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Factors Affecting the use of Long-Acting Reversible Contraceptive Methods among Married Women in Debre Markos Town, Northwest Ethiopia 2013

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FACTORS AFFECTING THE USE OF LONG ACTING REVERSIBLE CONTRACEPTIVE METHODS AMONG MARRIED WOMEN IN DEBRE MARKOS TOWN NORTHWEST ETHIOPIA 2013

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Factors Affecting the use of Long-Acting Reversible Contraceptive Methods among Married Women in Debre Markos Town, Northwest Ethiopia 2013

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Abstract- Long-acting reversible contraceptive methods can substantially reduce the high levels of unwanted pregnancy as well as maternal mortality and morbidity more in developing countries. The main objective of this research was to assess factors affecting use of long acting reversible contraceptive methods among married women of reproductive age group in Debre Markos town. Institution based un-matched case-control study was implemented from March 1- April 30/ 2013. A total of 120 long acting and 240 short acting contraceptive method users with 1:2 cases to control ratio were included in the study. Consecutive registration was used to select the study participants. Female data collectors were recruited and a semi structured pretested questionnaire using interview technique was used for data collection. Data entry and clearing was done using EPI data 3.5.1 and it was then transported to SPSS version 16 statistical packages for analysis. Women at age 20-24 years were 3.69 times more likely to use long acting reversible contraception than women at age 30-34. Women who had experience of discussion with their husbands about contraceptive were 1.8 times more likely to use long acting contraception as compared with those who did not have discussion.

Among several factors that determine the utilization of long acting reversible contraceptive methods age of women, occupation of the women and husband-wife discussion were found to be determinants of long acting reversible contraceptive method use. Family planning service needs to prepare advocacy to improve husband - wife communication to scale up the most effective & convenient service.

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1. INTRODUCTION

One of the Millennium Development Goals (MDGs) which most countries of the developing world strive to achieve by 2015 is MDG 5 that targeted reduction of maternal mortality by three-fourth between 1990 and 2015 [1].

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According to world health organization report estimated 358,000 maternal deaths occurred worldwide in 2008, developing countries account for 99% (355,000) of the deaths. Sub-Saharan Africa and South Asia accounted for 87% (313,000) of global maternal deaths [2].

Ethiopia is one of the Sub-Saharan African countries with highest MMR which is 676 maternal deaths per 100,000 live births (Central Statistical Agency [Ethiopia] (March 2012). The vast majority of maternal and new born deaths can be prevented with proven interventions to ensure that every pregnancy is wanted by using the most effective modern Family planning methods and every birth is safe [3].

Family planning is a human right and is essential to women's empowerment. It is central to efforts to reduce poverty, promote economic growth, raise female productivity, lower fertility and improve child survival and maternal health. Family planning can prevent 20-35 % of all maternal deaths. By enabling smaller family size, family planning can help stabilize rural areas, slow urbanization and balance natural resource use with the needs of the population. Women and couples who want safe and effective protection against un wanted pregnancy would benefit from access to more contraceptive choices, including long acting and permanent contraceptive methods [4,5].

Modern contraceptives methods are divided into three: - Long acting reversible contraceptive methods (IUCD & Implants); permanent contraceptive methods (tubal ligation & vasectomy) and short term contraceptives methods (Oral pill, inject-able, male& female condoms, foam tablet &cervical cap [4].

Ethiopia has set its own goals for population, which is articulated in the population policy as to reach a TFR of 4.0 and a CPR of 44% by 2015. By now the progress of CPR is increased to 29%. However, The CPR is highly dependent on short-term family planning methods (e.g. Nearly 21% for inject- able), and unmet need for family planning is still high for spacing births (16%) and limiting (9%) [1]. Recognizing this situation, the Federal Ministry of Health (FMOH), under Health service development program IV, has set a target CPR

of 66 percent by 2015. Besides, the FMOH has considered the important role of long-acting non-permanent and permanent methods and aims to provide 20 percent of all family planning clients with these long-acting methods [5].

The Ethiopian RH strategy set provision of all family planning methods with special emphasis on long term and permanent methods as a key strategy of achieving one of its primary goals of reducing unwanted pregnancies and enabling individuals to achieve their desired family size [6].

The Ethiopian RH strategy set provision of all family planning methods with special emphasis on long term and permanent methods as a key strategy of achieving one of its primary goals. Creating wider

access to long-acting and permanent methods of contraception, which are the most effective contraceptives, can substantially reduce the high levels of maternal mortality and morbidity as well as unwanted pregnancies and unsafe abortion. In addition from the perspectives of unmet need for family planning; long acting contraceptives are more use full for spacing and limiting than short acting. However, currently Utilization of implants and IUD are 3 % and 2% respectively, which is very low (Federal Democratic Republic of Ethiopia, Ministry of Health [5, 7]. The main objective of this study was to assess factors affecting use of long acting reversible contraceptive methods in Debre Markos town, North West Ethiopia.

