Assessment of Long Acting Contraceptive Methods Utilization and Associated Factors Among Reproductive Age Group Women Attending Maternal and Child Health Clinic of Ambo Town Health Facilities, Oromia Region, Central Ethiopia

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Abstract

Introduction: Current evidences suggest that substantial numbers of clients are unsatisfied demand for long acting contraceptive methods in sub-Saharan Africa. There is also limited evidence that show demand for long acting contraceptive methods and its associated factors in the region specifically in the study area.

Objective: To assess long acting contraceptive method utilization and associated factors among reproductive age group women who are attending maternal and child health clinic of Ambo town health institutions, west shoa zone, Oromia region, Ethiopia.

Methodology: Facility based cross sectional study design was conducted from November 1 to December 30 of 2013 among 178 sampled women who were attending maternal and child health clinic of Ambo town health institutions. Systematic sampling was used with semi-structured questionnaires for data collection process at exit interview of the family planning clients.

Results: Out of 178 study participants, only 32 (16.3%) of the respondents were using long acting family planning methods. Among these about 24 (12.2%) and 8 (4.1%) of the respondents were using implants and IUCD methods respectively. Mothers who had primary education were 8 times more likely to use LACMs as compared with those who had no education (AOR=8.1, 95% CI: 1.07, 37.58). Women who had Awareness on LACM were 3 times more likely to use LACM than those who had no awareness on LACM (AOR=2.984, 95% CI: 0.88, 10.117). Women who discussed with their partners were 5 times more likely to use LACMs than those who never discussed with partners (AOR=5.32, 95% CI: 1.488, 19.028).

Conclusion and recommendation: The long term family planning utilization among the respondents were low (16.3%). Therefore, information education communication should focus on all eviating factors hinder from practicing of LAPMs.

Keywords: Long acting contraceptives; Reproductive age group; Health facilities

Introduction

Population growth is a major concern in developing countries in view of its impact on broader socio-economic development. In Sub-Saharan Africa, including Ethiopia continued high fertility levels along with declining mortality rates have resulted in a wide gap between birth and death rates and subsequently in high annual population growth rate. Factors contributing to high fertility include low socio-economic development, deeply ingrained cultural values for large family size and low levels of contraception [1].

Currently, 500 million women in the developing world are using some form of family planning, thereby preventing 187 million unintended pregnancies, 60 million unplanned births, 105 million induced abortions, 2.7 million infant deaths, 215000 maternal deaths and 685000 children from losing their mothers due to pregnancy related deaths each year. However, another 200 million women throughout the developing world who would like to delay or limit their births but lack access to contraceptive methods. Providing these women with the services they need would prevent an additional 52 million unintended pregnancies and 23 million unplanned births each year [2].

In the past 40 years, family-planning programmes played a major part in raising the prevalence of contraceptive practice from less than 10% to 60% and reducing fertility in developing countries from six to about three births per woman. However, in half of the larger low-income and lower-middle income countries (mainly in Africa), contraceptive practice remains low whereas fertility, population growth and unmet needs for family planning are high [3].

The contraceptive prevalence rate for married Ethiopian women is only 15% and almost all of these users are using short acting modern contraceptive methods. The most widely used contraceptive methods are injectable (10%) followed by Oral contraceptive pills (3%), but the prevalence of using long acting and permanent methods are very low
and it accounts intrauterine devices (0.4%), implants (2.0%) and female sterilization (0.2%) [4].

Long-acting contraception is the most effective contraceptive methods that can be used for an extended period of time without requiring user actions [5]. Despite these advantages, LACMs remain a relatively small [6]. Therefore the objective of this study is to assess the level of long acting Contraceptive methods utilization and factors associated among reproductive age women attending maternal and child health clinic of ambo town health facilities.

Materials and Methods

Study area and period

The Study was conducted from November 1 to Dec 30, of 2013 in Ambo town. Ambo town is found in West Showa Zone, Oromia regional States and central Ethiopia. Ambo town is one of the town in the Zone which is located 115 KM from the capital city of Ethiopia to the western part of the country. In the town, there are 1 Government Hospital, 2 health center, 1 MCH Clinic, 20 private clinics, 12 private drug venders, ten kindergartens, eight elementary school, two secondary and one preparatory and one technical school. Based on the population censes conducted in 2007, the town has an estimated total population of 61835, of whom 30733 are males and 31499 females.

