

Unmet Need for Modern Family Planning and associated factors among Women Attending HIV Care Services at Rural Area Public Health facilities in South Gondar, Ethiopia.

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Research

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Abstract

Introduction: To achieve the elimination of mother to child transmission of the human immunodeficiency virus (HIV), preventing unintended pregnancy and reducing the high unmet need for family planning among HIV positive women was crucial. Despite being crucial little has been known on the unmet need for family planning and its determinants among women living with HIV in the rural area. Therefore, this study aimed to assess the prevalence of unmet need for modern family planning and its determinants among women Attending HIV Care Services at rural Public Health Facilities.

Methods: An institution-based cross-sectional study was conducted from March to April 2020 in rural South Gondar. A total of 931 respondents were included in the study. To recruit respondents a multi-stage sampling technique was used. The data were collected using a pretested and semi-structured questionnaire. Data were entered by Epi data version 4.6 and exported to Stata version 14 for analysis. Variables with a p-value<0.2 in the bivariable logistic regression model were fitted to the multivariable logistic regression model. Adjusted Odds ratio with 95% CI was computed and variables with P-value < 0.05 in the multivariable analysis were taken as significant determinants.

Results: The prevalence of unmet need for family planning was 25.67% with 95% CI (22.96-28.58). Age group (35-49) (AOR=6.5, 95% CI (2.86, 14.66)), education status (9-12) (AOR=0.25, 95% CI (0.10, 0.61)), history of ever use Contraception (AOR=3.9, 95% CI (2.28, 6.67)), having five and above parity (AOR=5.1, 95% CI (2.08, 12.43)) and not Counseling for contraception (AOR =4.2, 95 CI, (1.91, 9.37)) were determinant for unmet need of contraception among HIV positive women in South Gondar.

Conclusion: prevalence of unmet need for family planning was high. It was mainly

Influenced by last reproductive age group (35-49)), education (9-12), having no experience of contraception use, having five and above parity, and no counseling for contraception. Therefore, family planning programs need to focus on old (35-49) reproductive age women, and multi-para women.

Introduction

Contraceptive use increased in many parts of the world, especially in Asia and Latin America(1). Of 1.9 billion reproductive-age women worldwide, 1.1 billion need family planning; of these, 842 million are using contraceptive methods, and 270 million have an unmet need for contraception (1, 2), but in developing countries, 214 million women of reproductive age who want to avoid pregnancy were not using a modern contraceptive method(1, 2). In Latin America, Asia, and Africa, 10.7%, 10.2%, 24.2%, of women of reproductive age have an unmet need for modern contraception respectively (1, 3). More than one in ten married or in-union women worldwide have an unmet need for family planning and In Africa, one in five women has an unmet need for family planning (1, 2). In Ethiopia based on the general population survey among reproductive age (15–49), the prevalence of unmet need for family planning was 22% among reproductive age group, lowest in Addis Ababa (11%), highest in the Oromia region (29%), and 17% in Amhara region (4).

Contraception is a highly cost-effective HIV prevention strategy than the provision of ART and prophylaxis (5). Contraceptive use averts about 230 million births every year globally (6). Spacing children can reduce mortality among under-fives by 10% and among pregnant mothers by 32% (6). Approximately 120 000 HIV-positive births per year would be averted if the family planning needs of all HIV-positive women in sub-Saharan Africa could be met (7).

In Ethiopia 2,728 unintended HIV-positive births annually are averted by using contraception(8), and decrease an estimated 20% – 30% of newborn HIV infections will be averted if unintended pregnancies are prevented among HIV-positive women by using modern family planning (8). From 21 focus African countries, the Vertical transmission rate exceeding 17% in Ethiopia (9).

One of the most effective approaches to prevent mother to child HIV transmission is decreasing the rate of unintended pregnancy and decreased the unmet need for family planning (10, 11). The concern of effective use of family planning (FP) can help couples achieve the desired number of children they want, prevent the number of unwanted pregnancies and abortion, reduce the risks of sexually transmitted infections (STIs), improvement in maternal and child health, and reducing infant HIV infections and the number of children needing HIV treatment and support (12–14).

Women living with HIV (WLHIV) experience high rates of unmet for modern family planning, maternal death, abortion, and unintended pregnancy (12, 15–23).

Several reasons for the high prevalence of unmet need for modern family planning among HIV positive reproductive women include limited choice of methods(23); limited access to services (23), particularly among young, fear or experience of side-effects; cultural or religious opposition (12, 22–24); poor quality of available services; users' and providers' bias against some methods(22, 23); desire for more children (12, 22)and gender-based barriers to accessing services (12, 22–24).

