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Factors Affecting Practice of Modern Family Planning Among Currently Married Couples in Shawira North West Ethiopia

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Abstract

This study examined the practice of modern family planning methods and identifies factors affecting the utilization of family planning. A cross sectional research design, currently married 109 samples selected by convenient and collected primary and secondary data, analyzed qualitatively and quantitatively. The prevalence of family planning was 68.8%, majority using injectable and Oral Pills. Education, religion, family size, ever birth, child size, income, current age of women, age at marriage had significant impact on current practice of family planning. Couples who were orthodox in religion had 1.5 times more odds of practicing modern FP compared to Muslim counterparts (OR=1.541, 95% CI, P=0.000). Women with no ever birth experience were 99 times had less odds to use a method (OR=99.00, CI 95%, (4.86-2015.03), p=0.003). A mother with exposure to media every day had 66 more times in using a family planning method (OR=33.61, 95% CI, (6.950-162.578, p=0.000). A woman with family size of two were 8 times less likely to practice a method (OR=7.783, 95% CI, p=0.000). The contraceptive overall prevalence (21.9%) and utilization of modern family planning methods by married women (68.8%) is low as compared with similar studies in other parts of the country. Generally, the findings of this study have implications for improving the family planning programs to seriously examine ways to increase contraceptive use especially for those which are not more on use.

Keywords: Alefa, Family Planning Services, Married couples, Practice, Shawira

Introduction

Population growth in developing countries, mainly in Africa and Asia reached historically higher rates. Africa alone accounted for 1.26 billion total populations (16.36%) of the world and is unstoppable in the future (United Nations reports, 2017). TFR ranges from 1.2 children in Bosnia-Herzegovina to 7.6 children in Niger and the average is 2.5 (PRB, 2014). Worldwide, the percentage of married women aged 15 to 49 years using contraception was 62%, higher in developed nations (69%) than developing ones (51%) (PRB, 2014). In the world, over 230 million women have an unmet need for family planning which is not using modern family planning services. In Africa, 53% of women (15-49) have an unmet need for modern contraception. Since the early 1980 population growth in the Sub Saharan Africa has remained high with nearly 850 million populations [1]. CPR for modern methods ranged from 1.2% in Somalia to 60.3% in South Africa while the average was only 21% in 2011. An estimated 35 million women in Sub- Saharan Africa has an unmet need for family planning.

Ethiopia, the second most populous country in African following Nigeria had 106.76 million total population in May 2018, having increased by almost five-folds in half a century, from 19.2 million in 1950 [1]. It's estimated to reach 125 million by 2025 and grow further to 188 million by 2050 [1]. One of the possible causes for the rapid population growth is attributed to early marriage in Ethiopia. Among women aged 25–29, 61.7% had been married by 18 years of age. In addition, 12.7% of 15–19-years old were already married by age 15. Among youths aged 15–19, 20.4% had had a live birth by age 18. Nearly half (46.1%) of women aged 20–24 had given birth before they were 20 years old [2]. TRF in Ethiopia was reported as declining from 5.5 to 4.6 [3]. Maternal and child mortality are two of the major challenging problems, especially in developing countries like Ethiopia resulted from complications encountered during pregnancy and arising from unsafe terminations.

Ethiopia's maternal mortality is one of the highest in the world

which is 420/100,000 live births [3,4]. It accounted for 21% of all deaths among women aged 15–49 [2]. One in four deaths among Ethiopian women was due to a pregnancy or pregnancy-related cause [3]. One of the targets of the Ethiopian Ministry of Health, with respect to improving maternal and child health has been increasing the contraceptive prevalence rate to 66% by the year 2015. To achieve this target the government has given priority to the provision of modern family planning services in the country [4]. Contraception is crucial for countries like Ethiopia to balance population with its development. It prevents one in every three maternal deaths by allowing women to delay motherhood, space births, avoid unintended pregnancies, abortions and stop childbearing when they have reached their desired family size [5]. Each year modern contraceptives help women prevent 215,000 pregnancy-related deaths (30% of maternal deaths) and 2.7 million infant deaths (10% of child deaths).

In Ethiopia family planning utilization and unmet need vary from region to region and urban to rural. The highest (64%) recorded in Addis Ababa and the lowest (3%) in Somali region [4]. CPR has been progressive which was 2.6% in 1990, 8% in 2000, 29% in 2011 and 42% in 2014 [3,4]. The annual increase in CPR of modern methods among married women of reproductive age was 2.3% (2005-2011). Current use of family planning and unmet need for family planning in western Amhara is 20.5% and 16.4% respectively [6]. The prevalence rate and the fertility rate at regional level depict the low practice of contraceptives. Thus, considering the low practice of family planning in Ethiopia in general and the study area in particular, this study aims to assess the current practice of family planning and factors influencing utilization.

Materials and Methods

Cross sectional research design and mixed research approach was employed as data was collected at a particular point of time in the study period. A sample of 109 currently married couples were chosen out of 2371 couples by using a convenient sampling technique. Sample size was determined using the following formula and assumptions [7].

$$N = \frac{(Z^2)(P)(q)(N)}{e^2(N-1)+Z^2(P)(q)} \quad \frac{(Z^2)(P)(q)(N)}{e^2(N-1)+Z^2(P)(q)}$$

Data was collected from primary and secondary sources by using close ended household questionnaires, open ended KII and open face to face interview. The questions were prepared in both Amharic (local language) and English languages. The collected data was primarily analyzed by using descriptive statistics and quantitative analysis from SPSS software version 20. Generally bi-variant correlation, chi square and multinomial regression analysis were employed to assess the practice and identify factors affecting the level of current use of the methods (Table 1). The data which had been analyzed was presented by using tables, charts and graphs.

