%) births are unintended, and 23.2% of death among reproductive-age women was related to pregnancy which poses a heavier burden on Ethiopian young married women.<sup>27,28</sup> Despite the high early marriage and subsequently unintended pregnancy, young married women contraceptive utilization in Ethiopia is also among the lowest in sub-Saharan Africa.<sup>29</sup> However, contraceptive studies in

Ethiopia are limited to a too broad age range of 15–49 years although young women contraceptive need found to be different from their adult counterpart,<sup>29,30</sup> and research that specifically addresses the needs for contraception of young married women has been given less emphasis. Thus, understanding the level of unmet need for contraception has great implications in designing a targeted intervention to fill the gap between young women's reproductive intentions and their contraceptive practice. Identifying factors associated with unmet need for contraception also assist the effort to identify effective intervention areas to meet young women's contraceptive needs. This study therefore assessed the extent of unmet needs for contraception and its associated factors among young married women in Eastern Ethiopia.

## Methods and Materials

### Study Setting and Design

A community-based cross-sectional study was conducted in Kersa Demographic and Health Surveillance System (Kersa HDSS) site, Kersa District, Eastern Ethiopia. Kersa HDSS site consists of 21 rural and 3 urban kebeles (the smallest political administration in Ethiopia), with 6 health centers and 19 health posts. The site constitutes 26,061 households and 29,210 married reproductive-age women of which 11% were young women aged 15–24 years.<sup>31,32</sup> More than four-fifth and three-fourth of married women in the study site were married and gave first birth before 20 years of age, respectively. The total fertility rate (TFR) among reproductive age in the study site was 5.5 with a 2.9% annual population growth rate.<sup>32–34</sup>

### Population and Sampling Technique

The study population constituted currently married young women, less than 25 years of age, who were permanent residents of the study sites. The Kersa HDSS database maintained by Haramaya University was used as a sampling frame to identify a list of the young married woman. All young married women identified from the database were invited to participate in the study. Out of the 3102 ever married young women identified from the HDSS database, 2933 of them who were within marriage at the time of data collection were consented and included in the study.

### Data Collection

Data were collected through face-to-face interviews by a trained interviewer using a pretested questionnaire. The

questionnaire was originally prepared in English and translated into the local language (Afan Oromo). We pretested the questionnaire among young married women who resides in a similar setting outside our study area. Some questions and the translation were refined based on the feedback we obtained during the pre-test. Experienced female data collectors and field supervisors who were able to fluently speak the local language were recruited and trained for 3 days. The training was focused on the content of the questionnaire and on the field data collection procedures. At the household level, the interviewer introduced themselves to eligible participants and interviewed women who consented to participate. The field supervisors closely supervised the data collection process and checked a sample of the filled questionnaire for completeness on a daily basis.

## Ethical Approval

This study was conducted following the Declaration of Helsinki. Ethical approval was obtained from the Institutional Health Research Ethics Review Committee (IHRERC) of Haramaya University prior to the data collection. Written informed consent was obtained from each study participant. The approval for married study participants less than 18 years to provide written informed consent on their own behalf was given by the IHRERC of Haramaya University.

## Variables and Measurements

In this study, unmet need for contraception was the main outcome variable. It was defined as a proportion of young married women who were neither pregnant nor postpartum amenorrhoeic and want to space their next birth at least for 2 years or preferred to stop childbearing but not using contraception; or currently pregnant/postpartum amenorrhoea but their current pregnancy/last birth was unwanted or mistimed (want to wait for at least 2 years at that time).<sup>2,35</sup> The study participants were asked a series of questions to determine their extent of unmet need for contraception. Those with currently mistimed pregnancy were categorized as had an unmet need for spacing while those who had stopped child bearing but accidentally got the current pregnancy had unmet need for limiting. Young women who were postpartum amenorrhoeic whose last child was mistimed had an unmet need for spacing while those who had stopped childbearing but accidentally got the last child had an unmet need for limiting. Moreover, young women who were neither pregnant nor postpartum amenorrhoeic

and expressed desires of having more children but want to wait at least 2 years or not sure when to have the next child and not using contraception had unmet need for spacing while those who declared to have stopped childbearing but not using contraception were considered as had an unmet need for limiting.<sup>35</sup> The overall prevalence of unmet needs for contraception was the sum of unmet need for spacing and limiting birth.