The World Health Organization's (WHO) four-pronged strategy for prevention of mother-to-child HIV transmission (PMTCT) includes the Prevention of unintended pregnancies among HIV-positive women through FP and reduced the unmet need for family planning among women living with HIV infection is a highly cost-effective HIV prevention strategy (25). Ethiopia also adopts the WHO four-prong strategies to eliminate vertical transmission of HIV and national adolescent and youth health strategy to address the health of reproductive age women (26, 27).

However, the prevalence of unmet need for modern family planning among Ethiopian married women living with HIV was high (19, 21, 28). However, to estimate the prevalence of unmet need for modern family planning single study area in the referral hospitals is not enough. Little is known about the prevalence and associated factors of unmet need for family planning among reproductive-age women living with HIV at the rural general hospital, primary hospital and health center levels in the study area. Therefore, the objective of the study is to determine the prevalence and contributing factors of the unmet need for modern family planning among HIV-positive reproductive-age women in the rural area general hospital, primary hospital and health centers.

Methods

Study design and period

An institutional-based cross-sectional study was conducted among HIV-Positive Women attending HIV Care Service in the Rural South Gondar zone from March to April 2020.

Study area

The research was conducted in rural South Gondar Zone which is found in Amhara regional state located at 664 km from the capital city Addis Ababa. Based on the 2007 Census conducted by the Central Statistical Agency of Ethiopia, the South Gondar zone had a total population of 2,051,738 and a natural increment of 16% over the 1994 census, of which 1,041,061 are men and 1,010,677 women (29). In the South Gondar zone, there were 96 health centers, of those 07 primary hospitals and 01 general hospitals available, but only 32 health facilities provide ART services. Based on the 2019 South Gondar HIV /AIDS prevention and control office report 10,829 people current on ART, from the total current on ART 6781 were reproductive age women (30).

Population

All HIV Positive reproductive age married/union women (15–49 years) attending ART clinics of the health facilities in the South Gondar during the study period were considered as the study population. Seriously ill during the data collection period and infecund reproductive-age women were excluded from the study.

Sample size determination and sampling procedure

The sample size was determined by using a single population proportion formula by considering assumptions 95% of CI, 4% of marginal error, 5% of non-response rate, and the prevalence of unmet need for contraception among HIV positive women was 25.1% (19), and design effect 2. Finally, the required sample size was 937.

Multi-stage sampling methods were employed to select the study population. From a total of Thirty-two ART service provide health facilities, Six Health facilities were selected by lottery method. Then the estimated sample size is proportionally allocated to health facilities based on the previous month's clients' flow number. Finally, study participants were selected by systematic random sampling method with a k interval of two.

Operational definition

Unmet need for modern family planning

The sum of the proportion of a woman who is married/ sexual union and fecund women do not want any more children or want to postpone pregnancy for at least two years, but she is not using a contraceptive method and currently pregnant or postpartum amenorrhoeic women being pregnant earlier than she desired or do not want a child at all, but don't use the contraceptive method during conception(4, 31).

Unmet need for limiting

the sum of the proportion of women who is married/sexual union and fecund who do not want any more children and currently pregnant or postpartum amenorrhoeic who do not want a child at all but she is not using a contraceptive (4).

Unmet need for spacing

the sum of the proportion of women who is married/sexual union and fecund women who want to postpone pregnancy for at least two years and Current pregnant or postpartum amenorrhoeic women being pregnant earlier than she desired but, don't use a modern contraceptive method (4, 31).

Knowledge of PMTCT

defined as knowing of transmission from mother to child during any of the pregnancy, delivery, and breastfeeding(20).

Data collection tool and procedure

A structured interviewer-administered questionnaire was used for data collection. The questionnaire was developed from Ethiopia demographic health survey and by reviewing national and international literature. The data collection instrument was prepared in English. Then the English version of the questionnaire was translated first to Amharic and back to English to ensure its consistency. The questionnaire has information on socio-demographic characteristics, reproductive related factors, and HIV care-related factors.

Data was collected by 14 health professionals; three BSc and two diploma female nurses, 2 BSc, and 5 clinical midwifery and two health officers who were working in the ART clinics and post-natal follow-up clinics of the respected hospitals and health centers. In addition to the principal investigator, 03 BSc nurse supervisors were assigned to supervise the data collectors and to check for completeness and consistency of a questionnaire.