Table 1: Summary of research methodology employed

Objective	Source and type of data	Instrument of data collection	Method of data analysis
1. To assess the current practice of family planning.	- Primary -Secondary	- Open interview questions -Key Informant interview - Questionnaire - Closed interview questions	- Bi-variant correlation - Chi-square - Mean/Descriptive statistics -Multinomial regression
2. To identify factors that affect current practice of family planning			

Multi collinearity check

As checked by regression multi-collinearity was not a problem since no correlation found among variables (bi-variant correlation), all tolerance values were above 0.40 or >0.1, all VIF values were below 2.5 or less than 10 and all condition index values were less than 15. None of the explanatory variables have the values of tolerance below 0.4 or >0.1, no any values of VIF above 2.5 or greater 10 and condition value of over 15. It can also be computed as;

Tolerance = 1-R^2, 1-0.712= 0.288which is below tolerance values. VIF= 1/tolerance.

Multinomial logistic regression Model specification

Multinomial logistic regression models estimate the association between predictors and a multi category nominal (unordered) outcome. This model is used to model relationships between a polytomous response variable and a set of regressor variables. The study employed a multinomial logit model (equation) with dependent variable current practice of family planning being a binary variable having a value of 1 if the household practices a family planning method and 2 if not practice designated as reference category.

$\ln\left(\frac{P(Yi=2)}{P(Yi=1)}\right) = \alpha_2 \sum_{k-1}^{k} \beta 2k\, xik = Z2i \left(\frac{P(Yi=2)}{P(Yi=1)}\right) = \alpha_2 \sum_{k-1}^{k} \beta 2k\, xik = Z2i$; for each case there will be 2-1 predicted log odds

For the reference category; $P(Yi=1) = \frac{1}{1+\sum_{h-2}^{M} \exp(Zhi)}$ $1+\sum_{h-2}^{M} \exp(Zhi)$

For $P(Yi=2) = \frac{\exp(Zmi)}{1+\sum_{h-2}^{M} \exp(Zhi)}$ $\frac{\exp(Zmi)}{1+\sum_{h-2}^{M} \exp(Zhi)}$ or

$P = \left(Y = \frac{1}{Xi}\right) = \frac{1}{1+e^{zi}} = \frac{ezi}{1+ezi} P = \left(Y = \frac{1}{Xi}\right) = \frac{1}{1+e^{zi}} = \frac{ezi}{1+ezi}$ Where; e is the exponential term explaining probability of method use, Y the practice status of methods, xi is set of explanatory variables,

Zi is the function of explanatory variables (Xi) expressed as;

Zi = $zi = B_0 + B_1X_1 + B_2X_2 + \ldots + BnXnzi = B_0 + B_1X_1 + B_2X_2 + \ldots + BnXn$

The probability of a household being user is given by $(1 - pi)(1 - pi)$ which can be written

$1 - \frac{1}{1+e-zi} = \frac{1+e-zi-1}{1+e-zi} = \frac{e-zi}{1+e-zi} 1 - \frac{1}{1+e-zi} = \frac{1+e-zi-1}{1+e-zi} = \frac{e-zi}{1+e-zi}$; the odds ratio $\frac{pi}{1-pi} \frac{pi}{1-pi}$ is =

$\frac{pi}{1-pi} = 1 + \frac{ezi}{1-ezil-pi} \frac{pi}{} = 1 + \frac{ezi}{1-ezi}$

Now $\frac{pi}{1-pi} \frac{pi}{1-pi}$ is the odds ratio in favor of method practice. It is the ratio of the probability that a household would practice family planning $(pi)(pi)$ to the probability that a household would not practice $(1 - pi)(1 - pi)$.

Finally, taking the natural logarithm and assuming linearity = $Li = \ln\left[\frac{pi}{1-pi}\right] = ziLi = \ln\left[\frac{pi}{1-pi}\right] = zi$

Where Li is the logarithm of odd ratio which is assumed linear for both variables and parameters.

Conceptual framework of the study

The independent variables affecting the practice are subdivided into social, demographic, socio-cultural and administrative variables (Table 1). They are assumed to affect the practice of modern family planning methods in the way they are ordered below in the conceptual framework.

