



# Factors Associated with Female Genital Mutilation among Women of Reproductive Age in Gewane Woreda, Afar National Regional State, Ethiopia

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## Abstract

**Introduction:** Female genital mutilation/cutting is a deeply rooted harmful practice and still highly prevalent in many countries. It is associated with many serious short and long term physical, psychological, reproductive, and sexual complications in women and girls.

**Objective:** To assess the magnitude and associated factors of female genital mutilation/cutting among women of reproductive age (15-49 years) in Gewane Woreda, Afar region, Ethiopia, from July 4 to 17, 2016.

**Methods and Material:** Population based cross sectional survey was conducted using quantitative data collection methods. A sample of 792 women who ever gave birth was selected using systematic random methods. Data was collected using pretested questionnaire and analyzed using SPSS Version 21. Logistic regression model was used to analyze and find the association between the study variables.

**Results:** The prevalence of female genital mutilation/cutting in women of reproductive age was 90.8%. Higher age (AOR, 11.56; 95%CI: 2.56, 48.39), Afar ethnic group (AOR, 4.55; 95% CI: 1.95-10.61) and level of education (AOR, 0.35; 95% CI: 0.15, 0.81) were factors significantly associated with female genital mutilation.

**Conclusion and Recommendation:** In this study, significant percentages of women were under went FGM. The age of respondents, ethnicity, and literacy status were significantly associated with Female Genital Mutilation. Therefore, education, culturally appropriate community awareness raising program and enforcing legislation against female genital mutilation are recommended.

**Keywords:** Afar region; Ethiopia; Female genital mutilation/cutting

## Introduction

Female genital mutilation/cutting (FGM/C), also known as female genital cutting and female circumcision, is one of the deeply rooted traditional practices, in which the external female genital organ is either partially or totally removed for non-medical reasons [1]. FGM/C is commonly carried out by traditional circumcisers using a blade on girls from few days after birth to puberty or beyond but usually before giving their first birth [2]. In more than 50% of the countries in the world for which figures are available, most girls were cut before the age of five [2,3]. Cutting/mutilation is usually done without anaesthesia. However, some reports indicate that local or general anaesthetic drugs were used in countries where health professionals are involved, like Egypt and Indonesia, in which 77% and 50% of FGM procedures were performed by medical professionals as of 2008 and 2016, respectively [3,4].

Although the exact date and reason for the starting of the practice is not well known, it is thought to date back to 450BC [5] and its continuation is motivated mainly by social pressure or obligation, and marriage ability [3]. Reasons vary among different communities and involve a complex mix of socio-cultural, psychosexual, hygienic, aesthetic and religious reasons [1]. The procedure differs depending on the country or ethnic group and involves, the removal of clitoral hood and glans; removal of the inner labia; and removal of both inner and outer labia and closure of the vulva by

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Received Date: 13 Feb 2017

Accepted Date: 30 Mar 2017

Published Date: 10 Apr 2017

### Citation:

Abeya SG, Chuluko BG, Gameda DD. Factors Associated with Female Genital Mutilation among Women of Reproductive Age in Gewane Woreda, Afar National Regional State, Ethiopia. *Remed Open Access*. 2017; 2: 1051.

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leaving a small opening for urine and menstrual flow. The vagina is then cut open for intercourse and child birth [6].

FGM/C is often associated with recurrent genitourinary infections, difficulty in urinating and passing menstrual flow, chronic vulval or pelvic pain, development of vulval cysts, painful or inability of have intercourse, infertility, complications during child birth, and death from haemorrhage or infection [7]. Despite its harmful effects, violation of reproductive and many other human rights of girls and women, and the various efforts to help communities abandon it, the practice is still prevalent in 27 countries in Africa, Indonesia, Iraqi Kurdistan, and Yemen. The prevalence rate ranges from 80 to 98% in the reproductive age group in Djibouti, Egypt, Eritrea, Somalia, and Sudan. Recent reports also show the practice is also found in other parts of Asia, the Middle East and among diaspora communities around the world [4].

Ethiopia outlawed FGM/C in 2004 and practitioners will be penalized with a minimum of three months in prison or monetary fines. However, the practice is deeply rooted with a national prevalence of 74% in women of child bearing age [4]. UNICEF policy briefing document in 2013 on FGM/C in Ethiopia revealed that 23.8 million women and girls had undergone FGM countrywide. Reports by different groups show a prevalence rate of 81% among women aged 35 to 39, 62% among women aged 15–19, and only 24% for girls under 14. There appears to be a generational change with fewer girls being cut as compared to their mothers [8,9]. However the same document revealed high prevalence in several regions of the country. The Afar National Regional State of Ethiopia is one of those, which practise the most severe forms of FGM/C [4].