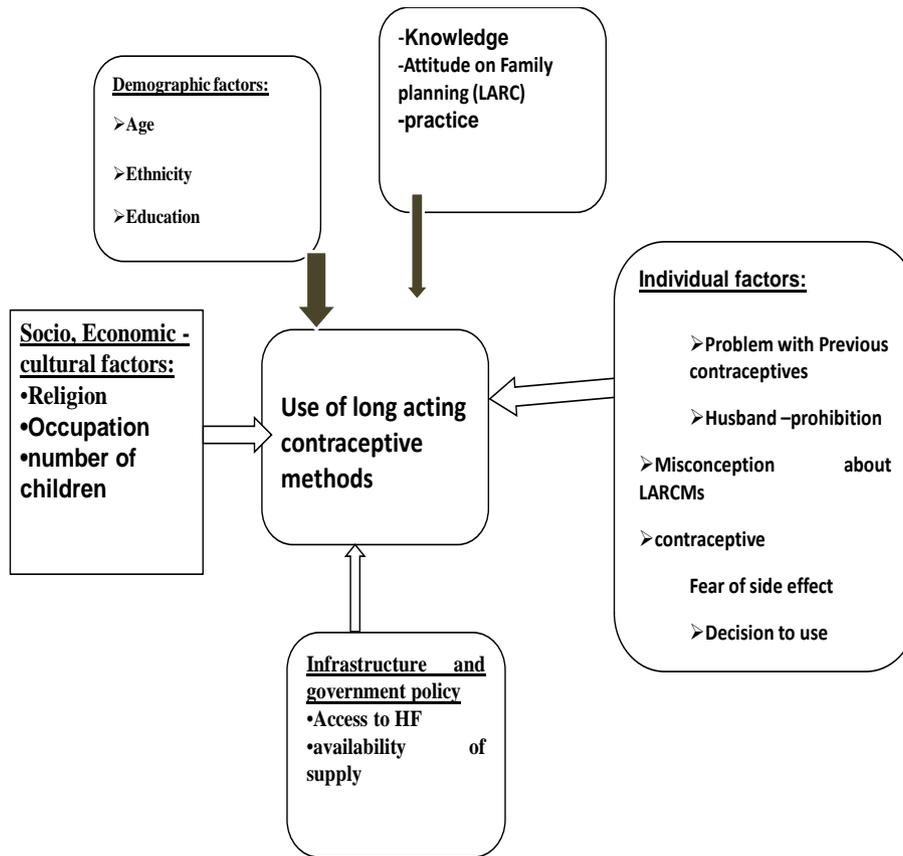


Figure 1 : Conceptual frame work adapted from different literatures

II. METHODS

Study design

Facility based unmatched case-control study design was used. Cases were married women of reproductive age group who used long acting contraceptives during the study whereas controls were married women of reproductive age group who used short acting contraceptives (OCPs and inject-able).

a) Study area and period

The study was conducted in Debre Markos town from March 1- April 30/ 2013. The town is located 300 kilometers North West of Addis Ababa and 265 kilometers South East of Bahir Dar.

b) population

i. Source population

All reproductive age women using modern contraceptive methods residing in Debre Markos Town

ii. *Study population*

All married women using long acting reversible and short acting contraceptive methods who came for service to health facilities during the data collection period.

c) *Eligibility criteria*

i. *Inclusion criteria*

For cases: Women of reproductive age group who live in Debre Markos and were new users and resupply users of IUCD& Implant in the health institutions during the study were included in the study as cases.

For controls: Women of reproductive age group who live in Debre Markos and used short acting modern contraceptive methods(Oral Contraceptive Pills, condoms and inject-able) who were new and resupply users during the study were included in the study as controls.

ii. *Exclusion criteria*

Women who used emergency contraception & permanent method were excluded from the study. Women who had IUCD& implant inserted prior to the

i. *Assumptions*

Level of significance, $\alpha = 0.05$, Power, $1-\beta = 80\%$, Control to case ratio, $r = 1:2$

Proportion of exposure among non-users (controls), $p_1 = 0.21$

Proportion of exposure among users (cases), $p_2 = 0.33$

Population proportion, $P = p_1 + p_2 / 1 + r = 0.27$.