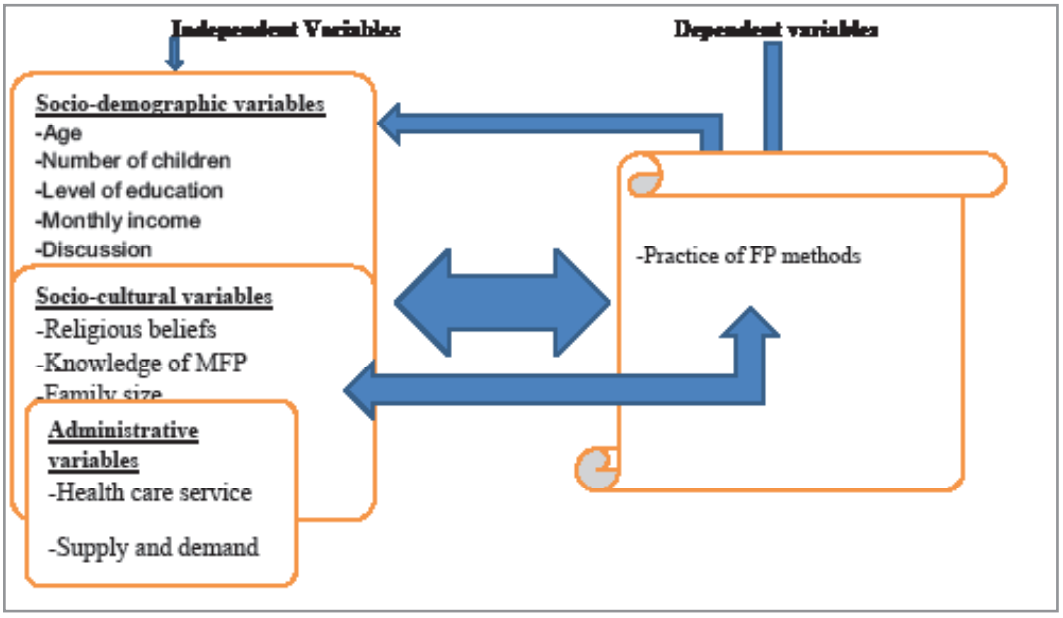

Figure 1: Conceptual frameworks of variables

Socio-demographic characteristics of respondents

One hundred nine currently married couples were involved in the study with a response rate of 98%. The mean age of respondents was 29.45 with a standard deviation of ± ± 5.79 years. Thirty five (32.1%)] of respondents belong to the age group of 25-34 years age. Many [82(75.2%)] of the participants were orthodox Christians followed by Muslim [18(16.5%)]. Regarding the educational status, 37(33.9%) were graduate from college and university, 16 (14.7%) were illiterate. The mean family size of the respondent was 3.62 (SD=1.19) majority [75 (68.8%)] of which have the family sizes of 3-5 (Table 2).

Table 2: Socio-demographic characteristics of study participants

No	Variable	Level/category/	Frequency(N)	Percentage %
1.	Age of respondents	15-19	2	1.8
		20-24	21	19.3
		25-29	35	32.1
		30-34	31	28.4
		35-39	12	11.0
		40-44	7	6.4
		45-49	1	0.9
		Total(N)	109	100.0
2.	Religion of the respondent	Orthodox	82	75.2
		Muslim	18	16.5
		Protestant	9	8.3
		Total(N)	109	100.0
3.	Level of education of wife/women/	Illiterate	16	14.7
		Primary school/1-4/	10	9.2
		Junior school/5-8/	13	11.9
		Secondary school/9-10/	9	8.3
		Preparatory school/11-12/	14	12.8
		TVET	10	9.2
		College or university	37	33.9
		Total(N)	109	100.0
4.	Level of education of husband/men	Illiterate	13	11.9
		Primary school/1-4/	13	11.9
		Junior school/5-8/	10	9.2
		Secondary school/9-10/	18	16.5
		Preparatory school/11-12/	11	10.1
		TVET	8	7.3
		College or university	36	33.0
		Total(N)	109	100
5.	Occupation of wife/ women/	Student	14	12.8
		Merchant	18	16.5
		Government employed	51	46.8
		NGO worker	2	1.8
		Housewife	24	22
		Total(N)	109	100
6.	Occupation of husband/ men/	Student	8	7.3.
		Merchant	33	30.3
		Government employed	61	56
		NGO worker	4	3.7
		Daily worker	3	2.8
		Total(N)	109	100.0

7.	Monthly income	500-1000	13	11.9
		1001-2000	40	36.7
		2001-3000	33	30.3
		3001-4000	14	12.8
		4001-5000	8	7.3
		Over 5000	1	0.9
		Total(N)	109	100
8.	Family size	2	33	30.3
		3-5	75	68.8
		6-8	1	0.9
		Total(N)	109	100

Reproductive characteristics of the respondents

The mean age of marriage is 22 years with SD of ± ± 2.52. Of all, 64 (58.7%) of respondents got married in the age group 20-24. More than half (51.4%) of women were first pregnant in the age group between 20-24 years. The mean age at first pregnancy was 23 years (SD ± ± 2.7). Seventy one (65.1%) of respondents had ever given birth prior to the study period and 4 (3.7%) were pregnant during study time. The mean child size of respondents was 2 (SD ± SD ± 0.9). (Table 3)

Table 3: Reproductive characteristics of respondents

No	Variable	Level/category/	Frequency(N)	Percentage %
1.	Age at marriage	15-19	25	22.9
		20-24	64	58.7
		25-29	19	17.4
		30-34	1	0.9
		Total(N)	109	100
2.	Age of first pregnancy	15-19	5	4.6
		20-24	56	51.4
		25-29	34	31.2
		30-34	1	0.9
		Not pregnant until	13	11.9
		Total(N)	109	100
3.	Ever birth history	Yes	71	65.1
		No	34	31.2
		Pregnant now	4	3.7
		Total(N)	109	100
4.	Child size	1	49	45
		2-4	41	37.6
		5-7	8	7.3
		Not have children	11	10.3
		Total(N)	109	100
5.	Need for additional birth	Yes	94	86.2
		No	15	13.8
		Total(N)	109	100
6.	Additional birth size	1	8	7.3
		2-4	75	68.8
		>4	3	2.8
		No need	23	21.1
		Total(N)	109	100

In the qualitative part, a man interviewed responds: "my wife is using injectable and she is experiencing health problems like weight increase, behavior change, headaches, etc. As a result, she is now trying to stop it". (Male, 30 years old orthodox, kebele 01).