Data quality control

The quality of data was assured through translation, and retranslation of the questionnaire as well as pretesting on 5% of the sample was done at Maraki health center for relevant amendment. Onsite training was given for data collectors and supervisors before the data collection starting on the objective of the research, data collection procedure, and ethical issues. The supervisors and principal investigator closely followed the day-to-day data collection process and ensure the completeness and consistency of the collected questionnaire.

Data management and analysis

The data were entered using Epi Data version 4.6 by the principal investigator and then exported to Stata version 14 for cleaning and analyzing. Descriptive statistics were used to describe the socio-demographic characteristics of the respondents, reproductive related factors, individual-related factors and the prevalence of unmet need for contraception. The association between the unmet need for family planning with predictors was checked by chi-square. Binary logistic regression was used to identify the factor associated with the independent variable. The variables of the p-value < 0.2 in the bivariable logistic regression model were fitted to a multivariable logistic regression model to identify factors associated with unmet need for family planning. Adjusted Odd ratio with 95% CI was computed and variables with P-value < 0.05 in the multivariable analysis were taken as significant determinants. Hosmer- Lemeshow test was checked and the p-value was 0.1058 and multicollinearity was checked and the result was a mean VIF 1.25.

Results

Socio-Demographic Characteristics of the Study Participants

From a total of 937 HIV positive reproductive age women in the selected health centers and hospitals, 931 study participants were included in the study, with a response rate of 99.4%. The mean age of the respondents was 31.3 years with (SD of \pm 6.5) years. The majority 886 (95.17%) of the respondents were Orthodox Christian followers. Four hundred four (43.39%) respondents were reported that they haven't attended formal education, while 301(32.33) % were attended only primary level education. The majority 402(43.18%) of respondents' partners had no formal education. Of the study participants, 154(16.54%) was civil servant employment while 321(34.48%) Were housewife. Three hundred thirty-five (35.98%) of household wealth were poor (Table 1).

Table 1
Sociodemographic characteristics of women in reproductive age on ART in South Gondar Zone, 2020

Variables	categories	Frequency	Percentage
Age in years	15–24	131	14.07
	25–34	484	51.99
	35 and above	316	33.94
Residence	Urban	605	64.98
	Rural	326	35.02
Religion	Orthodox	849	91.19
	Muslim	64	7.30
	Protestant	18	1.93
Educational status	No formal education	404	43.39
	Primary school	301	32.33
	Secondary school	138	14.82
	College and above	88	9.45
Partner educational status	No formal education	402	43.18
	Primary school	257	27.60
	Secondary school	158	16.97
	College and above	114	12.24
Partner HIV status	Positive	886	95.17
	Negative(discordant)	3	0.32
	I don't.t know	42	4.51
Occupation	Government employee	154	16.54
	Student	34	3.65
	Housewife	321	34.48
	Daily laborer	179	19.23
	Merchant	163	17.51
	Farmer	51	5.48
	Commercial sex worker	29	3.11
Wealth index	Poor	335	35.98
	Medium	302	32.44
	Rich	294	31.58

Reproductive related factors

Eight hundred sixty-four (92.80%) study participants had a history of giving birth. Seven hundred three (75.51%) women had two or more history of parity. Six hundred thirty (72.92%) respondents had two or more live children. From the total respondents, almost all 839(90.12%) had a history of family planning use. Of the study participants, 52 (5.59%) were currently pregnant. Of those women who were pregnant, 37(3.97%) were intended and 15 (1.62%) pregnancies were unintended. Forty-one (4.40%) study participants gave birth in the last 06 weeks. Among those, 27(2.9%) pregnancies were intended and the rest of the pregnancies, 4(0.43%) were unwanted and 10(1.07%) were mistimed. Five hundred thirty-six (60.98%) of the women were used at least one method of contraception and three hundred forty-three (39.02%) of women were not used. From, non-users,133(14.29%) women need children currently, 115(12.35%) need children after 2 years and 95(10.20%) didn't want more children. The majority of the women, 294(54.85%) were used modern family planning for limiting and 237 (44.22%) for spacing. The majority of the respondents, 328 (61.19) were used injectable, whereas 19(3.5%) were used dual methods. Among 536 participants, who used any contraceptive, 296(55.23%) of participants mentioned family planning units or facilities as their source of contraceptive, 195(36.38%) of study participants were mentioned ART clinic/Chronic HIV care clinic (Table2).

Table 2

Reproductive related factors for unmet need for modern family planning among HIV positive reproductive age women on ART in South Gondar Zone, northwest, Ethiopia, 2020.

