Prevalence and Determinants of Female Genital Cutting among Primary school Girls in Addis Ababa Ethiopia

By

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Dedication

This is dedicated to my father who I missed him suddenly a year before just at the beginning of my post-graduate program.

Acknowledgement

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Abstract

Background: Female Genital Cutting (FGC) is practiced throughout the world, with the practice concentrated most heavily in Asia and Africa. Although the magnitude of FGC in Ethiopia has decreased still the prevalence is high because the procedure doesn't have any benefit.

Objective: The aim of this study was to assess the prevalence of FGC and its potential factors contributing to the act of FGC among primary in-school girls of Addis Ababa.

Methods: There were approximately two hundred ten thousand girls who were enrolled in 656 primary schools in Addis Ababa. First the schools were stratified according to their ownership as government, public, private and religious schools. Then one primary school was randomly selected from each stratum. A total of 442 girls were proportionally selected from the four selected schools. The association of FGC to demographic and other important variables was tested by chi-square test. A stepwise background logistic regression model was also applied to test further the significant associations observed in chi square tests using SPSS version 15.A p value below 0.05 was considered statistically significant.

Results: The mean age of circumcision was 2.9 ranging from 1 to 5 years. The prevalence of FGC was significantly higher (36.6%) in government schools than public (28.9%), private (5.1%) and religious (6.3%) schools. Likewise the prevalence of FGC was higher in parents with lower income (19.9%) group & low educational status of mothers (12.5%) and fathers (10.1%).

The proportion of mothers deciding to perform FGC was higher (39%) than fathers (23.8%) and other relatives (22.9%).The vast majority (94.1%) of the girls' parents stated that FGC is harmful practice. Although most (94.6%) parents were aware of FGC complication, still about a quarter (25.8%) of them have circumcised their daughters. FGC had significantly association with ethnicity, education, occupation, income and cultural reasons given by the families. In the multivariate analysis, of these factors only the reason of being FGC painful and healthy procedure was found as a predictor of the practice of female circumcision (AOR=0.35; 95%=0.17 to 0.72).

Conclusions: Despite a high level of knowledge regarding the complications of FGC and a high level of awareness, FGC practice is prevalent among primary schoolgirls in Addis Ababa and most of these circumcisions were performed by the decision of mothers so that health education for women through different women's forum and CBO (Idir, Mahiber) is recommended in order to bring significant behavioral change.

List of acronyms

AA	Addis Ababa
AAU	Addis Ababa University
BLS	Base Line Survey
CDC	Communicable Disease Control and Prevention
EDHS	Ethiopian Demographic Health Survey
FDRE	Federal Democratic Republic of Ethiopia
FGC	Female Genital Cutting
FGD	Focus Group Discussion
FGM	Female Genital Mutilation
FMoH	Federal Ministry of Health
FUS	Follow Up Survey
GBV	Gender Based Violence
GPS	Government Public Schools
HTP	Harmful Traditional Practices
MMR	Maternal Mortality Rate
MOE	Ministry of Education
NCTPE	National Committee on Traditional Practices of Ethiopia
NGO	Non-Governmental Organizations
RI	Re-Infibulations
SPH	School of Public Health

1. Introduction

1.1. Background

Globally no other issue has attained as much publicity on the human right agenda as traditional practices that made female children subjected to pain and physical attack, psychological injury as Female Genital Cutting (FGC), also known as Female Circumcision (FC) and Female Genital Mutilation (FGM) (1). Although the practice has been exercised in most developing countries of various cultures, there is no definitive evidence documenting when or why this ritual begun (2,3). Some theories suggest that FGC might have been practiced in ancient Greece, Rome, Pre-Islamic Arabia and the Russian Federation (4).

Several countries perform FGC for different cultural reasons. Some of the reasons stated are distributed as follows: to maintain cleanliness as cutting the genitalia removes secreting parts of the genitalia, means of discouraging promiscuity, aesthetic reasons, as a means of preservation and proof of virginity, and is regarded in many societies as a prerequisite for honorable marriage (5,6). In Ethiopia, for instance a girl who is not circumcised is considered "unclean" and as a result uncircumcised girls will have less chance of being married (7). Although FGC are found predominantly in Muslim countries, the practices are not prescribed by Islam and are, in fact, found among non-Muslim groups such as Coptic Christians of Egypt, several Christian groups in Kenya, and the Falasha Jews of Ethiopia suggesting no unequivocal link between religion and prevalence (8).

1.2. Statement of the problem

Despite a high level of knowledge regarding the complications of FGM and awareness of the global campaign against it, the prevalence of FGM in developing countries such as Yemen, Nigeria and Sudan is high (9,10,11). To date, the highest global prevalence of FGC is reported in Sudan where 93% of the girls in urban and 89% in rural settings (11). On the contrary, some African countries like Burkina Faso, have managed to lower the incidence of FGC through multiple interventions (12).

According to EDHS 2000, the prevalence of FGC in Ethiopia was 80% with only a 30% attitudinal change among the society (13) while EDHS 2005 shows that 75% of women have been circumcised (14,15). In Addis Ababa, the prevalence was 70% according to baseline survey in 2003 while the follow-up study in 2008 report showed 52.2% (16,17).

1.3. Significance of the study

While there are some reasonable reports on the magnitude of FGC in the reproductive aged group of women, still there is a gap of information in the younger age group. Thus, this study aimed to fill the above gap and provide evidence based information on the magnitude of FGC and their deriving factors in Addis Ababa primary in-school girls which may help for program initiative.

2. Literature Review

Female genital cutting or female genital circumcision or " Female genital mutilation" is usually performed on girls (18). According to the World Health Organization, Female Genital Mutilation (FGM) constitutes all procedures, which involve partial or total removal of the external genitalia or other injury to the female genital organs whether for cultural or other non-therapeutic reason. The types of procedures undertaken in female genital cutting/ mutilation can be broadly classified into four groups which ranges from the removal of a small part of the clitoris to high degree infibulations (18,19).

Type I circumcision (Sunna) is excision of the prepuce with or without excision of part or the entire clitoris while Type II circumcision (Clitrodoctomy) includes excision of the prepuce and clitoris together with partial or total excision of labia minora. Type III circumcision (Infibulations) is excision of part or all of the external genitalia and stitching / narrowing of the opening leaving small hole just for urine and menstrual flow. Type IV circumcision (Mutilation) is unclassified. It includes pricking, piercing or incision of clitoris and/ or labia, stretching of clitoris, cauterization by burning of the clitoris and surrounding tissues, scraping (angurya cuts) of the vaginal orifice or cutting (gishiri cuts) of vagina and introduction of corrosive substances into the vagina to cause bleeding into the vagina with the aim of tightening or narrowing the vagina (18,19,20).

The exact origin of FGC remains a mystery. The practice is known to have been for several thousand years (21). However, research indicates that in the 5th Century Egyptians used it as a ritual prior to marriage (22). Early Romans and Arabs did the procedure for cosmetic reasons or sometimes as an indication of slavery and subordinator believed that the practice spread south into Africa through trade and the spread of slavery (23). While

there is no definitive evidence documenting why or when female genital mutilation begun, many theorize that it provided families a means to ensure before marriage (24,25).

In some communities, female genital mutilation is seen as necessary to preserve suitability for marriage and to protect the honor of the family, clan or tribe (26). According to WHO, female genital mutilation is also perpetuated by various myths including beliefs that the woman's clitoris would grow if left uncut potentially harming childbirth (27). These beliefs increase the social pressure faced by uncircumcised who run the risk of isolation and ridicule in their communities or men's refuse them, in societies where women depend on their husbands for their economic status (28). Families in communities which have practiced female genital mutilation centuries, often lacking access to other points of view, usually believe that circumcision must be carried out for the girl's own good (29).

There are between eight and ten million women and girls in the Middle East and in Africa, who are at risk of undergoing one or another form of genital cutting (30,31). In the United States of America it is estimated that about ten thousand girls are at risk of this practice (32).FGC in a variety of its forms is practiced in Middle Eastern countries such as the two Yemenis, Saudi Arabia, Iraq, Jordan, Syria, and Southern Algeria (33). In Africa it is practiced in the majority of the continent including Kenya, Nigeria, Mali, Upper Volta, Ivory Coast, Egypt, Mozambique, and Sudan (34). Even though FGC is practiced in mostly Islamic countries, it is not an Islamic practice. FGC is a cross cultural and cross-religious ritual (35,36).

The age at which FGC is performed on women and girls varies. It may be performed during infancy, childhood, marriage or during a first pregnancy (37). FGC is typically

performed on young girls who are between 4 and 12 years old, however, by a medically untrained person-often an older women-from the local culture or community (38). Increasingly FGC is also performed by trained health personnel, including physicians, nurses and midwives (39).

FGC is practiced predominantly in 28 countries in Africa. Eighteen African countries have prevalence rates of 50 percent or higher (40). Some immigrants also practice various forms of FGC in other parts of the world, including Australia, Canada, New Zealand, the United States and in European nations. It is estimated that 130 million girls and women have undergone FGC. Approximately 2 million are subjected to this practice each year worldwide. According to the CDC, an estimated 168,000 women and girls in the United states had either undergone FGC in 1990.Of these,48,000 were girls younger than 18 years old (40,41,42).

To determine the level of knowledge, belief, and assess the attitude of female genital mutilation and its complications in Shao community, Nigeria, a cross-sectional descriptive study with a health education intervention was used. The majority of respondents (99.5%) understood female circumcision to mean cutting off parts of the female genitals. There was a high level knowledge regarding most of the complications of FGM as more than 50% of respondents knew at least four complications of FGM. Despite a high level of knowledge regarding the complications of FGM, there still exists a high prevalence of practice of FGM in this community. FGM remains pressing human rights and public health issue. It is the recommendation of the study that this health education intervention strategy be replicated nationwide especially using mass media (43).

The overall prevalence of the most sever form, infibulations, is estimated at 65% in the whole of Sudan. However, previous research has shown that more educated and urban women tend to prefer less sever forms of FGC for their daughters, including clitoridectomy (44).The study assessed trends in the practice of FGC over the past ten years had identified political, programmatic, and socio-cultural factors for the decline of FGC. Review of various demographic surveys showed a decline in prevalence between 2003 and 2006 (from 77% to 59%) among women aged 15-49, although prevalence remains high among certain ethnic groups (44,45).

Qualitative research in Burkina Faso showed that support for FGM/C remains high among older people. The sustainability of the social and behavioral changes related to the practice will require continuing commitment from governments and communities to ensure enforcement of anti-FGM/C laws and collaboration among groups that seek the abandonment of the practice (46).

A recent study has showed a quarter of Yemeni women have been subjected to circumcision and 71.4% of the Yemeni women favored female circumcision while 48% of the Yemeni men support continuing the process of the circumcision. Among five provinces of the country, Hodeida and Hadramout provinces were ranked first in the number of the circumcised women by 97.3%,while the prevalence of female genital mutilation in the provinces of Aden and Maharajah reached 96.5% in each and in the capital Sana'a has hit 45.5%, according to the study (47).

EDHS 2000 shows that the practice of FGC is widespread in Ethiopia;80% of all women have been circumcised. Nearly one-third (60%) of all women stated that they supported circumcision. Women with secondary and higher levels of education are also

significantly less likely to support the practice (19%), compared with women with no education (67%), as are women working for cash (56%), compared with other women.

More than half of the women reported that at least one of their daughters has been circumcised. Women with secondary education or higher are least likely (26%) to have a circumcised daughter, compared with 56% among uneducated women and 36% among those with primary education. Surprisingly, women who are not employed to have at least one circumcised daughter. More than half of the reported daughters have been circumcised before age one (48).

Data collected in the 2005 EDHS show that less than one in three women who have heard of FGC believe that the practice should continue. Thirty-eight percent of women with a daughter reported having at least one of their daughters circumcised. The probability that a respondent's daughter is circumcised varies directly with her age, rising from 15 percent among women age 15-19 to 67 percent among women age 45-49, indicating that there may have been a decline in the practice of circumcision in recent years. Women with no education are more than twice as likely as women with secondary education or higher to have a daughter circumcised. Nevertheless, women in the highest wealth quintile are least likely to have a daughter circumcised (49).

The 1997 E.C Ethiopian penal code of criminals states that anybody who circumcises a lady at any of her age will be punished with minimum of 3 months Arrest or minimum of 500 birr payment (Chapter3, Article 565, Page 364).On the other hand anybody who sews female genitalia will be punished with three to five years arrest. (Chapter 3, Article566, Number1, Page 364). If circumcised or mutilated ladies have faced any immediate complication on her health due to the circumcision, the person who risks her will be

punished from five to ten years Arrest. (Chapter3, Article 566, Number2, Page 364). This is the law that we use currently but most of the people don't know criminal laws on female circumcision (50).

2.1. Conceptual Framework of the study

To analyze the various factors involved in the activities of FGC, a conceptual framework was adopted from FUS, 2008 recommended for such type of study. In order to decrease the magnitude of the harmful traditional practice, it is important to bring a positive change in behavior. This healthy behavior can be affected by some background factors.

Some of the background factors that can affect the practice include age, education, occupation, income, religion, ethnicity and culture. Additionally, some of the actors can play major roles in changing the people's intention and practice of performing FGC. Therefore, this framework had considered the existence of a linear associations or interactions among the various variables of interests.

Based on the model, the interactions between those enlisted factors were investigated. Some of the factors had been negatively related while the others had been interacted positively. (Figure 1)

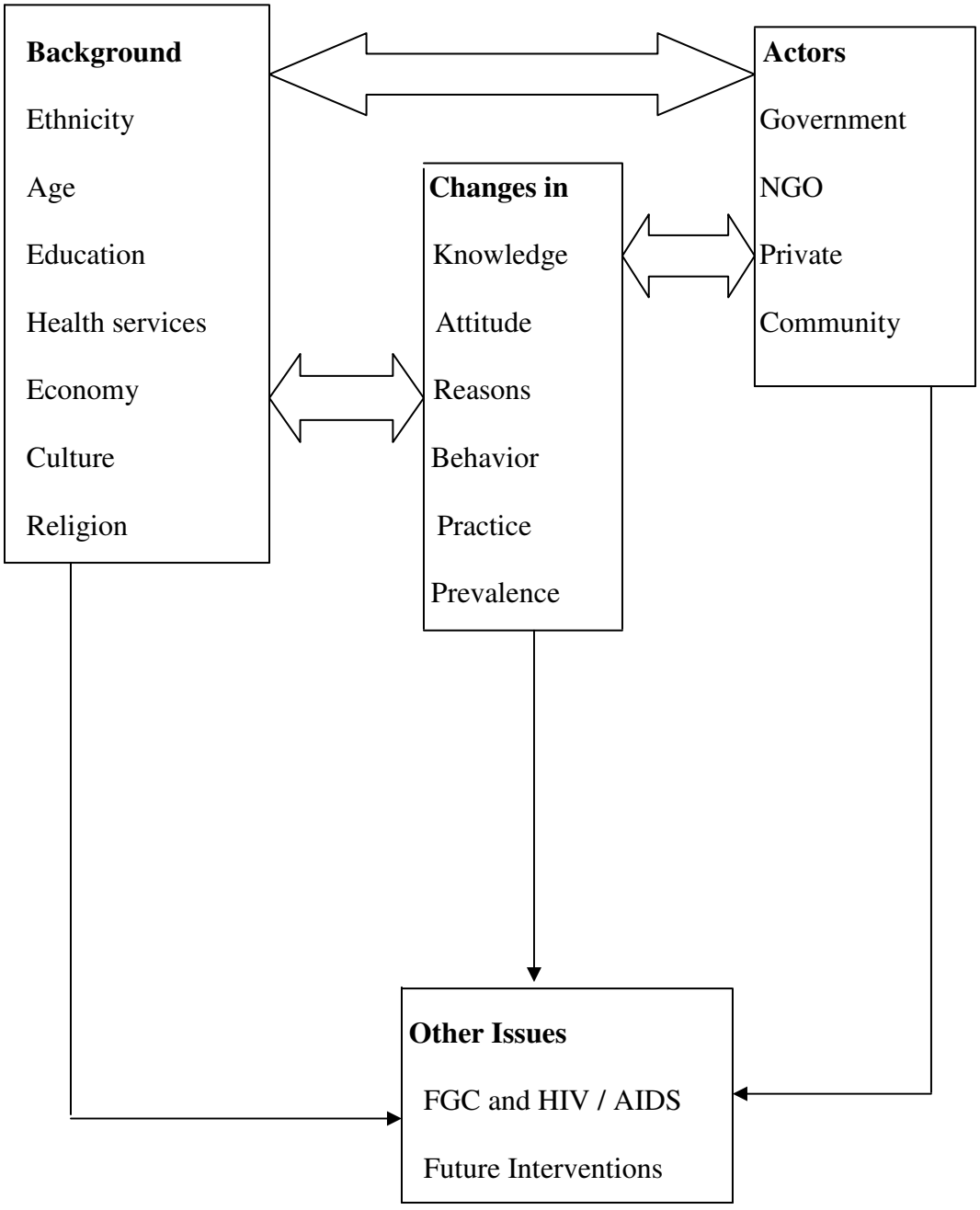

Figure 1. Diagrammatic presentation of conceptual framework with factors of FGC among primary school girls in Addis Ababa, in 2009.