We selected relevant independent variables that influence unmet needs based on literature. One of the key factors was self-perceived women's household decision-making autonomy which was measured using 10 items adapted from literature.<sup>36–38</sup> The scale was intended to measure a woman's influence over a range of key household decisions that affect her own life. We ask women who usually make decisions about how to use money in the household, large household purchases, household purchases for daily needs, when to sell a large asset (e.g. cow), when to sell small asset (e.g. chicken), when to visit family/relatives, self healthcare and children healthcare, when to have sex, and when to use FP. Item response options included the following: wife alone, wife and husband together, husband alone, respondent and other person, and someone else. For the measure of overall decision-making autonomy, we converted all indicators into binary variables where responses of wife alone or wife and husband together scored as 2 and all other responses scored as 1. The scale score was the sum of item scores divided by the number of items and ranges from 1 to 2. The scale had good reliability scale (Cronbach's alpha= 0.78) [Table 1](#).

Access to family planning (FP) information was another independent variable and measured using seven questions. The questions asked whether she was told about FP during health facility visit; heard FP messages on radio; watched FP messages on TV; told about FP information by Health Extension Worker (HEW) or others Health care Workers (HCWs) at home visits; read about FP on a newspaper or magazine; read FP information in a posters/leaflets; or discussed FP issues at community events/conversations in the last 12 months preceding the survey. Each question was answered as yes or no. Each yes response was recorded as a score of 1 otherwise 0. Thus, the maximum score was 7 and the minimum one was 0. The overall score was categorized into two categories as had access to FP information if a woman got at least a score of 1, yes to at least one of the questions, and had no access if the total score was zero.<sup>39</sup>

**Table 1** Knowledge of Contraception and Household Decision-Making Status of Study Participants Living in Kersa HDSS, Ethiopia, 2018

Items	Response	Frequency	%
<b>Knowledge of Contraception</b>			
Oral contraceptive pill	Yes	1774	60.5
	No	1159	39.5
After a woman stops taking birth control pills, she is unable to get pregnant for at least two months	Yes	2164	74.1
	No	755	25.9
If a woman is having side effect with one kind of pill, switching to another type or brand might help	Yes	905	30.9
	No	2028	69.1
Injectable	Yes	2431	82.9
	No	502	17.1
Even if a woman delays in getting her depo-provera (Injection), she still cannot conceive for at least 3 months	Yes	519	17.9
	No	2383	82.1
Implants	Yes	2282	77.8
	No	651	22.2
Long-acting methods like the implants can be removed early if a woman wants to get pregnant	Yes	1841	79.5
	No	474	20.5
Intrauterine contraceptive device (IUCD)	Yes	145	4.9
	No	2788	95.1
Emergency contraception	Yes	113	3.9
	No	2820	96.1
Male condom	Yes	373	87.3
	No	2560	12.7
Female sterilization	Yes	534	81.8
	No	2399	18.2
Lactational amenorrhea method (LAM)	Yes	1039	35.4
	No	1894	64.6
Rhythm method	Yes	193	6.6
	No	2740	93.4
A woman who is still breastfeeding can get pregnant	Yes	753	25.8
	No	2164	74.2
After giving birth, a woman can get pregnant even before she has her first period	Yes	1148	49.7
	No	1467	50.3
<b>Household Decision Making Autonomy</b>			
Who decides how to spend money in the house hold?	Husband/someone else	835	28.9
	Wife/both together	2059	71.1
Who decides on how to use the money that you bring into the household?	Husband/someone else	733	25.1
	Wife/both together	2192	74.9
Who decides about when your family will sell a large asset (like a cow)	Husband/someone else	1536	52.8
	Wife/both together	1373	47.2c
Who decides about when your family will sell a small asset (like a chicken)?	Husband/someone else	307	10.6
	Wife/both together	2601	89.4

(Continued)

