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High Unmet Need for Family Planning and Factors Contributing to it in Southern Ethiopia: A Community Based Cross-Sectional Study

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Abstract

Unmet need is defined as not using contraceptives despite expressed demand for limiting or spacing a child exists to varying degrees in virtually every developing country for various reasons. There is limited knowledge about the extent and associated factors of unmet need for family planning in the study area. Therefore this community based cross-sectional study was conducted. The overall unmet need for family planning was 41.5

Index terms— unmet need, family planning, cross-sectional, ethiopia, magnitude, associated factors, community based.

1 Introduction

nmet need for family planning initially was defined as a group of women who are currently married, not pregnant, and not amenorrheic and who would like to limit their reproduction but not using any contraception (Westoff 1978). Latter it was redefined to include all fecund women who are married or living in union, who are not using contraception and who either do not want to have any more children or want to postpone their next birth for at least two more years and pregnant and amenorrheic women are included to the unmet need group unless their pregnancy or last birth intended (Westoff 1988). But still this is not free from criticisms as it lacks to address certain issues like unmarried women, men, those who use unsuitable, incorrect or unsafe method (traditional methods) etc. **??**Ngom P 1997, Akadl. andÇavlin. 2005).

It exists to varying degrees in virtually every developing country. This may be due to inadequate access, lack of knowledge on family planning methods, even where programs already exist and socio demographic & economic factors etc (Johns Hopkins Bloomberg School of public health 2003, EDHS 2011).

For example in a study done in Nepal the extent of unmet need was 25 % with 9.5% for spacing and 15.5% for limiting. There was a strong association of gender preferences towards male child and unmet need (Bhandari, Premarajan et al. 2006). A study done in Kolkata showed that the extent of unmet need for family planning observed was 41.67% of which 25.84% are limiters and 15.83% are spacers (Bhattacharya, Ram et al. 2006). In a study done in south-east Nigeria, 27.5% of the pregnancies were unintended. The prevalence of unmet need was found to be 21.4% with 15.2% for spacing and 6.2% for limiting (Igwegbe., Ugboaja. et al. 2009). In a study in Dar Assalam (Sudan) observed a 30.7% prevalence of unmet need (T. Umbeli, A. Mukhtar et al.).

National and some pocket studies in Ethiopia also showed a varying degree of unmet need for family planning. For example, according to the 2011 Ethiopian Demographic and Health Survey (EDHS 2011) 25% of currently married women have an unmet need for family planning services with 16 % for spacing and 9% for limiting **??**EDHS 2011). In a study conducted in eastern part of the country (in Harer) showed that, 33% of pregnancies were unwanted (Solomon W and Mengistu F 2006). A study in Northern part of the country indicated that, 59.7% of the nonusers had a desire for family planning (Getnet M 2000). Another study in, North Gondar (Ethiopia), indicated that 39.5% and 47% of women and men have unmet need for contraception, and 29% and 28.5% of women and men have met their need respectively. The minimum and maximum couples' unmet needs for contraception were found to be 29.5% and 57.5%, respectively (Nega Mihret 2008).

Different factors have been identified for the unmet needs by different studies. For instance, a study done in Lesotho showed that, human immune deficiency virus (HIV)-negative women have significantly higher unmet need for contraception than those who were HIV positive (Tim Adair 2007). In the study there was a strong relationship between wealth quintile and unmet need among both HIV-positive and HIV negative women. A woman whose household is in the fourth quintile or in the highest quintile is much less likely to have an unmet need for contraception compared with those in the lowest quintile. HIV-positive women in the second quintile and HIV-negative women in the middle quintile are also significantly less likely to have unmet need for contraception. Currently married women have greater unmet need for contraception than nevermarried women. HIV-positive women age 35 and above are far more likely to have unmet need for contraception compared with teenage women, while HIV-negative women age 20-34 have less unmet need (Tim Adair 2007).

In a study done in Kenya, several variables were found to be significantly related to total unmet need. These include women's age, number of living children, secondary or higher level of education, household wealth, current work status, exposure to media messages about family planning, and discussion with the partner about family planning. In the study contact with health services was also significantly related to unmet need for family planning (David Ojakaa 2008). In a study done in Turkey, age of the woman, educational level of the woman and residence were found to be determinants of unmet need for family planning (Akadl. and Çavlin. 2005).