3. Objectives

3.1. General objective

- To assess the Prevalence and Potential Determinants of Female Genital Cutting (FGC) among Primary school girls in Addis Ababa.

3.2. Specific Objectives

- To estimate the current magnitude of FGC among Primary In-school girls.
- To assess Knowledge, Attitude and Practice of the girls' families towards FGC.
- To determine those reasons raised by the families either in favor or against of the practice.

4. Methodology

4.1. Study Design

A Descriptive Cross-sectional study with Analytical component was employed to study the sampled primary school girls in Addis Ababa.

4.2. Study Area

The study area was Addis Ababa which is the capital city of Ethiopia. The city has a total of 656 primary schools at the time of the present study. The schools were distributed as 262 government, 195 public, 113 private and 86 religious schools. A list of all primary schools together with their respective number of students (N=209,914) was prepared to constitute the sampling frame. The distributions of the number of students were almost equal in each of the ten sub-cities except 'Kolfe-Keranio' sub-city which had a relatively larger number of students. Most of the private schools were concentrated in 'Nefas Silk-Lafto' sub-city while the majority of public schools were found in 'Arada' sub-city. The site was chosen purposefully by the principal investigator because of its proximity and high degree of interest in measuring the magnitude of FGC among the population who have relatively better access of information than rural population.

4.3. Source population

The source population was all female students who were enrolled in all primary schools found in Addis Ababa.

4.4. Sample population

The sample population was those female students who were registered in the selected four primary schools.

4.5. Study units

The study units for the quantitative methods were those randomly selected 442 school girls from the selected four primary schools and ten people from teachers, parents, nurses, policemen, religious leaders of local church and mosques were also randomly selected for In-depth interview of the qualitative study. Additionally eight discussants from private nursing students, primary school teachers and the community were selected for each of the two Focus Group Discussions.

4.6 Inclusion criteria

- Those regular students from Grade-1 to Grade-8 were included in the study.
- All primary schools in Addis Ababa were recruited.

4.7. Exclusion criteria

- Those 10% pre-tested samples were also excluded.
- Those night time female students were not included.
- Those school girls whose age greater than 15 years were excluded because the investigator doesn't want to include those women of reproductive age group (15-49).

4.8. Sample size determination

The sample size for the study was estimated using the following single population proportion formula.

$$[\ n= (z / d)^2 \times p\ (1- p)\ ]$$

With the assumption of 5% standard of error (d), 95% confidence interval (z =1.96) and 50% maximum variability assumed proportion, the initial calculated sample was 384.

In order to get the final sample size the following correction formula had been used.

$$[\mathbf{nf = (N \times n) / (N + n)}]$$

Therefore, with 15% allowance for non-response, the estimated sample size was 442.

4.9. Sampling Procedures

First, all primary schools in Addis Ababa were stratified according to their ownership as government, public, private and religious schools. From the prepared sampling frame based on their ownership, 'Tesfa-Kokeb' primary school was randomly selected out of all government schools while 'Alem-Maya' from public schools, 'Family' from private and 'Hiwot-Birihan' from religious schools were similarly selected to represent each stratum. Then 215 girls were proportionately selected from Tesfa-Kokeb, 109 from Alem-Maya, 80 from Family and 38 from 'Hiwot-Birihan' as to the predetermined sample size and then using their class attendance, equal number of girls were randomly taken from each of the available sections (grade-1 to grade-8).The selected girls were assessed for various socio-economic information by trained teachers under the supervision of the principal author (figure 2).

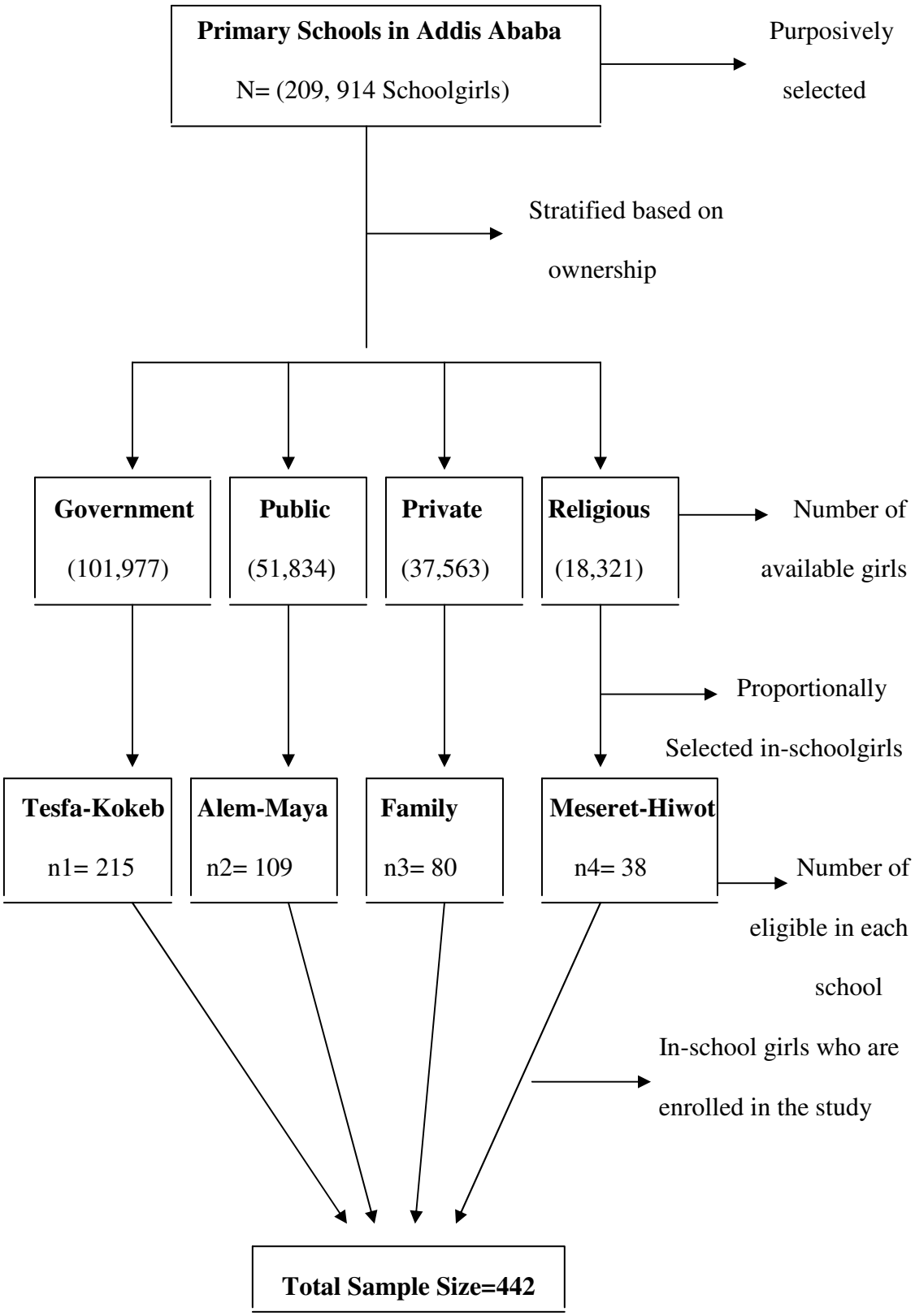

Figure 2. Schematic presentation of the sampling procedure.

4.10. Data Collection Techniques

Instrument: A total of 442 structured questionnaires were used to collect data on socio-demographic, behavioural factors and other important data related to FGC. Pre-test was done two weeks before data collection started in 10% of the questionnaire. The selected schools were communicated a week before selecting the schoolgirls. In-depth interview was conducted in ten randomly selected people from parents (n=2), religious leaders (n=2), policemen (n=1), community (n=3) and teachers (n=2) by the investigator using open-ended questions.Guiding questions for FGD were also employed to lead the discussants who were selected from teachers, nursing students and the community.

***Data Collectors*:** Unit leaders of each of the selected four schools were recruited as data collectors and trained for two days on data collection technique by the principal investigator.The data collectors had selected the schoolgirls randomly from each section of the selected schools. The girls had got some orientations from the data collectors on how to handle the questionnaires. After the questionnaire was packed in the envelope by the data collectors, it was sent to the respective parents through their daughters.

***Supervisor*:** One supervisor were also recruited and trained for two days. The supervisor gave advice during data collection time for data collectors. They had also gathered completely filled questionnaires. Again they had reported the entire daily process of data collection for the principal investigator.

Although the questionnaire was self-administered, the data collection took a total of fifteen days because some of the parents didn't send the questionnaire back to the data collectors within the planned time interval.

4.11. Data Quality Management

- Questionnaire was adopted from that of EDHS, BLS & FUS. It was modified according to the variables included in the study. Translation and back translation of the questionnaires was made.

- Selected schools were communicated and pre-test was done on the 10% of the total sample size a week before data collection took place in non-enrolled study subjects of the same preschool communities and those pre-tested samples were not included in the final study.

- Probing questions were also asked to reduce error arising from respondent's memory lapse and the information collected was rechecked in 5% of randomly selected subjects. Before data analysis started the data was coded, edited, organized, cleaned and explored cautiously.

- Each questionnaire was checked for completeness of information daily by the supervisors and missing information was corrected by going back to the respective schools and parents' home.

4.12. Data Analysis

Statistical package for Social Science version 15 was used for data entry and cleaning and all the detected inconsistencies were addressed. In addition, standards tabulations were generated in which the outliers were identified prior to subjecting the data to analysis. The chi-square test was performed to determine the differentials of FGC by explanatory variables. Pearson's chi-square test of independence was performed to test the existence of significant association with FGC and selected risk factors. Stepwise backward logistic

regression model was applied to test the observed significant variables in the bivariate models. A p-value of less than 0.05 denoted significance in differences.

4.13. Ethical Consideration

- The Research and Ethical Clearance Committee of the medical faculty of Addis Ababa University cleared the study for its methodological and scientific merit.
- Permission was warranted from the Addis Ababa education bureau and respective primary school-heads.
- Informed ascent form was sent for the respective parents/guardians of the study subjects for their participation.
- Confidentiality and anonymity was kept throughout.

4.14. Variables

4.14.1. Dependent variable

- Prevalence of FGC among primary school girls in Addis Ababa.

4.14.2. Independent variables

- Age, Grade, Ethnicity, Religion, Education, occupation, Current Living status, Income, Knowledge, Attitude, Practice, Health services, Socio-cultural reasons, Legal issues, circumcisers and School types (Government, Public, Private and Religious).

4.15. Operational Definitions

- Low Income**…** No annual school payment or < 100 birr.
- Medium Income**...** Annual school payment of 100-1000 birr.
- High Income**…**Annual school payment of >1000 birr.

5. Results

5.1. Quantitative findings

The data were collected from Tesfa-Kokeb, Alem-Maya, Family and Hiwot-Birihan primary schools. Of the total of 442 self-administered questionnaires sent to the respective parents of the school girls, only 407 of them returned the questionnaire with adequate information making a total response rate of 92.1%.

5.1.1. Socio-Demographic characteristics

Nearly two-third (62.2%) of the students was in the age group of 11-15 years of age while 22.1% of them were between the ages of 6 to10 years. The rest 0.7% of the girls were less than 5 years old according to the report of their parents as it is.

Most (67.1%) of the respondents were Orthodox Christians followed by Moslems (18.2%), Protestants (13.8%), Catholics (0.7%) and others (0.2%).

Almost equal numbers of in-school girls were belonging to (31.2%) Gurage and (31.0%) Amhara ethnic groups, the rest belongs to Oromo (23.6%), Tigray (6.4%) and other ethnic groups (7.9%).

Most (60.4%) of the subjects were from grade five to grade eight. About half (51%) of the girls were living with their both parents and the rest were living with their mothers (18.4%) and fathers (5.7%) respectively (Table 1).

Table 1- Socio-Demographic information about in-school girls drawn from Addis Ababa, May 2009.

Variables	Number	Percent (%)
Age of the girls in years (n=407)		
< 5	22	5.4
5-10	109	26.8
11-15	276	67.8
Grade of the girls (n=407)		
Grade 1-4	161	39.6
Grade 5- 8	246	60.4
Religion of the girls (n=407)		
Orthodox	273	67.1
Muslim	74	18.2
Catholic	3	0.7
Protestant	56	13.8
Others	1	0.2
Ethnicity of the girls (n=407)		
Amhara	126	31
Oromo	96	23.6
Tigray	26	6.4
Gurage	127	31.2
Others	32	7.9
Currently the girls live with their (n=407)		
Fathers only	23	5.7
Mothers only	75	18.4
Both parents (Father and Mother)	210	51.6
Relatives	80	19.7
Others	19	4.7

5.1.2. Background information of the parents

As depicted in Table 2, nearly one third (31%) of the student's fathers had attended their primary school while the rest 26.5% had attended their high school education.

Whereas more than one third (33.4%) of the participants' mothers had attended their primary school education and the rest 27.3% had attended their high school education.

More than half (51.6%) of the fathers had private work and 22.6% of them were government employees. The rest 13.7% of them had different types of jobs.

Most (52.5%) mothers were housewives and more than a quarter (28.4%) had private work and the rest (13.4%) were government employees and 5.7% of them had been involved under various types of earnings.

Based on their income status, more than half (55.1%) of respondents had low income and the rest had medium (21.1%) and high income (23.3%).

Table 2-Background information of parents of the study subjects drawn from Addis Ababa, May 2009.

