

# Prevalence of Modern Contraceptive Use and Associated Factors among Married Women at Quante Town, Gurage Zone Ethiopia, 2019

Sahle Jabo Asfaw (✉ [sahleasfaw1919@gmail.com](mailto:sahleasfaw1919@gmail.com))

Kotebe Metropolitan University <https://orcid.org/0000-0001-6678-9161>

Kelemua Bereda Asfaw

Kotebe Metropolitan University

---

## Research article

**Keywords:** Contraceptive use, Married women, prevalence, factors, Quant town

**Posted Date:** September 27th, 2019

**DOI:** <https://doi.org/10.21203/rs.2.15253/v1>

**License:**   This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

---

# 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 and associated factors among married reproductive age women at Quante town.

## **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 256kilometers 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 9,304males(11). 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(9) 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
<b>women's age in years</b>			
15-24	4	1.03	
25-34	336	86.60	
≥35	48	12.37	
<b>Religion</b>			
Orthodox	190	48.97	
Muslim	134	34.54	
Protestant	48	12.37	
Catholic	16	4.12	
<b>Women's education level</b>			
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	
<b>Husband's education level</b>			
No formal education	16	4.12	
Primary school	50	12.89	
Secondary school	38	9.79	
College/university	284	73.19	
<b>Women's Occupation</b>			
House wife	52	13.40	
Government employee	294	75.77	Daily laborer
	4	1.03	Merchant
	38	9.79	
<b>Husband's Occupation</b>			
Farmer	8	2.06	
Government employee	312	80.41	
Daily laborer	6	1.55	
Merchant	62	15.98	
<b>Monthly Income</b>			
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
<b>Age at first marriage(n=388)</b>		
<18	5	1.29
≥18	383	98.71
<b>Ever gave birth(n=388)</b>		
Yes	357	92.01
No	31	7.99
<b>Age at first birth(n=357)</b>		
<20	3	0.84
>20	351	98.32
Don't remember	3	0.84
<b>Number of birth(n=357)</b>		
One-two	247	69.19
Three-four	89	24.93
Greater than four	21	5.88
<b>Number of alive children(n=357)</b>		
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
<b>Knew any modern contraceptive method (n=388)</b>		
Yes	370	95.36
No	18	4.64
<b>Knew Contraceptive method (n=370)</b>		
Pills		
Yes	232	62.70

No	138	37.30
Injectable		
Yes	271	73.24
No	99	26.767
Implant		
Yes	186	50.27
No	184	49.73
Condom		
Yes	259	70
No	111	30
IUCD		
Yes	129	34.86
No	241	65.14
Female sterilization		
Yes	39	10.54
No	331	89.46
Male Sterilization		
Yes	40	10.8
No	330	89.2
<b>Knew the reason for using of Contraceptive method (n=370)</b>		
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
<b>Attitude towards using contraceptive methods</b>		
Positive	306	78.87
Negative	82	21.13
<b>Spouse support to use contraceptive</b>		
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)

**Table 5 Practice of respondents towards modern contraceptive methods at Quante town, Southern Ethiopia, 2019**

Variables	Frequency	Percent
<b>Ever used modern contraceptive method (n=388)</b>		
Yes	364	93.81
No	24	6.19
<b>Used Contraceptive method(n=364)</b>		
Pills	71	19.51
Injectable	134	36.81
Implant	109	29.95
Condom	45	12.36
IUCD	5	1.37
<b>Current utilization of contraceptive method(n=240)</b>		
Yes	240	65.93
No	124	34.07
<b>Currently used Contraceptive method(n=240)</b>		
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

## Acknowledgments

The authors would like to thank the administrator of Quante town, Geeata Woreda Health office managers, health extension workers, all data collectors, and study participants for giving their valuable

time and cooperation during data collection period.

## **Funding**

No funding was obtained for this study.

## **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.

## **Author details**

- Kotebe Metropolitan University College of Health and Medical Science Addis Ababa Ethiopia
- Dilla University College of Natural and Computational sciences Dilla Ethiopia

## References

1. World Health Organization. World health statistics 2014. Geneva, Switzerland: World Health Organization; 2014
2. Speizer IS, Nanda P, Achyut P, Pillai G, Guilkey DK. Family planning use among urban poor women from six cities of Uttar Pradesh, India. *Journal of Urban Health*. 2012;89(4):639–58.
3. Pathfinder International. A Potential Contraceptive Method Mix for the Ethiopian Family Planning Program. Mizanur Rahman Independent Consultant, 2010.
4. Family Health International. Addressing Unmet Need for Family Planning in Africa., The Case for Long-Acting and Permanent Methods. 2007.
5. Population Reference Bureau (PRB): Family planning data sheet highlights family planning method use around the world. Washington D, USA 2019.
6. Federal Democratic Republic of Ethiopia, Central Statistical Agency. Demographic and health survey; Key Indicators Report 2016.
7. Eshete A. Contraceptive method mix utilization and its associated factors among married women in Gedeo zone Southern nation, nationality and people region-Ethiopia: community based cross sectional study. *Epidemiology (Sunnyvale)*. 2015;5:212.
8. Alemayehu et al. Family planning use and associated factors among pastoralist community of Afar region, eastern Ethiopia. *BMC Women's Health*. 2016; 16:39.
9. Alehegn B and Abebaw G. Modern contraceptive use and associated factors among married women in Finote Selam town Northwest Ethiopia: a community based cross-sectional study. *BMC Women's Midlife Health* 2018; 4:13.
10. Egessa J. Utilization Of Family Planning Services Among Sexually Active People Living With HIV/AIDS In Taso Tororo: Makerere University; 2010.
11. Geta Wereda, Gurage Zone, Ethiopia: Population estimate of Quante town, 2019.
12. Weyzer T Tsehay, et al. "Assessment of modern contraceptive methods utilization and its determinant factors among women of reproductive age groups Shire Endaslasie town, Tigray, northern Ethiopia 2011". *Journal of Bio Innovation* 3.3 (2014): 144–169.
13. Ahmed S, C. A., Gillespie DG, Tsui AO. Economic status, education and empowerment: implications for maternal health service utilization in developing countries. *PLoS One*. 2010; 5: e11190.
14. Tumlinson K, P. B., Curtis SL, Marshall SW, Speizer IS. Quality of care and contraceptive use in urban Kenya. *Int Perspect Sex Reprod Health*. 2015; 41:69–79.
15. Shibihon, M. A., Belete B. Modern contraceptive methods utilization and associated factors among reproductive aged women in rural Dembia District, northwest Ethiopia: Community based cross-sectional study. *Int J Reprod BioMed* 2017; 15(6): 367–374.