A woman also suggested: "I know my friend who is using IUCD and upon removal she could not give birth and finally became infertile. These methods lead to the expiration of the fertile period since they serve for a longer period of time." (Female, 26 years old orthodox, kebele 01)."

Current practice of Modern Family Planning Methods

The ever use of modern contraceptives in the study area was 67%. Currently, about (75) 68.8% of married men and women are practicing modern family planning. Out of this, 42.6% of respondents use injectable, 30.6% uses Pills and the rest 26.6% practice implants (Fig 2). Half (50.5%) of the participants get the methods from government health center (Fig 5). Most (74.5%) of the respondents obtain these methods without payment (Table 3).

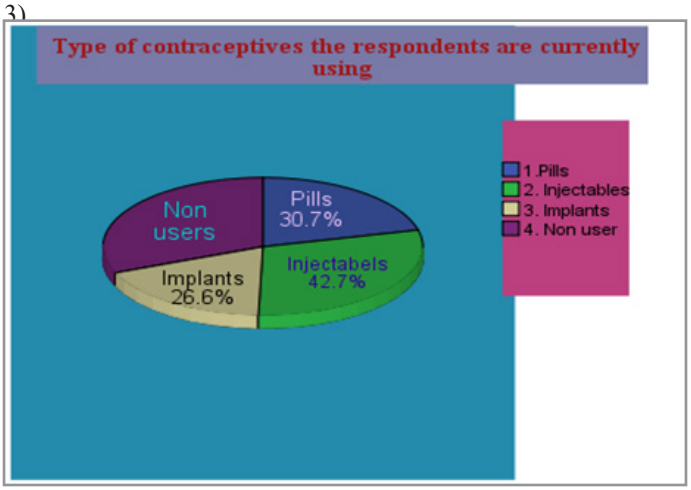

Figure 2: Modern family planning methods currently used by respondents

On the qualitative part of KII pertaining to the utilization of family planning in the town they respond; "Currently large number of women are using different birth control methods and the number of users is increasing from day to day. For example, at the beginning of 2010 E.C there were 1095 women who practice method and the figure now had grown to 1632 house wife using methods available in our health station".

Regarding the purpose of method use, the majority (49.3%) of the respondents answered they used it for limiting family size and 32% for birth spacing. Those who are not using were asked the reason for their non-use and most of them (52.9%) respond that religious and cultural factor as a hindrance problem not to use contraceptives. Others 29.4% and 14.7% participants put need for birth and the fear of side effects as a reason for non-use of a method respectively (Table 4).

Qualitatively, an interviewed woman participant pined that: "If you space children it is easy to give them healthy food and they will be satisfied and healthy but if the children are too many, you end up spending on medicine to cure their illness rather than giving them good food. If you space, you do have the chance to put your children in good private schools instead of government school so that they can get a good education". (Female, 29 years old Muslim, having 2 children, kebele 01).

Another woman responds: I use it because I want to grew my children according to income and economy I have and I need to rest my body; If I have too many children, I won't be able to have rest and it will be problem over and over again until I die. Thus, I regularly use injections to control my family".(Female, 32 years old Christian, having 3children, kebele 02).

As men respondent strengthens: "Children are gift of God any attempt at tampering with nature is seen as offensive to God. Islam does not support method because you have no right to specify the number of children you want. God would even deprive you from having them". (Male, 25 years old Muslim, kebele 01).

A woman holds: "I am not using contraceptives, but my friend said that, for example, IUCD and Implant has side effects like hypertension, excessive bleeding, heart problems and infertility". (Female, 25 years old Orthodox, Kebele 02)".

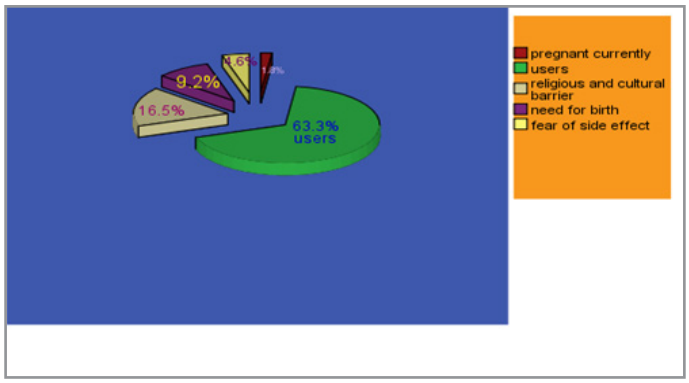

Figure 3: Reasons for the non-use of modern family planning methods

Generally, participants were also asked why women do not practice family planning methods. Thus, as to the idea 33.9% the need to have birth and need to be pregnant, 25.7% of respondent's side effect problem, 17.4% religious obstacle as a factor responsible for the non-utilization of a modern family planning method (Fig 4).

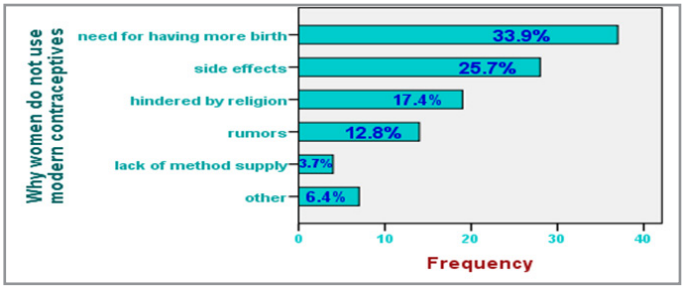

Figure 4: Factors why women are not practicing a family planning method

A woman noted: "I have four children but because of side effects I am afraid to use contraceptives". Spotting and excessive bleeding was reported. My younger sister took pill when she got married. But she bleeds every time, her period does not stop. I

want to use but I am afraid. The bleeding is too much. I don't like it. so I am not willing to use it… some people will use it they will die from excessive bleeding while some will get another sickness from it". (Female, 30 years old, Orthodox, kebele 02).

