Prevalence of Modern Contraceptive Use and Associated Factors among Married Women at Quante Town, Gura...
Abstract

Background: - Using contraceptive method has a number of positive impacts for the health of the public. It reduces unplanned pregnancies as well as minimizes diseases and death of children and mothers. Despite its benefit, very little research has been done concerning the extent of contraceptive use and its contributing factors in women at Quante Town. Therefore, this study is aimed to assess prevalence of modern contraceptives use and associated factors among married women at Quante Town, Gurage Zone Ethiopia.

Methods: A community based cross sectional study design was conducted among 388 married women of reproductive age from January to February 2019. A random sampling technique was used to select the study participants. Data was collected using pretested and structured questionnaire by trained data collectors. The data was entered using Epi info version 7. Data analysis was done by using STATA version 14. Strength of association was measured using odds ratio and 95% CI. Statistical significance was declared at p value <0.05. Table was used to present results.

Result: The magnitude of current utilization of modern contraceptive was 65.93% among married reproductive age women at the town. Women’s education level (AOR 3.67 95% CI (1.29 – 46.65)), monthly income (AOR 3.71(95 CI 1.74-7.92)), knowledge (AOR 11.01(95 CI 2.80-43.41)) and attitude towards contraceptive method (AOR 5.63(95 CI 2.40-13.21)) showed independent significant association with current use of modern contraceptives.

Conclusion: In this study, more than half of married women were currently using modern contraception methods. Women’s education status, income, knowledge and attitude towards contraception were identified as significant determinants of current utilization of contraceptive methods. Increasing women’s knowledge as well as their attitude towards contraception are important strategies to improve contraceptive methods use.

Background

Family planning is the decision that married people or individuals to anticipate and attain their required number of children at the right time through use of contraceptive methods. Its main goal is for delaying, spacing or limiting the number of births(1). Using contraceptive method has a number of
positive impacts for the health of the public. It reduces unplanned pregnancies as well as minimizes diseases and death of children and mothers (2).

Population density is one of the major social indicators in the world. Population growth is the main issue in under-developed nations. In Sub-Saharan Africa, including Ethiopia, there have been uninterrupted high fertility rates along with declining mortality rates which lead to a great gap between birth and death rates. Due to this, there have been high annual population growth rate. There are a number of factors contributing to high fertility. These include low socio-economic development, deeply ingrained cultural values for large family size, and low levels of contraception coverage(3, 4).

Throughout the world, the magnitude of modern family planning use among married women of age 15 to 49 years is 56%. Women living in high-income countries have higher rate (60%) than those women living in low-income countries (29%). At a country level, use of any method of contraception among married women can vary significantly, ranging from 4 percent in South Sudan to 88 percent in Norway(5). According to Ethiopian Demographic Health Survey (EDHS) report of 2016, 35% of married women in reproductive age were using modern contraceptive methods. The report also shows that 24% of Ethiopian women reported that they did not want any more children and more than 35% of them wanted to wait for at least two years to have their next child. This reflects that unmet need for contraceptives in Ethiopia is 21%(6).

Use of modern contraception is affected by a number of factors. Monthly income, number of live children, residence, educational status, lower gravidity, antenatal care service use, women’s knowledge and attitude towards family planning methods were significantly associated with contraceptive use(7–9). Family planning method use is also affected by religious beliefs, cultural norms, peer influence and partner support(10).

In the current study setting, very little research has been done on the extent of contraceptive use and its contributing factors in married women. However, such study is important for policy makers for designing best interventions to prevent unintended pregnancy as strategy to promote maternal and child health. Therefore, this study is aimed to assess the magnitude of modern contraceptives use
Methods

**Study design, setting and period**

A community based cross sectional study was conducted assess modern contraceptives use and associated factors among married women at Quante town, Geta wereda in Gurage zone from January to February 2019. The town is located 102 and 256 kilometers away from Wolkite and Addis Ababa respectively. According to Quante town administrative information for 2019, the estimated total number of population in the town is about 19,556 from which 10,252 were females and 9,304 males. There are four kebeles at the town. Family planning services are given free of any cost in the government hospital, health centers and health posts in the setting.

**Source and Study population**

The source population was all married reproductive age women in the households at Quante town. The study population was all selected married reproductive age women who have lived for more than six months at the town. Married reproductive age women who were either critically ill or sick at the time of data collection in the selected households were excluded. Those women who were not present in their house for more than 3 times of visit at the time of data collection were also excluded.

