

Original Research Article

Predictors of Long Acting and Permanent Contraceptive Methods Utilization among Married Women of Reproductive Age in Adama Town, Oromia Region, South East Ethiopia, 2014

Ashenafi Habtamu Regesu, Gebi Agero Genemo

Department of Public Health, College of Health Science, Arsi University, Arsi Asella, Ethiopia.

Corresponding Author: Ashenafi Habtamu Regesu

ABSTRACT

Back ground: Unintended pregnancy, resulting from unmet need for contraception, threatens the lives and wellbeing of women and their families globally. Long acting and permanent contraceptive methods are safe and cost-effective for women who desire to delay or limit births that do not require daily user compliance, yet they are largely underutilized.

Objective: The objective of this study was to assess predictors of long acting and permanent contraceptive methods utilization among married women of reproductive age in Adama town, Oromia Region, South East Ethiopia, 2014.

Methods: Community based cross sectional study design was used with qualitative data collection methods of focus group discussion. Quantitative data was entered and cleaned using Epi Info version 3.5 and exported to SPSS version 20 for analysis. Descriptive statistics was done to explore the study variables. To identify the Association between dependent and independent variables logistic regression was done with 95% confidence interval at p- value of 0.05.

Result: Overall proportion of long acting and permanent contraceptives methods utilization among married women of reproductive age was 33.8 % and the mean age of the respondents was 28.37 (SD±7.94) years. Of those who had interviewed, 160 (67.7%) reported their all children were planned and when asked if they would like to have more children 144 (61.0%) clients responded in the positive ways, of those who wanted more children 119 (82.6%) wanted their next birth after four to five years. Out of clients interviewed, 178 (75.4%) made joint decision with their partner. Finally, age 40-44 years were almost four times more likely to utilize LAPMs than women whose age were between 15-19 years [AOR = 4.27, CI:2.78-5.78].

Conclusion: This study identified 33.8 % of overall prevalence of long acting and permanent contraceptive methods utilization in the study area. Women age, desire to have additional children and contraceptive decision making were identified as predictor factors associated with long acting and permanent contraceptive methods utilization. In the mean time we recommend, Adama town Health office should work hard in order to improve the overall level of long acting and permanent contraceptive methods utilization.

Key words: contraceptives, unintended pregnancy, long acting, permanent, married, women.

INTRODUCTION

All individuals and couples have a basic human right to decide freely and responsibly the number, spacing, and timing of their children. ^(1,2) To ensure this,

extraordinary gains have been made over the past 50 years in meeting the family planning needs of millions of people throughout the world. ⁽³⁾

But, unintended pregnancy, resulting from unmet need for contraception, threatens the lives and wellbeing of women and their families globally. ⁽⁴⁾ The latest estimates are that 222 million women have an unmet need for modern contraception and the need is greatest where the risks of maternal mortality are highest which showed increment from 2007 that was reported as 137 million. ⁽⁴⁻⁹⁾ If women had only the number of pregnancies they wanted, at the intervals they wanted, maternal mortality would drop by about one-third. Countries that invest in family planning can reap immediate health benefits, investment savings in the health and education sectors, and social and environmental benefits that extend well beyond a single generation. ⁽⁸⁾

Long-acting and permanent methods of contraception (LAPMs) are safe and cost-effective for women who desire to delay or limit births that do not require daily user compliance, yet they are largely underutilized. These methods are the intrauterine device (IUD) and the hormonal implant (the long-acting methods) and female sterilization and vasectomy (the permanent methods). ^(10,11) In the least developed countries, 6 out of 10 women who do not want to get pregnant, or who want to delay the next pregnancy, are not using any method of contraception. ⁽⁴⁾ In addition, only a small proportion of women in Africa who want to space or limit their pregnancies are using any form of family planning. Among those who are using contraception, most are using short-acting methods, such as oral contraceptives and injectables. ⁽¹⁾

Long acting and permanent methods (LAPMs) are convenient for users and effectively prevent pregnancy. They are also cost effective for programs over time, can result in substantial cost savings for governments, and contribute directly to reaching national and international health goals. Despite these advantages, LAPMs remain a relatively small, and sometimes missing, component of many national

reproductive health and family planning programs. ^(1,12,13)