There is evidence that obstetric and neonatal complications are more common among women with FGM/C [10-15]. A study in Jigjiga town Somali region of Ethiopia, which has similar socio-demographic features as the Afar region, has also shown that there is an increased risk of postpartum haemorrhage and stillbirth for women with FGM/C [11]. However, no similar studies are available for the Afar National Regional State, which has one of the highest FGM/C prevalence in the world. The aim of this study was to show the prevalence of the type of FGM/C and its associated factors among women who ever gave birth in the study area.

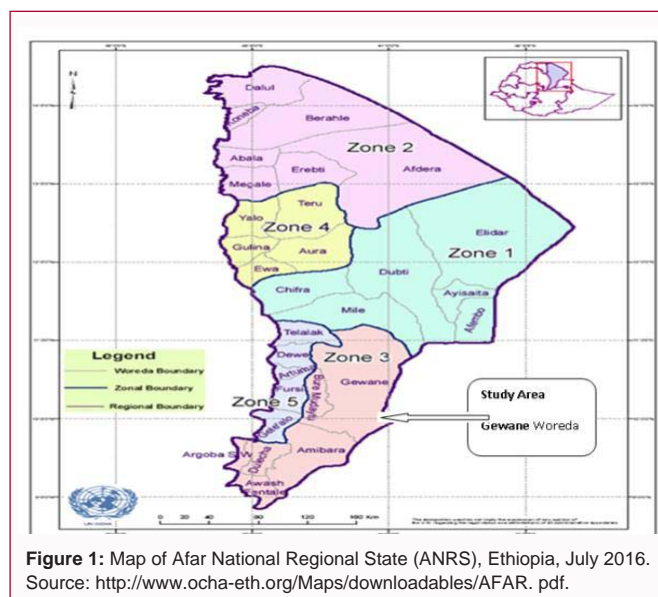
## Methods and Materials

### Study area and period

The study was conducted in Gewane Woreda (the lower level of administration in the government structure) of Afar National Regional State of Ethiopia from July 4 to 14, 2016. The Afar Regional State is found in the north east part of Ethiopia. It is mainly home for a rural pastoralist population of 1.4 million [16]. The region has two hospitals, 14 health centers, 42 clinics and 78 health posts. Health indicators imply that the region has poor status with only 37% of the health service coverage as compared to the other regions with in the country as the majority of the communities are pastoralist. Gewane Woreda is found in Zone three of the region, which is around 400 km away from Addis Abeba in the east direction. The Woreda is divided in to 11 rural *Kebeles* (the lowest level of administrative structure) and has three health centers and six Health posts (Figure 1).

### Study design

A community based cross-sectional study design was conducted using quantitative data collection method.



**Figure 1:** Map of Afar National Regional State (ANRS), Ethiopia, July 2016. Source: <http://www.ocha-eth.org/Maps/downloadables/AFAR.pdf>.

### Population

The source population was all reproductive age women in Gewane Woreda, while the study population was all reproductive age women who are residing in the selected *kebeles*.

### Inclusion and exclusion criteria

All reproductive age women (15-49 years) who ever gave birth and live for at least six months within the study area before the survey were included, while those who were mentally ill, unable to communicate or those who never gave birth were excluded from the study.

### Sample size determination

The required sample size was determined using single population proportion formula with the assumption of prevalence of FGM/C ( $p$ ) of 50%, 95% of confidence level and precision of 5%. Considering the 10% non-response rate and design effect of two, the following formula was used to calculate the required sample size:

$$n = ((Z_{\alpha/2})^2 p(1-p) \times 2 + 10\%) / d^2$$

$$n = ((1.96)^2 \times 0.5(1-0.5) \times 2 + 10\%) / (0.05)^2$$

$$n = (384 \times 2) + 10\%$$

$$n = (768) + 77$$

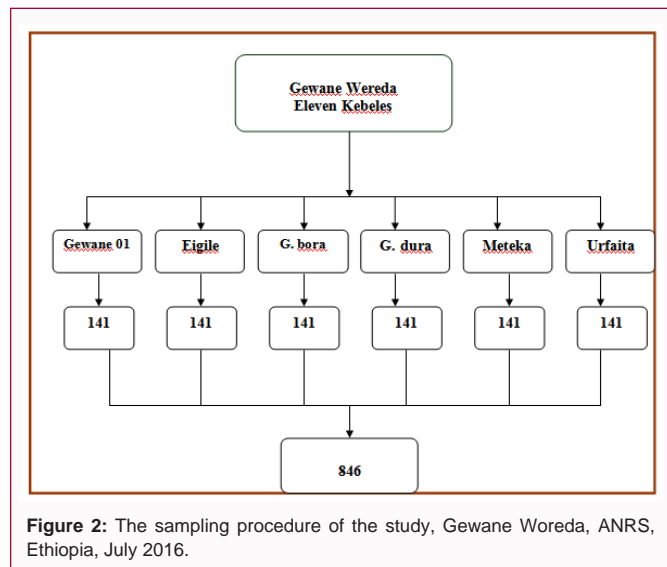
$$n = 845$$

### Sampling procedure

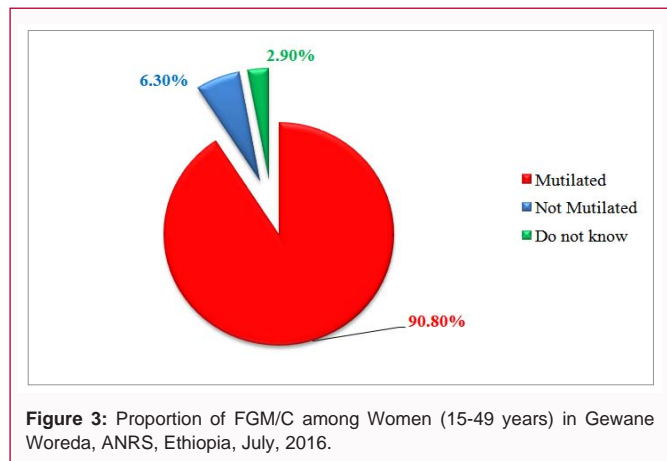
The study used a two stage sampling procedure. Gewane Woreda is composed of 11 rural *kebeles*. In the first stage, six out of 11 *kebeles* were selected by a lottery method. These *kebeles* were Gewane 01, Meteka, Egile, Gelila Dura, Gebayabora and Urafitu. All the selected *kebeles* were almost equally populated, thus equal proportion of the sample size was allocated for each of them (141 subjects per *kebele*). In each of the chosen *kebeles*, the eligible women in the household were selected until the required sample size was achieved (Figure 2).

### Data collection procedure

Data was collected by trained data collectors using a structured questionnaire. The questionnaire had items used to assess the socio-demographic, reproductive and obstetric history. Study subjects



**Figure 2:** The sampling procedure of the study, Gewane Woreda, ANRS, Ethiopia, July 2016.



**Figure 3:** Proportion of FGM/C among Women (15-49 years) in Gewane Woreda, ANRS, Ethiopia, July, 2016.

themselves were responsible for answering the questions.

**Data management and analysis**

The collected data were checked, cleared, entered into SPSS software windows version 21. Descriptive statistics were computed to determine the prevalence of FGM/C. Both bivariate and multivariate analyses were employed to identify the associated factors of FGM/C. Forward stepwise selection of variables was used for multivariable logistic regression analysis. Odds ratio with 95% confidence interval were used for the binary logistic regression to identify the strengths and directions of the associated factors. *P*-values of less or equal to 0.05 were considered to be statistically significant. All the assumptions of the analysis, such as the normality and multi-collinearity, were checked to be satisfied.

**Data quality management**

Data was collected by 10<sup>th</sup> grade school completed development agents selected from their respective *kebeles*. Three consecutive days training was given. The questionnaire was pre-tested on 10% of the sample size in a *kebele* not selected for the study.

**Ethical consideration**

The study was conducted after obtaining written approval from the Adama General Hospital, Medical College, and Gewane Woreda council, as well as informed verbal consent from study participants. Respondents' names were not written on the questionnaire for

**Table 1:** Socio- demographic Characteristics of the Study Population, Gewane Woreda, Afar National Regional State (ANRS), Ethiopia, July 2016.