**Sample size determination**

The sample size was determined by using the single population proportion formula and by considering 37.8% prevalence of modern contraception use among married reproductive age women from previous study with 95% confidence interval, 5% marginal error and adding 10% non-response rate. A total of 397 study participants were included in the study.

**Sampling techniques**

There are four Kebeles at the town. Before data collection, the number of Households with married reproductive age women at each Kebele was identified. This was done from family folder of health extension workers (HEW). Then a sampling frame was prepared for each Kebele. The study sample that has been determined in the sample size determination was distributed in the four Kebeles according to proportion number of the eligible participants. The study subjects were selected by using
simple random sampling technique (lottery method) from the sampling frame.

**Data Collection Procedure**

Data was collected using pretested and structured questionnaire via face to face interview of the study participants after getting ethical clearance from responsible bodies and informed verbal consent from study subjects. Data on socio-demographic, reproductive, knowledge and attitude variables were gathered. Data was collected by trained data collectors after two-days training.

**Data Quality management**

To ensure the quality of data, two days training was given for the two data collectors on the objective and relevance of the study, confidentiality of information and informed consent and to make them familiar with the data collection questionnaire. Pretest of data collection tools was done on the married reproductive age women in the nearby kebele, which were not included in the analysis, by taking 5% of the respondents of the total sample size and necessary correction was done after the pre-tested. The data was checked out for the completeness and clarity by the supervisors. This quality checking was done daily after data collection and amendments was made before the next data collection measure.

**Data processing and analysis**

The data was entered and cleaned using epi info version 7 software and then exported to Stata version 14 software for analysis. Descriptive statistics such as frequency and percentage was carried out. Bivariate analysis was done for each independent and outcome variable to select variables for the multivariate analyses. Variables that were shown p-value of less than 0.05 during bivariate analysis were entered into multivariate logistic regression model to identify their independent effects. Odds ratio was used to measure the strength of association between the dependent and independent variables while 95% confidence interval was used to see the significance of the association. Tables were used to present the result of the study.

**Operational Definitions**

*Current Contraceptive utilization:* - the use of contraceptive methods to avoid or delay pregnancy by sexually active married women or her partner at the time of the survey.
Current contraceptive method users: - respondents who responded positively for use of contraceptive methods at the time of the survey to delay or avoid pregnancy.

Modern contraceptives: - include male and female condoms, injectables (DepoMedroxy Progesterone Acetate (DMPA), oral contraceptive pills, diaphragm, implants, intrauterine contraceptive devices (IUCD), female tubal ligation, and male partner sterilization.

Results

Socio-demographic characteristics

A total of 388 married reproductive aged women were included in analysis with a response rate of 97.7%. About 336(86.60%) of women were with in age group of 25–34 years. One hundred ninety (48.97%) of women were orthodox. From the total number of the married women, 196(50.52%) had certificate and diploma education. Two hundred ninety four (75.77%) and 312(80.41%) of respondents and respondents' husband were government employees respectively. Two hundred eighty two (72.68%) married women earned below the mean monthly salary of the respondents 3153 +1342.35 Ethiopian birr. (28 Ethiopian Birr were the approximate equivalent of $1 US in March 2019) (Table1)

Table1 Sociodemographic characteristics of study participants at Quante town, Gurage Zone, Ethiopia, 2019
| Characteristics                          | Frequency | Percent |
|-----------------------------------------|-----------|---------|
| women's age in years                    |           |         |
| 15-24                                   | 4         | 1.03    |
| 25-34                                   | 336       | 86.60   |
| ≥35                                     | 48        | 12.37   |
| Religion                                |           |         |
| Orthodox                                | 190       | 48.97   |
| Muslim                                  | 134       | 34.54   |
| Protestant                              | 48        | 12.37   |
| Catholic                                | 16        | 4.12    |
| Women's education level                 |           |         |
| No formal education                     | 12        | 3.09    |
| Primary school(1-8th Grade)             | 64        | 16.49   |
| Secondary school(9th-12th Grade)        | 58        | 14.95   |
| College/university                      | 256       | 65.47   |
| Husband's education level               |           |         |
| No formal education                     | 16        | 4.12    |
| Primary school                          | 50        | 12.89   |
| Secondary school                        | 38        | 9.79    |
| College/university                      | 284       | 73.19   |
| Women's Occupation                      |           |         |
| House wife                              | 52        | 13.40   |
| Government employee                     | 294       | 75.77   |
| Daily laborer                           | 4         | 1.03    |
| Merchant                                | 62        | 15.98   |
| Husband's Occupation                    |           |         |
| Farmer                                  | 8         | 2.06    |
| Government employee                     | 312       | 80.41   |
| Daily laborer                           | 6         | 1.55    |
| Merchant                                | 62        | 15.98   |
| Monthly Income                          |           |         |
| Less than $113 US                       | 282       | 72.68   |
| Greater or equal to $113 US             | 106       | 27.32   |