Variables	Number	Percent (%)
Father's education (n=407)		
Illiterate	80	20
Primary school	126	31
Secondary school	108	27
College or university	93	22
Mother's education (n=407)		
Illiterate	115	28.3
Primary school	136	33.4
Secondary school	111	27.2
College or university	45	11.1
Father's occupation (n=407)		
Government	92	22.6
Private	210	51.6
No work	49	12.1
Other business	56	13.7
Mother's occupation (n=407)		
Government	55	13.4
Private	116	28.4
House wife	217	52.5
Other business	19	5.7
Income or annual school fee (n=407)		
Low	224	55.1
Medium	86	21.2
High	97	23.7

5.1.3. Knowledge, Attitude and Practice of the parents

The vast majorities (94.6%) of parents had heard about the harmful effect of FGC and most of them had got the information through Television (32.0%). Few (3.9%) ascertained that FGC was practiced while about half (52.4%) stated FGC was not

practiced and the rest (43.7%) did not know whether FGC is practiced or not around their villages. The proportion of parents who stated FGC was harmful act was 93.3 %.

Table 3- Knowledge, Attitude and Practice of the parents of the subjects drawn from Addis Ababa, May 2009.

Variables	Number	Percent (%)
Awareness about FGC (n=407)		
No	22	5.4
Yes	385	94.6
Source of information (n=407)		
Radio	63	15.5
Television	131	32.2
Health facilities	44	10.8
Schools	65	16
Meetings	21	5.2
Use of two or more of the above sources	55	13.4
Other available sources	28	6.9
Presence of FGC around their villages (n=407)		
No	213	52.4
Yes	16	3.9
Do not know	178	43.7
Harmful practice (n=407)		
No	26	6
Yes	381	94

As depicted in Table 4, the proportion of parents whose daughters circumcised was 105 (25.8%) and the median age during the time of circumcision was 3 years. The proportion of parents who stated that FGC was helpful in avoiding promiscuity was 57.9% while those who mentioned to maintain virginity was 27%. The proportion of parents who stated FGC was against human right was 87.7%. The rest mentioned that FGC was done for unfounded reason.

Table 4- Types of reasons mentioned by parents in favor of / reject in the practice FGC and age of circumcised girls at time of circumcision in Addis Ababa, 2009.

Variables	Number	Percent (%)
Circumcision age in year (n=105)		
< 1	25	23.8
1-5	45	42.9
6-10	35	33.3
mean (SD) = 2.9 (0.65)		
Reasons in favor for FGC (Only 'yes' answer of n=407)		
Maintain cleanliness or hygiene	63	15.5
Means of decreasing promiscuity	240	59
Means of preservation virginity	110	27
A prerequisite for honorable marriage	47	11.5
Reasons against FGC (Only 'yes' answer of n=407)		
Unnecessary for female	357	87.7
Painful and unnecessary procedure	297	72.9
Bad social habit	297	72.9

Table 5 indicates some of the proposed interventions which are important to eradicate the practice of FGC among in-school girls, the vast majority (94.8%) of them suggested mass education through mass media and 371 (89.4%) of them suggested that legal measures should be taken on traditional circumcisers.

Table 5- Proposed interventions to eradicate FGC as indicated by parents of the subjects drawn from Addis Ababa, May 2009.

Variables	Number	Percent (%)
Education through (only 'yes' response): (n=407)		
Mass education	386	94.8
Religious forums	368	90.4
Community participation	373	91.6
Educational institutions	376	92.4
Health institutions	379	93
Mass media	386	94.8
Taking legal measures on circumcisers (n=407)		
No	36	9.1
Yes	371	90.9

Other alternative job for circumcisers (n=407)		
No	34	8.4
Yes	373	91.6
Community mobilization to eradicate FGC (n=407)		
No	47	11.5
Yes	360	88.5

5.1.4. Prevalence of Female Genital Cutting (FGC)

More than a quarter 105 (25.8%) of the schoolgirls were circumcised. As it is shown in Figure 3, the prevalence was higher (36.6%) in government school while 28.9% in public, 5.1% private and 6.3% religious school.

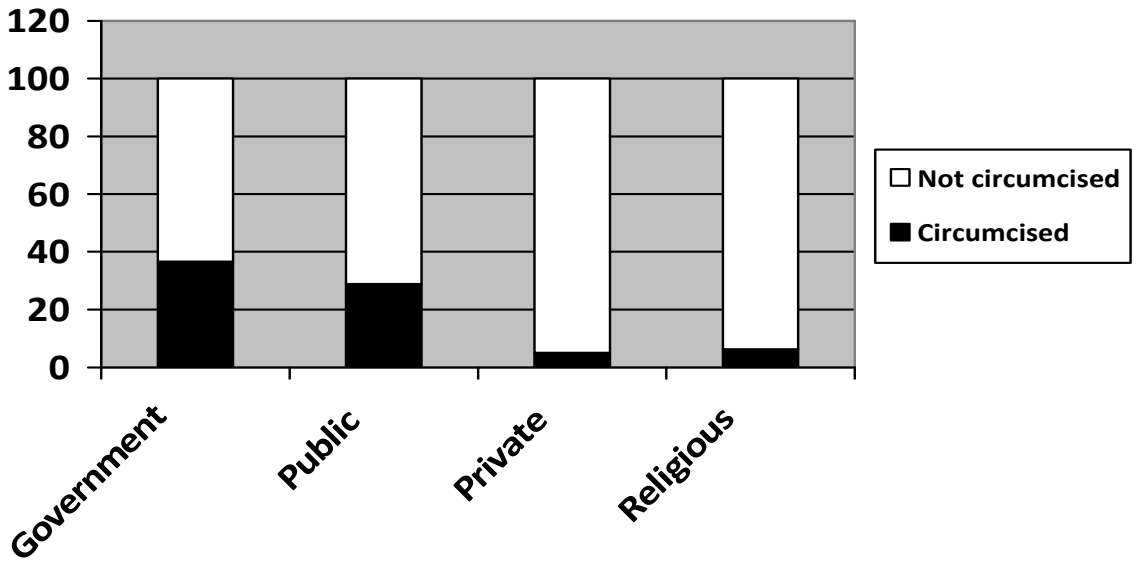

Figure 3: Prevalence of FGC among girls by school ownership, Addis Ababa, May 2009.

Mostly (39%) decisions for FGC were made by mothers. The proportion of fathers and joint decision to comply with FGC was 23.8% and 14.3% respectively. The rest 22.9% of decisions was made by their relatives (Figure 4).

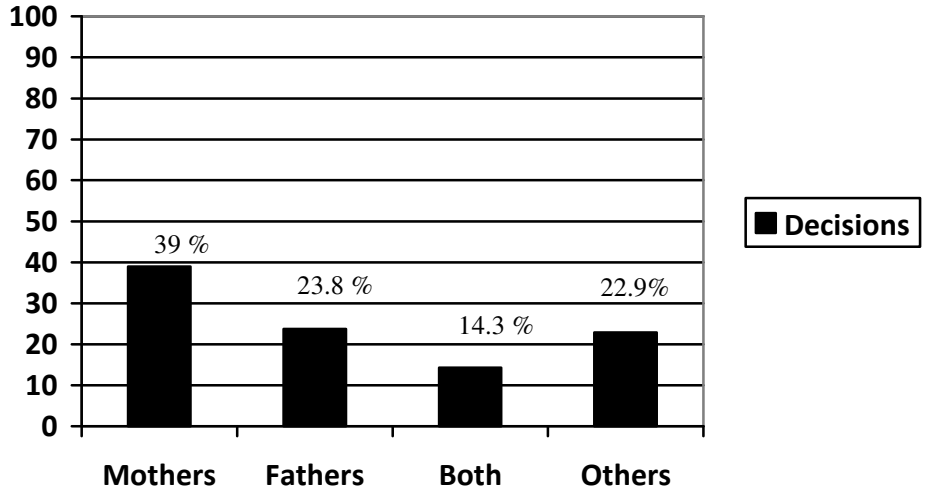

Figure 4: Distribution of decision makers for FGC of school girls drawn from Addis Ababa primary schools, May 2009.

5.1.5. Potential Determinants of Female Genital Cutting (FGC)

As it is shown in Table 6, there was no significant association between age, religion and the prevalence of FGC. However, the magnitude of FGC was high among Orthodox Christian girls. Interestingly, both Ethnicity and Types of school were significantly associated with the prevalence rate of FGC. Among all ethnic groups, Oromo (P=0.022) and Gurage (P=0.026) were significantly associated with the practice of FGC. Both private and public schools were significantly associated with the practice of FGC with p-value of 0.001 for both variables. The odds of subjecting girls for FGC was 6 times more at risk among Gurage ethnicities than the referent ethnic group (OR= 6.29; 95% CI= 1.25 to 31.65). The proportion of FGC was significantly lower in private and public schools than government schools. The likelihood of girls being circumcised was 0.16 times lower

in the private (OR=0.16; 95% CI=0.06 to 0.45) and 0.12 times lower in the public (OR=0.12; 95% CI= 0.04 to 0.30) schools than government schools.

Table 6 - Socio-Demographic association with practicing FGC among in-school girls in Addis Ababa, May 2009.

Variables	Total	FGC (%)	COR (95% CI)	AOR (95% CI)
Age (n=407)				
< 5 years	22	1.9	1	1
5-10 years	113	35.2	0.25 (0.01, 7.45)	0.69 (0.01, 33.08)
11-15 years	272	62.9	2.71 (0.23, 32.00)	3.9 (0.22, 68.79)
Religions (n=407)				
Orthodox	273	61	1	1
Muslims	74	28.6	0.54 (0.25, 1.21)	0.39 (0.14, 1.03)
Catholics	4	2.8	0.24 (0.10, 0.59)	0.23 (0.08, 0.66)
Protestants	56	7.6	0.06 (0.01, 0.60)	0.04 (0.003, 0.503)
Ethnicity (n=407)				
Amhara	126	19	1	1
Oromo	96	23.8	2.78 (1.16, 6.64)*	4.36 (1.23, 15.45)
Tigray	26	1.9	1.49 (0.63, 3.52)	1.50 (0.42, 5.30)
Gurage	127	44.8	6.29 (1.25, 31.65)**	12.66 (1.54, 104.32)
Others	32	10.5	0.89 (0.40, 2.01)	0.92 (0.29, 2.88)
School type (n=407)				
Government	191	66.7	1	1
Public	97	26.7	0.12 (0.04, 0.30)***	0.25 (0.04, 1.68)
Private	39	1.8	0.16 (0.06, 0.45)****	0.26 (0.04, 1.63)
Religious	80	4.8	1.23 (0.23, 6.66)	1.42 (0.20, 10.25)
Grade (n=407)				
Grade 1-4	161	39	1	1
Grade 5-8	246	61	1.20 (0.60, 2.43)	1.71 (0.67, 4.38)

* P-value = 0.022; ** P-value=0.026 ; *** P-value=0.001 and ****P-value= 0.001.

As it is indicated in Table 7, the proportion of FGC was significantly lower among educated parents than illiterate families. The likelihood of girls being circumcised was 0.12 times lower in primary school completed fathers (OR=0.12, 95% CI=0.06 to 0.27) and 0.26 times lower in secondary school completed fathers (OR=0.26, 95% CI=0.12 to 0.56) than illiterate fathers. As the same time, it was 0.18 times lower in primary school completed mothers than illiterate mothers (OR=0.18, 95% CI=0.07 to 0.49).

The odds of subjecting girls for FGC was 4 times more at risk among mothers who had private work than government employed mothers (OR=3.5, 95% CI= 1.06 to 11.57).The prevalence of FGC was significantly lower among high income parents than low income parents. The likelihood of being circumcised was 0.17 times more in those parents with medium income than low level income (OR=0.17, 95% CI=0.06 to 0.50).

Table 7- Association of FGC with education, occupation and income of the girls' parents in Addis Ababa, May 2009.

Variables	Total	FGC (%)	COR (95% CI)	AOR (95% CI)

Father's education (n=407)				
Illiterate	76	37.1	1	1
Primary school	126	39	0.12 (0.06, 0. 27)*	0.34 (0.12, 1. 02)
Secondary school	108	14.3	0.26 (0.12, 0.56)**	0.63 (0.23, 1.69)
College or university	92	9.5	0.76 (0.32, 1.78)	1.29 (0.46, 3.59)
Mother's education (n=407)				
Illiterate	115	48.6	1	1
Primary school	136	34.3	0.18 (0.07, 0. 49)***	0.97 (0.23, 3.98)
Secondary school	111	12.4	0.39 (0.14, 1.08)	1.28 (0.34, 4.85)
College or university	41	4.8	1.05 (0.35, 3. 15)	1.79 (0.49, 6.59)
Father's occupation (n=407)				
Government	92	13.3	1	1
Private	210	56.2	1.77 (0.76, 4. 11)	0.92 (0.34, 2. 49)
No work	49	18.1	0.81 (0.41, 1. 61)	0.53 (0.23, 1.21)
Other business	56	12.4	0.42 (0.18, 0.99)	0.48 (0.19, 1.25)
Mother's occupation (n=407)				
Government	55	7.6	1	1
Private	116	28.6	3.50 (1.06, 11.57)****	1.55 (0.35, 6.84)
House wife	236	57.1	1.67 (0.60, 4.64)	1.51 (0.43, 5.26)
Other business	19	6.7	1.52 (0.57, 4.04)	1.74 (0.54, 5.63)
Income (n=407)				
Low	224	77.2	1	1
Medium	86	16.2	0.17 (0.06, 0.50)*****	0.23 (0.07, 0.73)
High	95	6.7	0.32 (0.13, 0.82)	0.41 (0.15, 1.15)

*p-value=0.001; **p-value=0.001; ***p-value=0.001; ****p-value=0.04; *****p-value=0.001

As it is displayed in Table 8, there was no significant association among variables of Knowledge of FGC and the practice of FGC. The major source of knowledge was Television (32.2%). The vast majority (94%) of participants believed that FGC was a harmful practice.

Table 8- Association of KAP with prevalence of FGC among in-school girls drawn from Addis Ababa, May 2009.

Variables	Total	FGC (%)	COR (95% CI)	AOR (95% CI)
Awareness (n=407)				
No	22	7.6	1	1
Yes	385	92.4	0.39 (0.13, 1.18)	2.42 (0.88, 6.68)

Source of information (n=407)				
Radio	73	21	1	1
Television	141	32.4	3.23 (0.50, 20.85)	0.59 (0.21, 1.70)
Health organizations	54	11.4	5.28 (0.84, 33.09)	0.92 (0.34, 2.51)
Schools	75	22.9	4.50 (0.66, 30.54)	0.90 (0.30, 2.75)
Meetings	29	6.7	2.56 (0.40, 16.44)	0.42 (0.15, 1.21)
Others	35	5.7	5.50 (0.74, 40.80)	0.62 (0.17, 2.30)
FGC in your village (n=229)*				
No	213	78.1	1	1
Yes	16	21.9	1.18 (0.36, 3.82)	0.86 (0.49, 1.50)
Harmful practice (n=407)				
No	26	7.6	1	1
Yes	381	92.4	0.32 (0.10, 1.01)	2.42 (0.86, 6.82)

* 'Do not know' questions were removed to measure the association with the practice using logistic regression.

As it is shown in Table 9, among all the reasons in favoring FGC, hygienic purpose of female circumcision was significantly associated with the practice (P=0.03) but it was not retained as predictor of the practice in the logistic analysis (OR=2.25; 95% CI=1.08 to 4.67).Respecting tradition / culture was another reason which was significantly associated with the rate of FGC (P=0.001). Other factors such as avoidance of shame (P=0.017), avoidance of stigmatization (P=0.001), good manner of girls (P=0.001) and prevention of difficulty during delivery (P=0.005) were other significantly associated factors in favoring the practice of FGC.

