Predictors of modern contraceptive utilization among married reproductive age women in Misha district, Southern Ethiopia: A community based cross sectional study

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Abstract

Background: *High fertility and rapid population growth have an impact on the overall socio- economic development of the country in general and maternal and child health in particular. The major role of family planning is reduction of maternal morbidity and mortality by reducing the number of pregnancies among high risk women by reducing the number of unwanted pregnancies that might otherwise end in abortion. However limited data is available regarding modern contraceptive utilization in Ethiopia, particularly in rural setting. Therefore this study was aiming to asses predictors of modern contraceptive utilization among married reproductive age women in Misha district, Southern Ethiopia.*

Methods: *A community based cross-sectional study was conducted from April 1-30, 2014 among married reproductive age women in Misha district. Multistage Stratified sampling technique was employed to reach the desired samples. Individual women in the kebele, to be included in the study (n= 598) were selected from family folder lists by simple random method. Data was collected using interviewer administered questionnaire and analyzed using SPSS version 20.0 statistical software. Bivariate and multivariate analysis were made using logistic regression in order to predict factors associated with modern contraceptive use.*

Results: - *The current contraceptive prevalence rate in the woreda was found to be 208 (23.8%). In the multivariate analysis urban residence, literacy of women, having good knowledge towards modern contraceptives, being in high category of wealth index and possession of radio or TV were seen significantly associated with modern contraceptive use.*

Conclusions and Recommendations: *Modern contraceptive utilization is minimal in Misha district and associated with urbanization, women education, increasing wealth index and possession of radio or TV. Therefore the policy makers, stakeholders and the community should work for promoting women education and empowering them. Besides this it is recommended that income generating activities should be encouraged in the area.*

Predictors of modern contraceptive utilization among married reproductive age women in Misha district, Southern Ethiopia: A community based cross sectional study Zerfework Debebe ; Erdaw Tachbele & Nebiyu Dereje

P a g e | 322

Introduction

Maternal death in developing country particularly in Ethiopia posed significant challenge in the attainment of healthy society. The majority of these deaths are the direct result of complications encountered during Pregnancy and unsafe abortion (1). The World Health Organization Report(WHO) noted that every minute, at least one woman dies from complications related to pregnancy or child birth that means 287,000 women a year, in addition, for every woman dies in child birth, five direct complications account for most of maternal death: hemorrhage, infection, unsafe abortion, eclampsia and obstructed labour(2).

The world health organization (WHO) estimated in 2012 that 287,000 maternal deaths occurred globally; sub-Sahara Africa (56 %) and southern Asia (29 %) accounted for the global burden of maternal deaths (3).

With 87 million people, Ethiopia is the second most populous nation in sub-Saharan Africa, with a continuing fast growing population of 2.7% per year (3).The maternal mortality ratio (MMR) is 676 per 100,000 aged 15 to 49,with an estimated 32% of all maternal death attributed to un safe abortions(4). A study conducted in Northwest Ethiopia in 2005 indicated that prevalence rate of spontaneous and induced abortions where estimated at 14.3% and 4.8% of all pregnancies respectively (5).Despite the recent increase in contraceptive use, in sub-Saharan Africa still characterized by high levels of fertility and a considerable unmet need for contraception (6).The total fertility rate in Ethiopia is 4.8

births per women and is considerably higher in the rural than the urban areas. Every day at least 1,600 women die worldwide from complication of pregnancy and child birth, 90% of which occurring in Asia and Sub Saharan Africa. The maternal mortality ratio (MMR), which is a measure of the obstetrics risk associated with each pregnancy, is estimated to be 400 per 100,000 live births globally, which is one in 92 deaths. It is high in sub-Saharan Africa 900 per 100,000 live births, lifetime risk of 1 in 22 comparing these with MMR of 9 and Lifetime risk of maternal death 1 in 7,300 for the developed country. This indicates that pregnancy in sub Saharan Africa is 100 times more likely to take life of a woman than pregnancy in developed country. Family planning is carried as one of the strategies for reducing the population growth rate as well as maternal mortality and child mortality (5 - 7).

Similarly, unsafe abortion is a critical public health problem in Ethiopia with a low modern contraceptive prevalence rate and a high fertility rate; untold number of Ethiopian women is faced with unwanted pregnancy. Complication of unsafe abortion in majority of maternal deaths and in a few they are leading cause of death for a woman of reproductive age. The world health organization estimated that as many as 20 million abortions in each year are unsafe and 10 to 50% of women who undergo unsafe abortion need medical care for complication (7 - 9).