In the study done in south-east Nigeria, there was a significant association between parity and unmet need. Age, level of education, religion and husband's occupation had no significant effects (Igwegbe., Ugboaja. et al. 2009). The study conducted in Kolkata showed that, prevalence of unmet need was significantly higher in younger age group. With increase in literacy level tile prevalence of spacers in the unmet need group had significantly increased and that of limiter decreased. The prevalence of spacers significantly decreased and limiter increased with, increase in numbers of living children. The major reason for unmet need was opposition from husband/ family and community (Bhattacharya, Ram et al. 2006).

Similarly studies conducted in Ethiopia showed that different factors are playing a role for the existence of unmet need and unintended pregnancies. For example, in the study conducted in Harer, among the women who had unintended pregnancies,70.6% reported the reason as inadequate knowledge, 11.6% as husband or partner approval, 11.1% as failure on the method, and 4.4% as difficulty in accessing contraceptive (Solomon W and Mengistu F 2006). According to the study in West Belessa Woreda, North Gondar, number of living children, spousal communication and discussion with health extension workers about family planning methods were found to be significantly affecting couples unmet need for contraception (Nega Mihret 2008).

A study which used the 2000 EDHS data found that total unmet need was significantly lower among women age 20 and over. In the study the number of living children a woman had was directly related to her demand for family planning services, women with living children were much more likely (about twice) to have an unmet need for family planning than women with no living children. As women's ideal number of children increases, so does their unmet need for spacing. Women in rural areas were more than four times as likely as women in urban areas to have an unmet need for family planning services, with the unmet need for spacing nearly three times higher among rural than urban women. Women's education, ethnicity and spousal discussion were some of variables which were found to significantly affect unmet need for family planning (Korra Antenane 2002).

Even though there are some pocket studies conducted in other parts of the country, there is shortage of evidence in the current study area about the extent of unmet need and their associated factors. As the livelihood of the communities and access to health services are different in different part of the country, the extent of unmet need and their associated factors in the study area expected to be different. Therefore this study was conducted to assess the level of unmet need for family planning and its determining factors among females in reproductive age.

2 II.

3 Methodology a) Study area

The study was conducted in the research sites of Arba Minch Demographic and Health Development Program of Arba Minch University which is based in Arba Minch Zuria Woreda/district. The program was initiated in 2008 in 9 kebeles (lower administrative level in the country) (out of the 27 kebeles of the district) by conducting census of the residents of the kebeles. Arbaminch Zuria Woreda/District is one of the 17 woredas (2 of them are town transition administration) in Gamo Gofa Zone, South Nation and Nationalities People Region (SNNPR). The Woreda surrounds the Arba Minch Town, which is 502km away from the capital of the country (Addis Ababa), in all direction as the name implies with a radius ranges from17km to 63 km. The woreda uses Arbaminch town as its capital. The woreda is bordered by both Lake Chamo and Abaya at north east, Chencha and Dita woreda in the north, Konso and Derashe special woreda in the south, Amaro special woreda in the east and Bonke woreda in the west. The woreda lies on 168,712 square kilometer. According to the 2007 national census report the total population of the woreda to be 165,680 **??** , which were selected by simple random sampling method out of 27 kebeles in Arba Minch Zuria Woreda) were included in the study. Systematic sampling was applied to select the households (HH) by using the list of all HH of the each Kebele as a sampling frame and a female in reproductive age in the selected HH was interviewed. In case, there were two or more eligible in the selected HH one of them was selected as follow. Priority was given to married women and if more than one married women in the HH one of them was selected using lottery method and if there are no eligible in the selected HH, the next HH was taken.

4 f) Sample size determination

The required sample size of the study was determined using a formula for a single population proportion: n= [(Z ?/2)² p (1 –p)]/d². Where: P= The prevalence of unmet need for family planning, 50%, Z=a standard score corresponding to 95%confidence level (1.96), d= the margin of error (5%) and n=the minimum required sample size. Accordingly, the sample size calculated was 385. Applying design effect of 2 and considering 5% non response rate, the required sample size was 809.

5 g) Inclusion and Exclusion criteria

Females in the reproductive age group (15-49 years old) who reside in the selected HHs were interviewed. Those who were not in the reproductive age and those who were not volunteer to participate.