**Table 1** (Continued).

Items	Response	Frequency	%
Who decides small household expenditures (e.g. toothpaste, soap, dishes etc.)	Husband/someone else	271	9.3
	Wife/both together	2646	90.7
Who decides major household expenditures (e.g. TV, refrigerator, furniture etc.)	Husband/someone else	482	16.5
	Wife/both together	2441	83.5
Who decides time of visiting family or relatives	Husband/someone else	814	27.9
	Wife/both together	2107	72.1
Who decides if the woman can go out of the house alone for medical help	Husband/someone else	880	30.2
	Wife/both together	2037	69.8
Who decides where to take the child in the event of illness	Husband/someone else	857	29.2
	Wife/both together	2061	70.6
Who usually decide when you and your husband have sex	Husband/someone else	1251	43
	Wife/both together	1655	37
Who would mainly decide on using family planning	Husband/someone else	1377	47.4
	Wife/both together	1528	52.6

Knowledge of contraception was assessed using a 15-item scale. The responses were scored as “0” for an incorrect answer and “1” for a correct answer. The total score was then obtained by summing all items, which could range from 0 to 15 points and then categorize the score as above and below the median. Those above median scores were classified as high knowledge of contraception and those below median scores were classified as low knowledge of contraception (Table 1).<sup>40,41</sup>

Wealth index was calculated using the principal component analysis (PCA) method. Items were assessed owing to household facilities including electricity, kerosene, lantern lamp, solar, TV, radio, watch, mobile telephone and possessions such as agricultural land size and the number of animals owned (cows, oxen, goats, sheep, camel, donkey, chickens).<sup>42</sup> Five components were extracted based on eigenvalues >1, factor loadings > |0.2|, examination of the scree plots, and the cumulative proportion of variance explained by each component. The first component or factor comprised of several heavily loaded variables and accounted for the largest variation in the data was categorized into quintiles. Each household falls into a category with the lowest score representing the poorest and the medium score and highest representing the richest households.

In addition, we considered age (14–17/18 or more years); type of residence (urban/rural); educational attainment of respondents: no formal education, primary (1–4

grade), lower secondary and higher (>grade 4); husband's occupation: farmer and other occupation (including government employee, merchants, daily laborer); husband education attainment: no formal education, primary (1–4 grade), lower secondary and higher (>grade 4 years); age of marriage (<18, 18–20, ≥21 years); actual number of children; ideal number of children (≤5 and >5 children); parity (para one or never gave birth/above para one); and history of child/fetal lose (had history of child/fetal lose and had no history of child/fetal loss).

## Data Management and Analysis

The completed questionnaires were double entered into EpiData Version 3.1, cleaned, and analyzed using STATA 14 statistical software. The relevant proportions and their 95% confidence intervals were calculated for categorical variables and means were calculated for continuous variables. We examined the associations between unmet needs and each independent variable by calculating the prevalence ratio (PR) using a log-binomial regression model which is preferable for the outcome variable with high prevalence.<sup>43</sup> Variables with p-value of ≤0.25 in the bivariate analysis were considered in the multivariable analysis and adjusted PR (APR) along with 95% CIs were estimated and a p-value <0.05 was used to declare the statistical significance. Log-likelihood ratio test and Akaike's and Bayesian information criterion were used to select the final model. The Pearson Chi-square and Hosmer–Lemeshow goodness-of-fit tests were used to test for model

fitness. Multicollinearity between each explanatory variable included was checked by examining the correlation matrix for the regression coefficients and the standard error. Residence and number of alive children were not included in the model due to multicollinearity with husband occupation and parity, respectively.

## Results

A total of 2933 young married women participated in this study. The majority of the women, 1721 (58.7%), were in the 20–24-year age group with a mean age of 19.4 ( $\pm 2.5$ ) years. Nearly all, 2741 (94.1%), were 5 years and lesser than 5 years after marriage. More than half, 1533 (52.3%), of the study participants had no education. Most of the study participants were Muslims, 2836 (96.7%), and rural residents, 2711 (92.4%). In terms of reproductive characteristics, 2114 (72.1%) ever gave birth to a child and 1061 (31.2%) had two or more children. One hundred and thirty-eight (4.7%) and 155 (5.3%) women had a history of pregnancy termination and child loss, respectively. The mean ideal number of children among the women was 5.7 children and 439 (15%) were pregnant at the time of the study. Of all study participants, 751 (25.6%) had access to FP information from different sources in the last 12 months prior to the survey [Table 2](#).