**Reproductive history of the study participants**

From 388 study participants, 383(98.71 %) got their first marriage at the age above eighteen or above years old and 357(92.01%) of the participants have ever given birth. At their first birth, 351(98.32%) of the respondents were twenty or above years old. Two hundred sixty seven (74.79%)
women had One-two live children. Table 2

Table 2 Reproductive history of study participants at Quante town, Gurage Zone Ethiopia, 2019

| Variables                        | Frequency | Percent |
|----------------------------------|-----------|---------|
| Age at first marriage(n=388)     |           |         |
| <18                              | 5         | 1.29    |
| >18                              | 383       | 98.71   |
| Ever gave birth(n=388)           |           |         |
| Yes                              | 357       | 92.01   |
| No                               | 31        | 7.99    |
| Age at first birth(n=357)        |           |         |
| <20                              | 3         | 0.84    |
| >20                              | 351       | 98.32   |
| Don’t remember                   | 3         | 0.84    |
| Number of birth(n=357)           |           |         |
| One-two                          | 247       | 69.19   |
| Three-four                       | 89        | 24.93   |
| Greater than four                | 21        | 5.88    |
| **Number of alive children(n=357)** |           |         |
| One-two                          | 267       | 74.79   |
| Three-four                       | 74        | 20.73   |
| Greater than four                | 16        | 4.48    |

**Knowledge of respondents on modern contraceptive methods**

Three hundred seventy (95.36%) married women knew any modern contraceptive methods (the respondents listed an example or explained use of at least one contraceptive method correctly).

Injection was known by 271(73.24%) respondents. Out of 370 women, 215 (58.11%) knew the reason for using contraceptive for limiting family size. (Table 3)

Table 3 Knowledge of respondents on modern contraceptive methods at Quante town Southern Ethiopia, 2019

| Variables                        | Frequency | Percent |
|----------------------------------|-----------|---------|
Knew any modern contraceptive method (n=388)
Yes 370 95.36
No 18 4.64

Knew Contraceptive method (n=370)

| Method      | Yes  | No  |
|-------------|------|-----|
| Pills       | 232  | 138 |
|             | 62.70| 37.30|
| Injectable   | 271  | 99  |
|             | 73.24| 26.767|
| Implant     | 186  | 184 |
|             | 50.27| 49.73|
| Condom      | 259  | 111 |
|             | 70   | 30  |
| IUCD        | 129  | 241 |
|             | 34.86| 65.14|
| Female sterilization | 39 | 331 |
|             | 10.54| 89.46|
| Male Sterilization | 40 | 330 |
|             | 10.8 | 89.2 |

Knew the reason for using of Contraceptive method (n=370)

| Reason                                | Yes | No  |
|---------------------------------------|-----|-----|
| Prevention of maternal and child death and ill health | 25  | 6.76 |
| Limiting family size                  | 215 | 58.11|
| Child spacing                         | 107 | 28.92|
| Both for limiting family size and child spacing | 23  | 6.22 |

Attitude of respondents towards utilization of modern Contraceptive Methods

Three hundred six (78.87%) of the women had positive attitude towards utilization of modern contraceptive. Three hundred thirty seven (86.86%) respondents stated their husbands support to use modern contraceptive method. (Table 4)

Table 4 Attitude of respondents towards utilization of modern Contraceptive Methods at Quante town, Gurage Zone, Ethiopia, 2019
Variables | Frequency | Percent
--- | --- | ---
Attitude towards using contraceptive methods |  | |
Positive | 306 | 78.87
Negative | 82 | 21.13
Spouse support to use contraceptive |  | |
Yes | 337 | 86.86
No | 51 | 13.14