Variable	Categories	Frequency	Percentage
History of giving birth	Yes	864	92.80
	No	67	7.20
Number of parity	0	67	7.20
	1	161	17.29
	2–4	611	65.63
	5 and more	92	9.88
Number of alive children	0–1	234	27.08
	2–3	481	55.67
	4 and more	149	17.25
Duration of relationship	Up to 5 years	54	80.60
	> 5 years	13	19.40
Time to last sexual contact	Up 01 month	67	100.00
	> 01 month	0	0.00
Current pregnancy status	Yes	52	5.59
	No	879	94.41
Wanted pregnancy at that time	Yes	37	3.97
	No	15	1.62
If No, Wanted current pregnancy at that time	Later (mistimed pregnancy)	7	0.76
	No more (unwanted pregnancy)	8	0.86
Ever use of FP	Yes	839	90.12
	No	92	9.88
Menstrual period	< 6 month	869	98.86
	≥ 6 month	10	1.14
History of giving birth in the past 6 weeks	Yes	41	4.66
	No	838	95.34
Wanted last birth at that time	Yes	27	2.90
	No	14	1.50
If No, Wanted last birth at that time	Wanted last birth later	10	1.07
	Did not want last birth at all	4	0.43
Current FP taking history	Yes	495	53.17
	No	343	36.84

Variable	Categories	Frequency	Percentage
Reason to use FP	For spacing	209	42.22
	For limiting	286	57.78
Current FP methods	Female sterilization	1	0.20
	IUD	1	0.20
	Implant	80	16.16
	Injectable	328	66.22
	Pill	25	5.05
	Condom alone	41	8.28
	Male condom + other methods	19	3.84
FP receiving service(place)	At ARV treatment units	180	36.36
	family planning units	276	55.84
	private clinic	24	4.85
	Health post	15	3.03
Wants child within 2 years	Yes	133	14.29
	No	198	21.26
	Unsure	12	1.29
Wants child after two years	Later	115	12.35
	No more children	95	10.20

Prevalence of unmet need for modern family planning

Unmet need for Family planning was calculated from the proportion of pregnant/amenorrheic women whose current pregnancy/ last birth was mistimed or unwanted and the proportion of fecund none pregnant women who were not using any form of family planning method but do not need any more children or want children later. The prevalence of unmet need for family planning was 25.67% with 95% CI (22.96–28.58), 132(14.46%) for spacing and 107(11.49) for limiting

HIV care and related factors

The majority of the study participants 580(62.30%) have been living with HIV for more than 5.1 years. A majority of participants, 752(80.77%) have been on ART care for 3.1 years. Among the study participants 913(98.07%) reproductive-age women, the health care provides ask about the future desire of pregnancy and give counseling for contraception during chronic HIV follow-up. A great proportion of study participants 893(95.92%) were knowledgeable about the transmission of HIV from mother to child during pregnancy, delivery and breastfeeding.

Table 3
HIV related factors for unmet need for modern family planning among HIV positive reproductive age women on ART in South Gondar Zone, northwest, Ethiopia, 2020

Variable	Categories	frequency	Percent
Duration since HIV	2 and below	118	12.67
	2.1-5	233	25.03
	5.1 and above	580	62.30
Duration on ART (years)	1 and below	39	4.08
	1.1-3	140	15.04
	3.1 and above	752	80.77
HCP counseled for contraception use	Yes	913	98.07
	No	18	1.98
Knowledge for PMTCT	Yes	893	95.92%
	No	38	4.08%
HCP = Health care provider, PMTCT = prevention of mother to child transmission			

Reasons for not using contraceptive methods

The most common reasons for not using contraception are 58(27.62%) fear of reaction with ART drugs, 43(20.48%) Husband/partner opposition, 47(22.38%) fear of contraceptive side effects, 30(14.29%) religious prohibition, and 28(13.33%) infrequent sex (**Fig. 3**).

Factors associated with unmet need for modern family planning among HIV positive reproductive-age women

From eleven variables which were significant at p -value < 0.2 in the bivariable logistic regression analysis (age, religion, residence, education, occupation, parity, duration on ART, ever use of family planning, wealth quantile, knowledge for PMTCT and Receiving any FP counseling), five variables(Age, education, parity, ever use of family planning and Receiving any FP counseling) were significantly associated with unmet need for modern family planning among HIV positive reproductive-age women at $p < 0.05$ with 95% confidence interval (Table 4).