Long acting and permanent methods (such as implants, intrauterine devices and voluntary sterilization) are the most effective contraceptives, (between 3 and 60 times more effective than short acting methods during a year of typical use) and they require little action by the client. Yet, despite these advantages, they are often difficult for clients to access and are not used as widely as other methods, particularly in Africa. ⁽¹⁴⁾

Ethiopia is the second most populous country in Africa, with a population currently estimated at over 80 million people and an annual population growth rate of 2.6 percent. ^(15,16) The total fertility rate is 5.4 children per woman, and the current contraceptive prevalence rate of 15 % is far below the performance of other sub-Saharan African countries. ⁽¹⁵⁾

However, Ethiopia made commendable efforts toward fulfilling its national socio-economic development goals and is one of the few countries that has made significant progress toward achieving the MDGs, particularly those related to health. ⁽¹⁷⁾

According to the Ethiopian Demographic and Health Survey (EDHS) (2005), 32 percent of married women have an unmet need for FP, and only 15 percent of eligible women and girls use modern and traditional family planning methods. ⁽¹⁵⁾ Studies conducted in sub-Saharan African countries strongly suggest that a country has to invest in long-acting (LA) and permanent methods (PM) of contraception to cost effectively meet fertility, health and development goals. ^(18,19)

Over the last 15 years, the FMOH has made unreserved efforts to expand access to family method options. In addition to the usual static facility based services, the ministry has substantially increased access to family planning services through its Innovative Health Extension Program, and Rural Health Extension Workers (HEWs) capable of providing family planning information and short-term family planning

methods (e.g., condoms, oral pills and injectables). Over the last five years, the FMOH has been giving increased attention to expanding the family planning method mix, especially the expansion of services of long acting methods (non permanent and permanent methods).⁽¹⁷⁾

During the past few years, HEWs have been very successful in including implants into their package of modern contraception and their removal is adequately managed by the PHCUs. The launching of revitalization program for another long acting FP method called Intra-Uterine Device (IUD) has also been welcomed by potential users and will complement the method mix available in PHCUs.^(16,17)

This research project therefore sought to identify factors associated with the utilization of long acting and permanent contraception methods among married women of reproductive age in Adama to

MATERIALS AND METHODS

Study area

The study was conducted in Adama town. Adama is a busy commercial and transportation center. Adama town has an estimated total population of 222,035 (109,659 male and 112,376 female in 2007 census and it is estimated to be 295,512 in 2014 with total HHs of 61565 reside in 18 Kebeles.

Study design and period

Community based cross sectional study design was used from August, 2014 to May, 2015.

Source population and study population

Source population

All married women of reproductive age group in Adama town.

Study population

Married women who were randomly selected by systematic random sampling technique from the selected Kebeles.

Sample size determination and sampling procedures

Sample size determination

Sample size was computed based on single population proportion formula with assumption of 95 % Confidence interval (C.I), 5 % margin of error and 19.3 % current proportion of LAPMs utilization taken from study conducted in Debra Markos town (13). A Z value of 1.96 was used at 95% C.I and assuming 10% non response rate. The finally sample size was 240. Four FGDs (Each one for female and male (those who are married), one FGD from selected health center and one from Adama general Hospital. Each of the groups had 6 to 8 members (discussants).

Sampling procedures

Ten administrative Kebeles were selected by simple randomly sampling (SRS) from 18 Kebeles in Adama town. The total sample size was allocated by using proportional allocation to size (PAS) to the total number of HHs in the selected Kebeles. The study participants were selected by systematic random sampling method. The sampling interval was calculated which was obtained by dividing the total HH in each of the Kebele to the allocated sample to each of selected Kebeles. Every “26th” HH with currently married women aged 18-49 years were included. The first HH was chosen at the center of each Kebele by simple random sampling with lottery method as a starting point, and then the data collectors were gone in the right direction from first chosen HH until the required sample size for the Kebele were achieved.