**Practice of respondents towards modern contraceptive methods**

Three hundred sixty four (93.81%) of the women were ever used modern contraceptive methods. Two hundred forty (65.93%) of the respondents were currently using contraceptive method. Most of them used injectable 147(61.25%) and implant 63(26.25%). (Table 5)

| Variables | Frequency | Percent |
| --- | --- | --- |
| Ever used modern contraceptive method (n=388) |  | |
| Yes | 364 | 93.81 |
| No | 24 | 6.19 |
| Used Contraceptive method(n=364) |  | |
| Pills | 71 | 19.51 |
| Injectable | 134 | 36.81 |
| Implant | 109 | 29.95 |
| Condom | 45 | 12.36 |
| IUCD | 5 | 1.37 |
| Current utilization of contraceptive method(n=240) |  | |
| Yes | 240 | 65.93 |
| No | 124 | 34.07 |
| Currently used Contraceptive method(n=240) |  | |
| Pills | 23 | 9.58 |
| Injectable | 147 | 61.25 |
| Implant | 63 | 26.25 |
| Condom | 5 | 2.08 |
| IUCD | 2 | 0.83 |

**Factors associated with Current utilization of contraceptive method**

Multivariate analysis involving all associated variables was performed to identify independent predictors’ for Current utilization of contraceptive method. Monthly income, education level, knowledge and attitude towards utilization of contraceptive method independently showed significant
association. However, age, religion, occupation and reproductive history of respondents did not show any significant association with current utilization of contraceptive methods.

Women whose monthly income of less than $113US were about 2 times more likely (AOR 2.15 (95% CI (1.02—4.54)) to use contraceptive as compared to those who earn above $113. Mothers who had College/University education level had 3.67 times (95% CI (1.29—46.65)) more likely utilize contraception methods than those who had no formal educational status. Women who had any knowledge of modern contraceptive method were more likely (AOR 11.31 (95% CI (2.85 - 44.86)) to use contraception currently than those who had not. Women who have positive attitude towards modern contraceptive method were more than five and half times as likely (AOR 5.59(95% CI (2.34 - 13.32)) to use contraception currently as compared those women who had negative attitude towards modern contraceptive method.

00Bi variable and multivariable logistic regression model for factors associated with contraceptive utilization at Quante town, Southern Ethiopia, 2019

| Variables                              | Current utilization of contraceptive | COR (95% CI) | AOR (95% CI) |
|----------------------------------------|--------------------------------------|--------------|--------------|
|                                        | Yes                                  | No           |              |
| Women’s education level                |                                      |              |              |
| No formal education                    | 8                                    | 2            | 1            | 1            |
| Primary school                         | 36                                   | 24           | 2.67(0.26 – 26.86) | 4.84(0.34 – 68.18) |
| Secondary school                       | 36                                   | 22           | 2.44 (0.24 – 24.77) | 3.72(0.26 – 52.89) |
| College/university                     | 160                                  | 76           | 2.90(1.52 – 17.58) | 3.67(1.29 – 46.65) |
| Monthly Income                         |                                      |              |              |
| <$113 US                               | 172                                  | 68           | 2.08(1.11 - 3.94) | 2.15(1.02 – 4.54) |
| >$113 US                               | 68                                   | 4            | 1            | 1            |
| Knowledge of modern contraceptive method |                                      |              |              |
| Yes                                    | 234                                  | 100          | 9.36(2.53 - 34.61) | 11.31(2.85 - 44.86) |
| No                                     | 6                                     | 24           | 1            | 1            |
| Attitude towards using contraceptive methods |                                  |              |              |
| Positive                               | 216                                  | 82           | 4.61 (2.08 - 10.21) | 5.59(2.34 - 13.32) |
| Negative                               | 24                                   | 42           | 1            | 1            |

Discussion
The present study attempted to assess the magnitude of modern contraceptive use and associated factors among married women of reproductive age. The magnitude of current utilization of modern
contraceptive was 65.93% among married women at the town which is lower than the magnitude reported from Tigray (80.1%) (12) and western Ethiopia (71.9%) (13). The finding is consistent with a study done in urban Kenya (65%) (14). However, this utilization is higher than those reported from the 2016 EDHS (35%)(6), Dembia District in northwest Ethiopia (31.7%) (15), Misha District, Southern Ethiopia (31.2%)(16), Jimma zone(43%)(17), pastoralist women in Bale zone (20.8%) (18), Afar region of Ethiopia (8.5%) (8) and Tanzania (12.5%) (19). This disparity might be due to variation in access and services of the contraceptive methods, study setting, study period, sample size, cultural and socioeconomic status of the participants.