According to the EDHS data, only 10% of births in Ethiopia where attended by an appropriately skilled person; however, there is also evidence suggest that up to 100,000 maternal death could be avoided each year if women who did not want children used effective contraception (15). One of the

Predictors of modern contraceptive utilization among married reproductive age women in Misha district, Southern Ethiopia: A community based cross sectional study Zerfework Debebe ; Erdaw Tachbele & Nebiyu Dereje

P a g e | 323

targets of Ethiopian ministry of health with respect to improving maternal and child health is to increase contraceptive prevalence rate (CPR) from 32% to 60% by 2015. In order to achieve this target, the Ministry has given priority to the provision of family planning services in the community (4).

Family planning assists "families in achieving the number of children desired with appropriate spacing and timing, ensuring optimal growth and development of each family member" (11, 12). Failure to plan a pregnancy can adversely affect the health of the mother, the child, and the families as a whole. Family planning can also protect women from high risk pregnancies, unsafe abortion, reproductive tract infection (RTI), sexually transmitted infection (STIs), including HIV/AIDS (11).

Even though use of modern contraceptive methods is being promoted in order to prevent unwanted pregnancy, unsafe abortion, and with ultimate goal of reducing maternal mortality, its prevalence is minimal in Ethiopia particularly in the rural setting. Therefore this study was aiming to measure contraceptive prevalence and asses factors associated with its usage among married reproductive age women in Misha district, southern Ethiopia.

Methods and materials

Study setting and participants

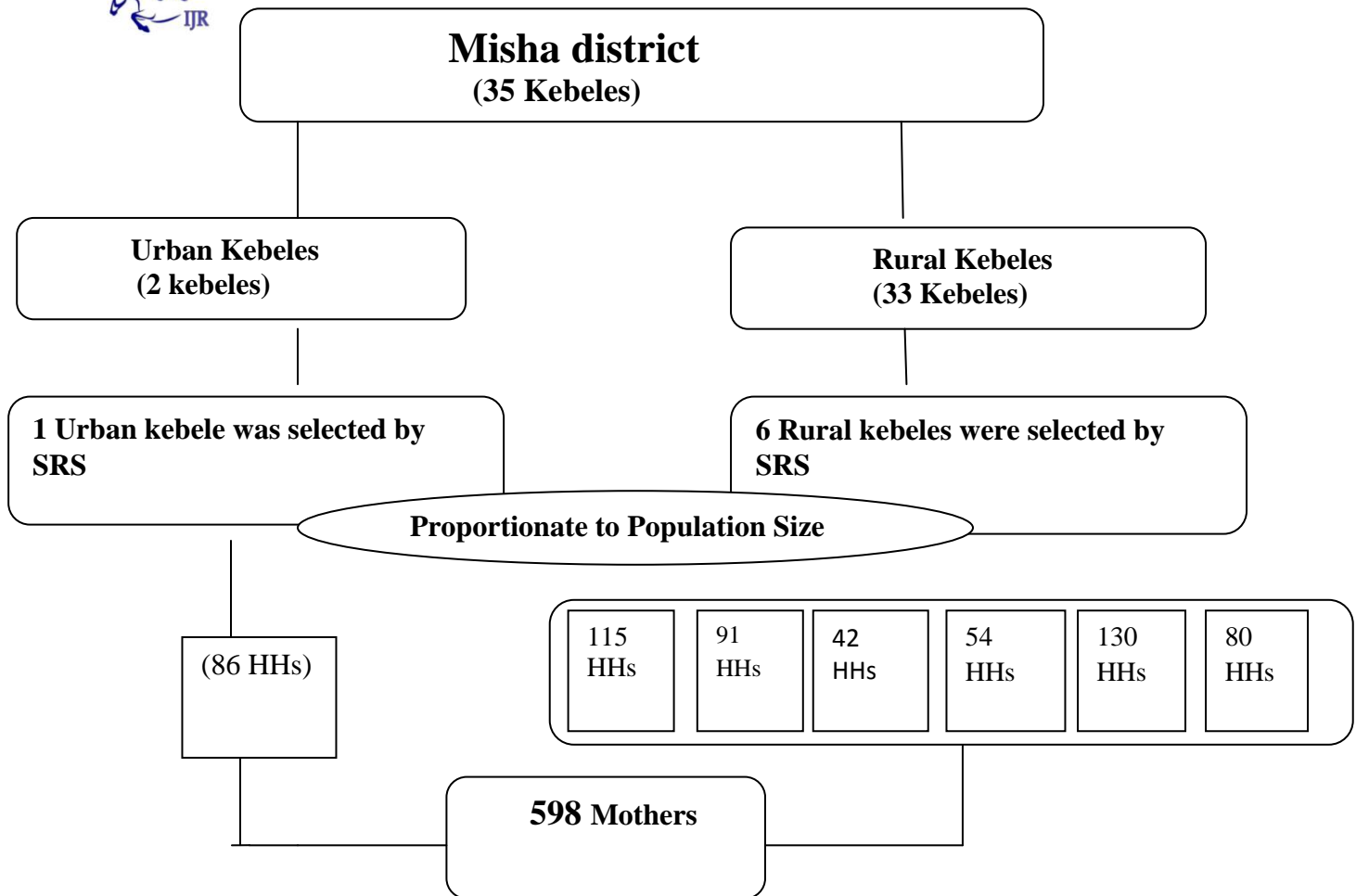A community based cross sectional study was conducted from April 1 to 30, 2014 among married childbearing age women (15-49 years) in Misha district, southern Ethiopia.