Among the reasons stated in rejecting the practice of FGC, painful and unhealthy procedure was significantly associated reason (P=0.001). It was also the only important predictor in rejecting female circumcision. Being FGC unnecessary procedure for females was another significantly associated reason in rejecting FGC (P=0.016). However, the above association was monitored for painful reason (AOR=0.35; 95% CI=0.17 to 0.72).

Table 9-Types of reasons mentioned by parents in favor of / reject in the practice of FGC and their association with FGC in Addis Ababa, May 2009.

Variables	Total	FGC (%)	COR (95% CI)	AOR (95% CI)
Reasons in favoring FGC (n=407)				
Maintain cleanness				
No	344	81	1	1
Yes	63	19	2.25 (1.08, 4.67)*	1.67 (0.68,4.10)
Discouraging promiscuity				
No	244	46.7	1	1
Yes	163	53.3	1.56 (0.97, 2.52)	1.56 (0.97, 2.52)
Respecting tradition / culture				
No	252	48.6	1	1
Yes	155	51.4	2.41 (1.50,3.87)**	1.54 (0.81, 2.92)
Esthetics purpose				
No	364	89.5	1	1
Yes	43	10.5	2.30 (0.60, 8.74)	1.50 (0.73, 3.08)
For honorable marriage				
No	360	85.7	1	1
Yes	47	14.3	3.00 (1.02, 8.79)	1.75 (0.49, 6.24)

Reasons in rejecting FGC (n=407)				
Painful and unhealthy procedure				
No	44	20	1	1
Yes	363	80	0.33 (0.17, 0.63)***	0.35 (0.17, 0.72)***
Against human right				
No	50	12.3	1	1
Yes	357	87.7	0.47 (0.25, 0.87)****	0.67 (0.31, 1.47)
Unfounded reasons				
No	110	34.3	1	1
Yes	297	65.7	0.61 (0.38, 0.99)	0.80 (0.44, 1.43)

* P-value = 0.03; ** P-value = 0.001; *** P-value = 0.001 and **** P-value = 0.064.

5.2. Qualitative study

Ten participants were also selected for in-depth interview from parents, teachers, college students and religious leaders. Most (70%) of the participants were males and their average age was 37.9 years. The majority (90%) of the respondents agreed that FGC is still practiced in Addis Ababa but the magnitude is decreasing from time to time. One of the participants who was a 52 years old male teacher said; *In our village 'Mesalemia' there is a known circumciser who circumcises females. People from different areas bring their daughters very early in the morning. Every morning you can see two or three young circumcised girls coming for circumcision to his home. No doubt that the problem is still practiced and exist therefore government should take some measures on such type of people who perform female circumcision..*

Few of the respondents seem to become hopeless in eradicating FGC because they assume that FGC is highly related with culture and beliefs. A 45 years old male primary

school director stated the following; *It is strongly associated with culture so that it is difficult to eradicate not in Addis Ababa even in America!.*

The majority of the respondents agreed that FGC in Addis Ababa is practiced by few people who came from the rural part of Ethiopia. According to them FGC is not performed by urban dwellers rather it is done among the rural dwellers who recently moved to the city. A 34 years old female who works in NCTPE stated that; *All ethnic groups of Ethiopia live in Addis Ababa with their diversity of cultures. Because of this the practice of female circumcision can still exist within the population.*

Most of the educated participants did not support the practice. They knew the complications of FGC and appear to be strong enough not to be affected by the harmful culture like that of the uneducated people.

"I have three daughters whose age is 17, 15, and 11 years old. None of them were circumcised. For your surprise even I am not circumcised. Since my families were educated, they did not support circumcision. But currently in our village 'Kotebe' FGC is still practiced. If you search there, you may get a lot of young circumcised girls." A 32 years old female educated cleaner of a business center.

Almost all the religions do not have teaching sessions about FGC as a routine teaching or preaching schedule except some sort of transferring information and messages about the harmful effect of female circumcision in some of their celebrating days.

In order to get the real information on currently existing and working laws about FGC, one policeman and one lawyer were interviewed. Their response to the question was that they both proved that there is a clearly defined laws which prohibits FGC.The 1997 E.C Ethiopian penal code of criminals states that anybody who circumcises a lady at any of

her age will be punished with minimum of 3 months Arrest or minimum of 500 birr payment (Chapter3, Article 565, Page 364).On the other hand anybody who sews female genitalia will be punished with three to five years arrest. (Chapter 3, Article566, Number1, Page 364). If a circumcised or mutilated lady have faced any immediate complication on her health due to the circumcision, the person who risks her will be punished from five to ten years Arrest. (Chapter3, Article 566, Number2, Page 364). unfortunately most of the people do not know what is there in the law.

"There is no as such significant number of accusations on FGC as it is compared with; for example, Rape cases. This is most likely due to lack of awareness about the criminal penal code. There is no question that FGC is a crime. In this case the participation of the community is very important which means the community should work together with police to eradicate this harmful procedure. In keeping the rights of children we are working in collaboration with different NGOs and other GOs but the community participation is low on FGC". A 40 years old constable of 'Arada' branch police station.

According to the discussants of the FGDs; *Those families who want to circumcise their daughters will take them in some rural areas of the country during summer when schools are closed. These people know that FGC is illegal practice so as to secure themselves and not to be criticized by some other people they perform the act outside of the city.*

The discussants had made hot discussion on the practice of female circumcision from the point of prevention of HIV/AIDS so that half of them had supported FGC because it prevents promiscuity. These discussants said that; *If we circumcise girls, they will not become sexually very active and they will have less chance to be exposed to HIV/AIDS.*

On the contrary, the rest of the discussants advocates; *Decreasing the sexual desire of girls have indirect effect on sexual satisfaction of both males and females which may lead to multiple sexual partnership in seeking sexual satisfaction.*

6. Discussion

Although adequate information is available on FGC among Child Bearing age Groups (15-49), such information on the younger age (< 15 years) is scarce and this study had attempted to document the magnitude of FGC and some of the predictors to perform FGC among primary school girls in Addis Ababa. As the study shows about a quarter of the girls was found circumcised. Although the prevalence appear to be lower than most African countries particularly in Egypt (2), Djibouti (34), Sudan (44,45), Mali (46) and Baseline National Survey result (16), still the magnitude is unacceptable to see the girls subjected to FGC given the fact that the practice has no useful effect.

The prevalence of FGC was higher in government schools than public, faith based and private schools. A similar study in Egypt showed that the prevalence rate in private urban schools was lower than government schools (2). It is difficult to give reasonable explanation for the occurrence of this difference.

Although the community in Addis Ababa have better access to receive information about the harmful effect of FGC, the magnitude of the problem is still high. This implies that knowledge alone to avert the situation is not enough, unless accompanied by behavioral changes. Similar observation was also seen in Nigeria (11,43) where awareness and level

of knowledge regarding the complications of FGC is high and at the same time the global campaign against it, was widely done in the country, the prevalence of FGC practice in Nigeria is as high as 80% probably due to failure in bringing attitudinal changes.

Although, more than thirty-two percent of the respondents knew FGC through Television programs, additional media that could provide evidence-based messages including about the harmful effect of FGC is required. Therefore, people need to see or visualize the bad effect of FGC through observation namely Television Drama or Video shows which can impart the proper message to bring more attitudinal changes.

More than half of the participants reported that FGC is not practiced in their villages. This was also confirmed by the results of the qualitative study where the majority of respondents believed that FGC practice has reduced when compared with previous decades. However the prevalence of one quarter is very significant evidence for the existence of FGC practice in Addis Ababa.

Among all the reasons given by the respondents favoring the continuation of FGC, the leading one was “to avoid promiscuity”. Some FGD discussants also supported FGC from this point of view as it may have also a useful effect in decreasing transmission of HIV/AIDS. The aforementioned reasons were to some extent similar to that of Egyptian report (2,25). On the other hand, FGC Non-promoters advocates decreasing sexiness of girls have indirect effect on sexual satisfaction of both males and females which may lead to multiple sexual partnership in seeking sexual satisfaction.

Female circumcision is an action which can interfere the sexual desire of girls so that it is considered as a crime (50).In addition to being FGC considered a criminal act, circumcised girls have severe pain, bleeding, incontinence, infections, mental health

problems, sexual problems and difficult labor with high episiotomy rate(41,42). Similarly in the present study the majority of respondents did not support FGC because it is unnecessary procedure for females. In Nigeria, medical doctors are the most mentioned operators followed by traditional birth attendants(45) whereas in Benin, circumcision was performed by traditional practitioners and only few of the girls had the operation under medical care based on DHS data (46). In developed countries, immigrants ask doctors whose culture is similar with the FGC seekers to circumcise their girls illegally. Sometimes they even bring them to where the girls are living or girls are sent abroad to be circumcised. Like that of many of African countries, the majority of circumcisions of this study were performed by non-medical persons or traditional circumcisers. the reason mentioned by most of traditional circumcisers as to why they perform FGC.

The age at which FGC is performed on girls varies between countries and even from area to area within the same country. FGC is typically performed on young girls who are between 4 and 12 years old while in some occasion the procedure may be done shortly after birth to some time before the age of marriage (9,10,11). The average age at which the procedure of FGC was performed based on the study in Egypt was 10.1 ± 2.3 years. According to EDHS 2000 more than half of the daughters are reported by their mothers to have been circumcised before age one (48). In this study, the average age at which FGC performed was 2.9 ± 0.65years. The practice should be discouraged since it is against child's right and at the same time it may increase the chance of immediate complications such as bleeding and infections.

Some of the participants agreed that strong legal measures should be taken on those traditional circumcisers and other actors in order to eradicate FGC completely from the

city. Otherwise through health education alone, it is difficult to avoid the problem according to these respondents. Some countries in Africa became effective because they used legal measures. In Burkina Faso, mobile police and army teams had markedly contributed to the decline in the practice (42,46).Therefore, apart from educating the community, additional legal action is necessary to be taken on all FGC promoters.

The vast majority of the respondents believe that female genital cutting is not a religious obligation. It is of note that there is no doctrinal basis for this practice in either the Islamic or Christian faiths. It was also confirmed by the religious leader of each religions during In-depth interview. What is written in the Bible and Quo ran is about male circumcision. Only few Muslims and Orthodox Christian consider FGC as religious obligation. This may also be explained as FGC is cross-cultural rituals rather than religious orders as it is confirmed also on a study conducted in Egypt (2,25). The Qur'an English version on Sùrah 2.Al-Baqarah part 1(23) No.124 stated, "And(remember) when the lord of Ibrahim (Abraham) (i.e. Allah) tried him with (certain) commands, which he fulfilled. He (Allah) said (to him), 'Verily, I am going to make you an *Imam* (a leader) for mankind (to follow you).[Ibrahim (Abraham)] said, 'And of my offspring (to make leaders).' (Allah) said, 'My covenant (prophet hood) includes not Zầlimừn (polytheists and wrong-doers)". These wrong doings include female circumcision.

Most of the circumcisions were made by the request and decisions of mothers. Out of these mothers most of them were illiterate. As the level of their education increases, the probability of deciding for circumcision decreased suggesting that education is a key factor in eradicating FGC. The results of similar study in Egypt showed that mothers were the main decision makers for the procedure of FGC (22,23,24). Therefore, our

strategy should concentrate in changing the attitude of mothers and grandmothers towards the prevention of this violence against girls. What is surprising here is, although any mother is able to recognize how much painful FGC is; still they are the one who are deciding to circumcise their daughters. Therefore, it is necessary to teach mothers to bring an attitudinal changes.

This study has showed that most of the respondents did not support the continuation of FGC. Out of those respondents who supported the continuation of FGC, only few of them had circumcised girls and they still support the continuation of the practice. Their main reason was that they believe FGC reduces sexual desire of the girls and it avoids promiscuity and the second reason was to respect the culture of the community. A similar study conducted in Somalia showed that most circumcisions conducted on females is in order to keep virginity of girls as a perquisite of honorable marriage (14,40). This is all unacceptable reasons and thus strong commitment of the government and also of the community is needed to change such harmful traditional beliefs.

7. Strength and Limitations of the study

Strength

- Self-administered questionnaire had been used for collecting the quantitative data because most of the questions concerning about the practice of FGC are very sensitive so that the instrument could build the confidence of the respondents. It could also reduce interviewer bias.

- The prevalence and potential determinants of FGC had been exactly measured through the quantitative study were also complemented using the qualitative study.

Limitations

- Since clinical examination did not done, it was difficult to measure the exact magnitude of FGC and decrease information bias which can be created by those families who may deny the presence of their circumcised daughters.

- Some of the distributed questionnaires which reached to illiterate families were not responded because they were selected randomly.

Conclusions

According to the findings of this study,

- Most people believed that FGC in Addis Ababa doesn't exist and some of them assume that FGC is completely eradicated. However, the prevalence is still very high-meaning that one of four young primary in-school girls have been circumcised. The magnitude is higher in government schools than other types of school.

- Although FGC was practiced by all categories of the community, parents with higher level of education and income were less likely to support the practice as compared with those illiterate and low income parents. However, still there are a lot of families who are in favor of the practice of FGC because they believe that FGC helps to avoid sexiness.

- The majority of decisions for circumcision of the girls were made mainly by their mothers and grandmothers rather than their fathers and other relatives or neighborhoods. Most of the time, the mothers allowed FGC to be performed during the summer season when schools are closed and in the areas outside of Addis Ababa.

- The vast majority of the community had high degree of awareness about the bad complications of female circumcision and better access or source of information than any of the rural part of Ethiopia, nevertheless there is no as such significant behavioral and attitudinal change.

Therefore, different intervention programs should be designed in order to eradicate this harmful practice.

Recommendations

In order to change the attitude, belief and practice of the community, the following mixed interventions are recommended:

- Besides attempting only to increase the awareness of the community, evidence-based health education should be planned and transmitted through Televisions and other Video shows as Drama or Role play. Showing the harmful effect or complications of FGC can be assurance of people in changing their thoughts, beliefs and attitudes.

- Sensitization programs should also be arranged for all primary school communities. These programs include health education for parents through call for meetings by the school administrators and also establishment of 'Anti-FGC clubs' by the school communities.

- Effective health education should be given specifically for mothers through women's forum and Community Based Organizations. Religious leaders should also play a significant role in changing the behavior of those elderly people against the practice of FGC.

- The majority of the community do not know the new formulated penal code of criminals against FGC so that the population should be made aware of these laws through mass media.

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Annex-I

Name of the school---------- Code number----------

Addis Ababa University
Faculty of Medicine, School of Public Health

This is a Questionnaire prepared for the assessment of the practice of female circumcision among primary school girls who are found in Addis Ababa. Before proceeding to fill the Questionnaire, Read the following Informed consent form.

I. Information Sheet

This study is conducted by Ato Thewodros Zewde who is the member of AAU school of public health Research team. The main objective of the study is to determine those societal, cultural and religious factors which may have direct or indirect influence on the knowledge and practice of FGC; otherwise it will not have any other mission. In the study we don't use the name of each participant rather we use our own identification code numbers. During the publication of the study result, we include the general result; otherwise we don't publish individual information. All information collected will be confidential and will not be handled over to anyone in raw form. You are not obliged to fill this questionnaire without your interest and you do have the right not to participate and the right not to continue filling the questions at any time. However, your participation in the study has a great role for decision-makers who use the results for future plan of interventions. If you need any additional information, here is the address of the principal investigator.

Thewodros Zewde: *Mobile-0912 19 74 37 / 0911 54 55 93*
e-mail: Thewodroszewde@yahoo.com

II. Assent form

The questionnaire should be filled by the parents or other relatives of the girls. The girls should not be allowed to fill the questionnaire by themselves. Rather they should take the questionnaire to their respective parents or relatives to be filled. After the questionnaire is filled, parents should send back to the assigned data collector or supervisor in your school. Parents are requested to provide complete and genuine information about your daughter.