The findings of this study showed that majority of women (61.25%) were using injectable type of contraceptive methods at the time of study. This is in line with previous studies (6, 20–22). The reason for high number of injectable users may be due to the women’s belief and attitude in the community that injectable are more effective than other methods. In addition, this can be related to its convenience (since it does not administered on daily basis), and easier to administer compared to long acting family planning methods (implants and intrauterine device).

Three hundred seventy (95.36%) women had knowledge of at least one modern method of contraception at the town. This finding was almost comparable with the studies done in Jimma Zone (94%)(17), Adama, Oromia (90.7%)(23), and Pakistan (90.2%)(24). The possible reason the increase in knowledge could be the local government officials, non-governmental organizations and other stakeholders working on contraceptives methods made great effort for provision of information, communication and education for the society through health professionals, community health extension workers and the advertisement done via various mass Medias.

The results of the study revealed that considerable proportion of women (78.87%) in the study population had positive attitude towards utilization contraceptive. This finding is higher than study done in Mizan-Aman town which showed that 65.02% of women had positive attitude (25). However, it is lower than studies conducted in Adama Ethiopia (79.5%)(23) and Peshwar Pakistan (87.8%)(24).

Multiple logistic regression analyses showed that women having Knowledge about modern contraceptive methods were 11.31 times (AOR = 11.31, 95% CI (2.85 - 44.86)) more likely to use
modern contraceptive than those having no knowledge. This finding is in line with studies done in Southern Ethiopia(26, 27). This can be due to the improvement of awareness and information of women about contraception methods in the study setting enables them to understand the purposes and make decision to use the methods.

Our result showed that those women who had positive attitude towards modern contraceptive method were 5.59 times (AOR = 5.59, 95% CI (2.34 - 13.32)) more likely to use contraception currently as compared with those women who had negative attitude the method. This association is supported by previous studies done in Addis Ababa and Arbaminch Ethiopia (28, 29),and Democratic Republic of Congo(30). The possible justification for this is due to positive attitude towards modern contraceptive methods may motivate women to have good perception and desire that leads to the increment in the practice of the methods.

In our study association of educational status of the women with use of contraception was found to be statistically significant. The result revealed that women who had College/University level educational status were 3.67 times more likely to use contraception methods than of women who had no formal educational status. This result is supported by similar studies done in Ethiopia (20, 22, 31, 32). The reason may be women with higher educational status have better health information so that they decide to use modern contraception methods.

Monthly income of Women is significant determinant of current use of modern contraceptive method. Women whose monthly income less than $113 US were about 2 times more likely to use contraceptive as compared to those who earn above $113. Similar association was seen in a study done in Nekemete, Western Ethiopia(20). However, it is inconsistent with previous studies done in Uganda(33). In the study setting, majority of women got contraception method free of any cost from government health facilities. The free access to the methods may motivate those low income mothers to use and as result limit their family size.

The limitation of this study include that it is not supplemented by qualitative data. In addition, self-reported information is subjected to reporting bias. The other limitation is that the study did not gather any data from the service providers.
Conclusion
The result of our study showed that more than half of married women were currently using modern contraception methods. The most commonly used modern contraception methods were injectable and implants. Women's income, education status, knowledge of modern contraception and attitude towards modern contraception were identified as significant determinants of current utilization of contraceptive methods among married women of reproductive age in the study area. Increasing women's knowledge as well as their attitude towards contraception are important strategies to improve utilization of contraceptive methods. Educating women is another key strategy for enhancing utilization of contraceptive methods.

Abbreviations
AOR: Adjusted odd ratio; CSA: Central Statistics Agency; COR: Crude odd ratio; FMOH: Federal Ministry of Health; IUCD: Intra Uterine Contraceptive Device; $US: United State Dollars, WHO - World Health Organization

Declarations
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Availability of data and materials
The datasets used and/or analyzed during the current study are available freely upon request.

Authors’ contributions
SA: involved in study selection, Conceived and designed the study; analyzed data, interpreted results; and prepared the manuscript. KA involved in study selection, design of study, interpretation of results, and review of the manuscript. Both authors read and approved the manuscript

Ethics approval and consent to participate
The study was approved by the research and ethics committee of Dilla University. Participants were
informed about the confidentiality of information. Verbal informed consent was obtained from every study participant after the purpose of the study was explained to them before data collection. For participants under the age of 16 years, written informed consent was obtained from a parent or guardian. Participant’s involvement in the study was on voluntary basis; participants who were unwilling to participate in the study and those who wish to quite their participation at any stage were informed to do so without any restriction.

Consent for publication
Not applicable

Competing interests
The authors declare that they have no competing interests.

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