Study design

Institutional based quantitative cross sectional study was carried out for data collection process.

Study source

The source populations were all reproductive age women, who were attending maternal and child health clinics of governmental health institution in ambo town.

Study population

The study populations were all randomly selected women from 15–49 years and using family planning services in maternal and child health clinics of governmental health institution in Ambo town.

Inclusion criteria

- All family planning clients who were attending the family planning services during data collection and those who had willing to be included.

Exclusion criteria

- Refusal to participate
- Non family planning clients

Sample size determination

For Cross sectional Quantitative study a single population proportion formula was used to estimate the sample size: \( n = \frac{(Z\alpha/2)^2 p(1-p)}{d^2} \) expected prevalence (p) demand for long acting contraceptive methods was 12.3% from other study.

Where:
- \( N \) = Estimated sample size
- \( \alpha \) = The risk of rejection, the null hypothesis (0.05)
- \( d \) = Degree of precision or margin of error

\[ p=\text{Proportion currently using long acting contraceptive method (12.3\%)} \]
\[ n=(1.96)^2 \times 0.123 \times (1-0.123)/(0.05)^2 \]
\[ n=189, \text{since our total population is less than 10,000 a single population proportion formula was used and } n=\left[ \frac{(Z\alpha/2)^2 \times p(1-p)}{d^2} \right] \frac{1}{N} + \frac{n}{N} \]
\[ n=\left[ (1.96)^2 \times 0.123(1-0.123)/(0.05)^2 \right] \frac{1}{189} + \frac{189}{2983} \]
\[ n=178 \]

Hence, the calculated sample size was 178 and 10% non-response rate, then the total Sample size was 197.

Sampling Methods and Procedures

First all health facilities providing FP services were included [Awaro HC, Ambo HC, MCH Clinic, Ambo hospital]. Then proportional allocation of sample size was done for each facility and then the data was collected until the required sample size was obtained using Systemic Sampling Method in each facility. The Sample size allocation for each health facility was based on their pervious client flow.

Data collection procedure

Structured questionnaire administered by the Interviewer was used to collect data from interviewees. The questionnaire was first prepared in English and then translated into to a fan Oromo. The questionnaire was translated back to English to observe consistency of the variables under question. The data was collected by all group Members after discussion on how to control the quality of data and efficiency of data to be collected. Before conducting the main study, pre-test was done on 5% of respondents selected from outside of the selected facility were interviewed both the interviewers and supervisors assessed clarity, understand ability and completeness of the questions. The findings were discussed among data collectors so that, the tool was modified before the actual data collection. The final interview was conducted using the modified Questionnaire.

Variables of the study

Dependent variable: Utilization of long acting contraceptive methods.

Independent variable

Socio-demographic characteristics: Maternal Age, occupation, marital status, religious, educational level, monthly family income etc.
Maternal factors: Parity, reason for visit, knowledge about LAPMs, myths and misconceptions, partner influences, choice of method, desire for another child, desire for spacing, satisfaction with information given, waiting time, clinical procedure, method accepted and information on the methods.

Operational definitions
- **Long acting contraceptive methods**: Long acting contraceptive methods include IUDs and implants contraceptives.
- **Information given to clients**: The information imparted on the different types of contraceptive methods by a provider during service contact to enable a client to choose contraceptive methods effectively (Especially about LAPMs).
- **Family planning providers**: A health professionals who are assigned in family planning service area and responsible to provide family planning methods and counseling service on family planning methods and related conditions.
- **LACM utilized**: A mother who used at list one of the long acting contraceptive methods such as IUCD and Implants.

Data quality control
From the very beginning, a training of data collectors and Supervisors was undertaken. The principal investigators and supervisors were making day to day on site supervision during the whole period of data collection. At the end of each day, the questionnaire was reviewed and checked for completeness, accuracy and consistency by supervisors and investigators and corrective discussion were held with all the research team members.

Data processing and analysis
After the data was collected it was checked and cleaned for completeness then analyzed using logistic regression to determine association between women's long acting contraceptive method utilization and different socio-demographic variables by declaring statistical significance at p-value of <0.05 using SPSS window version 16.