Sample size and sampling procedures procedure

Sample size was calculated by using single population proportion formula with the assumption

Of 24.7% proportion of contraceptive methods use in SNNPR of Ethiopia (EDHS 2011), 5% margin of error, 95% confidence interval and the design effect of 2. Hence the sample size calculated was 598 samples.

Stratified multistage sampling technique was employed in the study. Among the totals of 35 kebeles (lowest administrative unit in Ethiopia) in the district, 2 of them are urban and the remaining 33 of them are rural kebeles. In the first stage, one urban and six rural kebeles were randomly selected by using lottery method. In the second stage after consulting the health extension workers of the selected kebeles and using family folder, households having the eligible women were selected using simple random sampling using the lists of married women from family folder as a sampling frame. In case of the houses closed or the mothers do not present at the time of data collection, three revisits were made and till does not present considered as none response. For households having more than one eligible women selection was made by lottery method.

Predictors of modern contraceptive utilization among married reproductive age women in Misha district, Southern Ethiopia: A community based cross sectional study Zerfework Debebe ; Erdaw Tachbele & Nebiyu Dereje

P a g e | 324

Misha district
(35 Kebeles)

Urban Kebeles
(2 kebeles)

Rural Kebeles
(33 Kebeles)

1 Urban kebele was selected by SRS

6 Rural kebeles were selected by SRS

Proportionate to Population Size

(86 HHs)

| 115 HHs | 91 HHs | 42 HHs | 54 HHs | 130 HHs | 80 HHs |

598 Mothers

Figure 1 - Schematic presentation of sampling procedure

Data collection procedures

Structured interviewer administered questionnaire was used to collect the data which is adapted from relevant literatures and modified to local context. The questionnaire was first prepared in English and translated to local language (Amharic and Hadiyisa) and back translation to English was made to check for consistency. Twelve interviewers that have diploma in nursing, and who can understand the local language were recruited as interviewers and two-B.sc nurses were used as supervisor. Data collectors were trained for three days on the questionnaire, on interviewing techniques, purpose of the study, and importance of privacy, discipline, and approach to the interviewees and confidentiality of the respondents. Before conducting the main study, pretest was carried out in similar population rather than study population. Based on the result, data collectors were reoriented and the questionnaire was modified as necessary.

Definition and measurement of variables

Contraceptive prevalence rate was measured using women who received a contraceptive method for one continuous year and above. The knowledge of women towards modern contraceptives were measured after scoring knowledge questions, those respondents

Predictors of modern contraceptive utilization among married reproductive age women in Misha district, Southern Ethiopia: A community based cross sectional study Zerfework Debebe ; Erdaw Tachbele & Nebiyu Dereje

P a g e | 325

who respond above or equal to average mean value were considered had good knowledge for contraceptive methods and those respondents who respond below average mean value were considered had poor knowledge for contraceptive methods. Moreover, respondents who responded above the mean value for cumulative eleven attitudinal statements were considered having positive attitude where as those who responded the mean and below mean value were considered having negative attitude for modern contraceptives use.