Data collection tools and procedure

Questionnaire that was prepared in English language was translated to Afan Oromo language for data collection. Married women of reproductive age group were interviewed by data collectors who were 10 diploma clinical nurses by profession and have an experience in data collection. The principal and Co-investigators were moderated all FGDs, while female nurse was assigned as note

taker and was handled the tape recording during FGDs.

Statistical analysis

Quantitative data was entered and cleaned using Epi Info version 3.5 and exported to SPSS version 20.0 for analysis. Bivariate and multivariate logistic regression was performed and $p \leq 0.05$ has taken as statistically significant. All FGDs were transcribed word by word.

Data quality management

Two days training were given for data collectors and pre test was done to check the questionnaires and strict supervision of data collectors and commenting the problems at spot were made. Field manuals was prepared for the supervisor and data collectors and used during data collection. FGD guideline and tape recording were used for qualitative data.

RESULT

Socio-demographic characteristics of the respondents

A total of 236 reproductive aged married women were participated in this study and the response rate was 98.33%. The mean age of the married women was 28.37 (SD \pm 7.94) years. The majorities were Orthodox Christians 158 (66.9 %), had attended primary education 109 (46.2%) and their husband secondary education accounted for 81 (34.3%), while most 147 (62.3%) were house wives by professions.

The mean monthly income of respondents was 1195.5 (SD \pm 822.1) ETB. Ethnically, 108 (45.7%) and 69 (29.2%) of the respondents were Oromo and Amhara respectively. Finally, more than half 218 (92.4%) of the respondents were married, while their husband merchant accounted for 95 (40.3%). Table 1 below summarizes the socio-demographic characteristics of respondents.

Table 1: Socio-demographic characteristics of Long Acting and Permanent Methods clients interviewed in ten Kebeles, Adama town, May 2015 (n=236)

Characteristics	Frequency	Percent
Age in years		
15-19	10	4.2
20-24	56	23.7
25-29	79	33.5
30-34	44	18.6
35-39	24	10.2
40-44	16	6.8
45-49	7	3.0
Religion		
Orthodox	158	66.9
Muslim	54	22.9
Protestant	20	8.5
Catholic	4	1.7
Marital status		
Married	218	92.4
Divorced	15	6.4
Widowed	2	.8
Others	1	.4
Level of Education		
Illiterate	16	6.8
Read & Write	16	6.8
Primary	109	46.2
Secondary	73	30.9
College & Above	22	9.3
Husband level of education		
Illiterate	9	3.8
Read & Write	8	3.4
Primary	70	29.7
Secondary	81	34.3
College & Above	68	28.8
Occupation		
House Wife	147	62.3
Government Employee	6	2.5
Daily Laborer	52	22.0
Merchant	16	6.8
Student	1	.4
Others	14	5.9
Husband Occupation		
Government Employee	9	3.8
Daily Laborer	32	13.6
Merchant	95	40.3
Student	57	24.2
Others Specify	43	18.2
Average Monthly Income (ETB)		
<500	43	18.2
500-1000	57	24.2
1001-1500	45	19.1
1501-2000	55	23.3
>2000	36	15.3

Reproductive characteristics

More than half 169 (71.6%) of the respondents reported that they got marriage after 18 years and 175 (74.1%) of them experienced their first pregnancy during the same period. Over half; 155 (65.7%) of the interviewed clients responded that they had ever gave birth and over three fourth; 198 (83.9%) were not pregnant during the study period. Of those who had interviewed, 160 (67.7%) reported their all children were planned and when asked if they would like

to have more children 144 (61.0%) clients responded in the positive, of those who wanted more children 119 (82.6%) wanted their next birth after four to five years. Table 2

Table 2: Reproductive characteristics of Long Acting and Permanent Methods clients interviewed in ten Kebeles, Adama town, May 2015 (n=236).