Most of the study participants, 2803 (95.6%), knew at least one contraceptive method. Injectable (82.9%) implants (77.8) and pills (60.5%) were the most commonly known contraceptive methods while only 145 (4.9%) knew intrauterine contraceptive device (IUCD). Moreover, 1074 (37.9%) of the participants had above median household decision-making autonomy score [Table 1](#).

The prevalence of unmet need for contraception among young married women in the study was 1014 (34.6%, 95% CI= 32.9%–36.4%) and nearly all, 978 (96.45%), of them had an unmet need for spacing ([Figure 1](#)).

## Factors Associated with Married Young Women Unmet Need for Contraception

After adjusted analysis, the prevalence of unmet need for contraception was lower by 25% (APR= 0.76; 95% CI: 0.62–0.95) with one unit increase of young married women's household decision-making autonomy score. The prevalence of unmet need for contraception among young women who had no access to FP information in the last 12 months was 1.24 times higher compared to those who had access to FP information during the specified

period (APR= 1.24; 95% CI: 1.1–1.42). The prevalence ratio of unmet need for contraception among young married women aged 18 years or more was also 1.25 times higher compared to those aged below 18 years (APR= 1.25; 95% CI: 1.04–1.5). Furthermore, the prevalence ratio of unmet need for contraception was 1.2 times higher among young married women who reported 5 and lesser-ideal number of children (APR=1.2; 95% CI: 1.06–1.32) and 1.8 times higher among multiparous women (had two and above birth) compared to women who gave birth once or who never gave birth (APR= 1.9; 95% CI: 1.7–2.1) ([Table 3](#)).

Exposure to family planning (FP) information during the last 12 months (APR= 1.24; CI=1.1–1.42), age 18 or more years (APR=1.31; CI=1.07–1.6), multiparity (APR= 1.9; CI=1.7–2.1) and desire to have 5 children or lesser than 5 children (APR= 1.2; CI=1.06–1.32).

## Discussions

This study demonstrated that one-third of young married women had an unmet need for contraception. Increased household decision-making autonomy, access to FP information, parity, the number of children desired to have and age were significantly associated with unmet need for contraception.

The 34.6% total unmet need for contraception among young women in our study was far higher than the 20.5% national prevalence<sup>2</sup> and 11–20.5% reported among young married women in other developing countries.<sup>16,44</sup> Evidence showed a substantial disparity in unmet need by residence while more than 90% of the study participants were rural residents, which might be attributed to the difference with national data. However, it is comparable with a review and study from sub-Saharan African countries that found 21–46% prevalence of unmet need for contraception among 15–24-year-old married women.<sup>6,45</sup> These confirm the evidence that showed that most sub-Saharan African countries are far from adequately meeting the needs of contraceptives in their youth population.<sup>6</sup> Nearly all (96.45%) of the study participants reported unmet need for spacing which is expected in that younger mothers might have not reached the desired fertility and hence preferred to space childbirths than the limit. About three-fourth (74.3%) of young married women who ever gave more than two live birth were spaced between first and second child 24 months or below which is less than the recommended inter-birth interval. Hence, the high unmet need for contraception in our study mostly

**Table 2** Background Characteristics of Study Participants Living in Kersa HDSS, Ethiopia, 2018

Characteristics	Categories	Frequency	%
Age of study participants in years	14–17	599	20.4
	18–20	1388	47.3
	21 or more	946	32.25
Age of marriage in years	13–17	1431	49.4
	18–20	1239	42.7
	21 or more	228	7.9
Duration after marriage in months	1–12	1240	42.6
	13–24	418	14.4
	25–36	350	12
	37–48	332	11.4
	49–96	573	19.7
Current residence	Rural	2711	92.4
	Urban	222	7.6
Religion	Muslim	2836	96.7
	Orthodox	91	3.1
	Protestant	6	0.2
Educational status	No education	1533	52.3
	1–4 grade	599	20.4
	5–8 grade	676	23
	9 and above	125	4.3
Husband's age in years	16–19	82	2.8
	20–24	633	21.6
	25–29	840	28.6
	30–34	326	11.1
	35–45	74	2.5
	I do not know	978	33.3
Husband's educational status	No education	1030	36.2
	1–4 grade	420	14.8
	5–8 grade	913	49.0
	9 and above	493	17.3
Husband's main occupation	Farmer	2613	89.1
	Other*	320	10.9
Gravidity of women (number of times pregnant)	Gravida 0 (never pregnant)	576	19.6
	Gravida 1 (pregnant one time)	1214	41.4
	Gravida 2 and above	1143	39.0