Household wealth was assessed by constructing an index using principal components analysis. The first component, which explains most of the variance in the observed set of variables, is expected to reflect an unobserved dimension, and in the given model 'wealth'. The variables included in our factor analysis were the following: (1) number of livestock present in the household (cow, goat, sheep, chicken, and horse) (2) ownership and size of farm land (3) housing material for roof, walls and floor; and (4) type of toilet. The first component explained 59% of the variance. The regression scores from the first component were used to create an index that was divided into five equal categories and then grouped as the highest, medium, and lowest wealth index categories.

Data processing and analysis

Data were analyzed using SPSS version 20.0 software and Proportions and 95% confidence intervals were obtained as estimates of prevalence. Associations between independent variables and dependent variables were analyzed first using bivarate analysis to identify factors which are significantly associated with modern contraceptive method use. Then

Multiple logistic regression was applied using enter method with $p < 0.05$ and $p > 0.25$ criteria to enter and exit from the model respectively. The magnitude of the association between the different independent variables in relation to dependent were measured using odds ratios and 95% confidence interval (CI) and P values below 0.05 were considered statistically significance. Hosmer-Lemshow goodness–of-fit was applied to find the appropriateness of model.

Ethical consideration

Ethical clearance was obtained from department of Nursing and midwifery ethical clearance Committee of Addis Ababa University. Permission from the officials governing the district were obtained, and then informed consent was obtained from the study participants after explaining the purpose of the study. Participants were assured that their name will not be stated, data will be kept confidential and anonymous and it will be used only for research purpose. Confidentiality of the information given by the respondent was maintained and the privacy of the students was kept during data collection.

Result

Socio-demographic characteristics

A total of 591 currently married women of reproductive age group data were analyzed, with a response rate of 98.8%. Among them 84(14.2%) were from urban and 507(85.8%) were from rural kebeles. The Mean age of the women was 5.1± 31.6 years and the majority of the women 257(43.5%) were illiterate. About three-forth 442(74.8%) of the women have more than 5 children.

Predictors of modern contraceptive utilization among married reproductive age women in Misha district, Southern Ethiopia: A community based cross sectional study Zerfework Debebe ; Erdaw Tachbele & Nebiyu Dereje

P a g e | 326

Table 1 - *Socio-demographic characteristics of currently married women in the reproductive age group in Misha district, April 2014 [n=591]*

Characteristics	Frequency	Percent (%)
Residence		
Urban	84	14.2
Rural	507	85.8
Mother's age		
15-19	7	1.2
20-24	31	5.2
25-29	187	31.6
30-34	202	34.2
35-39	129	21.8
+40	35	5.9
Ethnicity		
Hadiya	461	78.0
Gurage	94	15.9
Kambata	24	4.1
Others	12	2.0
Religion		
Protestant	441	74.6
Orthodox	135	22.8
Others	15	2.5
Educational status		
Illiterate	257	43.5
Primary school	203	34.3
Secondary school	114	19.3
Above secondary	17	2.9
Occupation		
Housewife	534	90.4
Gov. employee	18	3.0
Merchant	29	4.9
Others	10	1.7
Family size		
1-4	149	25.2
>=5	442	74.8
Possession of Radio/TV		
Yes	365	61.8
No	226	38.2
Wealth Index		
low	303	51.2
Medium	119	20.1
High	169	28.7

Reproductive characteristics

Almost all of the study subjects 588(99.5%) had been pregnant at least once and among them 87(14.8%) were unwanted pregnancy. Regarding the history of induced abortion, 89(15.1%) had experienced induced abortion. The mean age at first pregnancy was 2.16±20.05 years.

Table 2- *Reproductive characteristics of currently married women in the reproductive age group in Misha district, April 2014.*

Characteristics	Frequency	Percent (%)
Ever been pregnant (n=591)		
Yes	588	99.5
No	3	.5
Were all pregnancy wanted (n=588)		
Yes	501	85.2
No	87	14.8
Ever experienced induced abortion (n=588)		
Yes	89	15.1
No	499	84.9
Age at first delivery (n=591)		
15-20	373	63.4
21-25	213	36.2
>=26	5	.8
Have any still birth (n=591)		
Yes	55	9.4
No	533	90.6

Attitudes towards Modern contraceptives

Regarding attitude towards modern contraceptive, 532 (90.0%) and 468(79.2%) not agree that too many children improves income and guarantee to generation continuity respectively. About 90% of the women disagree and strongly disagree for high infant mortality compensated by too many births. Only few number of women consider that using MC methods is sin and dangerous for health of a women.