6 h) Data collection

A closed ended structured Amharic questionnaire was utilized for data collection. The questionnaire was developed in English based on literature review and translated in to Amharic, then back to English to check for its consistency. Finally the Amharic version was used for data collection. The questionnaire was pre-tested in one kebele which was not included in the study. The main components of the questionnaire were: socio demographic and economic characteristics, reproductive characteristics (parity, gravidity, no. of live birth, no. of child etc), knowledge & attitude about family planning etc. i) Data quality assurance A carefully designed questionnaire was translated first into Amharic and back to English to assure its consistency. The questionnaire was pretested in a kebele, which was not included in the study to assess the clarity of the questions, their sensitiveness as well as understanding of the data collectors. Discussion was held based on the result of the pre-test and accordingly, some amendments were made. A three days training was given to the supervisors and the data collectors on the procedure. The data was checked for completeness, accuracy, clarity, and consistency by the supervisors and the investigators on daily basis. Any error or ambiguity and incompleteness were corrected accordingly. The data was intensively cleaned up before its analysis.

7 j) Data processing and analysis

The data was entered using Epi-info 2002 version 3.4.2 and analysis was carried out using statistical package for social sciences (SPSS)-16 statistical packages. Mean, median and percentage value of different variables was computed for description as appropriate. Chi-square statistics and odds ratio with 95% confidence interval was computed to assess the presence and degree of association between dependent and independent variables. Furthermore, logistic regression analysis was done to control the possible confounding effect of selected variables. Pvalue of 0.05 was set as a cut-off point for the significance of the association between dependent and independent variables.

8 k) Study variables i. Dependent variables

Unmet need/met need.

ii. Independent variables Socio-demographic and economic characteristics (age, sex, educational level, ethnicity, religion, monthly income, occupation etc.), reproductive history (parity, gravidity, no. child, history of abortion, still birth etc), knowledge and perception about FP, Discussion about FP with husband, Etc Ethical clearance and approval was obtained from the Ethical Committee of the University and letter was written to the woreda/district and respective kebeles and permission was secured at all levels. After explaining about the purpose, the possible benefit of the study and confidentiality, verbal consent was obtained from each respondent. To assure the confidentiality of the response, anonymous interview was conducted. Pregnant women whose pregnancy was mistimed, Amenorrhoeic women who are not using family planning and whose last pregnancy was mistimed or whose last birth was unwanted but now say they want more children, and Fecund women who are neither pregnant nor amenorrhoeic, who are not using any method of family planning and say they want to wait 2 or more years for their next birth. Also included in unmet need for spacing are fecund women who are not using any method of family planning and say they are unsure whether they want another child or not.

ii. Unmet need for limiting Pregnant women whose pregnancy was unwanted, Amenorrhoeic women who are not using family planning, whose last pregnancy was unwanted and who do not want any more children, and Fecund women who are neither pregnant nor amenorrhoeic, who are not using any method of family planning, and who want no more children. N.B. Excluded from the unmet need category are pregnant and amenorrhoeic women who became pregnant while using a method (these women are in need of a better method of contraception).

iii. Using for spacing Women who are using some method of family planning and say they want to have another child or are undecided whether to have another. iv.

9 Using for limiting

Women who are using and who want no more children.

III.

10 Result a) Socio-economic &demographic Characteristics

A total of 809 female in reproductive age group from nine Kebeles were interviewed with a response rate of 100%. Majority of the respondents 695(85.9%) were currently married, more than half 478 (59.1%) of the respondents were age between 20 and 34 years, with the median age of 29 years. Majority of the respondents 496 (61.3%) were protestants followed by orthodox 265(32.8). Ethnically, majority 630 (77.9%) were Gamo followed by Zeise tribe 69 (8.5%). Five hundred thirteen (63.4%) were illiterate followed by primary education 165 (20.4%). Majority 681(84.2%) were house wives and only 11 (1.4%) were government employees (Table1). Five hundred fifty (79.1%) and 330(47.5%) of the husband's of currently married women were farmer and illiterate respectively. Four hundred sixty six (61%) of the respondents classified their relative income as poor or very poor. Less than half 376 (46.5%) of the respondents had Radio in their household and only 59 (7.3%) of the participants reported to have television set in their household. Five hundred seventy nine (71.6%) of the respondents' resident were within 30minutes walking distance from the health institution providing the services (Table1).