Table 4
Bivariate and multivariate logistic regression analysis of unmet need for modern family planning and its explanatory variables (n = 931)

Variable	Category	Unmet need		OR	
		Yes N (%)	No N (%)	COR(95%CI)	AOR(95%CI)
Age	15–24	14(1.50)	117(12.57)	1	1
	25–34	91(9.77)	393(42.21)	1.9(1.06–3.52)	1.9(0.84–4.17)
	35 and above	134(14.39)	182(19.55)	6.2(3.39–11.18)	6.5(2.86–14.66)**
Religion	Orthodox	211(22.66)	638(68.53)	1	1
	Muslim	19(2.04)	45(4.83)	1.28(0.73–2.23)	1.4(0.74–2.59)
	Protestant	9(0.97)	9(0.97)	3.02(1.18–7.72)	3.0(0.99–9.12)
Educational status	No formal Education	118(12.67)	286(30.72)	1.40(0.82–2.41)	0.4(0.19–1.06)
	Primary (1–8)	86(9.24)	215(23.09)	1.36(0.78–2.38)	0.6(0.27–1.34)
	Secondary (9–12)	15(1.61)	123(13.21)	0.41(0.19–0.86)	0.25(0.10–0.61)*
	College and above	20(2.15)	68(7.30)	1	1
Occupation	Government Employee	27(2.9)	127(13.64)	1	1
	Student	7(0.75)	27(2.90)	1.22(0.48–3.09)	3.5(0.93–12.91)
	Housewife	85(9.13)	236(25.35)	1.69(1.04–2.75)	1.3(0.66–2.75)
	Daily laborer	57(6.12)	122(13.10)	2.20(1.30–3.70)	2.1(0.99–4.43)
	Merchant	44(4.73)	119(12.78)	1.74(1.01–2.98)	1.7(0.83–3.49)
	Farmer	15(1.61)	36(3.87)	1.96(0.94–4.07)	0.78(0.29–2.17)
	Commercial sex worker	4(0.43)	25(2.69)	0.75(0.24–2.34)	0.91(0.24–3.46)
Parity	0	14(1.51)	52(5.59)	1	1
	1	35(3.76)	126(13.55)	1.03(0.51–2.07)	2.1(0.93–4.79)
	2–4	143(15.38)	468(50.32)	1.13(0.61–2.12)	1.9(0.89–4.16)
	5 and above	47(5.05)	45(4.84)	3.88(1.89–7.95)	5.1(2.08–12.43)**

Key **=significant at p-value < 0.001, *=significant at p < 0.05, **ART** = Anti-retroviral therapy, **PMTCT** = Prevention of Mother to Child Transmission, **HCP** = health care provider, **FP** = family planning

Duration on ART (years)	1 and below	10(1.07)	29(3.11)	0.92(0.44–1.93)	1.4(0.57–3.57)
	1.1-3 yrs.	25(2.69)	115(12.35)	0.58(0.37–0.93)	0.97(0.57–1.66)
	3.1 and above	204(21.91)	548(58.86)	1	1
Ever use FP	Yes	190(20.41)	649(69.71)	1	1
	No	49(5.26)	43(4.62)	3.89(2.50–6.05)	3.9(2.28–6.67)**
Wealth quantile	Poor	103(11.06)	232(24.92)	1.39(0.98–1.98)	1.0(0.66–1.67)
	Medium	65(6.98)	237(25.46)	0.86(0.59–1.26)	0.83(0.54–1.29)
	Rich	71(7.63)	223(23.95)	1	1
Receiving any FP counselling	Yes	217(23.31)	676(72.61)	1	1
	No	22(2.36)	16(1.72)	6.04(2.24–16.29)	4.2(1.91–9.37)**
Knowledge for PMTCT	Yes	224(24.06)	669(71.86)	1	1
	No	15(1.61)	23(2.47)	1.96(0.99–3.79)	0.96(0.43–2.14)
Key **=significant at p-value < 0.001, *=significant at p < 0.05, ART = Anti-retroviral therapy, PMTCT = Prevention of Mother to Child Transmission, HCP = health care provider, FP = family planning					

In the multivariable analysis, the odds of having unmet need among women in the age group of 35–49 years was 6.5 times higher as compared with women in the age group of 15–24 years (AOR = 6.5, 95% CI = 2.86–14.66). The odds of unmet need for family planning among women with secondary educational status (9–12) was reduced by 75% compared to women who have college and above educational status (AOR = 0.25, 95%CI = 0.10–0.61). The odds of unmet need for family planning among women who do not ever use contraception was 3.9 times higher than those who ever used contraception (AOR = 3.9, 95%CI = 2.28–6.67). The odds of unmet need for family planning among women who had five and above parity was 5.1 times higher than those women who had none parity (AOR = 5.1, 95%CI = 2.08–12.43). The odds of unmet need for family planning among women who are not counseled about contraception during HIV follow-up was 4.2 times higher than those women who were counseled about contraception (AOR = 4.2, 95%CI = 1.91–9.37).