Predictors of modern contraceptive utilization among married reproductive age women in Misha district, Southern Ethiopia: A community based cross sectional study Zerfework Debebe ; Erdaw Tachbele & Nebiyu Dereje

P a g e | 328

Table 3 - Attitudes towards modern contraceptive use among currently married women of reproductive age group in Misha district, April 2014 {n=591}

Characteristics	Frequency	Percent (%)
Too many children improves income		
Strongly disagree	76	12.9
Disagree	456	77.2
Neutral	19	3.2
Agree	37	6.3
Strongly agree	3	.5
Too many children guarantee to generational continuity		
Strongly disagree	42	7.1
Disagree	426	72.1
Neutral	14	2.4
Agree	99	16.8
Strongly agree	10	1.7
High infant/child mortality be compensated by too much birth		
Strongly disagree	64	10.8
Disagree	470	79.5
Neutral	19	3.2
Agree	35	5.9
Strongly agree	3	.5
It is sin to practice MC methods		
Strongly disagree	46	7.8
Disagree	468	79.2
Neutral	24	4.1
Agree	49	8.3
Strongly agree	4	.7
MC has side effects dangerous to a mother		
Strongly disagree	16	2.7
Disagree	392	66.3
Neutral	40	6.8
Agree	129	21.8
Strongly agree	14	2.4
Child spacing protect the health of mothers and children		
Strongly disagree	4	.7
Disagree	10	1.7
Neutral	7	1.2
Agree	432	73.1
Strongly agree	138	23.4
Contraceptive use cause infertility in women		

Predictors of modern contraceptive utilization among married reproductive age women in Misha district, Southern Ethiopia: A community based cross sectional study Zerfework Debebe ; Erdaw Tachbele & Nebiyu Dereje

P a g e | 329

Strongly disagree	46	7.8
Disagree	476	80.5
Neutral	48	8.1
Agree	19	3.2
Strongly agree	2	.3

Knowledge of MC

Almost all of the women 576(97.5%) heard about modern contraceptives. The main source of information was health facilities (96.3%) followed by from their friends (29.0%). Concerning the importance of contraceptive methods use, majority 493(83.4%) agreed that it is used for child spacing followed by prevention of unwanted pregnancy 403(68.2%).

Table 4 - *Knowledge of contraceptive among currently married women of reproductive age group in Misha district, April 2014*

Characteristics	Frequency	Percent (%)
Ever heard of modern contraception (n=591)		
Yes	576	97.5
No	15	2.5
Source of information (n=576)		
Health facilities	539	96.3
Mass media	82	14.2
Friends	167	29.0
Contraceptive methods known (n=576)		
Pills	527	89.2
Injectable	546	92.6
Implants	249	49.7
IUCD	358	57.2
Condom	123	20.8

Predictors of modern contraceptive utilization among married reproductive age women in Misha district, Southern Ethiopia: A community based cross sectional study Zerfework Debebe ; Erdaw Tachbele & Nebiyu Dereje
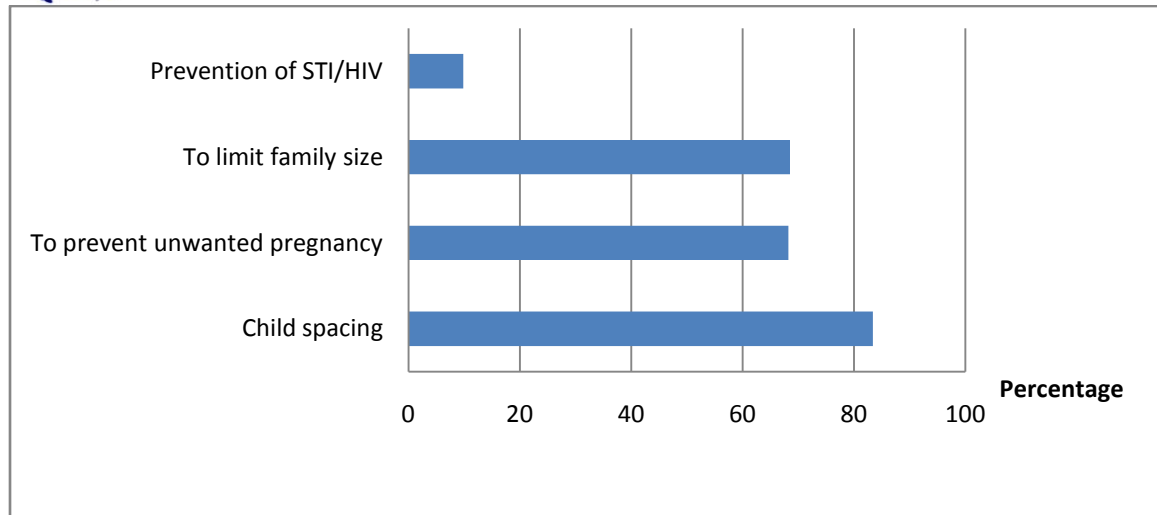
P a g e | 330