Volume XIV Issue IV Version I Year ( ) Of 742 ever married women 572 (77.1%) mentioned/remembered age at first marriage of whom 231(40.4%) got married before their 18 th birth date. Age at first marriage was ranging from 13 to 26 years with median and mode of 18years. Majority 724 (89.5%) of the respondents reported to be ever pregnant. Among currently married women 674(97.0%) were ever pregnant at the time of the survey (Table2). Ninety (11.1%) of the total respondents were pregnant at the time of the survey. Except one all of them were married at the time of the survey. Eighty (20.0%) of the current pregnancy were mistimed or unwanted. I thought I couldn't be pregnant 9(50%) and I don't know about family planning methods 4(22.2%) were the commonly mentioned reasons for the failure to avoid these mistimed and unintended pregnancies. Only one woman reported method failure as the reason for unintended pregnancy. One hundred thirty eight (17.1%) and 134(19.3%) of all women and currently married women gave birth within 6 months prior to the survey, respectively. 28(20.0%) of the pregnancy for these births were mistimed or unwanted. I thought I couldn't be pregnant 8(28.6%); I don't know about family planning methods 4(14.3%) and husband/partner disapproval were the commonly mentioned reasons for not preventing these mistimed and unintended pregnancies (Table2). To assess birth interval the gap between preceding live births and the current pregnancy or the pregnancy for live births within 6 months prior to the survey were entertained. Accordingly, 32 (13.9%) of women became pregnant within 24 months after the preceding live birth. Of those women who reported to be ever pregnant 539 (74.5%) reported/remembered their age at first pregnancy of whom 162 (30.1%) got pregnant for the first time before age of 18 years. Age at first pregnancy was reported as early as 14years and as late as 29 years with a median age of 19 years. Three hundred seven (37.9%) and 262 (32.4%) of the women were grand multi gravida (>=5 pregnancy) and grand multi parous (>=5 births), respectively. Among those who reported to be ever pregnant 123(17.0%), 29 (4.0%) and 264 (36.5%) reported ever history of abortion, still birth and child death, respectively. Among 724 women who reported to be ever pregnant 446(61.6%) had at least 3 live children at the time of the study (Table2). Out of the 809 participants 229(28.3%) were current users, almost all 227(99.1%) were currently married. Eventually, 227(32.7%) of currently married women were current users of any method at the time of the survey, 172(24.7%) for spacing and 54(7.8%) for limiting and one woman was using to regulate her menstruation. The overall unmet need for all women was 41.5% with 27.6% for spacing and 14% for limiting. Among currently married women 239 (34.4%) have unmet need for family planning with 157(22.6%) for spacing and 82(11.8%) for limiting. Eighteen (20.0%) of the current pregnancy were mistimed or unwanted. I thought I couldn't be pregnant 9(50%) and I don't know about family planning methods 4(22.2%) were the commonly mentioned reasons for the failure to avoid these mistimed and unintended pregnancies. Only one woman reported method failure as the reason for unintended pregnancy. One hundred thirty eight (17.1%) and 134(19.3%) of all women and currently married women gave birth within 6 months prior to the survey, respectively. Twenty eight (20.0%) of the pregnancy for these births were mistimed or unwanted. I thought I couldn't be pregnant 8(28.6%) and I don't know about family planning methods 4(14.3%) were the commonly mentioned reasons for not preventing these mistimed and unintended pregnancies.K

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12 d) Factors associated with unmet need for family planning among currently married women

In the univariate analysis among the socioeconomic-demographic variables ethnicity, age of the participant, participant's education, husband's occupation, husband education and walking distance of source of services were the factors which are associated with unmet need for family planning among currently married women (Table3). Among other variables only having discussion about family planning with partner in the last 6 months, experience of child death and gravidity were the factors which are associated with unmet need for family planning among currently married women (Table4). After controlling other variables among the socioeconomic-demographic variables only ethnicity, age of the participant, participant's education, husband's occupation maintained their association with unmet need for family planning (Table3). Among other variables only having discussion about family planning with partner in the last 6 months and gravidity maintained their association with unmet need for family planning after controlling other confounders (Table4). Accordingly, Wolayita and Zeyse tribes found to

be about 2. and above grade 9(AOR=.158(.039-.645)) were less likely to have unmet need than those who were illiterate (Table3). Participants whose husbands were government employee were found to be 4 times more likely to have unmet need than those whose husband were farmers, with AOR (4.077(1.247-13.329)) (Table3). Participants who didn't have experience of discussion about family planning with their partner in the last 6 months found to have unmet need of about 3 times (AOR=2.591(1.708-3.931)) than their counterparts. Participants whose gravidity was >=5 were about 3 times (AOR=3.398(1.821-6.342)) more likely to have unmet need than those with gravidity of <=2 (Table4).