Discussion

This study assessed the prevalence of unmet need for modern family planning methods and associated factors among HIV-positive reproductive age women. The prevalence of unmet need for modern family planning among study participants was 25.67% (95%CI = 22.96–28.58) of which 132(14.46%) was for spacing and 107 (11.49%) for limiting.

In this study, 25.67% reproductive age women had unmet need for modern family planning methods. This finding was in line with the findings from studies in Ghana (27.8%)(32) and Addis Ababa, Ethiopia (25.1%)(19). However, this finding was lower than study findings from South Africa (58.8%)(33), Nigeria (64.9%)(12) and Amhara regional state, Ethiopia (35.3%)(34). The reason for this discrepancy might be using a different study design(prospective cohort study), and unmet need definition, in study conducted South Africa, study participants with 12 month postpartum period and age restriction(18–35)years were considered(33), in study conducted in Nigeria were not used the revised definition for estimation of unmet need for contraception (31). In addition to this, high HIV prevalence among adults in sub-Saharan Africa may have contributed to a

higher unmet need for family planning (35). The discrepancy in the study from the Amhara region might be, the previous study focuses on only women who give birth between 06 weeks to 24 months and pregnant mothers were excluded from the study. Mother on PMTCT not taking family planning due to less perception to pregnancy since breastfeeding and no menses return since last birth (19, 36, 37).

In contrast, the finding of the current study was higher than study findings from India (17%)(38), Zimbabwe(19%)(39), Nigeria (20%) (40), Hawassa, Ethiopia (19.1%) (21), and Nekemte, western, Ethiopia (15.4%) (20). This discrepancy might be due to the sample size difference. The sample size of a study done in India was four times less than the current study sample size. In a study done in Zimbabwe, the participants were mothers on PMTCT(9–18 months) and different study designs (39). In a study done in Nigeria, pregnant mothers were excluded (40). In a study done in a different area of Ethiopia, the discrepancy might be due to the different health service provision and different characteristic of study participants (41) or this difference might be explained by the different distribution of PLHIV per region, 30% in Amhara, 26% in Oromia and 9% in Southern Nations, Nationalities, and Peoples' Region (42). unmet need for family planning in the general population as reported in the report of EDHS 2016 was (22%) (4). This discrepancy might be due to different study populations.

In the multivariable analysis, the unmet need for contraception was higher among old reproductive-age women. This finding was supported by study findings from rural Uganda (43), Nigeria (44, 45), Togo (46), and Ethiopia (20). This might be as the age of the women increases the risk of pregnancy will decrease (19, 47). It may be due to opposition to use contraception by partners, fears of contraception side effects, health concerns, the previous negative experience of using contraception and using family planning may interfere with sexual pleasure(19, 36, 48).

Another factor affecting the unmet need for family planning was educational status. Education was the most important factor in increasing contraceptive knowledge to plan the desire to limit or space births. In our study, women with educational status of (9–12) have a 75% lower risk of unmet need for family planning. This finding was contradicting with findings from Nigeria (40), Botswana (49) and western Ethiopia (20), which reports, women with no formal education and primary education had a higher prevalence of unmet need than those collages and above educational status. According to demographic health survey analytical studies, the relationship between education and unmet need for family planning was not constant across countries (31). In democratic Congo in 2007 as education increase, the unmet need for family planning also increases (CDHS,2007). But it needs further study focusing on the effect of education on unmet needs.

Ever use of contraception was also a significant factor affecting the unmet need for family planning. Women who didn't ever use had higher unmet need than those who had ever used. This finding was supported by study findings from Federal Teaching Hospital Gombe, Nigeria (50), Hawassa, Ethiopia (21) and Gondar town, Ethiopia (51). This might be women on ART, contraception use may feel exacerbation of HIV disease progression (51). This might be due to a lack of awareness for contraception or fear of contraceptive side effects and heard miss information from previously experienced mothers leads to frustration (52). Previous use of family planning increases knowledge and decrease fear of family planning side effects.

Women who had five and above parity had a higher unmet need for family planning than those women who had none parity. This finding consistent with studies done in Nigeria (50) and Northern Uganda (53). This might be due to women who had none or one child want a child soon no need of limiting and spacing or may have the desire of more children (19, 54) and Multiparous mother may achieve desired family size. This might be as women have more children, the unmet need for spacing births tends to decrease, but the unmet need for limiting increases (31).