Characteristics	Frequency	Percentage (%)
Ever give birth		
Yes	155	65.7
No	81	34.3
Current Pregnancy Status		
Pregnant	34	14.4
Not Pregnant	198	83.9
Don't Know	4	1.7
Were all your children planned		
Yes	160	67.7
No	76	32.2
Want to Have Children/Any more		
Yes	144	61.0
No	81	34.3
Undecided	11	4.7
History of abortion		
Yes	67	28.4
No	169	71.6

All interviewed Clients were also asked about their history of abortion during different pregnancy. The majority, 169 (71.6%) of the clients did not experienced abortion. (Figure 1)

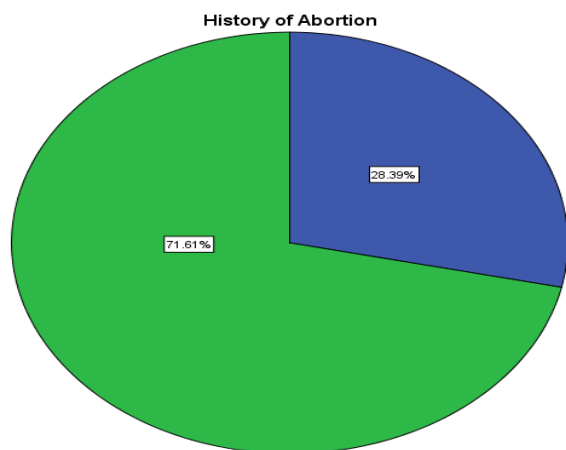


Figure 1: History of abortion among Long Acting and Permanent Methods clients interviewed in ten kebeles, Adama town, May 2015.

Knowledge/Attitude and Sources of information

Out of the 236 clients 227 (96.2%) reported having heard about modern contraceptive methods. Among those, major of sources of information was television 57(24.2%) followed by health professionals

47 (19.9%). Furthermore, among those who heard, 180 (79.3%) also received information about long acting and permanent methods. Table 3 below summarizes Knowledge/Attitude and Sources of information of respondents.

Table 3: Contraceptive use and their reasons of Long Acting and Permanent Methods clients interviewed in ten Kebeles, Adama town, May 2015 (n=236).

Characteristics	Frequency	Percentage (%)
Ever used modern Contraceptive (236)		
Yes	204	86.4
No	29	12.2
Don't Know	3	1.3
Methods used (n=204)		
Pill	19	9.3
Injectables	74	36.2
IUD	11	5.3
Condom	6	2.9
Implant	86	42.1
Female Sterilization	3	1.4
Vasectomy	2	0.9
Others	3	1.4
Methods currently used (n=236)		
Pill	51	21.6
Injectables	90	38.1
IUD	2	0.8
Condom	12	5.0
Implant	37	15.6
Female Sterilization	39	16.5
Others	3	1.2
Reason for current use of LAMP (n=80)		
Side effects of previous	5	6.2
Limiting	53	66.2
Spacing	14	17.5
Better methods used	6	7.5
Others	2	2.5
Current methods is of their choice (n=236)		
Yes	219	92.8
No	17	7.2
LAMP in the future		
Yes	110	46.7
No	126	53.3

Availability and Access to Contraceptive methods

Out of the 80 LAMPs clients 47 (58.7%), 18 (22.5%) reported Health centers and Hospital were the nearest health facilities to their vicinity respectively. Consequently, more than half 46 (57.5 %) of the interviewed clients preferred health centers for their LAPMs utilization.

Clients were also asked about the problem encountered during their visits. Accordingly, more than two third 58 (72.5%) were not ever encountered any problem and of who encountered 56 (70 %) and 23 (28.7) had experienced lack of one type of contraceptive at health centers and

hospital respectively. Sixty four (80%) the respondents reported their privacy positively and also 51 (63.7%) of interviewed clients experienced the freedom of asking questions during their visits. Finally, clients were also asked about the cost of contraceptive methods. Consequently, 53 (66.3%) got the services on freely basis while 23 (28.7%) of them were satisfied with the cost of contraceptive methods.

Table 3: Contraceptive use and their reasons of Long Acting and Permanent Methods clients interviewed in ten Kebeles, Adama town, May 2015 (n=80).