$$n = \frac{[Z_{\alpha/2} \sqrt{(1+r)p(1-p)} + Z_{\beta} p_1(1-p_1) + p_2(1-p_2)]^2}{(P_1 - P_2)^2}$$

Based on the assumption, that education is the major determinant factor for the utilization of Long term contraception. According to studies conducted in different parts of Ethiopia 15-27% of non-users and 26-39% of users of MC are exposed to formal education. Thus, based on the above findings and taking the averages, it was assumed in this study that, 21% of non-users and 33% of users are exposed to formal education. Hence, the sample size was calculated using EPINFO statistical software. So, the calculated value was 120 for cases and 240 for controls giving a total sample size of 360.

ii. *Sampling procedures and data collection*

Three health facilities were selected from the existing health facilities in the district, using purposive sampling method (by assessing the institutions, whether a range of methods for choice are available or not to the client to be select as a study sites). These were Debre Markos Family Guidance Association of Ethiopia Sexual Reproductive health Clinic / DM FGAE SRHC/, Debre Markos Health Center, Maristotops international Debre Markos SRH clinic. Users and non-users of Long term contraceptives who met the inclusion criteria were consecutively interviewed during study period.

study and came to the health centers for removal or follow up visits were also excluded from the study.

d) *Study Variables*

Dependent variable

Use of long acting reversible contraceptive methods.

Independent variables

i. *Demographic and Socioeconomic Variables*

Age, Marital status, Ethnicity, Educational status, Income, Occupation, Religion, Family size, Discussion with husbands on family planning and contraceptives

ii. *Variables related with reproductive history*

Number of pregnancies, History of births, Number of living children in sex, desired number of children in sex, Plan for future fertility.

e) *Sample size determination*

The sample size was calculated by using the formula for two populations in case-control study design.

Based on the following assumptions

Cases and controls were interviewed by trained clinical Nurses. Semi structured questionnaire was employed to collect data.

Data collectors were trained for three days on questions included in 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 conducted for 20 cases and 20 controls from one health facility

f) *Data entry and analysis procedures*

The collected data were cleaned and fed to Epi Data version 3.1 and analysis was done by using SPSS v 16.

g) *Operational Definitions*

i. *Long-acting reversible contraceptives*

are contraceptive methods in which their lengths of action range from 3-12 years (intrauterine devices and implants).

ii. *Short-acting contraceptives*

are contraceptive methods in which their lengths of action, ranges from 1day to 3 months .

iii. *Knowledge of modern family planning method*
If women recalled at least one modern contraceptive method and one source of contraceptive. (3)

Cases: Those married women who received long term reversible contraceptive methods during study period at three health institutions and who are living in Debre Markos Town.

Controls: Those married women who received short term contraceptive methods during study period at three health institutions and who are living in Debre Markos Town.

h) Ethical Considerations

Ethical clearance was obtained from the ethical committee of Debre Markos University. The study participants were informed about the objective, rationale and expected outcomes of the study and oral consent

was obtained either to participate or refuse for the interview.

III. RESULTS

A total of 120 cases and 240 controls were interviewed with response rate of 100% in both groups. Majority of women 119 (99.2%) of cases and 236(98.3%) of controls were Amhara by ethnicity and 111(95%) of cases and 231(96.2 %) controls were Orthodox Christian religion followers. With regard to age 63(52.4%) of cases and 75(31.2%) of controls were younger than 25 years, where as in occupation of the respondents 39(32.5%) of cases and 95(39.6%) of controls were house wives, 11(9.2%) of cases and 59(24.6%)of controls were merchants, 24(20%) of cases and 36(15%) of control were daily workers, 20(16.7%) of cases and 33(13.7%) of controls were employed and 26(21.7 %) of cases and 17(7.1%) of control were students.(Table 1)

Table 1 : Socio-demographic characteristics of the study participants, April to May, 2013

Variables		Cases 120 (%)	Controls 240 (%)
Age	15-19	14(11.7)	7(2.9)
	20-24	49(40.8%)	68(28.3)
	25-29	32(26.7)	81(33.8)
	30-34	8(6.7)	41(17)
	35-40	14(11.6)	33(13.8)
	>=40	3(2.5)	10(4.2)
Ethnicity	Amhara	119(99.2)	236(98.3)
	oromo	1(0.8)	3(1.2)
	Tigray	0	1(0.4)
Religion	Orthodox	114(95)	231(96.2)
	Protestant	2(1.7)	8(3.3)
	Muslim	4(3.3)	1(0.4)
Occupation	House wife	39(32.5)	95(39.6)
	Merchant	11(9.1)	59(24.6)
	Daily laborer	24(20)	36(15)
	Employed/GO	20(16.7)	33(13.7)
	Student	26(21.7)	17(7.1)
Woman education	illiterate	30(25)	55(22.9)
	Elementary school	32(26.7)	87(36.3)
	Secondary school	27(22.5)	60(25)
	College and above	31(25.8)	38(15.8)
Husband education	illiterate	24(20)	26 (10.8)
	Elementary school	31 (25.1)	77 (32.1)
	Secondary school	31 (25.8)	82 (34.2)
	College and above	34(28.3)	55(22.9)