Ethical considerations
Ethical clearance was obtained from Ambo University, college of medicine and health sciences. Permission for conducting the study was secured from each health facility managements. Informed consent was also obtained from each study participants.

Results

**Socio-demographic characteristics of the respondents**

| Age Group (n=196) | Frequency | Percent |
|------------------|-----------|---------|
| 15-24            | 86        | 44%     |
| 25-34            | 95        | 49%     |
| >=35             | 15        | 8%      |

| Religion (n=196) |          |
|------------------|----------|
| Muslim           | 6        | 3%      |
| Orthodox         | 86       | 44%     |
| Protestant       | 102      | 52%     |
| Others           | 2        | 1%      |

| Ethnicity (n=196) |          |
|------------------|----------|
| Oromo            | 170      | 87%     |
| Amhara           | 25       | 12.9%   |
| Guraghe          | 1        | 0.1%    |

| Marital Status (n=196) |          |
|------------------------|----------|
| Single                 | 11       | 6%      |
| Married                | 174      | 89%     |
| Divorce                | 6        | 3%      |
| Widowed                | 5        | 3%      |

| Educational Status (n=196) |          |
|---------------------------|----------|
| No education              | 34       | 17%     |
| Primary school            | 59       | 30%     |
| Secondary school          | 61       | 31%     |
| College/University        | 42       | 21%     |

| Occupational Status (n=196) |          |
|----------------------------|----------|
| house wife                 | 103      | 53%     |
| Gov. Employer              | 37       | 19%     |
| Daily labourer             | 17       | 9%      |
| Merchant                   | 25       | 13%     |
| Students                   | 14       | 7%      |

| Monthly income (n=196) |          |
|-----------------------|----------|
| <1000                 | 88       | 45%     |
| >=1000                | 108      | 55%     |

Table 1: Socio-demographic characteristics of family planning attendant women in Ambo town, West Shoa zone, Oromia region, central Ethiopia, 2013.

respectively. Again from the total respondents only 3.1% had history of abortion and only 5.6% were history of still birth. As to their perception about expected gap for the next pregnancy, the majority 40.8% and 37.8% were want to get the next child after five year and after three to four respectively. For the responsibility for deciding to have a child, the majority 75.5% of the respondents were determining to have child jointly with their partners but about 32 (16.3%) and 16 (8.2%) were determining to have child by the wife and the husband respectively (Table 2).

**Study respondent's awareness and utilization of long acting contraceptive methods**

Of the total 196 study participants, about 170 (86.7%) respondents had awareness about LACMs and about 100 (51%), 43 (21.9%) and 27 (13.8%) of the respondents were got awareness about Implants, IUCD and both Implants and IUCD respectively. From the total of 196 study Participants, about 136 (69.4%), 28 (14.3%), 24 (12.2%) and 8 (4.1%) of respondents were using injectable, OCP, Implants and IUCD respectively as Family planning methods and the overall prevalence of long acting contraceptive method utilization among the study respondents were 32 (16.3%) (Figure 1).

**Association of long-acting contraceptive method utilization and the selected variables**

The results of multivariable logistic regression analysis at p-value
less than 0.05 showed that Mothers who had primary education were 8 times more likely to use LACM as compared with those who had no education (AOR=8.1, 95% CI: 1.07, 37.58). Women who had awareness on LACM were 3 times more likely to use LACM than those who had no awareness on LACM (AOR=2.984, 95% CI: 0.88, 10.117). Family planning women who discussed with partners were used 5 times more than likely than those who never discussed with their partners (AOR=5.32, 95% CI: 1.488, 19.028) at p value of 0.01 (Table 3).

**Discussion**

Despite the fact that multiple methods of contraceptives are provided free of charge in all health care institutions, the study finding showed that the utilization of long acting family planning contraceptive methods still remains low (16.3%) and the utilization of contraceptive methods among the respondents were totally dominated by short acting family planning methods such as injectable and oral contraceptive pills (83.7%). This finding is consistent with the study done in Mekele District of west shoa zone, oromia regional state, Western Ethiopia which was 17.6% [7]. But this finding is higher than the study done in Mekele Town of Tigray region, north Ethiopia, which was 12% [8]. The reason might be due to the difference in year of study; sample size of the study population and health accessibility know a days than before and the general improvement of maternal health through implantation of different health programs. But, this study is lower than the study done in Indonesia (52%). This might be due to the difference in socio-cultural back ground difference among the two study population.