(Continued)

**Table 2** (Continued).

Characteristics	Categories	Frequency	%
Parity of the women (number of live births)	Para 0(Never give birth)	819	27.9
	Para 1	1053	35.9
	Para 2 and above	1061	36.2
Number of living children owned	Had no child	819	27.9
	Had One child	1070	36.5
	Had two and above	1044	35.6
History of fetal loss	No	2795	95.3
	Yes	138	4.7
History of child loss	No	2778	94.7
	Yes	155	5.3
Current pregnancy	No	2494	85.0
	Yes	439	15.0
FP advise during health facility visit in the last 12 months	No	2525	86.1
	Yes	408	13.9
Received FP advise from HEWs or others HCWs visited home in the last 12 months	No	2558	87.2
	Yes	375	12.8
Heard FP via radio in the last 12 months	No	2515	85.7
	Yes	418	14.3
Seen FP information on television the last 12 months	No	2763	94.2
	Yes	170	5.8
Read about FP in a newspaper or magazine in the last 12 months	No	2880	98.2
	Yes	53	1.8
Read about FP in a posters/leaflets in the last 12 months	No	2872	97.9
	Yes	61	2.1
Heard FP during in community conversation/events in the last 12 months	No	2719	92.7
	Yes	214	7.3

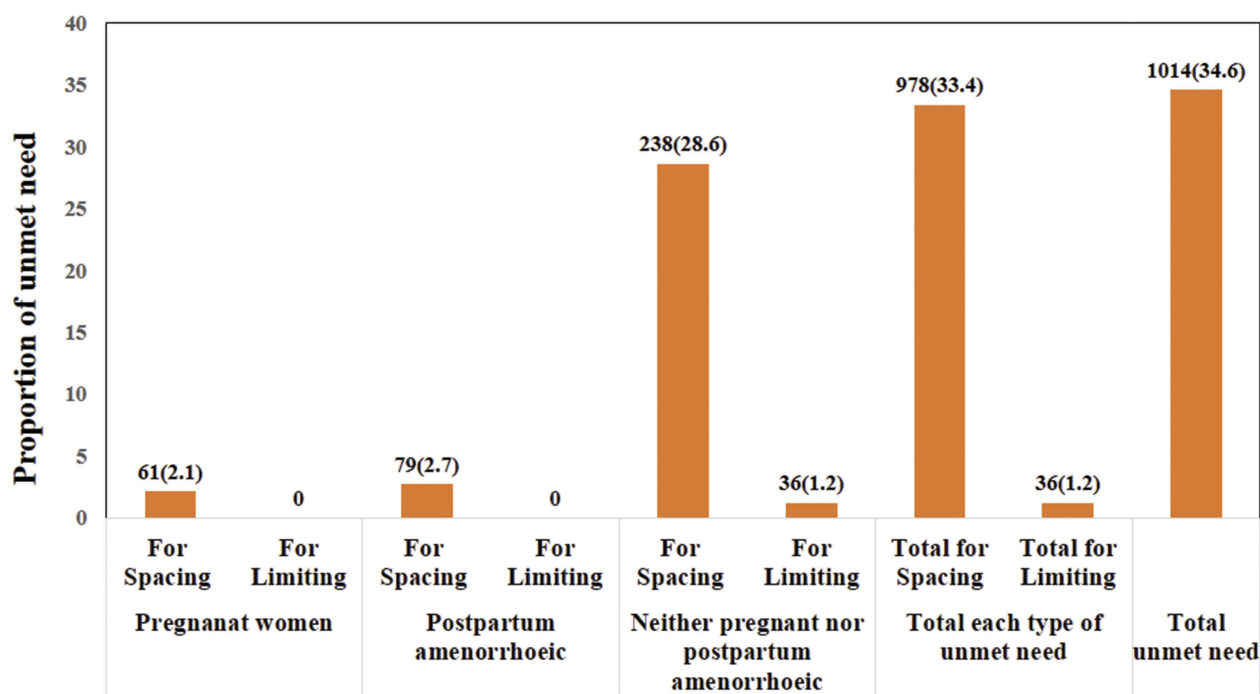
**Note:** \*"Other" occupation category includes government employee, merchants and daily laborer.