13 Discussion

As explained before, women who say they are not using contraception and who say either that they do not want any more children or that they want to wait two or more years before having another child and those mothers whose pregnancy is unintended are considered to have an unmet need for family planning. Conversely, women using a family planning method are said to have a met need for family planning. Both unmet and met needs are categorized as such based on whether the need is for spacing or limiting births. The combination of women with unmet need and women with met need for family planning constitutes the total demand for family planning (EDHS 2011).

In the current study the overall unmet need for family planning was 41.5%. It was relatively lower among currently married women that 34.4% of currently married women had unmet need for family planning at the time of the survey. About 32.7% of currently married women's need for family planning was met. Accordingly, 67.1% of currently married women had a demand for family planning. More than 50% of this demand was not met. The unmet need was 157(22.6%) for spacing and 82(11.8%) for limiting.

The unmet need in the current study is relatively higher than that of studies conducted in Nigeria and Sudan (T. K might be because of the differences in the access to health services and awareness level of the communities. Anyways the current finding can be an alert for efforts to be exerted in order to address this unmet need. Like that of EDHS2011 result (EDHS 2011) and the finding of other study (Igwegbe., Ugboaja. et al. 2009), majority of the unmet needs were for spacing. However, the 11.8% of unmet need for limiting is a good indicator for the requirement of focusing on long acting contraception especially permanent ones too.

In the current study 20.0% of the current pregnancies were mistimed or unwanted. This is relatively lower than the findings of studies conducted in eastern part of the country and in Nigeria that 33% and 27.5%, respectively, of the study participants reported their pregnancies were unintended. This may be attributed to increased awareness, access to information, education and communication and family planning services as a result of the increased effort of expansion of health extension program in recent times in the country compared to when the time the previous studies were conducted. This was partly demonstrated by the current study that, all the kebeles included in the study has a health post with at least one health extension workers. However the 20% of unintended pregnancy in a community with 100% coverage of health extension program may be surprising and an alert to work hard in rechecking and investigating service provision strategies' of the program and intensifying awareness creation activities as 22.2% of these unintended pregnancies were because of lack of awareness about family planning methods.

A basic knowledge of the physiology of reproduction is especially useful for the successful practice of coitus-related methods such as periodic abstinence. The successful use of such methods depends in a large part on understanding when during the ovulatory cycle a woman is most likely to conceive (EDHS 2011). This may also help the woman think of all possible family planning methods in order to avoid the pregnancy if she doesn't need it. In the current study half of the unintended pregnancies were occurred because the women were thinking that they couldn't be pregnant. This may be an alert for giving attention to the physiology of reproduction during information, education and communication programs on family planning rather than merely focusing on the types of family planning methods.

Wolayita and Zeyse tribes found to be about 2.3 times and 2.7 times, respectively, more likely to have unmet need than Gamo tribe. This may help the woreda/district health office in focusing on kebeles with these tribes and in preparing health messages appropriate to the language and culture of these tribes in the woreda. Besides, there may be a requirement for investigating why these tribes have more unmet need than the Gamo tribe. Respondents whose age is >=35 years were 2.6 times more likely to have unmet need than respondents whose age was between 15-24 years. Similar finding was observed in other studies (Tim Adair 2007, David Ojakaa 2008). This may be because as the age of the mother increases she might have more children and might want to limit or postpone her pregnancy. Contrasting findings were observed in other studies done in Ethiopia and India (Korra Antenane 2002, Bhattacharya, Ram et al. 2006) that prevalence of unmet need was significantly higher in younger age group. However, there was no association between age and unmet need for family planning in a study done in Nigeria (Igwegbe., Ugboaja. et al. 2009). These varying findings may be because of the difference in the background of the study participants of the different studies.