Counseling about contraception also affects the unmet need for family planning.

Women who were not counseled about contraception during HIV follow-up had a higher unmet need for family planning than those women who were counseled. This finding was consistent with Uganda and Ethiopia (19, 55). The possible explanation could be family planning counseling during ART follow up can create awareness and increase knowledge to use

contraception and improving information about their risk of becoming pregnant and about the choices of contraception(36, 56).

Limitation Of The Study

As the study included more sensitive issues, social desirability bias could not be ruled out. Consequently, some women accessing the ART services may report higher use of condoms and other contraceptive methods. Similarly, women may report a birth or current pregnancy as wanted once the child is born. This can result in an underestimation of the true extent of unwanted births and unmet needs.

Conclusion

The unmet need for modern family planning among HIV positive reproductive age married/union women was very high. Unmet need for family planning is mainly influenced by age (35–49), education (9–12), having no experience of contraception use, having five and above parity, and no counseling for contraception. Therefore, family planning programs need to give focus on old age (35–49 years) reproductive-age women, multipara women and not ever used contraception. Health care provider needs to be focus patient-centered counseling to create awareness on the benefits of contraception in the settings of HIV infection.

Abbreviations

AIDS: Acquired Immune Deficiency Syndrome; AOR: Adjusted Odd Ratio; ART: Anti-retroviral therapy; COR: Crude Odd ratio; EDHS: Ethiopian demographic health survey; FP: Family Planning; HIV: Human Immune Virus; PLHIV: People Living Human Immune Virus; PMTCT: Prevention of Mother to Child Transmission; STI: Sexual Transmitted Infection; WHLHIV: Women Living with Human Immune Virus; WHO: World Health Organization

Declarations

Ethical considerations

Ethical clearance was obtained from the Institutional Review Board of the University of Gondar, College of Medicine and Health Sciences, Institute of public health with letter number of Ref No/IPH/837/6/2012. Support letter and permission was obtained from Amhara Regional Health Bureau and from South Gondar health zonal health department to the concerned bodies. Health facilities were approached with a formal letter written to the ward team leader. All the study participants were well informed about the benefit of the study along with their right to refuse before proceeding with the questions. Consent was obtained from each participant before starting the interview. Moreover, the confidentiality of the information was kept without the participant's name and ID. Data was not disclosed to any person other than the principal investigator.

Consent to publication

Not applicable outside of the researcher has access to any of the information collected.

Availability of data and materials

Data will be available upon reasonable request from the corresponding author

Competing Interests

No competing interest

Funding

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Authors contribution

MA conceived the study, developed the tool, coordinated the data collection activity, and carried out the statistical analysis. MMB and AT participated in the design of the study and development of the tool, performed the statistical analysis, and drafted the manuscript. All authors read and approved the final manuscript.