**Abbreviations:** FP, family planning; HEWs, health extension workers; HCWs, health-care workers.

attributed to young mothers high intended to space births but not using contraceptive methods which is also indicated in previous literature.<sup>46</sup>

Increased household decision-making autonomy was significantly associated with a lower prevalence of unmet needs for contraception in line with several previous studies among reproductive-age women.<sup>24,25</sup> The consistency with past studies confirms that the hypothesis of women who more involved in household

decision-making would be more likely to use health services including family planning. However, many young women in a patriarchal society like Ethiopia, particularly in a rural setting, have lesser decision-making power on major household issues due to economic dependence, lesser negotiation skills, and other existing culture.<sup>47</sup> These findings depict the need for strategies that empower young women to develop negotiation skills to choose the number of children they



**Figure 1** Unmet need for contraception among young married women in Eastern Ethiopia, 2018.

desire and challenge the traditional male dominance that limits their access to contraceptive services.

Qualitative studies suggested the importance of factual information that describes the contraceptive methods for young married women in developing countries since most of them are married at an early age with limited knowledge of contraception.<sup>48,49</sup> In line with the previous literature, inaccessibility to FP information was significantly associated with increased prevalence of young married women unmet need for contraception compared to those who had access to FP information. This may be related to less emphasis given to young women in disseminating FP information by health service providers.<sup>50,51</sup> This demonstrates the importance of extensive FP information targeting young married women by enhancing high-quality FP counseling at each health service provision junction and through all other promising modalities to reach young women. But the effect of FP information on unmet need needs to be interpreted cautiously. There could be also a reverse causality. Women who decide to adopt contraception are likely to request information from health staff, in which case information is not an influence on, but rather a consequence of, contraceptive use. Since the study is a cross-sectional study, we may not rule out the temporal relationship.

Multiparity was also significantly associated with unmet needs for contraception. The likelihood of the unmet need for contraception was 1.8 times higher among young women who gave birth more than one time compared to those who never gave birth or gave birth only once. The result is consistent with previous findings which indicated a markedly increase of young married women unmet need for contraception with parity.<sup>10,13</sup> This would be due to increased young women's demand for contraception as well as attaining confidence to expose their desire to space pregnancy after confirming their fertility. This is also a signal for enhancing the quality of postpartum contraceptive services among young married women.

The prevalence ratio of unmet need for contraception was 1.2 times higher among young married women reported a desire to have 5 children or lesser than 5 children. This is consistent with previous studies that identified the couple's desire for children as a dominant factor that shapes their need for contraception.<sup>15,16</sup> According to a study conducted in Burkina Faso and Mali, each additional child the married young women desired to have decreased the likelihood of unmet need contraception by 30%.<sup>52</sup> Moreover, evidence also showed as younger women had a larger ideal number of children than their adult counterpart due to lower awareness of pregnancy-related challenges and then less likely have

**Table 3** Factors Associated with Unmet Need for Contraception Among Study Participants Living in Kersa HDSS, Ethiopia, 2018