Participants whose education was in grade 1-8 and in grade 9 or above were less likely to have unmet need than those who were illiterate. Similarly educational status of the woman shown to be negatively associated with unmet need for family planning in different studies (Korra Antenane 2002, Akadl. and Çavlin. 2005, David Ojakaa 2008). In this study, unexpectedly participants whose husbands were government employee were found to be 4 times more likely to have unmet need than those whose husband were farmers. This may be because

of the small number of participants in this category, only 3.2% of the participants' husbands were government employee, whereas 79.15% of the participants' husbands were farmers.

Husband's occupation was found to have no significant effects on unmet need in a study conducted in Nigeria (Igwegbe., Ugboaja. et al. 2009).

Participants who didn't have experience of discussion about family planning with their partner in the last 6 months found to have unmet need of about 3 times than their counterparts. Similar finding was observed by other studies (Korra Antenane 2002, Amaha H and Fikru E 2006, Nega Mihret 2008, David Ojakaa 2008). This may show the importance of involvement of men in family planning programs and show the importance of enhancing spousal communication on family planning methods. Participants whose gravidity was >=5 were about 3 times more likely to have unmet need than those with gravidity of <=2. This may be due to the fact that, mothers with high number of pregnancy tend to be older and have unmet need as observed by this study.

14 V. Conclusion and Recommendation

There was high prevalence of unmet need in the study area as more than 50% of the demand for family planning of currently married women was not met. Variables like ethnicity, age of the participant, discussion about family planning with partner in the last 6 months and gravidity were independent predictors of unmet need for family planning among currently married women. Accordingly efforts should be exerted in order to reduce this high rate of unmet need for family planning by focusing on those kebeles which Wolayta and Zeyse tribes live, older age, illiterates and those with high gravidity. The mothers should be encouraged to discuss about family planning with their partners during family planning counseling and dissemination of family paling messages.

VI. [1] [2] [3]

Figure 1:

[1] © 2014 Global Journals Inc. (US)

[2] © 2014 Global Journals Inc. (US) m) Operational definitions

[3] © 2014 Global Journals Inc. (US) of the country (Nega Mihret 2008). These differences

1

Variables				
Marital status		Freq.(n=809)	Percent	
	Married	695	85.9	
	Single	67	8.3	
Divorced/Separated		16	2.0	
	Widowed	31	3.8	
Age		Freq.(n=809)	Percent	
	15-19	108	13.3	
	20-24 25-29 30-34	152 178 148	18.8 22.0 18.3	Year 2014
	35-39	118	14.6	
	40-44	64	7.9	
Religion Ethnicity	45-49 Protestant	41 Freq.(n=809)	5.1 Percent 61.3	Volume
	Orthodox Muslim	496 265 44	32.8 .5 5.4 Percent	XIV
	Others Gamo Gofa	Freq.(n=809)	77.9 1.9 5.9	Issue
	Wolayita	630 15 48		IV
				Ver-
				sion
				I
	Zeise Amhara	69	8.5 .7	(D
				D D
				D)
				K
	Ganjule	15	1.9	
	Other	26	3.2	
Educational status		Freq.(n=809)	Percent	
	Illiterate	513	63.4	
Read and write		28	3.5	
Grade 1 to 6		165	20.4	
Grade 7 to 8		58	7.2	
Grade 9 to 12		39	4.8	
Above grade 12			.7	
Occupation		Freq.(n=809)	Percent	
	farmer	17	2.1	
	house wife	681	84.2	
gov't employee		11	1.4	
	merchant	22	2.7	
	jobless		1.1	
	house maid		.7	
	student	33	4.1	
	others	15	1.9	
daily laborer		15	1.9	

Figure 2: Table 1 :

2

Year

[Note: Eighteen (2.2%) of all women and 13(1.9%) of currently]

Figure 3: Table 2 :