Another woman said: "Personally I feel that all the modern contraceptives have their side effects it causes cancer, privacy in a woman, it gives headache, causes complications during delivery. On privacy, I know someone who used injections and has been unable to give birth for four years".(Female, 25years old, protestant, kebele 01).

Moreover, the KII interviewee replied that; "though much of the urban couples is using different methods there are various problems that impedes them from using a certain method. For instance, may be inaquate awarness on family planning, poor attitude and perception, due to some health side effect conditions, afraid of infertility in the fututre, they want to have more children".

Concerning the trend of spousal communication, 49.5% married couples discuss always about family planning and 19.3% never discuss. What problems they observe in the health center was the other question and 33.9% say inadequate client management, 22.9% less support, follow up and control of clients, still others 15.6% respond shortage of trained man power as a major problems affecting family planning service in the health center of the town (Table 5).

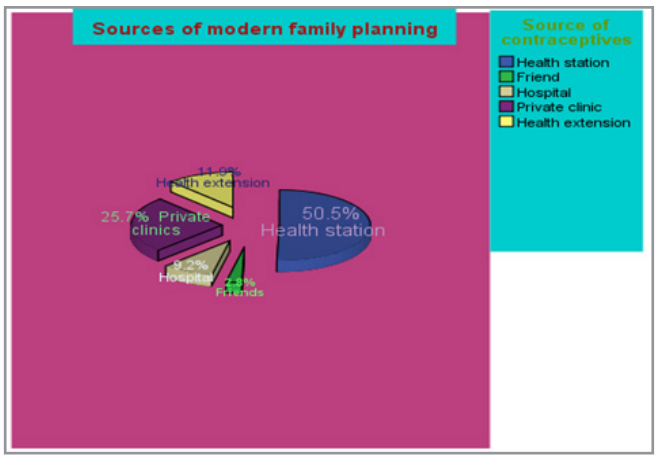

Figure 5: Sources of modern family planning for the respondents

They were asked whether they have an intention to use a family planning method in the future. Thus, 65.1% have a plan to practice methods. Of future user's reasons for using a method in the future were given. Thus, 49.2% for the purpose of spacing child, 30.9 to limit family size in the future. Of the non-users the reason for non-use of a method, 47.3% of the need for birth, 31.5% due to religious prohibition and 21.2% they are afraid of the side effect problems of the contraceptive methods (Table 4).

Table 4: Utilization of modern contraceptive methods

No	Variable	Level/category/	Frequency (N)	Percentage %
1.	Ever use of a method	Yes	73	67
		No	36	33
		Total(N)	109	100
2.	Current use	Yes	75	68.8
		No	34	31.2
		Total(N)	109	100
3.	Individual method used	Pills	23	30.6
		Implants	20	26.6
		Injectable	32	42.6
		Total(N)	75	100
4.	Why do not use a method(Nonusers)	Pregnant currently	2	5.8
		Religious barrier	18	52.9
		Need for birth	10	29.4
		Fear of side effects	5	14.7
		Total(N)	34	100
5.	Reason for current use of a method(Users)	Prevent unwanted pregnancy	15	20
		Spacing birth	24	32
		Control family size	37	49.3
		Total(N)	75	100

6.	Why women do not use the method (Both users and non-users)	Religious obstacle	19	17.4
		Rumor	14	12.8
		Problem of method supply	4	3.7
		Side effect problem	28	25.7
		Need for birth	37	33.9
		Others	7	6.4
		Total(N)	109	100
7.	Center for a method	Health center	55	50.5
		Friend	3	2.8
		Hospital	10	9.2
		Private clinic	28	25.7
		Health extension	13	11.9
		Total(N)	109	100
8.	Payment	Yes	28	25.7
		No	81	74.3
		Total(N)	109	100
9.	When contraceptive is used	When unwanted pregnancy occurs	4	3.7
		At regular time/program	69	63.3
		Before sexual intercourse	30	27.5
		I do not know	6	5.5
		Total	109	100
10.	Cultural allowance for use	Yes	75	68.8
		No	34	31.2
		Total	109	100
11.	Trend of spousal discussion	Never discuss	21	19.3
		Discuss always	54	49.5
		Intend to discuss the future	28	25.7
		No response	6	5.5
		Total	109	100
12.	Distance travel to the health center	<50m	3	2.8
		51-500m	33	30.3
		501-1000m	15	13.8
		1001-1500m	22	22.9
		1501-2000m	19	17.4
		2001-2500m	14	12.8
		Total	109	100
13.	Guidance and counseling	Yes	44	40.4
		No	65	59.6
		Total	109	100
14.	Future use	Yes	71	65.1
		No	38	34.9
		Total	109	100
15.	Reasons for future use	Spacing	38	49.2
		Prevent unwanted pregnancy	11	15.4
		Control family size	22	30.9
		Total	71	100