16. Chafo K, Doyore F (2014) Unmet Need for Family Planning and Associated Factors among Currently Married Women in Misha District, Southern Ethiopia: A Cross Sectional Study. *J Women's Health Care* 3: 165. doi:10.4172/2167-0420.1000165
17. Tilahun T, C. G., Luchters S, Kassahun W, Leye E, et al. (2013) Family Planning Knowledge, Attitude and Practice among Married Couples in Jimma Zone, Ethiopia. *PLoS ONE* 8(4): e61335. doi:10.1371/journal.pone.0061335.
18. Belda SS, Haile MT, Melku AT, Tololu AK. Modern contraceptive utilization and associated factors among married pastoralist women in bale eco-region, bale zone, south East Ethiopia. *BMC Health Serv Res.* 2017; 17:194.
19. Tengia-Kessy A, Rwabudongo N. Utilization of modern family planning methods among women of reproductive age in a rural setting: the case of Shinyanga rural district, Tanzania. *East African Journal of Public Health* 2006;3: 26–30.
20. Tekelab T, Melka AS, Wirtu D. Predictors of modern contraceptive methods use among married women of reproductive age groups in western Ethiopia: a community based cross-sectional study. *BMC Women's Health.* 2015;15(1):52.
21. Mohammed A, W. D., Feleke A, Megabiaw B. Determinants of modern contraceptive utilization among married women of reproductive age group in north Shoa zone, Amhara region, Ethiopia. *Reprod Health.* 2014;11(1):13.
22. Mekonnen W, Worku A. Determinants of low family planning use and high unmet need in Butajira District, South Central Ethiopia. *Reprod Heal.* 2011; 8: 37.
23. Ngusu M, Wondafrash B, Segni H, Gurmesssa A (2015) Knowledge, Attitude and Practice of Family Planning Methods Among Laboring Mothers in Adama Hospital, Oromia Region, Ethiopia. *J Womens Health, Issues Care* 4:3; 2–6.
24. Ayub A, Kibria Z, Khan F. Assessment of knowledge, attitude and contraceptive use in married women of Peshawar. *J Dow Uni Health Sci* 2015; 9(1): 89–93.
25. Yemaneh Y, Birie B. Assessment of Knowledge, Attitude and Utilization of Long Acting Family Planning Method among Women of Reproductive Age Groups in Mizan-Aman Town, Bench-Majizone, South West Ethiopia, 2016. *Integr J Glob Health.* 2017, 1:2.
26. Mende Mensa Sorato., et al. "Assessment of Modern Contraceptive Method Utilization and Associated Factors Among Women of Reproductive Age Group in Arba Minch Town, SNNPR, Ethiopia". *EC Gynaecology* 6.2 (2017): 36–53.
27. Bogale Binyan., et al. "Married women's decision making power on modern use in urban and rural Southern Ethiopia". *BMC Public Health* 11 (2011): 342.
28. Tizita D. Assessment on utilization of long acting reversible contraceptive methods and its associated factors among reproductive age women in selected health centers in Addis Ababa, Ethiopia. 2015. MSc thesis. Available at <http://etd.aau.edu.et/bitstream/handle/123456789/9752/Tizita%20Dadi.pdf?sequence=1&isAllowed=y>

29. Shegaw G MA, Nadew k, Tamirat k, Zeru G, Desta H,Yineger W. Long Acting Contraceptive Method Utilization and Associated Factors among Reproductive Age Women in Arba Minch Town, Ethiopia. 2014; 2 (1), 023–031.
30. Mathe KJ, Kasonia KK, Maliro KA. Barriers to Adoption of Family Planning among Women in Eastern Democratic Republic of Congo. African Journal of Reproductive Health March. 2011;15(1):74.
31. Meskele M, Mekonnen W. Factors affecting women's intention to use long acting and permanent contraceptive methods in Wolaita zone, southern Ethiopia: a cross-sectional study. BMC Women's Health. 2014;14(1):109.
32. Yitayal M, Berhane Y, Worku A, Kebede Y. The community-based health extension program significantly improved contraceptive utilization in west Gojjam zone, Ethiopia. J Multidisciplinary Healthcare. 2014;2014(7): 201–08.
33. Felix B, M. C., Anthony E, Bruno C, Priscilla C, Stephen A, et al. E Prevalence and Factors Associated with Contraceptive Use among HIV-Infected Women of Reproductive Age Attending Infectious Disease Clinic at Gulu Regional Referral Hospital, Northern Uganda. BioMed Research International, Volume 2018, Article ID 9680514, 8 pages <https://doi.org/10.1155/2018/9680514>.