is >=35 years were 2.6 times (AOR=2.618(1.591-

planning among currently married women, Arbaminch Zuria Woreda, 2010

Variables	Unmet need for FP Yes(No. (%))	No(No. (%))	Crude ratio (COR) (95% odds CI)	*AOR(95%CI
Ethnicity(n=695)				
Gamo	16(14.4)	95(85.6)	1.00	1.00
Zeyse Wolayita	4(25.0)	12(75.0)	2.303(1.370-	2.674(1.479-
Others 15-24 25-34	1(33.3)	2(66.7)	3.872)	4.835)
>=35 Protestant	2(20.0)	8(80.0)	2.021(1.058-	2.303(1.016-
Religion(n=695)	47 (24.6)	144(75.4)	3.859)	5.222)
Age(n=695) Orthodox	91(29.4)	218(70.6)	1.489(.822-	1.633(.824-
Others Participant's	101(51.8)	94(48.2)	2.698) 1.00	3.235) 1
Education(n=695)**	146(34.4)	279(65.6)	1.279(.849-	.968(.612-1.53
Illiterate	79(34.2)	152(65.8)	1.927)	2.618(1.591-
	14(35.9)	25(64.1)	3.292(2.135-	4.308) 1
	179(39.8)	271(60.2)	5.075) 1.00	.928(.627-1.37
			.993(.709-1.392)	.978(.461-2.07
			1.070(.540-	1.00
			2.121) 1.00	
Read and write	12(46.2)	14(53.8)	1.298(.587-	1.570(.650-3.7
			2.870)	
Grade 1 to 8	45(23.8)	144(76.2)	.473(.322-.695)	.574(.357-.923
Grade 9 &above	3(10.0)	27(90.0)	.168(.050-.563)	.158(.039-.645
Occupation of the participant(n=695)				
house wife	224(34.6)	423(65.4)	1.00	1.00
Others	15(31.2)	33(68.8)	.858(.456-1.614)	1.235(.587-2.5
Husband Occupation (n=695)				
farmer	195(35.5)	355(64.5)	1.00	1.00
daily laborer	11(25.6)	32(74.4)	.626(.309-1.269)	.772(.335-1.77
merchant	8(22.2)	28(77.8)	.520(.233-1.163)	.850(.346-2.08
Government employee	13(59.1)	9(40.9)	2.630(1.104-	4.077(1.247-
			6.262)	13.329)
Student	2(13.3)	13(86.7)	.280(.063-1.254)	.798(.148-4.31
others	10(34.5)	19(65.5)	.958(.437-2.102)	1.455(.579-3.6
Husband Education(n=695)				
1=Illiterate	127(38.5)	203(61.5)	1.00	1.00
2=Read and write	24(47.1)	27(52.9)	1.421(.785-	1.316(.672-2.5
			2.571)	
3=Grade 1 to 6	58(32.4)	121(67.6)	.766(.522-1.124)	1.009(.638-1.5
4=Grade 7 to 8	18(27.7)	47(72.3)	.612(.340-1.101)	.891(.425-1.86
5=Grade 9 and above	12(17.1)	58(82.9)	.331(.171-.640)	.632(.244-1.63
Relative family income(n=695)				
very poor	72(33.5)	143(66.5)	1.00	1.00
poor	66(32.2)	139(67.8)	.943(.627-1.417)	.721(.456-1.14
medium	69(33.7)	136(66.3)	1.008(.672-	.881(.549-1.41

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Variables		Unmet need for FP		COR(95% CI)	**AOR(95%CI)*
		Yes(No. (%))	No(No. (%))		
Discussion in last 6 months(n=695)					
	Yes	75(22.5)	256(77.5)	1	
	No	164(45.4)	197(54.6)	2.875 (2.067-3.99)	2.591(1.708-3.931)
Have Knowledge about modern contraceptive methods(>=two methods) (n=695)					
	Yes	158(34.1)	306(69.9)	1	
	No	81(35.1)	150(64.9)	1.046(0.751-1.457)	.961(.621-1.486)
Number of live Children (n=650)					
	<=2	7(24.1)	22(75.9)	1	
	3-4	60(28.4)	151(71.6)	1.249(0.507-3.076)	1.183(.333-4.194)
	>=5	172(37.8)	283(62.2)	1.910(0.799-4.566)	1.165(.336-4.041)
Ever Abortion (n=695)					
	Yes	45(39.1)	70(60.9)	1	
	No	187(33.5)	372(66.5)	0.782(0.517-1.183)	.973(.540-1.753)
Ever Stillbirth (n=695)					
	Yes	10(34.5)	19(65.5)	1	
	No	222(34.4)	423(65.6)	0.997(0.456-2.181)	.959(.362-2.545)
Child Death (n=695)					
	Yes	106(44.4)	133(55.6)	1	
	No	126(29.0)	309(71.0)	0.512(0.368-0.711)	1.263(.766-2.081)
Gravidity (n=695)					
	<=2	51(23.7)	164(76.3)	1	
	3-4	55(27.8)	143(72.2)	1.237(0.795-1.924)	1.265(.720-2.221)
	>=5	133(47.3)	148(52.7)	2.890(1.953-4.276)	3.398(1.821-6.342)
Age at first pregnancy (n=504)					
	<18 years	42(28.4)	106(71.6)	1	
	>=18years	119(33.4)	237(66.6)	1.267(0.833-1.928)	1.338(.841-2.128)

** Adjusted for all variables listed above

IV.