16.	Reasons for future non use	Need for birth	18	47.3
		Fearful of side effect	8	21.2
		Religion	12	31.5
		Total	38	100

Factors affecting the of practice of modern family planning methods

Bivariate analysis was carried out showing that current age, religion, family size and income, ever birth history, need for extra birth, number of children, discussion with husband was found to have association with current use of FP methods. The chi square (x^2) test also indicated significance of some predictors on current practice of family planning methods. Current age of women(x^2 =18.118, Df=6, p=0.006), religion(x^2 =54.353, Df=2, p=0.000), income(x^2 = 19.881, Df=5, p=0.001), family size (x^2 =14.763, Df=2, p=0.001), ever birth history(x^2 =121.776, Df=2, p=0.000), number of children(x2 = 15.097, Df=3, p=0.002), need for additional birth(x^2 = 12.273, Df=1, p=0.000), husband approval and discussion(x^2 =6.953, Df=1, p=0.008), know/heard of a method(x^2 =11.720, Df=1, p=0.001), listening or watching medias(x^2 =33.652, Df=2,p=0.000), culture (x^2 =135.298, Df =1, p = 0.000) and distance respondents travel to health station (x^2 =61.235, Df=5,p=0.000) were significantly associated with the current practice of FP methods (Table 5).

Table 5: Chi square test of variables affecting current use of contraceptives among married couples

S. No	Socio- demographic variables	Current use of MFPMMs among respondents			
		Pearson X^2	Chi square value	Df	P- value
1	Current age of women	16.722	18.118	6	0.006**
2	Religion	48.998	54.353	2	0.000*
3	Educational status of wife	9.129	8.761	6	0.187
4	Family size	14.969	14.763	2	0.001*
5	Monthly income	13.227	19.881	5	0.001*
	Reproductive variables	Pearson X^2	Chi square value	Df	P-value
1	Age at marriage	7.450	8.352	3	0.39
2	Ever birth history	100.983	121.776	2	0.000*
3	Number of children	14.339	15.097	3	0.002*
4	Need for additional birth	7.885	12.273	1	0.000*
	Knowledge variables	Pearson X^2	Chi square value	Df	P-value
1	Know/heard of a method	12.641	11.720	1	0.001*
2	Discussion with husband	7.112	6.953	1	0.008*
3	Access to guidance and counseling	2.464	2.523	1	0.086
4	Availability of TV/radio	5.436	5.651	3	0.130
5	Listening/watching media	30.953	33.652	2	0.000*
6	Cultural allowance	109.000	135.298	1	0.000*
7	Distance from health center	48.483	61.235	5	0.000*
Where: * P<0.001; **P<0.01					

Analysis of current use (practice) of modern family planning methods

Thus as multinomial regression revealed being an orthodox women in religion had 2 times more odds of using a modern FP methods as compared to women in a protestant religion (OR=1.541, 95% CI, P=0.000). This might be due information exchange and acceptance of information is high at the worship or church if it is told to them by their priests. A Muslim woman had 8.289 times less odds to use family planning may be because of religious prohibition (OR=8.289, 95% CI, p=0.000) than Christians. An illiterate married women were 3.7 times less odds to practice modern contraceptive methods than a woman who terminated schooling in colleges/universities (OR=3.625, {1.034-12.706}, 95% CI, p= 0.044). This might be because of the low access of education and information about the illiterate women. Respondents with family size of 2 have 7.78 times lesser odds of practicing the modern method as compared to women with family size of 6-8 may be because of the need to have more families in the future (OR=7.783, {3.200-009-1.893-009}, 95% CI, p=0.000). In other words, the spouse with a family size of 6-8 had 1.62 times more likely to practice modern family planning than respondents with family size of 2 (OR=1.621, CI 95%, p=0.000). A family with low income 500-1000EB had 2.2 times less likely to practice family planning methods compared to families with incomes 4000EB and above (OR=2.199, 95% CI, {5.88-8.213}, p=0.000). This might be due to those who were high income are most of the time those whose level of education are higher that help them to get information from different sources. Participants with child sizes of 2-4 were 3times had more odds of practicing modern family planning methods as

compared to women with child size of 1 and 5-7 (OR=2.70, 95% CI, 0.093-1.649, p=0.023). Respondents with exposure to media everyday were 33.61 times more likely to use family planning than those who listen once a week. (OR=33.615, 95% CI, 6.950-162.579, p=0.000). Participants who know/hear of a method had 6.273 times more odds of using it compared to participants who do not know a method(OR=6.27,2.10-18.67, 95% CI, p= 0.001). Participants with high level of knowledge had 3.914 more odds of practicing a method compared to participants with low knowledge level (OR=3.914, 95%CI, 1.427-10.737, p=0.008) (Table 6).