Variables	Frequency	Percentage (%)
Which facilities is more near to use LAMPs		
Health Center	47	58.8
Hospital	20	25.0
Private clinic	13	16.2
Prefer LAMPs service site		
Health Center	46	57.5
Hospital	28	35.0
Private clinic	6	7.5
Ever encountered lack of methods		
Yes	20	25.0
No	58	72.5
Don't remember	2	2.5
Total		100.0
Where did problems encountered?		
Health Center	56	70.0
Hospital	23	28.7
Private clinic	1	1.3
Enough privacy		
Yes	64	80
No	16	20
Comfortable to ask question during visit		
Yes	51	63.7
No	29	36.3
Satisfied with cost of methods		
Yes	23	28.7
No	4	5.0
Not paid	53	66.3

Contraceptive Decision Making

Among total respondents, 184 (77.9%) of their partner know their utilization of family planning. Out of clients interviewed, 178 (75.4%) made joint decision with their partner about having children, but 14 (5.9%) of husbands refused their couples contraceptive choice. The results of FGD also verified this. A focus group participant said "I know my neighbor who was using IUCD and probably upon removal she could not give and finally become infertile which is one main source of divorce. In addition, Vasectomy can be a main source of reduced sexual desire which

leads to family instability including risk of HIV/AIDS ..."

(Male 33 years old, had two living children Orthodox and Kebele 3)

Table 4: Decision making and the role of men among Long Acting and Permanent Methods clients interviewed in ten Kebeles, Adama town, May 2015 (n=236).

Variables	Frequency	Percentage (%)
Husband know use or not use contraceptive		
Yes	184	77.9
No	40	16.9
I don't know	12	5.1
Total	236	100.0
Who is the decision makers having children		
Wife	32	15.6
Husband	26	11.0
Joint decision making	178	75.4
Total		100.0
Decision makers of contraceptive method choice		
Wife	61	25.9
Husband	14	5.9
Joint decision making	161	68.2
Total	236	100.0

Predictors of utilization long acting and permanent contraceptive methods

In the bivariate logistic regression analysis, utilization for LAMPs was significantly associated with age, respondents' education, respondents' occupational status, need for pregnancy, current pregnancy status, number of children desired, number of children ever born, number of children alive, hearing about LAMPs from Television and health professionals, contraceptive decision making and decision about having children.

However, in the multivariate logistic regression analysis, utilization of LAMPs was significantly associated with respondents' age, desire to have additional children and contraceptive decision making. Accordingly, married women whose age are between 40-44 years were almost four times more likely to utilize LAMPs than women whose aged were between 15-19 years (AOR = 4.27, CI:2.78-5.78). Furthermore, women who have no desire to have additional children in future were 18.21 times more likely to utilize LAMPs than women who have a desire in the future (AOR= 18.21, CI: 9.171-24.43) (Table 6)

Table 6: Predictors of LAPMs utilization among married women of reproductive age in Adama town, May 2015 (236).

Variables	Category	Utilization of LAPMs		COR 95% CI	AOR 95% CI	P-Value
		Yes	No			
Age	15-19	6	4	1	1	
	20-24	36	20	0.621(0.292-2.485)	0.521(0.292-2.485)	0.678
	25-29	52	27	0.992(0.435-1.675)	0.954(0.435-1.675)	0.976
	30-34	32	12	0.846(0.531-1.672)	0.276(0.531-1.672)	0.421
	35-39	18	6	0.497(0.441- 2.34)	0.153(0.129- 2.234)	0.049
	40-44	12	4	3.66(1.254-5.369)	4.267 (2.784-5.786)*	0.002
	45-49	2	5	1.225(0.876-3.271)	2.452(1.927-2.987)	0.856
Desire of more children	Yes	126	34	1	1	
	No	56	25	12.61(6.625-14.21)	18.214(9.171-24.43*)	0.000
	Un decided	7	4	0.426(0.116-1.234)	0.672(0.4261.234)	0.667
Decision making	Wife	43	18	1	1	
	Husband	5	9	1.667(0.926-2.456)	2.431(0.678-4.261)*	0.002
	Joint	98	63	2.154(1.246-2.679)	4.441(2.432-5.244)	0.592

DISCUSSION

This study identified 33.8 % of overall prevalence of long acting and permanent contraceptive methods, sources of information, affordability and contraceptive decision making.