The mean age was 25.3years (±5.9) and 27.9 years (±5.7 years) for the cases and controls respectively. Nearly forty-eight percent of married women who have no child were using long acting reversible contraceptive, 7(5.8%) of married women who have had 5 and above children were using long acting contraceptive methods, whereas in short acting contraceptive users, 83(34.5%), 104(43.3%), 38(15.8 %) and 15(6.3 %) were women who had no children, have had 1-2 alive children, have had 3-4 children. (Table 2)

Table 2 : Reproductive characteristics of long acting and short acting contraceptive users, in Debre Markos town, March 1- April 30/ 2013

Variables		Cases N 120(%)	Controls N(240%)
Age at 1 st marriage	<18	24(20)	41(17.1)
	≥18	80(66.7)	173(72.1)

Age at 1 st birth	<18	7(5.8)	21(8.8)
	≥18	50(41.7)	124(51.7)
No. of alive children	I didn't give birth	55(45.8)	83(34.6)
	I do not remember	8(6.7)	12(5)
	No birth at all	58(48 %)	83(34.5%)
	1-2 children	40(33%)	104(43.3%)
	3-4 children	15(12.5%)	38(15.8%)
	5 and above children	7(5.8%)	15(6.3%)
No. of children women wish to have in her life time	I don't want for ever	8(6.6)	11(4.5%)
	1-2 children	3 (2.5)	2(0.8%)
	3-4 children	35(29.1)	82(34.1%)
	>=5	39(32.5)	63(26.3%)
	Undecided	35(29.1)	82(34.1)

a) *Determinants of long acting reversible contraceptive method use*

Factors determine for long acting contraceptive method utilization like Age of women , age at first birth, number of alive children, number of children women

wish to have, religion, women education, husband education and husband-wife discussion were tested at p-value <0.2 for their association by using binary logistic regression analysis. (Table 3)

Table 3 : Bivariate and Multivariate analysis of determinants of long acting reversible contraceptive method use among married women in Debre Markos town, March 1- April 30/ 2013

Variables	Cases N=120	Controls N=240	COR (95%)	AOR (95%)
Age of respondent				
15-19	14	7	2.776(1.043,7.386)	2.398(.835,6.881)
20-24	49	68	1.00	1.00
25-29	32	81	0.548(0.316,0.950) **	0.702(0.387,1.275)
30-34	8	41	0.271(0.117,0.628) **	0.345(0.143,0.833)**
35-40	14	33	0.589(0.285,1.216)	0.693(0.319,1.506)
>=40	3	10	0.416(0.109,1.592)	0.532(.133,2.120)
Occupation of respondent				
House wife	39	95	0.262(.128, .536)***	.164 (.077,0.350)**
Merchants	11	59	0.133(.056, .318)***	.123 (.053,0.287)**
Daily workers	24	36	.436(.196, .970)***	.323 (.137, .763)**
employ	20	33	.396(.173, .905)**	.360 (.173, .747)**
Students	26	17	1.00	1.00
women education				
illiterate	30	55	.686 (.359,1.312)	.485 (.157, 1.504)
Primary	32	87	.463(.248, .862) *	.505 (.208,1.227)
Secondary	27	60	.576 (.299, 1.109)	.886 (.385, 2.042)
College and above	31	38	1.00	1.00
Husband-wife discussion				
yes	97	168	1.807 (1.062, 3.076)***	1.876(1.159, 3.036)**
No	23	72	1.00	1.00

p-value<0.05, * p-value <0.001

The results of multivariable logistic regression analysis showed that, Although many variables that were statistically significant at the bivariate Logistic regression were included in the analysis, only age of married women, occupation and discussion with husband were found to have statistically significant association to the long acting contraceptive use.