From the analysis of multivariate logistic regression, Maternal education, maternal awareness about LACMs, maternal discussion with their partners and mother who explained about the effective use of LACM by provider was associated the long acting contraceptive method. This finding was consistent with the study done in Dendi woreda of west shoa zone that the educational status, spousal discussion, spousal approval and family size were found to have significant association with long acting reversible contraceptive methods use [7].

**Conclusions and Recommendations**

The current long acting FP prevalence among study participants were 16.4%. Regarding the utilization of long acting FP methods Women Awareness about LACM, Women who discussed with their partners about LACMs and Mothers education were found to be significantly associated. Therefore, Ambo town health office and west shewa zone health office work to create awareness on various family planning methods, increase competence of service providers and ensure long acting FP methods security in health care facilities. Other local government office including west shewa zone educational office and other stake holders should focus on increasing educational level by giving chance and encouraging women to engage in formal education. There should be enthusiasm to empower women regarding decision making and there should be more research's done on community level for identification of other factors.

**Table 2: Reproductive history of family planning attendant women in Ambo town, West Shoa zone, Oromia regional state, central Ethiopia, 2013.**

| History of total pregnancy (n=196) | Number | Percent |
|----------------------------------|--------|---------|
| No pregnancy                     | 25     | 13%     |
| 1-2                              | 106    | 54%     |
| 3-4                              | 44     | 22%     |
| 5-6                              | 19     | 10%     |
| >=7                              | 2      | 1%      |
| Abortion history                 |        |         |
| Yes                              | 6      | 3.1%    |
| No                               | 190    | 96.9%   |
| History of still birth           |        |         |
| Yes                              | 11     | 5.8%    |
| No                               | 185    | 94.4%   |
| Desire to have Children in the future |   |         |
| Yes                              | 167    | 85.2%   |
| No                               | 29     | 14.8%   |
| Expected gap for the next pregnancy |     |         |
| <=2                              | 13     | 6.6%    |
| 3-4                              | 74     | 37.8%   |
| >=5                              | 80     | 40.8%   |
| No more children                 | 29     | 14.8%   |
| Responsible for deciding to have children |   |         |
| Husband                          | 16     | 8.2%    |
| Wife                             | 32     | 16.3%   |
| Both partner decide Jointly through discussion | 148 | 75.5% |

**Table 3: Association between long-acting contraceptive method utilization and selected variables in Ambo town health facilities, West Shoa zone, Oromia regional state, 2013.**

| Variables (n=196) | Utilization status | AOR | 95.0% CI For EXP (B) |
|-------------------|--------------------|-----|---------------------|
|                   | Yes                | No  | Lower              | Upper              |
| Educational status (n=196) | No education       | 3   | 31                 | 1                  |
|                   | Primary school     | 17  | 42                 | 8.01               | 1.707              | 37.58 |
|                   | Secondary school   | 15  | 46                 | 4.791              | 1.022              | 22.456 |
| Awareness on LACM (n=196) | College/University | 9   | 33                 | 2.986              | 1.397              | 14.94 |
|                   | Awareness on LACM  | 40  | 133                | 2.984              | 1.88               | 10.117 |
|                   | No awareness on LACM | 4 | 19                 | 1                 | 0.106              | 3.001 |
| Explained about the effective use of LACM (n=196) | Yes | 39 | 104 | 6.053 | 1.794 | 20.424 |
|                   | No                 | 5   | 48                 | 1                  |                   |       |
| Discussion with partner (n=196) | yes | 35 | 129 | 5.32 | 1.488 | 19.028 |
|                   | No                 | 9   | 23                 | 1                  |                   |       |

**Figure 1:** Types of family planning method utilized among the study respondents.
Author’s Contribution

KM designed the study, prepared the proposal, participated in the data collection, performed analysis and interpretation of data and written the draft of paper. YK and AG assisted with the design, proposal preparation, approved the proposal and help writing the drafts of the paper. TG assisted with the design, revised drafts of the paper and prepared the manuscript and revised the manuscript. All authors read and approved the final manuscript.

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