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Figures

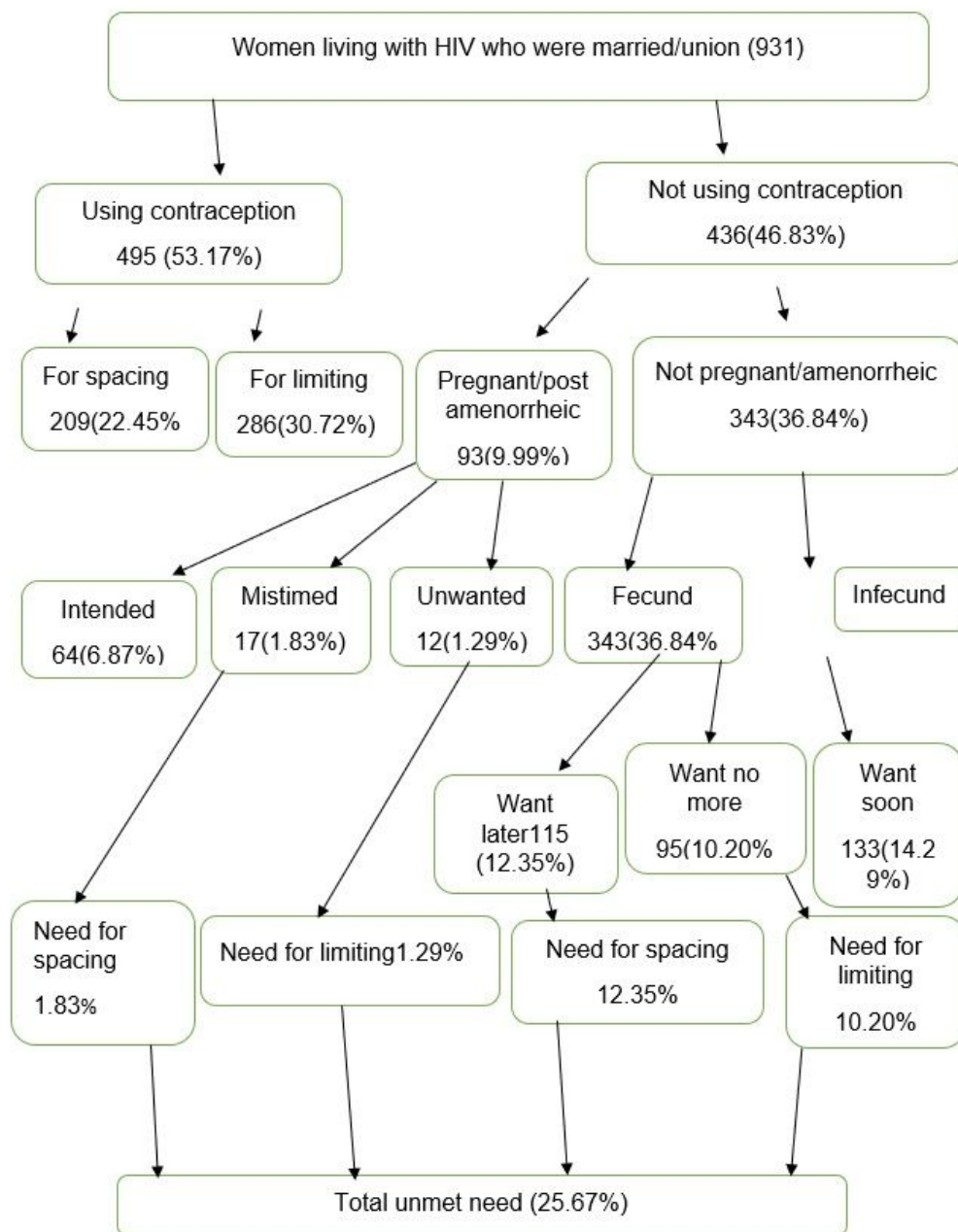


Figure 1

total unmet need for modern family planning among married/union women living with HIV in South Gondar, Ethiopia, 2020

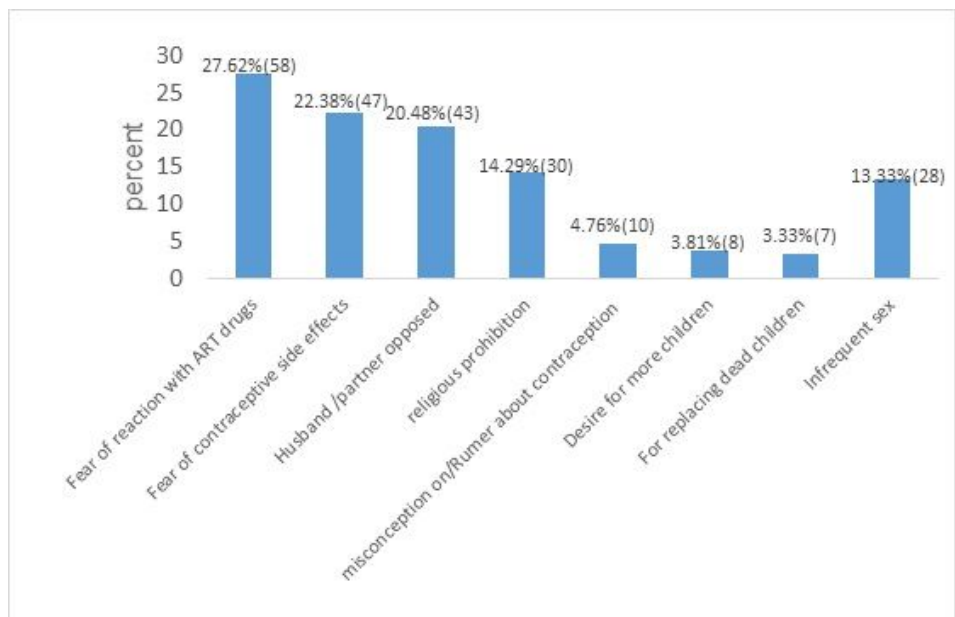


Figure 2

Reason for the not using contraception, South Gondar, Ethiopia, 2020