Figure 5: Table 4 :

[Note: Year( )]

Figure 6:

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[Akadl and Çavlin ()] 'An alternative approach to measure unmet need for family planning in turkey'. A Akadl , Çavlin . *Turkish Journal of Population Studies* 2005. 27 p. .

[Antenane ()] *Attitudes toward Family Planning, and Reasons for Nonuse among Women with Unmet Need for Family Planning in Ethiopia*, Korra Antenane . 2002. Calverton, Maryland USA: ORC Macro.

[Getnet ()] 'Community based distribution of family planning as perceived by people in the reproductive age group, North & South Gondar Zones, Ethiopia'. M Getnet . *Ethiopian J health Dev* 2000. 14 (1) p. .

[Adair ()] *Desire for children and unmet need for contraceptive among HIV positive women in Lesotho, A document prepared for review by United States Agency for International Development*, Tim Adair . 2007.

[Mihret (2008)] *Determinants of unmet need for contraception among currently married couples in West Belessa Woreda*, Nega Mihret . `http://hdl.handle.net/123456789/1866Acc-essed` 2008. March 2009. North Gondar of Amhara, Ethiopia.

[Ethiopia Demographic and Health Survey Central Statistics Agency and ORC Macro ()] 'Ethiopia Demographic and Health Survey'. *Central Statistics Agency and ORC Macro*, (Addis Ababa, Ethiopia and Calverton, Maryland, USA) 2011.

[Ngom ()] 'Implications of man's unmet need in Africa'. P Ngom . *Studies in Family Planning* 1997. 28 (3) p. .

[Amaha and Fikru ()] 'Influence of women's autonomy on couple's contraception use in Jimma town'. H Amaha , E Fikru . *Ethiopia. Ethiopian J. health Dev* 2006. 20 (3) p. .

[Bhandari et al. ()] 'Prevalence and determinants of unmet need for family planning in a district of eastern region of Nepal'. G P Bhandari , K C Premarajan , N Jha , B K Yadav , I S Paudel , S Nagesh . *Kathmandu University Medical Journal* 2006. 4 (5) p. .

[Igwegbe et al. ()] 'Prevalence and determinants of unmet need for family planning in Nnewi, south-east Nigeria'. A O Igwegbe , J O Ugboaja , E N Monago . *International Journal of Medicine and Medical Sciences* 2009. 1 (8) p. .

[Bhattacharya et al. ()] 'Study of Unmet Need for Family Planning among Women of Reproductive Age Group Attending Immunization Clinic in a Medical College of Kolkata'. S K Bhattacharya , R Ram , D N Goswami , U D Gupta , K Bhattacharyya , S Ray . *Indian Journal of Community Medicine* 2006. 31 (2) p. .

[Umbeli et al. (2001)] *Study of unmet need for family planning in Dar Assalam*, T Umbeli , A Mukhtar , M A Abusalab . 2001. May. 2005. Sudan. 11.

[The info project center for communication programmes the Johns Hopkins Bloomberg School of public health, population report *The info project center for communication programmes the Johns Hopkins Bloomberg School of public health, population reports*, 2003. 2003. p. 31. Johns Hopkins Bloomberg School of public health

[Westoff ()] 'The potential demand for family planning: A new measure of unment need and estimates for five Latine American countries'. C F Westoff . *International Family Planning Perspectives* 1988. 14 (2) p. .

[Westoff ()] *The unmet need for birth control in five Asian Countries, International Family Planning Perspectives*, C F Westoff . 1978. 1978. 10 p. .

[Ojakaa ()] 'Trends and determinants of unmet need for family planning in Kenya'. David Ojakaa . *The DHS Working Papers series*, 2008.

[Solomon and Mengistu ()] 'Unintended pregnancy and induced abortion in a town with accessible family planning service: The case of Harar in eastern Ethiopia'. W Solomon , F Mengistu . *Ethiopian J of Public health Dev* 2006. 20 (2) p. .