The overall level of contraceptive utilization rate may indicate how health care systems are performing and how likely they are responding to the unmet need of reproductive aged married women and their respective contraceptive choice. (1-3,9,10) Accordingly, the present study found that the overall level of long acting and permanent contraceptive method utilization was 33.8 %. This finding is higher than the studies conducted in Ethiopia, Mekelle and Debra Markos towns which were documented as 12.3 % and 19.5 % respectively. (13,14) The potential reasons for this discrepancy may result from the fact that attention given from different actors with different study period and difference the study areas. Overall level of contraceptive methods utilization implies that the services rendered by the health care system is met need of clients and shows overall population dynamics. Furthermore, contraceptive utilization measurement is a relevant instrument for planning and administration of reproductive health which is a major part of overall socio-economic development.

Information about contraceptive method is an important component that influences client decision making for contraceptive choice and utilization. (3-8) Findings from this utilization survey

indicated that 79.3% had heard about LAPMs in general; out of this, 87.2%, 62.9% and 43.7% had heard about implants, IUCD and female sterilization, respectively. This result is a bit higher than the study conducted in Mekelle town in 2011 which was 63.9% of which, 80.7%, 55.3 and 39.8 % accounted for implants, IUCD and female sterilization, respectively. (13) The possible reasons for this difference may include Information, Education and Communication (IEC), propagated by different stake holders and commitment from ministry of health to achieve MDGs. Information, Education for Behavioural Communication Change (IEC/BCC) is one the priorities areas of national health policy with the premise of delivering the appropriate health message to eligible part of community will realize the production of individual health and maintain at every stage of their development in the spirit of self-reliance and self-determination which is core philosophy of Primary Health Care (PHC).

The availability and cost of contraceptives methods are very important in order to win the competing interest of married reproductive aged women. (1-7,12-15) The present study found that 66.3 % of the married women got the contraceptive for free, while 28.7 % paid to get it and they were satisfied with cost of contraceptive methods. This finding is lower than the study conducted in Mekelle town which was reported as 83.3%. (13) The probably reason behind this discrepancy might be availability of Private/NGO located in Adama town providing the contraceptive

services with varieties payment schemes as compared to Mekelle town as a result of geographical proximity to Addis Ababa, the capital city of Ethiopia. Implementing innovative strategies to shape the market in order to ensure affordability of essential drugs including contraceptive methods is remarked as national strategic initiatives for the realization Health Sector Transformation Plan (HSTP) launched by FMOH.

Finally, utilization of LAPMs was associated significantly with age, respondents' education, respondents' occupational status, need for pregnancy, number of children ever born, number of children alive, hearing about LAPMs from Television and health professionals, contraceptive decision making. This finding is more or less in agreement with the studies conducted in different parts of the world including Ethiopia. (3,10,12-14)

CONCLUSION

This study showed lower level of LAPMs contraceptive methods utilization in the Adama town. Utilization level of the clients differed between long acting and permanent methods of contraceptives. Age of respondents, respondents' education, respondents' occupational status, need for pregnancy, number of children ever born, number of children alive, information about LAPMs from Television and health professionals, contraceptive decision making were identified as predictor factors for long acting and permanent contraceptive utilization among married reproductive aged women in Adama town. In the mean time we recommend, Adama town Health office should work hard in order to improve the overall level of long acting and permanent contraceptive methods. In additions, health care providers and media should strengthen awareness creation toward long acting and permanent contraceptive methods via Information Education Communication (IEC). Furthermore, interested scholars should investigate the predictors towards long acting and permanent contraceptive

methods including private and non governmental institutions.

Limitation of the Study

The finding of this study might be subjected to recall bias because the respondents were interviewed about their experiences in their home/resident and private and Non Governmental Organizations (NGOs) institutions providing LAPMs were also excluded. Therefore, interpretation of this finding requires consideration of these limitations.