Figure 2 – perceived importance of contraceptive methods by women of reproductive age group in Misha district, April 2014

Practice of modern contraceptive

Overall, 370(62.6%) of women ever practiced MC methods and around 208(35.2%) are using at the time of study. Majority of the women were using injectable methods of contraception. Furthermore, the main reasons for default of the use of MC were medical problems and fear of side effect.

Table 5 - *Practice of contraceptive use among currently married women of reproductive age group in Misha district, April 2014*

Characteristics	Frequency	Percent (%)
Ever use of Contraceptive		
Yes	370	62.6
No	221	37.4
Current use of any MC		
Yes	208	35.2
No	383	64.8
MC Method used (n=208)		
Pills	50	24.0
Injectable	139	66.8
Implant/Jaddle	19	9.1
Duration of contraceptive use (n=591)		
Grater or equal to 1 years	141	23.8
Less than 1Years	67	11.3
Are you using the method you choose (n=208)		
Yes	203	97.6

Predictors of modern contraceptive utilization among married reproductive age women in Misha district, Southern Ethiopia: A community based cross sectional study Zerfework Debebe ; Erdaw Tachbele & Nebiyu Dereje

P a g e | 331

No		5	2.4
Reason for not using MC (n=383)			
Fear of side effects		219	57.2
Desire to have more children		76	19.8
Rumors they are not good		72	18.8
Others		16	4.2
Is MC culturally accepted (n=591)			
Yes		508	86.0
No		83	14.0
Distance from health facility (n=591)			
Less than 30'		440	74.5
Greater than 30'		151	25.5

Factors associated with Modern contraceptives utilization

Those variables with P-value < 0.25 in bivariate analysis were entered into multivariate analysis using multiple logistic regressions model in order to predict factors associated with use of modern contraceptive methods.

Accordingly urban residence, being educated, possession of radio & TV, high wealth index and having good knowledge towards modern contraceptive methods were shown statistically significant association with the use of modern contraceptive methods.

As seen in the table below, women who are residing in urban were 1.967 times more likely to utilize MC than their counter part [AOR: 1.967 with 95% CI: (1.028, 3.763)].

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Literate women were 5.139 times more likely to utilize MC when compared to the illiterate ones [AOR: 5.139 with 95% CI: (1.07, 21.885)]. Likewise, Possession of radio and TV were seen significantly associated with MC utilization [AOR: 2.817 with 95% CI: (1.705-4.655).

Women in high category of wealth index were 1.76 times more likely to use MC than those women with low wealth index category [AOR = 1.76, 95%CI (1.543-10.647)].

Similarly those women having good knowledge towards MC methods were 3.685 more likely use MC than those having poor knowledge of MC [AOR: 3.685 with 95% CI: (2.396-5.670

Table 6- *Multivariate analysis of factors associated with contraceptive utilization among currently married women in the reproductive age group in Misha district, April 2014*

Characteristics	User of MC	Not User of MC	Crude OR (95% CI)	Adjusted OR (95%CI)
Residence				

Predictors of modern contraceptive utilization among married reproductive age women in Misha district, Southern Ethiopia: A community based cross sectional study Zerfework Debebe ; Erdaw Tachbele & Nebiyu Dereje

P a g e | 332

Urban	39	47	1.733(1.087-2.765)*	1.967(1.028-3.763)*
Rural	169	339	1	1
Educational status				
Literate	152	79	1	1
Illiterate	102	255	4.81 (2.603 – 11.352)*	3.7 (2.02 – 9.68)**
Possession of Radio/TV				
Yes	172	193	1	1
No	36	190	4.704(3.117-7.097)*	2.817(1.705-4.655)**
Wealth Index				
Low	114	189	2.697(1.429-5.090)*	1.728(0.967-3.085)
Medium	50	69	2.614(1.629-4.281)*	1.76(1.543-10.647)**
High	111	58	1	1
Knowledge of MC (n=576)				
Good knowledge of MC	55	245	1	1
Poor knowledge of MC	153	123	5.541(3.802-8.075)*	3.685(2.396-5.670)**