Variable	Number (%) of Unmet Need Status		Crude PR (95% CI)	Adjusted PR (95% CI)
	Yes	No		
<b>Age of participants in years</b>				
14–17	136(22.7)	463(77.3)	1	1
18 or more	878(37.6)	1456(62.4)	1.65(1.4–1.9)	1.25(1.04–1.5)
<b>Mother education</b>				
No education	533(34.8)	1000(65.2)	1	1
Primary (1–4 grade)	197(32.9)	402(67.1)	0.94(0.83–1.1)	0.93(0.8–1.1)
Secondary and above (5+)	284(35.5)	517(64.5)	1.02(0.91–1.14)	1.04(0.92–1.2)
<b>Husband education</b>				
No education	345(33.5)	685(66.5)	1	1
Primary (1–4 grade)	118(28.1)	302(71.9)	0.84(0.70–1.0)	0.93(0.79–1.13)
Secondary and above (5+)	514(36.9)	880(63.1)	1.1(0.99–1.23)	1.1(0.98–1.24)
<b>Husband occupation</b>				
*Other occupation	94(29.4)	226(70.6)	1.00	1
Farmer	920(35.2)	1693(64.8)	1.2(1.03–1.43)	1.08(0.88–1.33)
<b>Wealth status</b>				
Poor	306(31.4)	667(68.6)	1	1
Medium	363(37.3)	609(62.7)	1.2(1.04–1.34)	1.04(0.91–1.2)
High	340(35.0)	632(65.0)	1.11(0.98–1.26)	1.03(0.9–1.2)
<b>Parity</b>				
Para one(<2 births)	475(25.4)	1397(74.6)	1	1
Multiparous (≥2 births)	539(50.8)	522(49.2)	2.0(1.8–2.2)	1.9(1.7–2.1)
<b>Ideal number of children</b>				
>5 children	434(32.6)	898(67.4)	1	1
≤5 children	463(35.4)	845(66.6)	1.08(0.98–1.2)	1.2(1.06–1.32)
Household decision-making score			0.77(0.63–0.92)	0.76(0.62–0.94)
<b>Knowledge of contraceptive methods</b>				
High	423(31.9)	904(68.1)	1	1
Low	579(37.4)	968(62.6)	1.17(1.06–1.3)	1.1(0.97–1.2)
<b>Exposure to FP information in the last 12 months</b>				
Yes	228(30.4)	1396(63.6)	1	1
No	786(36.0)	523(69.6)	1.2(1.05–1.34)	1.24(1.1–1.42)

**Notes:** \*"Other" occupation category includes government employee, merchants and daily laborer.

**Abbreviations:** FP, family planning; PR, prevalence ratio; APR, adjusted prevalence ratio; CPR, crude prevalence ratio; CI, confidence interval.

demand for contraception.<sup>53</sup> This implies that young women's desire for a large number of children refrain them from the need for contraceptives until they achieved their desired fertility and then lower unmet need for contraception. This highlights the importance of recently married women targeted education that emphasizes the risk of rapid-repeat pregnancy and challenges of large family size.

According to the DHS analytic studies in developing countries, unmet need for contraception was highest among the youngest married women (age 15–16) and

declines with increasing age.<sup>35,54</sup> Contrary to the previous studies, our study indicated the higher prevalence ratio of unmet need for contraception among married youth above 18 years of age compared to the adolescent age group. The majority of the participants of this study were from the rural settings where adolescent girls are under mounting pressure to conceive immediately after marriage. Thus, younger women had lower demand for contraception which depicts rural married adolescents continuing to comply with the traditional norms that

dictate giving birth immediately after marriage. This demonstrates that married adolescents' continued experiencing complex early age pregnancy's adverse health consequences such as fistula and other pelvic floor disorder due to immature reproductive organs which were also observed in previous studies in the study area.<sup>31,55</sup> This underscores the importance of intensifying education concerning the need to delay childbearing and contraception among adolescents in the study area.

This study has a number of limitations. We found a significant association between lack of exposure to FP information and increased unmet need for contraception. However, providers view concerning young women FP counseling when they come to the health facilities was not considered in this study although evidence indicated as provider related biases hamper young women's access to contraceptive information and services in sub-Saharan Africa.<sup>51</sup> Despite evidence identified considerable disagreement between the couple regarding who exercises more in the household decision-making power,<sup>47</sup> husband's view was not asked in this study. Moreover, responses to the outcome and independent variables measurement might be affected by the recall and social desirability bias.

## Conclusions

One-third of married young women had an unmet need for contraception. Household decision-making autonomy and access to FP information were the major factors associated with the young married women unmet need for contraception. More efforts are needed to empower young women to make decisions that affect their own life and also to provide appropriate FP information to reduce the burden of unmet needs among young women in rural settings in Ethiopia. In the future, a longitudinal study is needed to inform a better approach as well as the content and standard of information to be provided for young married women.

## Availability of Data

All data analyzed for this article are available with the corresponding author and can be obtained on reasonable request.

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## Author Contributions

All authors made substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; took part in drafting the article or revising it critically for important intellectual content; gave final approval of the version to be published; and agreed to be accountable for all aspects of the work.

## Disclosure

No conflict of interest was declared by the authors.

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