Therefore, if you are willing to participate in the study, please continue to fill the questionnaire.

Thank you!

Annex IIa: Survey Questionnaire for Quantitative data

Part I- Background Information about your Daughter.

S. No.	Questions	Code Number	Go to
101	How much is the age of your daughter?	< 5 years----------1 5-10 years----------2 11-15 years----------3 > 15 years----------4	
102	What grade student is your daughter?	1 year----------1	

		2 years----------2 3 years----------3 4 years----------4 5- 8 years----------5	
103	What is the religion of your daughter?	Orthodox----------1 Muslim----------2 Catholic----------3 Protestant----------4 Others ----------5 (Specify)	
104	What is the ethnicity of your daughter?	Amahara----------1 Oromo----------2 Tigray----------3 Gurage----------4 Others----------5 (Specify)_____.	
105	With whom does the girl live currently?	With father only----------1 With mother only----------2 With both----------3 With her relatives----------4 With others----------5	

Part II- Background Information about the Parents

S. No.	Questions	Code Number	Go to
201	What is the familial relation between you and the daughter?	Mother----------1 Father----------2 Other ----------3 (Specify)_____ .	

202	What is Educational level of the daughter's father?	Illiterate----------1 Primary----------2 Secondary----------3 University----------4	
203	What is Educational level of the daughter's Mother?	Illiterate----------1 Primary----------2 Secondary----------3 University----------4	
204	Occupation of the daughter's father?	Government employee---------1 Private sector----------2 No work----------3 Others----------4	
205	Occupation of the daughter's mother?	Government employee---------1 Private sector----------2 No work----------3 Others----------4	

Part III- Information, Source, Knowledge, Attitude and Intension of the Parents.

S.No.	Questions	Code Number	Go to
301	Have you heard of female circumcision?	Yes----------1 No ----------2	→ 302
302	From which source have you heard?	Radio----------1 Television----------2 Health Facilities----------3 School----------4	

		Meeting----------5 Others (Specify)---------6	
303	Is female circumcision practiced around your village by now?	Yes ----------1 No ----------2 Do Not Know----------88	
304	Is female circumcision harmful?	Yes----------1 No----------2	
305	Is subjecting a girl for circumcision illegal?	Yes----------1 No----------2 Do Not Know----------88	
306	Does a female have a right not to be circumcised?	Yes----------1 No----------2 Do Not Know----------88	
307	Do you support the practice?	Yes----------1 → 309 No----------2 → 310,311	
308	Does your religion order female circumcision?	Yes----------1 No----------2 Do Not Know----------88	
309	Why do you support FGC?	1.Religious requirement 1.1 Yes 1.2 No 2. Cleanliness / Hygienic 2.1Yes 2.2 No 3. Avoidance of promiscuity 3.1 Yes 3.2 No 4. Respect for culture 4.1 Yes 4.2 No 5. To avoid shame 5.1 Yes 5.2 No 6. To avoid stigmatization 6.1 Yes 6.2 No 7. Good for the women 7.1 Yes 7.2 No 8. Esthetics purpose 8.1 Yes 8.2 No 9. Avoid difficulty at delivery	

		9.1 Yes 9.2 No 10. Harmless 10.1 Yes 10.2 No 11. To get a husband 11.1 Yes 11.2 No 12. To decrease the power during sex 12.1 Yes 12.2 No 13. Other reasons (Specify)----------	
310	Why do you reject FGC?	1. Painful and Unhealthy procedure 1.1 Yes 1.2 No 2. Unnecessary for female 2.1Yes 2.2 No 3. No religious support 3.1 Yes 3.2 No 4. Bad social habit 4.1 Yes 4.2 No 5. Other reasons---------- 99. No comment	
311	What Interventions should be taken to eliminate FGC?	1. Education through educational institutions 1.1 Yes 1.2 No 2. Education through health institutions 2.1 Yes 2.2 No 3. Education through mass media 3.1 Yes 3.2 No 4. Strengthen community participation 4.1 Yes 4.2 No 5. Take legal measures 5.1 Yes 5.2 No 6. Other employment for circumcisers	

		6.1 Yes 6.2 No 99. No comment	
312	Is it good to continue the practice for the future?	Yes----------1 No----------2 Do Not Know----------88	
313	Who should perform female circumcision?	Health worker----------1 Traditional circumciser---2	
314	Have your daughter had been circumcised?	Yes----------1 → No----------2	315,316,317
315	How old was (NAME) when she is circumcised?	≤1 year ----------1 1-5 year ----------2 6-10 years ----------3 ≥10 years ----------4	
316	Who did the circumcision?	Health professional -------1 Traditional circumciser---2 Do Not Know----------88	
317	Who made the decision for the circumcision of the daughter?	Father----------1 Mother----------2 Others (specify)----------3	
318	FGC may expose females for HIV?	Yes----------1 No----------2 Do Not Know----------88	

Thank You!

Annex II b: Guide for In-depth Interview of the qualitative study.

(The information sheet and informed consent of this guide is located on Annex I b. Please read it.)

1. What is your occupation and responsibility in your organization?
2. What do you know about FGC?
3. Do you support or reject the practice? Why?
4. Do you consider FGC as a Gender Based Violence practiced on girls?

5. Does your religion support FGC?
6. Have you or your organization conducted an intervention on FGC?

(a) Yes (b) No

If Yes

a) What strategies have you used?
b) What are the major activities performed?
c) What problems did you face?
d) What were the solutions attempted?
e) What were the major achievements?
f) What lessons have you learnt?
g) What were the best practices?
h) Is there a behavioral change on FGC?

(a) yes (b) no

i) What intervention strategies do you suggest to eradicate FGM to eradicate FGC in the future?

Annex II c: Guide for Focus Group Discussion

(The information sheet and informed consent of this guide is located on Annex I b. Please read it.)

1. Do you think that female circumcision is performed currently in Addis Ababa? If you have any cases that you recognize currently, please share us your experience.

2. What are the major factors that can influence the attitude of people for performing female circumcision?

3. Can you comment some possible and effective solutions that you think in order to eradicate circumcision from primary school girls?

4. Who should be a responsible body for the eradication of this harmful traditional practice?

5. How do you assess the roles of those community based organizations and religious leaders for the eradication of FGC?

6. If you need to give or suggest any comment on the practice of FGC, you are welcomed.

Thank you for your active participation on the discussion.

Declaration

I, the undersigned, declare that this is my original work and has not been presented in this or any other University and all sources of materials used for this thesis have been duly acknowledged.

Name _____.

Signature_____ .

Date_____.

Place _____.

This thesis has been submitted for examination with my approval as university adviser.

Dr. Jemal Haidar (MD, M.Sc. Associate professor)

Associate professor

School of Public Health

AAU

Name _____.

Signature_____ .

Date_____.

Place _____.

1. Introduction

1.1. Background

Globally no other issue has attained as much publicity on the human right agenda as traditional practices that made female children subjected to pain and physical attack, psychological injury as Female Genital Cutting (FGC), also known as Female Circumcision (FC) and Female Genital Mutilation (FGM) (1). Although the practice has been exercised in most developing countries of various cultures, there is no definitive evidence documenting when or why this ritual begun (2,3). Some theories suggest that FGC might have been practiced in ancient Greece, Rome, Pre-Islamic Arabia and the Russian Federation (4).

Several countries perform FGC for different cultural reasons. Some of the reasons stated are distributed as follows: to maintain cleanliness as cutting the genitalia removes secreting parts of the genitalia, means of discouraging promiscuity, aesthetic reasons, as a means of preservation and proof of virginity, and is regarded in many societies as a prerequisite for honorable marriage (5,6). In Ethiopia, for instance a girl who is not circumcised is considered "unclean" and as a result uncircumcised girls will have less chance of being married (7). Although FGC are found predominantly in Muslim countries, the practices are not prescribed by Islam and are, in fact, found among non-Muslim groups such as Coptic Christians of Egypt, several Christian groups in Kenya, and the Falasha Jews of Ethiopia suggesting no unequivocal link between religion and prevalence (8).

1.2. Statement of the problem

Despite a high level of knowledge regarding the complications of FGM and awareness of the global campaign against it, the prevalence of FGM in developing countries such as Yemen, Nigeria and Sudan is high (9,10,11). To date, the highest global prevalence of FGC is reported in Sudan where 93% of the girls in urban and 89% in rural settings (11). On the contrary, some African countries like Burkina Faso, have managed to lower the incidence of FGC through multiple interventions (12).

According to EDHS 2000, the prevalence of FGC in Ethiopia was 80% with only a 30% attitudinal change among the society (13) while EDHS 2005 shows that 75% of women have been circumcised (14,15). In Addis Ababa, the prevalence was 70% according to baseline survey in 2003 while the follow-up study in 2008 report showed 52.2% (16,17).

1.3. Significance of the study

While there are some reasonable reports on the magnitude of FGC in the reproductive aged group of women, still there is a gap of information in the younger age group. Thus, this study aimed to fill the above gap and provide evidence based information on the magnitude of FGC and their deriving factors in Addis Ababa primary in-school girls which may help for program initiative.

2. Literature Review

Female genital cutting or female genital circumcision or " Female genital mutilation" is usually performed on girls (18). According to the World Health Organization, Female Genital Mutilation (FGM) constitutes all procedures, which involve partial or total removal of the external genitalia or other injury to the female genital organs whether for cultural or other non-therapeutic reason. The types of procedures undertaken in female genital cutting/ mutilation can be broadly classified into four groups which ranges from the removal of a small part of the clitoris to high degree infibulations (18,19).

Type I circumcision (Sunna) is excision of the prepuce with or without excision of part or the entire clitoris while Type II circumcision (Clitrodoctomy) includes excision of the prepuce and clitoris together with partial or total excision of labia minora. Type III circumcision (Infibulations) is excision of part or all of the external genitalia and stitching / narrowing of the opening leaving small hole just for urine and menstrual flow. Type IV circumcision (Mutilation) is unclassified. It includes pricking, piercing or incision of clitoris and/ or labia, stretching of clitoris, cauterization by burning of the clitoris and surrounding tissues, scraping (angurya cuts) of the vaginal orifice or cutting (gishiri cuts) of vagina and introduction of corrosive substances into the vagina to cause bleeding into the vagina with the aim of tightening or narrowing the vagina (18,19,20).

The exact origin of FGC remains a mystery. The practice is known to have been for several thousand years (21). However, research indicates that in the 5th Century Egyptians used it as a ritual prior to marriage (22). Early Romans and Arabs did the procedure for cosmetic reasons or sometimes as an indication of slavery and subordinator believed that

the practice spread south into Africa through trade and the spread of slavery (23). While there is no definitive evidence documenting why or when female genital mutilation begun, many theorize that it provided families a means to ensure before marriage (24,25).

In some communities, female genital mutilation is seen as necessary to preserve suitability for marriage and to protect the honor of the family, clan or tribe (26). According to WHO, female genital mutilation is also perpetuated by various myths including beliefs that the woman's clitoris would grow if left uncut potentially harming childbirth (27). These beliefs increase the social pressure faced by uncircumcised who run the risk of isolation and ridicule in their communities or men's refuse them, in societies where women depend on their husbands for their economic status (28). Families in communities which have practiced female genital mutilation centuries, often lacking access to other points of view, usually believe that circumcision must be carried out for the girl's own good (29).

There are between eight and ten million women and girls in the Middle East and in Africa, who are at risk of undergoing one or another form of genital cutting (30,31). In the United States of America it is estimated that about ten thousand girls are at risk of this practice (32).FGC in a variety of its forms is practiced in Middle Eastern countries such as the two Yemenis, Saudi Arabia, Iraq, Jordan, Syria, and Southern Algeria (33). In Africa it is practiced in the majority of the continent including Kenya, Nigeria, Mali, Upper Volta, Ivory Coast, Egypt, Mozambique, and Sudan (34). Even though FGC is practiced in mostly Islamic countries, it is not an Islamic practice. FGC is a cross cultural and cross-religious ritual (35,36).

The age at which FGC is performed on women and girls varies. It may be performed during infancy, childhood, marriage or during a first pregnancy (37). FGC is typically performed on young girls who are between 4 and 12 years old, however, by a medically untrained person-often an older women-from the local culture or community (38). Increasingly FGC is also performed by trained health personnel, including physicians, nurses and midwives (39).

FGC is practiced predominantly in 28 countries in Africa. Eighteen African countries have prevalence rates of 50 percent or higher (40). Some immigrants also practice various forms of FGC in other parts of the world, including Australia, Canada, New Zealand, the United States and in European nations. It is estimated that 130 million girls and women have undergone FGC. Approximately 2 million are subjected to this practice each year worldwide. According to the CDC, an estimated 168,000 women and girls in the United states had either undergone FGC in 1990.Of these,48,000 were girls younger than 18 years old (40,41,42).

To determine the level of knowledge, belief, and assess the attitude of female genital mutilation and its complications in Shao community, Nigeria, a cross-sectional descriptive study with a health education intervention was used. The majority of respondents (99.5%) understood female circumcision to mean cutting off parts of the female genitals. There was a high level knowledge regarding most of the complications of FGM as more than 50% of respondents knew at least four complications of FGM. Despite a high level of knowledge regarding the complications of FGM, there still exists a high prevalence of practice of FGM in this community. FGM remains pressing human

rights and public health issue. It is the recommendation of the study that this health education intervention strategy be replicated nationwide especially using mass media (43).

The overall prevalence of the most sever form, infibulations, is estimated at 65% in the whole of Sudan. However, previous research has shown that more educated and urban women tend to prefer less sever forms of FGC for their daughters, including clitoridectomy (44).The study assessed trends in the practice of FGC over the past ten years had identified political, programmatic, and socio-cultural factors for the decline of FGC. Review of various demographic surveys showed a decline in prevalence between 2003 and 2006 (from 77% to 59%) among women aged 15-49, although prevalence remains high among certain ethnic groups (44,45).

Qualitative research in Burkina Faso showed that support for FGM/C remains high among older people. The sustainability of the social and behavioral changes related to the practice will require continuing commitment from governments and communities to ensure enforcement of anti-FGM/C laws and collaboration among groups that seek the abandonment of the practice (46).

A recent study has showed a quarter of Yemeni women have been subjected to circumcision and 71.4% of the Yemeni women favored female circumcision while 48% of the Yemeni men support continuing the process of the circumcision. Among five provinces of the country, Hodeida and Hadramout provinces were ranked first in the number of the circumcised women by 97.3%,while the prevalence of female genital mutilation in the provinces of Aden and Maharajah reached 96.5% in each and in the capital Sana'a has hit 45.5%, according to the study (47).

EDHS 2000 shows that the practice of FGC is widespread in Ethiopia;80% of all women have been circumcised. Nearly one-third (60%) of all women stated that they supported circumcision. Women with secondary and higher levels of education are also significantly less likely to support the practice(19%), compared with women with no education (67%),as are women working for cash (56%), compared with other women (48).

More than half of the women reported that at least one of their daughters has been circumcised. Women with secondary education or higher are least likely (26%) to have a circumcised daughter, compared with 56% among uneducated women and 36% among those with primary education. Surprisingly, women who are not employed to have at least one circumcised daughter. More than half of the reported daughters have been circumcised before age one (48).