Table 6: Multinomial logistic regression analysis result of current use of MFPMs

S.No	Variable	OR(Exp (B))95% CI	B	P-Value (<0.05,0.01or 0.001)
1	Religion			
	Orthodox	1.541E-008	-17.98	----
	Muslim	1.206(8.28)	38.95	0.993
	Protestant ®	1.000	0.000	----
2	Education level(wife)			
	Illiterate	3.625 (1.03-12.70)	1.228	0.044***
	Elementary	5.437(1.22-24.07)	1.693	0.026***
	Junior	1.087(0.24 - 4.91)	0.084	0.913
	High school	1.813 (4.91- 8.90)	0.595	0.464
	Preparatory	1.450 (0.35- 5.87)	0.372	0.603
	TvET	0.906 (0.15 -5.14)	0.098	0.912
	College/ university ®	1.000	0.000	----
3	Family size			
	2	7.783E-008	-16.369	0.000*
	3-5	1.621E-008	-17.937	0.000*
	6-8 ®	1.000	0.000	----
4	Monthly income			
	500-1000	2.199E-009	-19.935	0.000*
	1001-2000	2.062E-009	-20.000	0.000*
	2001-3000	2.115E-009	-19.974	0.000*
	3001-4000	1.000	0.000	1.000
	40001-5000	1.000	0.000	1.000
	5000 and over ®	1.000	0.000	1.000
5	Current age of women			
	15-19 ®	1.000	0.000	1.000
	20-24	2.539E-008	-17.489	0.000*
	25-29	7.872E-008	-16.357	0.000*
	30-34	1.406E-008	-18.080	0.000*
	35-39	1.016E-009	-18.405	0.000*
	40-44	4.063E-009	-19.321	-----
	45-49	----	---	-----
6	Age at marriage			
	15-19	3.253E-009	-19.544	0.000*
	20-24	1.338E-008	-18.129	0.000*
	25-29	1.392E-008	-18.090	-----
	30-34 ®	1.000	0.000	-----
7	Ever birth history			
	Yes	2.053E-010	-22.307	0.000*
	No	99.00(4.86-2015.03)	4.595	0.003**
	Pregnant now ®	1.000	0.000	---
8	Number of children			

	One ®	0.391(0.092-1.649)	0.940	0.201
	2-4	2.700(0.532- 13.690)	0.993	0.230
	5-7	1.125(0.140- 8.994)	0.118	0.912
9	Listening/watching media			
	Every day	33.61(6.950-162.578)	3.595	0.000*
	Once a week	4.718(1.693- 13.141)	1.551	0.003*
	Never ®	1.000	0.000	----
10	Know/ hear of a method			
	Yes	6.273(2.106-18.678)	1.836	0.001*
	No	1.000	0.000	----
11	Discussion with husband			
	Yes	3.094(1.327- 7.208)	1.129	0.009**
	No ®	1.000	0.000	----
12	Distance from health center			
	≤ 50m	3.749E-010	-21.704	-----
	51-500m	3.749E-010	-21.704	0.996
	501-1000m	3.749E-010	-21.704	0.998
	1001-1500m	0.409(0.090-1.845)	-0.894	0.245
	1501-2000m	0.198(0.041-0.951)	1.618	0.043***
	2001-2500m ®	1.000	0.000	-------
14	Knowledge level			
	High	3.914(1.427-10.737)	1.365	0.008*
	Moderate	2.088(0.754-5.783)	0.736	0.157
	Low ®	1.000	0.000	-----
Where: * P<0.001; **P<0.01; ***P<0.05; ® = reference category				

Discussions

The study has attempted to assess the current practice of modern family planning and associated factors affecting it. The level of modern contraceptive use in this study was 21.19%, which is slightly greater than studies in Debre Marcos (19.5%) and by in Western Amhara (20.5%) [6,8]. The variation in the findings might be the studies are conducted previously, the disparity in the nature and size of the sample population and the promotional work.

The current use of modern family planning in the study area was 68.8%. This finding was greater than findings of study in Merawi town (65.2%) comparable with studies in Dangila town (68%) and May chew (68.4%) [9,10]. The discrepancy in the findings of these studies may be due to sample size, time variation of the study and study setting. The most preferred method used was Injectable (42.7%) followed by Pills (30.7%) which was less than studies conducted in the Debre Birhan (62.9%) and Afar (92.2%) (Mohammed A, 2014, Mussie, et al, 2016). The present finding was better result comparing it with findings of a study in Jimma zone (39%) and South East Tigray (33%) [11-13]. The main source of modern contraceptives was government health center, which accounted 50.5% of which 74.5% of the respondents gets methods without any payment. This finding was lower than studies done in the Gasuba town in which government health centers accounted for 56.7%, in Jimma Arjo district it was 76.27%, in May chew 89.5% [13-15]. But it was higher than findings in Western Amhara (47.3%) due to previous nature of the survey and involves both urban and rural participants [6].

Regarding the purposes, they are practiced mainly to limit family size, contributed about 49.3% and followed by spacing births, which is about 32%. This study finding in case of use for limiting family size was less than previous findings in the Gasuba town in which it was 51.8% [14]. Contrary to this, this study showed better results than findings of study conducted in Debre Birhan it was 42.6%, the Jimma Arjo district, which is 9% for limiting children, South Eastern Tigray, which was 32.7% and Western Amhara it was 20.7% [16,12,6]. Regarding child spacing this study found 32% and is lower finding when compared with previous studies conducted like 57.4% in Debre Birhan, 80% in Afar, 90.95% in Jimma Arjo, 78.6% in Western Amhara [15,17, 6]. The distinction in the findings of these studies could be because of the amount of samples involved in the study was smaller than the previous studies. The most important reason cited by respondents for the non-use of a method /not to use/ modern family planning methods was needed for having birth/ need to be pregnant, which contributed to 33.9%, followed by fear of side effects(the frustration of respondents for various

health impacts of the methods) which was 25.7% and religious and cultural barriers 17.4%.

In addition, the previous findings revealed better results in this regard. For example, according to study in Afar the main factors for the non-use of a method where religion (85.3%), culture (51.4%) and fear of side effects (11.8%) [17]. In Debre Birhan it was 35.5%, 14.6% and 12.4% respectively [16]. Similarly, in Jimma Arjo it founded 24% need for birth and 4.9% side effect [15]. In Jimma zone women do not use a method mainly due to the need for birth 44%, the frustration they have on methods 23.1% and religion 4.4% [11]. The variations in the findings of the present study in this regarding could be the difference in the respondent's awareness on family planning, social life in the community, sample size and other environmental factors.