Women's at age 30 - 34 years were negatively associated with use of long-acting contraceptives methods [AOR (95%CI) (0.345,0.143, 0.833)]. Which

means thus women`s at age 20-24 years were 3.69 times more likely to use long acting reversible contraception than women`s at age 30-34. Regarding to occupation of married women, House wife, Merchant, Daily laborers & employed workers were negatively associated with use of long acting reversible contraceptives methods (LARCM) [AOR (95%CI) = .164 (.077, 0.350), .123 (.053, 0.287), .323 (.137, .763) & .360 (.173, .747) respectively. Which means students were 6.09 time more likely to use LARCM than House wife,

8.13 times more likely to use LARCM than Merchants, 3.09 times more likely to use LARCM than daily workers & 2.77 times more likely to use LARCM than employed workers.

Husband - wife discussion was found to be statistically significant, married women who had experience of discussion with their husbands about contraceptive were 1.8 times more likely to use long acting contraception as compared with those who did not have [AOR (95%CI) = 1.876(1. 159, 3.036)]

IV. DISCUSSION

The result showed that Married women in the study, 356(98.9%), 340(94.4%), 329 (91.4%), 218(60.6%) , 95(26.4%) and 80 (22.2%) of respondents mentioned by name inject-able, pills, implants, IUCD, bilateral tuba ligation(BTL) and condom as modern contraceptive methods respectively. which is higher as compared with finding in Mekele and Butajira(18,19) but this finding is similar with study done in Ethiopia EDHS 2011(3). This might be due to the continuous advertisement of these contraceptives through media increases through time.

Married women in the study were asked why they were using contraceptive ,the most commonly mentioned reason for using contraceptive among long acting contraceptive users was 101(84.2%) for child spacing and 19(15.8 %) for limiting ,while among short acting contraceptive users 202(84.2%) was for child spacing and 38(15.8%) was for limiting. This finding is in line with study done in Mekele and Butajira (18, 19).

The predominant short acting contraceptive method used 222 (92.5%) of married women was inject-able and in long acting contraceptive implants were also used by 100(83.3%) married women. This finding is in line with study done in EDHS 2011 (3). One hundred eighteen (98.3%) of cases and 239 (99.6%) of controls were satisfied by their services. This finding is in line with study done in

Results of regression analysis showed that utilization of long acting reversible contraceptive methods was depending on individual factors. After controlling other confounding factors age of women, husband-wife discussion and occupation of the women about LARCM were appeared to be the most important predictors of the utilization of LARCMs.

The use of a modern method among married women is lowest, among women aged 15–19, gradually increases, and then decreases again toward the end of the reproductive years.

Women's at age 30 - 34 years were less likely to use long acting reversible contraceptive methods as compared to women with age group of 20-24 [AOR (95%CI) = 0.345(0.143, 0.833)]. This result is in line with study conducted in Hohoe district of Ghana (26). Similarly study conducted in east Hararge Oromia zone revealed that age of mothers was found to be associated with the family planning method used. Those

who were in the age group fifteen to twenty four and twenty five to thirty four were more likely to use short term methods compared to mothers who were in the age group thirty five and above (40). Another study in China found prevalence of IUCD use increased with age up to ages 25-29 years, but declined thereafter which may reflect a switch from IUD to other methods such as sterilization (34).

Occupation of women was found to be significantly associated with long acting contraceptive use in this study, House wife, Merchant, Daily workers & employed workers were negatively associated with use of long acting contraceptives methods as compared to students [AOR (95%CI) = .164 (.077, 0.350), .123 (.053, 0.287), .323 (.137, .763) & .360 (.173, .747) respectively. Which means students were 6.09 time more likely to use LARCM than House wife, 8.13 times more likely to use LARCM than Merchants, 3.09 times more likely to use LARCM than daily workers & 2.77 times more likely to use LARCM than employed workers. This finding was not supported by other studies as far the investigator searches.

Another predictor that has also shown as an important influence on LARCMs utilization was husband-wife discussion. Those women having discussion with their husbands on contraceptive were more likely to use LARCMs than women who did not have discussion with their husbands on contraceptive. It is reasonable to expect that if there is no discussion between husband and wife, it has negative influences on using LARCMs.

This result is supported by studies in Butajira district & Nigeria; Discussion about the use of family planning between married women and their partners was significantly associated with the use of LARCM. (19, 25).

In this study, even though it is insignificant as the educational level of women increase their LAFP utilization also increased. This finding is consistent with a study in Butajira district (19), women with no child were more likely to utilize LAFP when compared to their counter parts This result is supported by studies in mekele.(18)

V. CONCLUSION AND RECOMMENDATIONS

In this study, age of women occupation of the respondents and husband-wife discussion were found to be independent determinants for long acting reversible family planning use. Emphasis has to be given to improving the norm of partner communication and women emplacement has to be encouraged.

VI. ACKNOWLEDGEMENT

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