Data collected in the 2005 EDHS show that less than one in three women who have heard of FGC believes that the practice should continue. Thirty-eight percent of women with a daughter reported having at least one of their daughters circumcised. The probability that a respondent's daughter is circumcised varies directly with her age, rising from 15 percent among women age 15-19 to 67 percent among women age 45-49,indicating that there may have been a decline in the practice of circumcision in recent years. Women with no education are more than twice as likely as women with secondary education or higher to have a daughter circumcised. Nevertheless, women in the highest wealth quintile are least likely to have a daughter circumcised (49).

The 1997 E.C Ethiopian penal code of criminals states that anybody who circumcises a lady at any of her age will be punished with minimum of 3 months Arrest or minimum of

500 birr payment (Chapter3, Article 565, Page 364).On the other hand anybody who sews female genitalia will be punished with three to five years arrest. (Chapter 3, Article566, Number1, Page 364). If a circumcised or mutilated lady have faced any immediate complication on her health due to the circumcision, the person who risks her will be punished from five to ten years Arrest. (Chapter3, Article 566, Number2, Page 364). This is the law that we use currently but most of the people don't know criminal laws on female circumcision (50).

2.1. Conceptual Framework of the study

To analyze the various factors involved in the activities of FGC, a conceptual framework was adopted from FUS, 2008 recommended for such type of study. In order to decrease the magnitude of the harmful traditional practice, it is important to bring a positive change in behavior. This healthy behavior can be affected by some background factors.

Some of the background factors that can affect the practice include age, education, occupation, income, religion, ethnicity and culture. Additionally, some of the actors can play major roles in changing the people's intention and practice of performing FGC. Therefore, this framework had considered the existence of a linear associations or interactions among the various variables of interests.

Based on the model, the interactions between those enlisted factors were investigated. Some of the factors had been negatively related while the others had been interacted positively.(Figure 1)

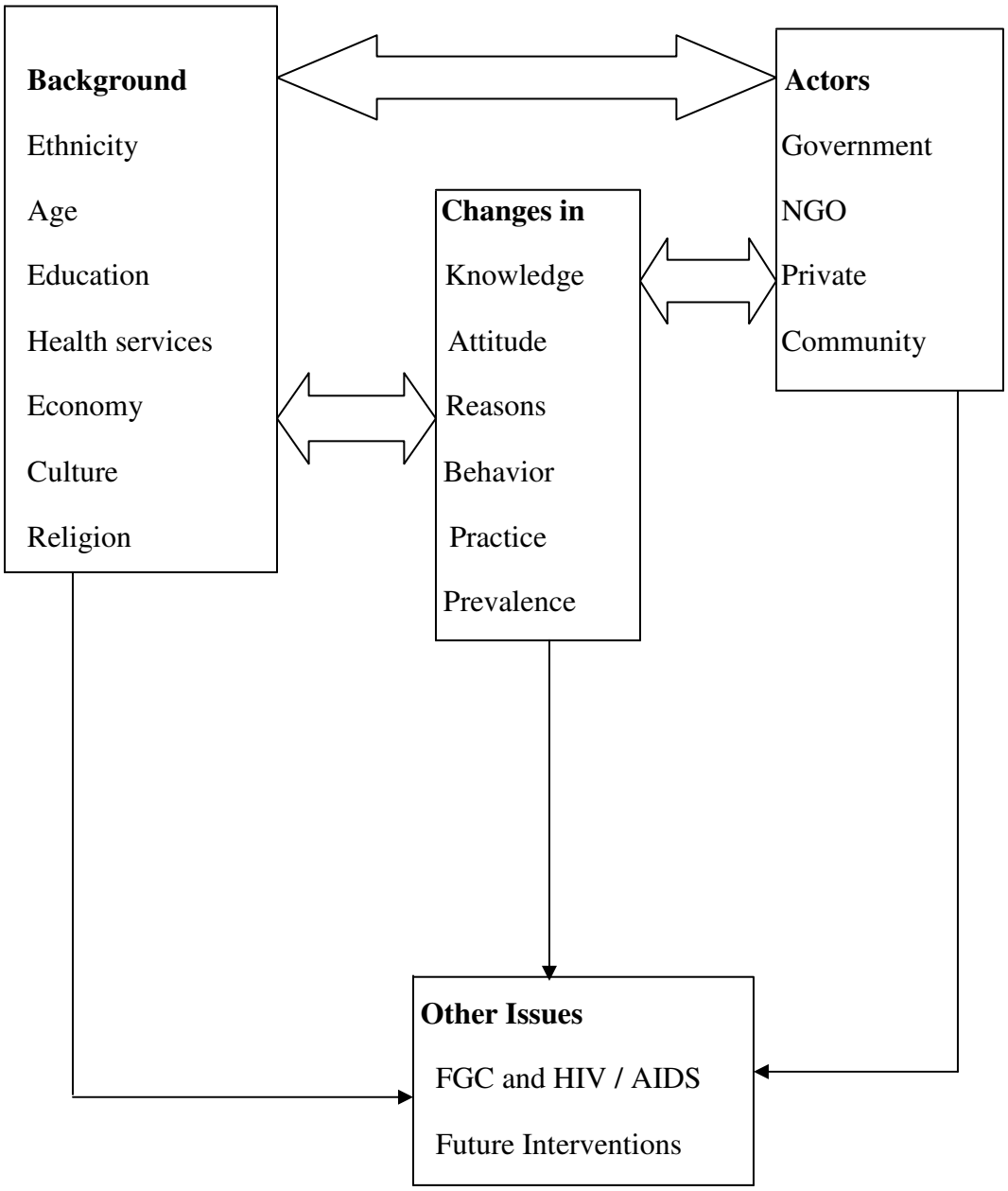

Figure 1. Diagrammatic presentation of conceptual framework with factors of FGC among primary school girls in Addis Ababa, in 2009.

3. Objectives

3.1. General objective

- To assess the Prevalence and Potential Determinants of Female Genital Cutting (FGC) among Primary school girls in Addis Ababa.

3.2. Specific Objectives

- To estimate the current magnitude of FGC among Primary In-school girls.
- To assess Knowledge, Attitude and Practice of the girls' families towards FGC.
- To determine those reasons raised by the families either in favor or against of the practice.

4. Methodology

4.1. Study Design

A Descriptive Cross-sectional study with Analytical component was employed to study the sampled primary school girls in Addis Ababa.

4.2. Study Area

The study area was Addis Ababa which is the capital city of Ethiopia. The city has a total of 656 primary schools at the time of the present study. The schools were distributed as 262 government, 195 public, 113 private and 86 religious schools. A list of all primary schools together with their respective number of students (N=209,914) was prepared to constitute the sampling frame. The distributions of the number of students were almost equal in each of the ten sub-cities except 'Kolfe-Keranio' sub-city which had a relatively larger number of students. Most of the private schools were concentrated in 'Nefas Silk-Lafto' sub-city while the majority of public schools were found in 'Arada' sub-city. The site was chosen purposefully by the principal investigator because of its proximity and high degree of interest in measuring the magnitude of FGC among the population who have relatively better access of information than rural population.

4.3. Source population

The source population was all female students who were enrolled in all primary schools found in Addis Ababa.

4.4. Sample population

The sample population was those female students who were registered in the selected four primary schools.

4.5. Study units

The study units for the quantitative methods were those randomly selected 442 school girls from the selected four primary schools and ten people from teachers, parents, nurses, policemen, religious leaders of local church and mosques were also randomly selected for In-depth interview of the qualitative study. Additionally eight discussants from private nursing students, primary school teachers and the community were selected for each of the two Focus Group Discussions.

4.6 Inclusion criteria

- Those regular students from Grade-1 to Grade-8 were included in the study.
- All primary schools in Addis Ababa were recruited.

4.7. Exclusion criteria

- Those 10% pre-tested samples were also excluded.
- Those night time female students were not included.
- Those school girls whose age greater than 15 years were excluded because the investigator doesn't want to include those women of reproductive age group (15-49).

4.8. Sample size determination

The sample size for the study was estimated using the following single population proportion formula.

$$[\ n= (\ z / d)^{2} \times p\ (1- p)\ ]$$

With the assumption of 5% standard of error (d), 95% confidence interval (z =1.96) and 50% maximum variability assumed proportion, the initial calculated sample was 384. In order to get the final sample size the following correction formula had been used.

$$[nf = (N \times n) / (N + n)\ ]$$

Therefore, with 15% allowance for non-response, the estimated sample size was 442.

4.9. Sampling Procedures

First, all primary schools in Addis Ababa were stratified according to their ownership as government, public, private and religious schools. From the prepared sampling frame based on their ownership, 'Tesfa-Kokeb' primary school was randomly selected out of all government schools while 'Alem-Maya' from public schools, 'Family' from private and 'Hiwot-Birihan' from religious schools were similarly selected to represent each stratum. Then 215 girls were proportionately selected from Tesfa-Kokeb, 109 from Alem-Maya, 80 from Family and 38 from 'Hiwot-Birihan' as to the predetermined sample size and then using their class attendance, equal number of girls were randomly taken from each of the available sections (grade-1 to grade-8).The selected girls were assessed for various socio-economic information by trained teachers under the supervision of the principal author (figure 2).

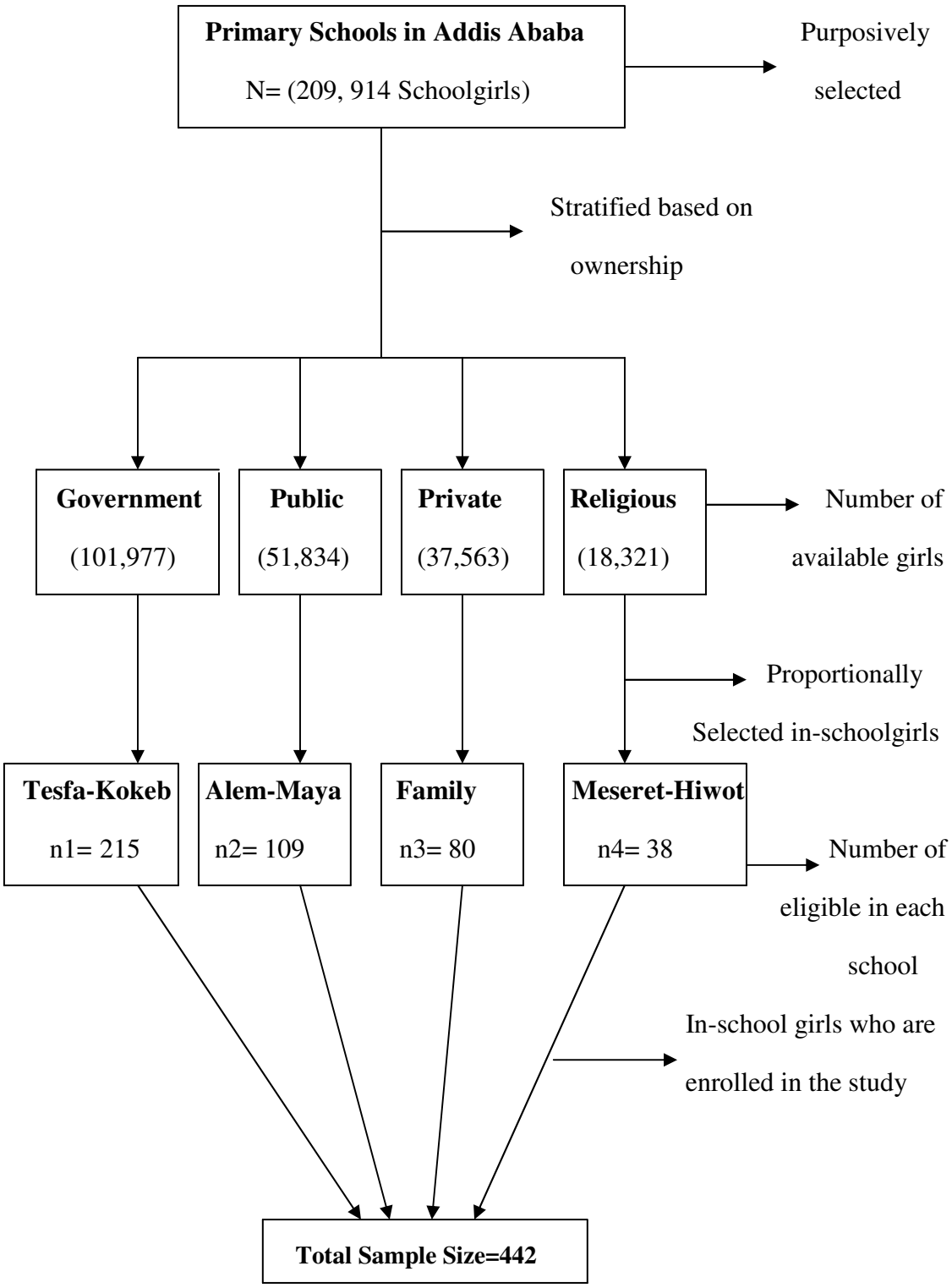

Figure 2. Schematic presentation of the sampling procedure.

4.10. Data Collection Techniques

Instrument : A total of 442 structured questionnaire was used to collect data on socio-demographic, behavioural factors and other important data related to FGC. Pre-test was done two weeks before data collection started in 10% of the questionnaire. The selected schools were communicated a week before selecting the schoolgirls. In-depth interview was conducted in ten randomly selected people from parents (n=2), religious leaders (n=2), policemen (n=1), community (n=3) and teachers (n=2) by the investigator using open-ended questions.Guiding questions for FGD were also employed to lead the discussants who were selected from teachers, nursing students and the community.

Data Collectors**:** Unit leaders of each of the selected four schools were recruited as data collectors and trained for two days on data collection technique by the principal investigator.The data collectors had selected the schoolgirls randomly from each section of the selected schools. The girls had got some orientations from the data collectors on how to handle the questionnaires. After the questionnaire was packed in the envelope by the data collectors, it was sent to the respective parents through their daughters.

Supervisor**:** One supervisor were also recruited and trained for two days. The supervisor gave advice during data collection time for data collectors. They had also gathered completely filled questionnaires. Again they had reported the entire daily process of data collection for the principal investigator.

Although the questionnaire was self-administered, the data collection took a total of fifteen days because some of the parents didn't send the questionnaire back to the data collectors within the planned time interval.

4.11. Data Quality Management

- Questionnaire was adopted from that of EDHS, BLS & FUS. It was modified according to the variables included in the study. Translation and back translation of the questionnaires was made.

- Selected schools were communicated and pre-test was done on the 10% of the total sample size a week before data collection took place in non-enrolled study subjects of the same preschool communities and those pre-tested samples were not included in the final study.

- Probing questions were also asked to reduce error arising from respondent's memory lapse and the information collected was rechecked in 5% of randomly selected subjects. Before data analysis started the data was coded, edited, organized, cleaned and explored cautiously.

- Each questionnaire was checked for completeness of information daily by the supervisors and missing information was corrected by going back to the respective schools and parents' home.

4.12. Data Analysis

Statistical package for Social Science version 15 was used for data entry and cleaning and all the detected inconsistencies were addressed. In addition, standards tabulations were generated in which the outliers were identified prior to subjecting the data to analysis. The chi-square test was performed to determine the differentials of FGC by explanatory variables. Pearson's chi-square test of independence was performed to test the existence of

significant association with FGC and selected risk factors. Stepwise backward logistic regression model was applied to test the observed significant variables in the bivariate models. A p-value of less than 0.05 denoted significance in differences.

4.13. Ethical Consideration

- The Research and Ethical Clearance Committee of the medical faculty of Addis Ababa University cleared the study for its methodological and scientific merit.
- Permission was warranted from the Addis Ababa education bureau and respective primary school-heads.
- Informed ascent form was sent for the respective parents/guardians of the study subjects for their participation.
- Confidentiality and anonymity was kept throughout.