The multinomial logistic regression analysis confirm that mothers who were orthodox were 2 times more likely to use a method as compared to women of other religion (OR=1.541, 95% CI, P=0.000). A Muslim woman had 8.289 times less odds to use family planning may be because of religious prohibition (OR=8.289, 95% CI, p=0.000). This was in line with previous study in Melo Koza found that mothers who were orthodox in religion were 5 times more likely to use methods as compared with those who had other religion (AOR = 4.715, 95% CI of 1.026, 21.67 and protestant were 8 times to others in practicing the family planning methods (AOR =8.492, 95% CI of (1.710-42.173). This might be due to information exchange and acceptance of information is high at the worship or church if it is told to them by their priests [18]. Another study in Somali region parallel revealed that Christian followers were 6 times more likely to practice modern methods than the Muslim followers (AOR=6.56, 95% CI:2.04 to 21) [19]. Respondents with Orthodox religion prefer injectable (44%) than other methods (33% for pills and 22.7% for implants). But Protestants choose implants (55.5%) than other methods i.e. 33.3% for injectable and 11.1% for oral pills.

An illiterate women had 3.625 times lesser odds of using a method than women of TvET and college (OR=3.625, 1.034-12.706, 95% CI, p= 0.044). An elementary school married women were 5.5 times lesser odds to use modern family planning methods as compared to women of college(OR=5.437, {1.228-24.071}, 95% CI, p=0.026). A similar study in Somali found that married women who are literate were 8 times more likely to use methods (OR=8. 6, 95% CI:4.4 -16.9). Respondents with university/college educational level practice a method more (38.6%) than other levels of education by all methods (34.7% for pills, 43.7% for injections and 35% for implants [19]. Respondents with family size of 2 have 7.78 times lesser odds of practicing the modern method as compared to women with family size of 6-8 may be because of the need to have more families in the future (OR=7.783, {3.200-009-1.893-009}, 95% CI, p=0.000).

A family with low income of 500-1000 had 2.2 times less likely to practice family planning methods compared to families with incomes 4000 and above (OR=2.199, 95% CI, {5.88-8.213}, p=0.000). Families with income between 1001-2000EB were more users of a method (22%) in which pills and implants are dominant (39.1% and 35% respectively. Women who got married at early age 15-19 were 3.3 times more likely to practice a modern contraceptive method than women married in between30-34(OR=3.235, 95% CI, {7.084– 1.949}, p= 0.000). The finding was consistent with study in Adama town in which age groups 25-29 have higher odds (64 times) of using modern family planning methods than women aged 45-49 (AOR=64.633, 4.166-1002.850, p= 0.003) [21]. Respondents aged between 25-29 were 8 times more likely in using a method as compared to respondents of 15-19 age group (OR=7.872). Women who had experienced ever birth in their life were 2 times more likely to use modern contraceptives compared to women who do not have experienced ever birth in their life (OR=2.053, 95% CI, p=0.003). Women who had exposure to media everyday were 37 times more likely of practicing a modern family planning method than women who never had access to such media (OR=33.615, 95% CI, 6.950-162.579, p=0.000). This result was similarly supported by a study in Melo Koza in which women with a medium have 6 times higher odds of practicing a method than women without media (AOR=5.597, 2.560-12.239, p=0.000) [18].

Participants with child sizes of 2-4 were 3times had more odds of practicing modern family planning methods as compared to women with child size of 1 and 5-7 (OR=2.70, 95% CI, 0.093-1.649, p=0.023). Women who conduct a spousal discussion always were 3 times (48.6%) more likely in utilizing family planning methods than women who do not discuss by 82.6% for pills, 62.5% for injectable and 70% for implants (3.094(1.327-7.208). A study in Debre Birhan district showed that as the number of husband wife communication increase the use of modern contraceptive also increased when compared with those women who did not communicate with their husband. Those women who had discussions with their husband once were 4.5 times more likely to use contraceptives and those women discussed more than three times were 7.32 times more likely to use modern contraceptives (AOR = 2.82, 95% CI, 1.67-4.80), couple's discussion about family planning issues (AOR = 7.32, 95% CI, 3.60-14.86) [16].

Participants with high level of knowledge had 3.914 more odds of practicing a method compared to participants with low knowledge level (OR=3.914, 95%CI, 1.427-10.737, p=0.008). It was parallel with a study in Adama in which those who had a high knowledge level about family planning use the method 3 times more likely compared to those who had low knowledge level (AOR=3.25,95%CI, 1.60-6.58, P=0.001) [15]. The difference in the findings of the present study might be the variation in the sample size; the study setting and the study do not include rural participants. Participants who know/hear of a method had 6.273times more odds of using it compared to participants who do not know a method (OR=6.27, 2.10-18.67, 95% CI, p= 0.001) [22-54].

Abbreviation

Bureau of Finance and Economic Development: BoFED:
Contraceptive Prevalence Rate: CPR
Central Statistical Agency: CSA
Ethiopian Demographic and Health Survey: EDHS
Key Informant Interview: KII
Modern Family Planning Methods: MFPMs
Ministry of Health: MoH
Population Reference Bureau: PRB
United Nation: UN

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Not applicable

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This study was conducted based on Debre Markos university research ethics policy and guidelines. Ethical approval was obtained from the School of social sciences and public health prior to the start of the investigation.

Consent for publication
Not applicable

Conflict of interest
None declared

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