MC= Modern Contraceptive   OR = Odds Ratio   * p-value <0.05   ** p-value<0.001

Discussion

The prevalence of modern contraceptive use was found to be 23.8% in Misha district, which is in line with EDHS 2011 finding for southern nation nationalities and peoples region of Ethiopia (24.7%), but lower than study findings of Harreri and Oromia (16). This difference might be due to the socio-demographic and socio-economic differences in the study area.

As of many parts of the country most popular modern contraceptive methods used by currently married women were injectable (66.8%) and followed by pills (24.0%). This study result is in line with other similar studies in different area (15, 16, and 33).

The current study revealed that urban residents were more likely to use modern contraceptive than rural resident was, which is consistent with the finding of EDHS 2011, and many other reviewed literatures (16). This finding of the study supports the notion that urbanization can increase the outstanding level of the community by exposing to different Medias of communication.

This study identified that those women with relatively good wealth index were more likely to use modern contraception than the others. Different studies in various parts of the world were found that higher household income significantly increases the likelihood of practicing different types of modern contraceptive method (28, 30, 50, 52). The possible explanation to the influence of wealth index on modern contraception is that having good income could widen the social interaction of women with a variety of institutions and parties, which in turn increase the information access to family planning services.

Predictors of modern contraceptive utilization among married reproductive age women in Misha district, Southern Ethiopia: A community based cross sectional study Zerfework Debebe ; Erdaw Tachbele & Nebiyu Dereje

P a g e | 333

This study revealed that women education has a significant association with modern contraception utilization. Those women who had at least primary education and secondary or above were more likely to use modern contraceptive than the illiterates were. Our finding shares the conclusion made by different researchers that educated women use modern contraception and desire less children than the illiterate once (25 – 28, 33, 34). It seems that once a woman enters the school system, her attitudes towards family planning and fertility changes. In general education has a positive impact on fertility, since literacy improves access to information and therefore instrumental to informed fertility choices. Additionally, reliance on scientific explanations to make sense of the world and greater awareness on alternative lifestyles could be achieved through education. Education increases women competence to interact with complex institutions, maximize their ability to benefit from a range of services and provides a sense of trust on science and technology, which is not indispensable from daily use of modern contraception.

Possession of radio/TV were seen significantly associated with MC utilization This can be described as those who have radio/TV may have more access to family planning messages which in turn may lead to utilization of modern contraceptive methods. Many studies agree that having knowledge and information about modern contraceptive methods is one step ahead towards gaining access to and using suitable contraceptive methods in a timely and effective manner (17, 18). Similarly in this study those who have good knowledge of contraceptive method were more likely to use MCs than the counterpart women were.

As mentioned by many reviewed literatures, the cultural and religious background of a given community has powerful effect on health seeking behavior in general, and contraceptive use in particular (25, 26). Globally, the strongest opposition was from the Catholic Church, which prohibits utilization of artificial contraception and Islamic religion followed it (30, 31). However, in this study religious and cultural characteristics were not shown statistically significant difference. This inconsistency might be attributed to the small number of Catholic and Muslim religion followers in the study area, at which the religious views are dominated by protestant religion philosophies.

Conclusion and recommendation

In sum, modern contraceptive utilization is minimal in Misha district and associated with urbanization, women education, increasing wealth index and possession of radio or TV. Therefore the policy makers, stakeholders and the community should work for promoting women education and empowering them. Besides this it is recommended that income generating activities should be encouraged in the area.

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Predictors of modern contraceptive utilization among married reproductive age women in Misha district, Southern Ethiopia: A community based cross sectional study Zerfework Debebe ; Erdaw Tachbele & Nebiyu Dereje

P a g e | 334

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Predictors of modern contraceptive utilization among married reproductive age women in Misha district, Southern Ethiopia: A community based cross sectional study Zerfework Debebe ; Erdaw Tachbele & Nebiyu Dereje

P a g e | 335

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Predictors of modern contraceptive utilization among married reproductive age women in Misha district, Southern Ethiopia: A community based cross sectional study Zerfework Debebe ; Erdaw Tachbele & Nebiyu Dereje

P a g e | 336