4.14. Variables

4.14.1. Dependent variable

- Prevalence of FGC among primary school girls in Addis Ababa.

4.14.2. Independent variables

- Age, Grade, Ethnicity, Religion, Education, occupation, Current Living status, Income, Knowledge, Attitude, Practice, Health services, Socio-cultural reasons, Legal issues, circumcisers and School types (Government, Public, Private and Religious).

4.15. Operational Definitions

- Low Income**…** No annual school payment or < 100 birr.
- Medium Income**...** Annual school payment of 100-1000 birr.
- High Income**…**Annual school payment of >1000 birr.

4.16. Dissemination of Results

After the results of this study defended, first it will be submitted to AAU, School of Public Health. The findings will be presented in scientific form and manuscripts will be submitted for possible publication in suitable journals.

5. Results

5.1. Quantitative findings

The data were collected from Tesfa-Kokeb, Alem-Maya, Family and Hiwot-Birihan primary schools. Of the total of 442 self-administered questionnaires sent to the respective parents of the school girls, only 407 of them returned the questionnaire with adequate information making a total response rate of 92.1%.

5.1.1. Socio-Demographic characteristics

Nearly two-third (62.2%) of the students were in the age group of 11-15 years of age while 22.1% of them were between the age of 6 to10 years. The rest 0.7% of the girls were less than 5 years old according to the report of their parents as it is.

Most (67.1%) of the respondents were Orthodox Christians followed by Moslems (18.2%), Protestants (13.8%), Catholics (0.7%) and others (0.2%).

Almost equal number of in-school girls were belonging to (31.2%) Gurage and (31.0%) Amhara ethnic groups, the rest belongs to Oromo (23.6%), Tigray (6.4%) and other ethnic groups (7.9%).

Most (60.4%) of the subjects were from grade five to grade eight. About half (51%) of the girls were living with their both parents and the rest were living with their mothers (18.4%) and fathers (5.7%) respectively (Table 1).

Table 1- Socio-Demographic information about in-school girls drawn from Addis Ababa, May 2009.

Variables	Number	Percent (%)
Age of the girls in years (n=407)		
< 5	22	5.4
5-10	109	26.8
11-15	276	67.8
Grade of the girls (n=407)		
Grade 1-4	161	39.6
Grade 5- 8	246	60.4
Religion of the girls (n=407)		
Orthodox	273	67.1
Muslim	74	18.2
Catholic	3	0.7
Protestant	56	13.8
Others	1	0.2
Ethnicity of the girls (n=407)		
Amhara	126	31
Oromo	96	23.6
Tigray	26	6.4
Gurage	127	31.2
Others	32	7.9
Currently the girls live with their (n=407)		
Fathers only	23	5.7
Mothers only	75	18.4
Both parents (Father and Mother)	210	51.6
Relatives	80	19.7
Others	19	4.7

5.1.2. Background information of the parents

As depicted in Table 2, nearly one third (31%) of the student's fathers had attended their primary school while the rest 26.5% had attended their high school education.

Whereas more than one third (33.4%) of the participants' mothers had attended their primary school education and the rest 27.3% had attended their high school education.

More than half (51.6%) of the fathers had private work and 22.6% of them were government employees. The rest 13.7% of them had different types of jobs.

Most (52.5%) mothers were housewives and more than a quarter (28.4%) had private work and the rest (13.4%) were government employees and 5.7% of them had been involved under various types of earnings.

Based on their income status, more than half (55.1%) of respondents had low income and the rest had medium (21.1%) and high income (23.3%).

Table 2-Background information of parents of the study subjects drawn from Addis Ababa, May 2009.

Variables	Number	Percent (%)
Father's education (n=407)		
Illiterate	80	20
Primary school	126	31
Secondary school	108	27
College or university	93	22
Mother's education (n=407)		
Illiterate	115	28.3
Primary school	136	33.4
Secondary school	111	27.2
College or university	45	11.1
Father's occupation (n=407)		
Government	92	22.6
Private	210	51.6
No work	49	12.1
Other business	56	13.7
Mother's occupation (n=407)		
Government	55	13.4
Private	116	28.4
House wife	217	52.5
Other business	19	5.7
Income or annual school fee (n=407)		
Low	224	55.1
Medium	86	21.2
High	97	23.7

5.1.3. Knowledge, Attitude and Practice of the parents

The vast majorities (94.6%) of parents had heard about the harmful effect of FGC and most of them had got the information through Television (32.0%). Few (3.9%) ascertained that FGC was practiced while about half (52.4%) stated FGC was not practiced and the rest (43.7%) did not know whether FGC is practiced or not around their villages. The proportion of parents who stated FGC was harmful act was 93.3%(Table 3).

Table 3- Knowledge, Attitude and Practice of the parents of the subjects drawn from Addis Ababa, May 2009.

Variables	Number	Percent (%)
Awareness about FGC (n=407)		
No	22	5.4
Yes	385	94.6
Source of information (n=407)		
Radio	63	15.5
Television	131	32.2
Health facilities	44	10.8
Schools	65	16
Meetings	21	5.2
Use of two or more of the above sources	55	13.4
Other available sources	28	6.9
Presence of FGC around their villages (n=407)		
No	213	52.4
Yes	16	3.9
Do not know	178	43.7
Harmful practice (n=407)		
No	26	6
Yes	381	94

As depicted in Table 4, the proportion of parents whose daughters circumcised was 105 (25.8%) and the median age during the time of circumcision was 3 years. The proportion of parents who stated that FGC was helpful in avoiding promiscuity was 57.9% while those who mentioned to maintain virginity was 27%. The proportion of parents who stated FGC was against human right was 87.7%. The rest mentioned that FGC was done for unfounded reason.

Table 4- Types of reasons mentioned by parents in favor of / reject in the practice FGC and age of circumcised girls at time of circumcision in Addis Ababa, May 2009.

Variables	Number	Percent (%)
Circumcision age in year (n=105)		
< 1	25	23.8
1-5	45	42.9
6-10	35	33.3
mean (SD) = 2.9 (0.65)		
Reasons in favor for FGC (Only 'yes' answer of n=407)		
Maintain cleanliness or hygiene	63	15.5
Means of decreasing promiscuity	240	59
Means of preservation virginity	110	27
A prerequisite for honorable marriage	47	11.5
Reasons against FGC (Only 'yes' answer of n=407)		
Unnecessary for female	357	87.7
Painful and unnecessary procedure	297	72.9
Bad social habit	297	72.9

Table 5 indicates some of the proposed interventions which are important to eradicate the practice of FGC among in-school girls, the vast majority (94.8%) of them suggested mass education through mass media and 371 (89.4%) of them suggested that legal measures should be taken on traditional circumcisers.

Table 5- Proposed interventions to eradicate FGC as indicated by parents of the subjects drawn from Addis Ababa, May 2009.

Variables	**Number**	**Percent (%)**
Education through (only 'yes' response): (n=407)		
Mass education	386	94.8
Religious forums	368	90.4
Community participation	373	91.6
Educational institutions	376	92.4
Health institutions	379	93
Mass media	386	94.8
Taking legal measures on circumcisers (n=407)		
No	36	9.1
Yes	371	90.9
Other alternative job for circumcisers (n=407)		
No	34	8.4
Yes	373	91.6
Community mobilization to eradicate FGC (n=407)		
No	47	11.5
Yes	360	88.5

5.1.4. Prevalence of Female Genital Cutting (FGC)

More than a quarter 105 (25.8%) of the schoolgirls were circumcised. As it is shown in Figure 3, the prevalence was higher (36.6%) in government school while 28.9% in public, 5.1% private and 6.3% religious school.

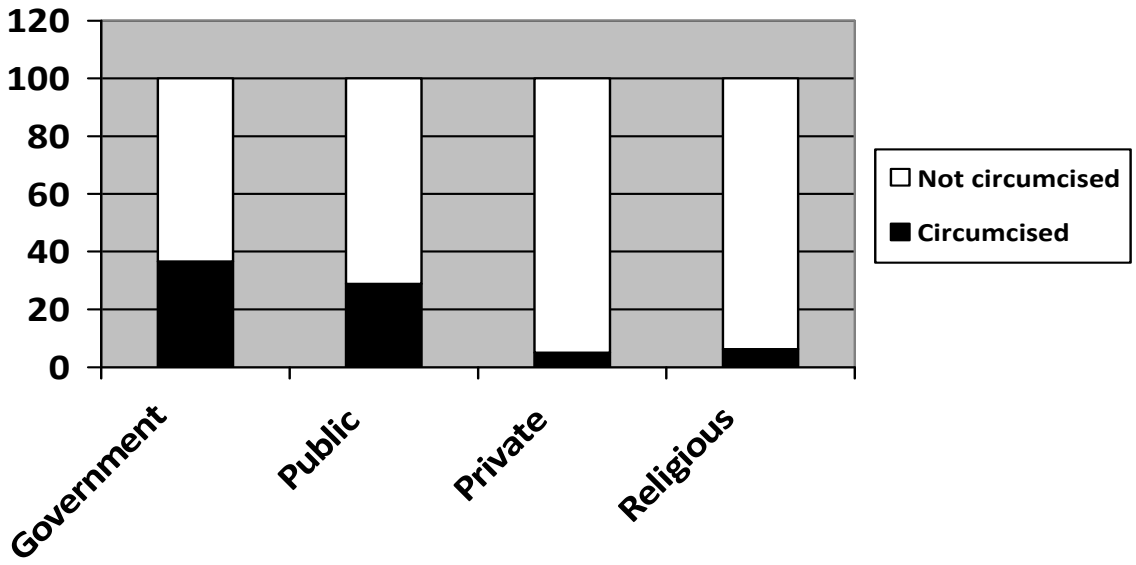

Figure 3: Prevalence of FGC among girls by school ownership, Addis Ababa, May 2009.

Mostly (39%) decisions for FGC were made by mothers. The proportion of fathers and joint decision to comply with FGC was 23.8% and 14.3% respectively. The rest 22.9% of decisions was made by their relatives (Figure 4).

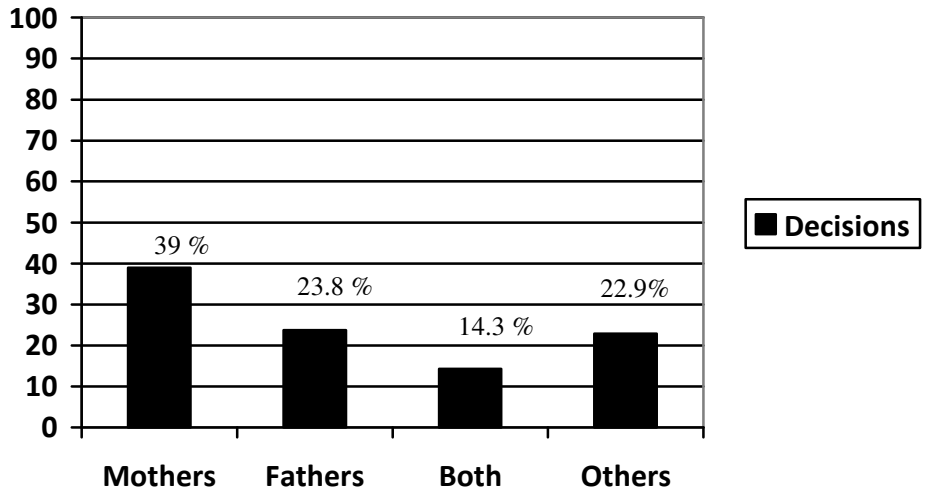

Figure 4: Distribution of decision makers for FGC of school girls drawn from Addis Ababa primary schools, May 2009.

5.1.5. Potential Determinants of Female Genital Cutting (FGC)

As it is shown in Table 6, there was no significant association between age, religion and the prevalence of FGC. However, the magnitude of FGC was high among Orthodox Christian girls. Interestingly, both Ethnicity and Types of school were significantly associated with the prevalence rate of FGC. Among all ethnic groups, Oromo (P=0.022) and Gurage (P=0.026) were significantly associated with the practice of FGC. Both private and public schools were significantly associated with the practice of FGC with p-value of 0.001 for both variables. The odds of subjecting girls for FGC was 6 times more at risk among Gurage ethnicities than the referent ethnic group (OR= 6.29; 95% CI= 1.25 to 31.65). The proportion of FGC was significantly lower in private and public schools than government schools. The likelihood of girls being circumcised was 0.16 times lower in the private (OR=0.16; 95% CI=0.06 to 0.45) and 0.12 times lower in the public (OR=0.12; 95% CI= 0.04 to 0.30) schools than government schools.

Table 6 - Socio-Demographic association with practicing FGC among in-school girls in Addis Ababa, May 2009.

Variables	Total	FGC (%)	COR (95% CI)	AOR (95% CI)
Age (n=407)				
< 5 years	22	1.9	1	1
5-10 years	113	35.2	0.25 (0.01, 7.45)	0.69 (0.01, 33.08)
11-15 years	272	62.9	2.71 (0.23, 32.00)	3.9 (0.22, 68.79)
Religions (n=407)				
Orthodox	273	61	1	1
Muslims	74	28.6	0.54 (0.25, 1.21)	0.39 (0.14, 1.03)
Catholics	4	2.8	0.24 (0.10, 0.59)	0.23 (0.08, 0.66)
Protestants	56	7.6	0.06 (0.01, 0.60)	0.04 (0.003, 0.503)
Ethnicity (n=407)				
Amhara	126	19	1	1
Oromo	96	23.8	2.78 (1.16, 6.64)*	4.36 (1.23, 15.45)
Tigray	26	1.9	1.49 (0.63, 3.52)	1.50 (0.42, 5.30)
Gurage	127	44.8	6.29 (1.25, 31.65)**	12.66 (1.54, 104.32)
Others	32	10.5	0.89 (0.40, 2.01)	0.92 (0.29, 2.88)
School type (n=407)				
Government	191	66.7	1	1
Public	97	26.7	0.12 (0.04, 0.30)***	0.25 (0.04, 1.68)
Private	39	1.8	0.16 (0.06, 0.45)****	0.26 (0.04, 1.63)
Religious	80	4.8	1.23 (0.23, 6.66)	1.42 (0.20, 10.25)
Grade (n=407)				
Grade 1-4	161	39	1	1
Grade 5-8	246	61	1.20 (0.60, 2.43)	1.71 (0.67, 4.38)

* P-value = 0.022; ** P-value=0.026 ; *** P-value=0.001 and ****P-value= 0.001.

As it is indicated in Table 7, the proportion of FGC was significantly lower among educated parents than illiterate families. The likelihood of girls being circumcised was 0.12 times lower in primary school completed fathers (OR=0.12, 95% CI=0.06 to 0.27) and 0.26 times lower in secondary school completed fathers (OR=0.26, 95% CI=0.12 to 0.56) than illiterate fathers. As the same time, it was 0.18 times lower in primary school completed mothers than illiterate mothers (OR=0.18, 95% CI=0.07 to 0.49).

The odds of subjecting girls for FGC was 4 times more at risk among mothers who had private work than government employed mothers (OR=3.5, 95% CI= 1.06 to 11.57).The prevalence of FGC was significantly lower among high income parents than low income parents. The likelihood of being circumcised was 0.17 times more in those parents with medium income than low level income (OR=0.17, 95% CI=0.06 to 0.50).

Table 7- Association of FGC with education, occupation and income of the girls' parents in Addis Ababa, May 2009.