ACKNOWLEDGEMENTS

We acknowledge Arsi University (the former Adama Sciences and Technology University) for funding this research project. Our gratitude extends also to Adama town health office for their cooperation and support. Finally, we are also grateful to the study participants for their voluntary participation.

REFERENCES

1. USAID. Addressing Unmet Need for Family Planning in Africa; the Case for Long-Acting and Permanent Methods, 2007.
2. WHO. From Evidence to Policy: Expanding Access to Family Planning; Strategies to increase use of long-acting and permanent contraception. Geneva: Switzerland; 2012.
3. WHO. Ensuring human rights in the provision of contraceptive information and services: Guidance and recommendations, Geneva: Switzerland; 2014
4. Sam W., Francis O., Ben B. Evaluating the Impact of Promoting Long Acting and Permanent methods of contraceptives on utilization: Result from Quasi experimental study in Kenya, 2012.
5. MIA Foreman and Jeff Spieler. Contraceptive Evidence. Population Reference Bureau, 2013.
6. WHO. Facts for Family Planning. Geneva: Switzerland; 2012.
7. Rhonda S., Lori A., Jay G. Donna C. Family Planning Saves Life. Population reference Bureau; Washington: DC; 20009.
8. International Planned Parenthood Federation European Network. Family planning, poverty& economic development: Fact sheet 2012.
9. Stella B., Neetu J. Factors Underlying the Use of Long-Acting and Permanent Family

- Planning Methods in Nigeria. A Qualitative Study: The RESPOND Project (Engender Health); New York, NY 10001 U.S.A.; 2012.
10. Lesley H., Victoria N., Jane D. Understanding Long-Acting Reversible Contraception: An In-Depth Investigation into Sub-Dermal Contraceptive Implant Removal amongst Young Women in London. University of Greenwich: United Kingdom; April, 2013.
 11. Ethiopia Central Statistical Agency and ICF International. Ethiopia Demographic and Health Survey 2011. Addis Ababa, Ethiopia and Calverton, Maryland, USA; 2012.
 12. May K, Ngo, T.D. and Hovig, D. Expanding contraceptive choices for women: Promising result For the IUD in Sub- Saharan Africa. London: Marie Stopes International, 2011.
 13. Mussie A., Tefera B., Tizita T. Factors associated with utilization of long acting and permanent contraceptive methods among married women of reproductive age in Mekelle town, Tigray region, north Ethiopia. BMC Pregnancy and Childbirth 2012; 12:6.
 14. Gizachew A., Tatek A. and Teresa K. Demand for long acting and permanent methods of contraceptives methods and associated factors among married women reproductive age group in Debra Markos Town, North West Ethiopia; BMC women's Health 2014, 14(46).
 15. Alem G. and Adamu A. Knowledge and Perception on Long Acting and Permanent Contraceptive Methods in Adigrat Town, Tigray, Northern Ethiopia: A Qualitative Study. International Journal of Family Medicine Vol. 2014
 16. Abulie T., Getu D. and Mezgebu Y. Demand for long acting and permanent methods of contraceptives and factors for non-use among married women of Goba Town, Bale Zone, South East Ethiopia; Reproductive Health 2012, 9(26).
 17. Marie Stopes International. Providing long-acting and permanent contraceptives through outreach in rural Uganda: London; Marie Stopes International, 2012.
 18. Sara E. C., Shanon E. M., Clare T., Jimmy O., Adrienne C. T. et al. Availability of long-acting and permanent family-planning methods leads to increase in use in conflict-affected northern Uganda: Evidence from cross-sectional baseline and end line cluster surveys; Global Public Health 2013, 8 (3) : 284_297.
 19. Dr. Merce Gasco. Integrating Family Planning Services; Integrated Family Health Program (IFHP). January - June 2012, 81 (1& 2)

How to cite this article: Regesu AH, Genemo GA. Predictors of long acting and permanent contraceptive methods utilization among married women of reproductive age in Adama town, Oromia region, south east Ethiopia, 2014. Int J Health Sci Res. 2019; 9(2):164-172.