Variables (n=792)		Frequency	Percent
Age of respondents (in years)	15-24	88	11.1
	25-34	403	50.9
	35-49	301	38
Religion	Muslim	751	94.8
	Christian	41	5.2
Ethnicity	Afar	682	86.1
	Others*	110	13.9
Educational status	Illiterate	612	77.3
	Literate	180	20.3
	Read/Write only	20	11.1
	Elementary/Junior	105	58.3
	Secondary/Higher	55	30.6
Birth place	Rural	709	89.5
	Urban	83	10.5
Marital status	Single	130	16.4
	Married/living together	662	83.6
Occupation	Housewives	631	79.7
	No Housewives	161	20.3
Ownership of TV/Radio	Yes	306	38.6
	No	486	61.4

NB: \*Others include- Somali, Oromo, Tigre, Amhara

anonymity and confidentiality of their information. They were also informed that they were free to withdraw from the interview and study at any time.

**Operational definitions**

The following definition of FGM/C by the WHO was considered for our study: All procedures involving partial or total removal of the external female genital or other injury to the female genital organs whether for cultural or other non-therapeutic reasons [1].

**Results**

**Socio-demographic characteristics**

Out of the intended sample size, 792 participated in the study with a response rate of 93.7%. The mean ( $\pm$ SD) age of the respondents was 32.69 ( $\pm$ 7.53) years. Most of the respondents were in the age group of 30-34 years. The majority of the respondents were Muslims (94.8%), followed by Orthodox Christians (4.7%). Afar constitutes about 86.1% of respondents' ethnicity. About 77% of the respondents did not attend school and were considered illiterate. Most (89.4%) of the respondents were born in rural areas. During the study time, 83.6% of the respondents were married and were living with their husbands. In regards to occupation, about 80% were housewives. More than 61% of the respondents did not have a radio or television (Table 1).

**Prevalence of FGM**

Of the 792 study subjects included in the study, 719 (90.8%) reported to had undergone FGM/C, while 23 (2.9%) did not know whether they had or not (Figure 3).

**Factors associated with FGM**

In the final model, age of respondents was found to be significantly associated with FGM/C. A higher age groups (35-49 yrs) had more

**Table 2:** Factors Associated with FGM/C, Gewane Woreda, Afar National Regional State (ANRS), Ethiopia, July 2016.

Variable		FGM/C		COR(95% CI)	AOR(95% CI)
		Yes	No		
		N <sub>o</sub> . (%)	N <sub>o</sub> . (%)		
Age	15-24yrs	72(85.7%)	12(14.3%)	1.00(Reference)	1.00(Reference)
	25-34yrs	356(91.0%)	35(9.0%)	1.7(0.84, 3.42)***	1.34(0.57, 3.16)
	35-49yrs	291(99.0%)	3(1.0%)	16.17(4.45, 58.80)***	11.56(2.76,48.39)***
Religion	Christian	27(65.9%)	14(34.1%)	1.00(Reference)	1.00(Reference)
	Muslim	692(95.1%)	36(4.9%)	9.97(4.82, 20.63)**	3.50(0.69, 17.52)
Ethnicity	Non Afar	77(73.35%)	28(26.7%)	1.00(Reference)	1.00(Reference)
	Afar	642(96.7%)	22(3.3%)	10.61(5.79,19.96)***	4.55(1.95, 10.61)***
Marital Status	Single	112(92.6%)	9(7.4%)	1.00(Reference)	
	Married	607(93.7%)	41(6.3%)	1.19(0.56, 2.52)	
Birth of Place	Urban	58(71.6%)	23(28.4%)	1.00(Reference)	1.00(Reference)
	Rural	661(96.1%)	27(3.9%)	9.71(5.24, 18.00)***	
Literacy Status	Illiterate	580(97.6%)	14(2.4%)	1.00(Reference)	1.00(Reference)
	Literate	139(79.4%)	16(20.6%)	0.09(0.05, 0.18)***	0.35(0.15, 0.81)*
Occupation	House wives	587(96.5%)	2(3.5%)	1	1
	Non House wives	132(82.0%)	29(18.0%)	0.16(0.09, 0.29)***	0.48(0.22, 1.04)
Religion	Christian	36(70.6%)	15(29.4%)	1.00(Reference)	1.00(Reference)
	Muslim	683(95.1%)	35(4.9%)	8.13(4.07, 16.24)**	0.34(0.07, 1.66)
P.TV/Radio	Yes	216(87.4%)	31(12.6%)	1.00(Reference)	1.00(Reference)
	No	507(96.4%)	19(3.6%)	3.8(2.10, 6.87)**	0.65(0.28, 1.52)

\*\*\*p-value <0.0001; \*\* p-value <0.001; \*p-value <0.05.

than 11 fold odds of having been mutilated (AOR, 11.56; 95% CI: 2.76, 48.39) compared to the lower age group of 15- 24 years. Respondents from the Afar ethnic group were more likely to have undergone FGM/C than the other ethnic group respondents (AOR, 4.55; 95% CI: 1.95, 10.61). The study also showed statistically significant association between literacy status and FGM/C. Literate individuals were at lesser odds of having had FGM/C (AOR, 0.35; 95% CI: 0.15, 0.81) (Table 2).

## Discussion

This study evaluated the prevalence of FGM/C among childbearing age women and the factors associated with the FGM/C practice.

The overall prevalence of FGM/C in the study area was found to be 90.8%. This finding is in line with the report from a base line survey conducted around Gonder of Amhara region in Ethiopia found 94.99% during 2006 [11] and a study from Jigjiga town of Somali region during 2005 found 97% [17]. However, it is much higher than the 2013 national prevalence (74%) report by WHO [3].

Neither Islam nor Christianity condones FGM/C and there is no text or verse about this practice in the Koran and Bible. Nevertheless, there is persistent misconception that FGM/C is a religious requirement, especially in Islam. A study done by UNICEF in Benin, Cote d'Ivoire, Ghana, Kenya, and Senegal showed that the prevalence of FGM/C is greater among Muslim groups. However, there was no statistically significant association between religion and FGM/C in our study population, corroborating findings from UNICEF in Burkina Faso, Central African Republic, Eritrea, Ethiopia, Guinea, and Mali [17,18].

The majority of the Afar ethnic group (86.1%) had higher odds of having FGM/C. This indicates the predominant FGM/C in this study

population was predicted by the ethnic group Afar. This goes with the findings of UNICEF which classifies the region as area of high prevalence of FGM and infibulations [19].

Literacy was found to be associated with FGM/C practice. The level of literacy was lower in the study population as compared to the Mini Ethiopian Demographic and Health Survey (MEDHS) 2014 report for the rural population, namely 17.3% and 33%, respectively [16]. The type of FGM and women's knowledge about the health complications were not related to the literacy status of respondents. This may be due to the overall low literacy rate within the study group. Even the majority of the literate individuals had only completed the lowest grades at school, which was not significantly associated with improved knowledge on health risks of FGM/C. This analysis was also true when the literate individuals were stratified to control confounding [16].

Surveys have found that FGM/C is more common in rural than urban areas [20]. However, this finding was not borne out our by our study. This might be due to the fact that most respondents were born in rural areas. Hence comparison with an underrepresented urban group was not possible.

As to the limitation of the study, women of child bearing age who ever gave birth were included in the study. However, information about pregnancy and childbirth were restricted to their first pregnancy that ended in childbirth in order to reduce recall bias. Since the study used quantitative data collection method, it lacks the depth to identify the reasons behind the practice of FGM/C. Moreover, the study is totally dependent on the respondents' report, which may be highly subjected to individual recall variations and perception about their mutilation status, and labour and childbirth process. Social



desirability bias could be present as this practice has been outlawed since 2004. As the socio-demographic characteristics were changing dynamically in the region due to development projects, the findings cannot be generalized at regional level. Finally, due to the cross-sectional nature of the study, it may be difficult to ascertain the causal relationship between the study variables.

## Conclusion and Recommendations

### Conclusion

A significant percentage (90.8%) of women were under went FGM. Being higher age, Afar ethnicity and illiteracy were associated with the highest prevalence of FGM/C. Religion was not found to be significantly associated with the practice of FGM/C.

### Recommendations

Based on the results of this study the following recommendations were forwarded to the regional government, health bureau, and local leaders to address and reduce the morbidity and mortality related to FGM/C.

Education is the most significant and powerful tool to bring about behavioural change within a community. Hence it is recommended that improved and sustainable adult learning should be fostered and maintained within society to ensure that individuals make informed decisions about their reproductive rights.

Programs should be developed with communities that practise FGM/C, as well as their local and religious leaders and other influential persons within the society. Tougher decision making and enforced legislation must be held in place to prevent the persistent violation of the anti FGM/C law within the society.

Qualitative studies are recommended to assess communities' reasons for the continuation of FGM/C and suggestions on potential necessary conditions to help them abandon it.

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