Variables	Total	FGC (%)	COR (95% CI)	AOR (95% CI)
Father's education (n=407)				
Illiterate	76	37.1	1	1
Primary school	126	39	0.12 (0.06, 0. 27)*	0.34 (0.12, 1. 02)
Secondary school	108	14.3	0.26 (0.12, 0.56)**	0.63 (0.23, 1.69)
College or university	92	9.5	0.76 (0.32, 1.78)	1.29 (0.46, 3.59)
Mother's education (n=407)				
Illiterate	115	48.6	1	1
Primary school	136	34.3	0.18 (0.07, 0. 49)***	0.97 (0.23, 3.98)
Secondary school	111	12.4	0.39 (0.14, 1.08)	1.28 (0.34, 4.85)
College or university	41	4.8	1.05 (0.35, 3. 15)	1.79 (0.49, 6.59)
Father's occupation (n=407)				
Government	92	13.3	1	1
Private	210	56.2	1.77 (0.76, 4. 11)	0.92 (0.34, 2. 49)
No work	49	18.1	0.81 (0.41, 1. 61)	0.53 (0.23, 1.21)
Other business	56	12.4	0.42 (0.18, 0.99)	0.48 (0.19, 1.25)
Mother's occupation (n=407)				
Government	55	7.6	1	1
Private	116	28.6	3.50 (1.06, 11.57)****	1.55 (0.35, 6.84)
House wife	236	57.1	1.67 (0.60, 4.64)	1.51 (0.43, 5.26)
Other business	19	6.7	1.52 (0.57, 4.04)	1.74 (0.54, 5.63)
Income (n=407)				
Low	224	77.2	1	1
Medium	86	16.2	0.17 (0.06, 0.50)*****	0.23 (0.07, 0.73)
High	95	6.7	0.32 (0.13, 0.82)	0.41 (0.15, 1.15)

*p-value=0.001; **p-value=0.001; ***p-value=0.001; ****p-value=0.04; *****p-value=0.001

As it is displayed in Table 8, there was no significant association among variables of Knowledge of FGC and the practice of FGC. The major source of knowledge was Television (32.2%). The vast majority (94%) of participants believed that FGC was a harmful practice.

Table 8- Association of KAP with prevalence of FGC among in-school girls drawn from Addis Ababa, May 2009.

Variables	Total	FGC (%)	COR (95% CI)	AOR (95% CI)
Awareness (n=407)				
No	22	7.6	1	1
Yes	385	92.4	0.39 (0.13, 1.18)	2.42 (0.88, 6.68)
Source of information (n=407)				
Radio	73	21	1	1
Television	141	32.4	3.23 (0.50, 20.85)	0.59 (0.21, 1.70)
Health organizations	54	11.4	5.28 (0.84, 33.09)	0.92 (0.34, 2.51)
Schools	75	22.9	4.50 (0.66, 30.54)	0.90 (0.30, 2.75)
Meetings	29	6.7	2.56 (0.40, 16.44)	0.42 (0.15, 1.21)
Others	35	5.7	5.50 (0.74, 40.80)	0.62 (0.17, 2.30)
FGC in your village (n=229)*				
No	213	78.1	1	1
Yes	16	21.9	1.18 (0.36, 3.82)	0.86 (0.49, 1.50)
Harmful practice (n=407)				
No	26	7.6	1	1
Yes	381	92.4	0.32 (0.10, 1.01)	2.42 (0.86, 6.82)

* 'Do not know' questions were removed to measure the association with the practice using logistic regression.

As it is shown in Table 9, among all the reasons in favoring FGC, hygienic purpose of female circumcision was significantly associated with the practice (P=0.03) but it was not retained as predictor of the practice in the logistic analysis (OR=2.25; 95% CI=1.08 to 4.67).Respecting tradition / culture was another reason which was significantly associated with the rate of FGC (P=0.001). Other factors such as avoidance of shame (P=0.017), avoidance of stigmatization (P=0.001), good manner of girls (P=0.001) and prevention of difficulty during delivery (P=0.005) were other significantly associated factors in favoring the practice of FGC.

Among the reasons stated in rejecting the practice of FGC, painful and unhealthy procedure was significantly associated reason (P=0.001). It was also the only important predictor in rejecting female circumcision. Being FGC unnecessary procedure for females was another significantly associated reason in rejecting FGC (P=0.016). However, the above association was monitored for painful reason (AOR=0.35; 95% CI=0.17 to 0.72).

Table 9-Types of reasons mentioned by parents in favor of / reject in the practice of FGC and their association with FGC in Addis Ababa, May 2009.

Variables	Total	FGC (%)	COR (95% CI)	AOR (95% CI)
Reasons in favoring FGC (n=407)				
Maintain cleanness				
No	344	81	1	1
Yes	63	19	2.25 (1.08, 4.67)*	1.67 (0.68,4.10)
Discouraging promiscuity				
No	244	46.7	1	1
Yes	163	53.3	1.56 (0.97, 2.52)	1.56 (0.97, 2.52)
Respecting tradition / culture				
No	252	48.6	1	1
Yes	155	51.4	2.41 (1.50,3.87)**	1.54 (0.81, 2.92)
Esthetics purpose				
No	364	89.5	1	1
Yes	43	10.5	2.30 (0.60, 8.74)	1.50 (0.73, 3.08)
For honorable marriage				
No	360	85.7	1	1
Yes	47	14.3	3.00 (1.02, 8.79)	1.75 (0.49, 6.24)
Reasons in rejecting FGC (n=407)				
Painful and unhealthy procedure				
No	44	20	1	1
Yes	363	80	0.33 (0.17, 0.63)***	0.35 (0.17, 0.72)***
Against human right				
No	50	12.3	1	1
Yes	357	87.7	0.47 (0.25, 0.87)****	0.67 (0.31, 1.47)
Unfounded reasons				
No	110	34.3	1	1
Yes	297	65.7	0.61 (0.38, 0.99)	0.80 (0.44, 1.43)

* P-value = 0.03; ** P-value = 0.001; *** P-value = 0.001 and **** P-value = 0.064.

5.2. Qualitative study

Ten participants were also selected for in-depth interview from parents, teachers, college students and religious leaders. Most (70%) of the participants were males and their average age was 37.9 years. The majority (90%) of the respondents agreed that FGC is still practiced in Addis Ababa but the magnitude is decreasing from time to time. One of the participants who was a 52 years old male teacher said; *In our village 'Mesalemia' there is a known circumciser who circumcises females. People from different areas bring their daughters very early in the morning. Every morning you can see two or three young circumcised girls coming for circumcision to his home. No doubt that the problem is still practiced and exist therefore government should take some measures on such type of people who perform female circumcision..*

Few of the respondents seem to become hopeless in eradicating FGC because they assume that FGC is highly related with culture and beliefs. A 45 years old male primary school director stated the following; *It is strongly associated with culture so that it is difficult to eradicate not in Addis Ababa even in America!.*

The majority of the respondents agreed that FGC in Addis Ababa is practiced by few people who came from the rural part of Ethiopia. According to them FGC is not performed by urban dwellers rather it is done among the rural dwellers who recently moved to the city. A 34 years old female who works in NCTPE stated that; *All ethnic groups of Ethiopia live in Addis Ababa with their diversity of cultures. Because of this the practice of female circumcision can still exist within the population.*

Most of the educated participants did not support the practice. They knew the complications of FGC and appear to be strong enough not to be affected by the harmful culture like that of the uneducated people.

"I have three daughters whose age is 17, 15, and 11 years old. None of them were circumcised. For your surprise even I am not circumcised. Since my families were educated, they did not support circumcision. But currently in our village 'Kotebe' FGC is still practiced. If you search there, you may get a lot of young circumcised girls." A 32 years old female educated cleaner of a business center.

Almost all the religions do not have teaching sessions about FGC as a routine teaching or preaching schedule except some sort of transferring information and messages about the harmful effect of female circumcision in some of their celebrating days.

In order to get the real information on currently existing and working laws about FGC, one policeman and one lawyer were interviewed. Their response to the question was that they both proved that there is a clearly defined laws which prohibits FGC.The 1997 E.C Ethiopian penal code of criminals states that anybody who circumcises a lady at any of her age will be punished with minimum of 3 months Arrest or minimum of 500 birr payment (Chapter3, Article 565, Page 364).On the other hand anybody who sews female genitalia will be punished with three to five years arrest. (Chapter 3, Article566, Number1, Page 364). If a circumcised or mutilated lady have faced any immediate complication on her health due to the circumcision, the person who risks her will be punished from five to ten years Arrest. (Chapter3, Article 566, Number2, Page 364). unfortunately most of the people do not know what is there in the law.

"There is no as such significant number of accusations on FGC as it is compared with; for example, Rape cases. This is most likely due to lack of awareness about the criminal penal code. There is no question that FGC is a crime. In this case the participation of the community is very important which means the community should work together with police to eradicate this harmful procedure. In keeping the rights of children we are working in collaboration with different NGOs and other GOs but the community participation is low on FGC". A 40 years old constable of 'Arada' branch police station.

According to the discussants of the FGDs; *Those families who want to circumcise their daughters will take them in some rural areas of the country during summer when schools are closed. These people know that FGC is illegal practice so as to secure themselves and not to be criticized by some other people they perform the act outside of the city.*

The discussants had made hot discussion on the practice of female circumcision from the point of prevention of HIV/AIDS so that half of them had supported FGC because it prevents promiscuity. These discussants said that; *If we circumcise girls, they will not become sexually very active and they will have less chance to be exposed to HIV/AIDS.*

On the contrary, the rest of the discussants advocates; *Decreasing the sexual desire of girls have indirect effect on sexual satisfaction of both males and females which may lead to multiple sexual partnership in seeking sexual satisfaction.*

6. Discussion

Although adequate information is available on FGC among Child Bearing age Groups (15-49), such information on the younger age (< 15 years) is scarce and this study had attempted to document the magnitude of FGC and some of the predictors to perform FGC among primary school girls in Addis Ababa. As the study shows about a quarter of the girls was found circumcised. Although the prevalence appear to be lower than most African countries particularly in Egypt (2), Djibouti (34), Sudan (44,45), Mali (46) and Baseline National Survey result (16), still the magnitude is unacceptable to see the girls subjected to FGC given the fact that the practice has no useful effect.

The prevalence of FGC was higher in government schools than public, faith based and private schools. A similar study in Egypt showed that the prevalence rate in private urban schools was lower than government schools (2). It is difficult to give reasonable explanation for the occurrence of this difference.

Although the community in Addis Ababa have better access to receive information about the harmful effect of FGC, the magnitude of the problem is still high. This implies that knowledge alone to avert the situation is not enough, unless accompanied by behavioral changes. Similar observation was also seen in Nigeria (11,43) where awareness and level of knowledge regarding the complications of FGC is high and at the same time the global campaign against it, was widely done in the country, the prevalence of FGC practice in Nigeria is as high as 80% probably due to failure in bringing attitudinal changes.

Although, more than thirty-two percent of the respondents knew FGC through Television programs, additional media that could provide evidence-based messages including about

the harmful effect of FGC is required. Therefore, people need to see or visualize the bad effect of FGC through observation namely Television Drama or Video shows which can impart the proper message to bring more attitudinal changes.

More than half of the participants reported that FGC is not practiced in their villages. This was also confirmed by the results of the qualitative study where the majority of respondents believed that FGC practice has reduced when compared with previous decades. However the prevalence of one quarter is very significant evidence for the existence of FGC practice in Addis Ababa.

Among all the reasons given by the respondents favoring the continuation of FGC, the leading one was "to avoid promiscuity". Some FGD discussants also supported FGC from this point of view as it may have also a useful effect in decreasing transmission of HIV/AIDS. The aforementioned reasons were to some extent similar to that of Egyptian report (2,25). On the other hand, FGC Non-promoters advocates decreasing sexiness of girls have indirect effect on sexual satisfaction of both males and females which may lead to multiple sexual partnership in seeking sexual satisfaction.

Female circumcision is an action which can interfere the sexual desire of girls so that it is considered as a crime (50).In addition to being FGC considered a criminal act, circumcised girls have severe pain, bleeding, incontinence, infections, mental health problems, sexual problems and difficult labor with high episiotomy rate(41,42). Similarly in the present study the majority of respondents did not support FGC because it is unnecessary procedure for females. In Nigeria, medical doctors are the most mentioned operators followed by traditional birth attendants(45) whereas in Benin, circumcision was

performed by traditional practitioners and only few of the girls had the operation under medical care based on DHS data (46). In developed countries, immigrants ask doctors whose culture is similar with the FGC seekers to circumcise their girls illegally. Sometimes they even bring them to where the girls are living or girls are sent abroad to be circumcised. Like that of many of African countries, the majority of circumcisions of this study were performed by non-medical persons or traditional circumcisers. the reason mentioned by most of traditional circumcisers as to why they perform FGC.

The age at which FGC is performed on girls varies between countries and even from area to area within the same country. FGC is typically performed on young girls who are between 4 and 12 years old while in some occasion the procedure may be done shortly after birth to some time before the age of marriage (9,10,11). The average age at which the procedure of FGC was performed based on the study in Egypt was 10.1 ± 2.3 years. According to EDHS 2000 more than half of the daughters are reported by their mothers to have been circumcised before age one (48). In this study, the average age at which FGC performed was 2.9 ± 0.65years. The practice should be discouraged since it is against child's right and at the same time it may increase the chance of immediate complications such as bleeding and infections.

Some of the participants agreed that strong legal measures should be taken on those traditional circumcisers and other actors in order to eradicate FGC completely from the city. Otherwise through health education alone, it is difficult to avoid the problem according to these respondents. Some countries in Africa became effective because they used legal measures. In Burkina Faso, mobile police and army teams had markedly

contributed to the decline in the practice (42,46).Therefore, apart from educating the community, additional legal action is necessary to be taken on all FGC promoters.

The vast majority of the respondents believe that female genital cutting is not a religious obligation. It is of note that there is no doctrinal basis for this practice in either the Islamic or Christian faiths. It was also confirmed by the religious leader of each religions during In-depth interview. What is written in the Bible and Quo ran is about male circumcision. Only few Muslims and Orthodox Christian consider FGC as religious obligation. This may also be explained as FGC is cross-cultural rituals rather than religious orders as it is confirmed also on a study conducted in Egypt (2,25). The Qur'an English version on Sùrah 2.Al-Baqarah part 1(23) No.124 stated, "And(remember) when the lord of Ibrahim (Abraham) (i.e. Allah) tried him with (certain) commands, which he fulfilled. He (Allah) said (to him), 'Verily, I am going to make you an *Imam* (a leader) for mankind (to follow you).[Ibrahim (Abraham)] said, 'And of my offspring (to make leaders).' (Allah) said, 'My covenant (prophet hood) includes not Zàlimùn (polytheists and wrong-doers)". These wrong doings include female circumcision.

Most of the circumcisions were made by the request and decisions of mothers. Out of these mothers most of them were illiterate. As the level of their education increases, the probability of deciding for circumcision decreased suggesting that education is a key factor in eradicating FGC. The results of similar study in Egypt showed that mothers were the main decision makers for the procedure of FGC (22,23,24). Therefore, our strategy should concentrate in changing the attitude of mothers and grandmothers towards the prevention of this violence against girls. What is surprising here is, although any mother is able to recognize how much painful FGC is; still they are the one who are

deciding to circumcise their daughters. Therefore, it is necessary to teach mothers to bring an attitudinal changes.

This study has showed that most of the respondents did not support the continuation of FGC. Out of those respondents who supported the continuation of FGC, only few of them had circumcised girls and they still support the continuation of the practice. Their main reason was that they believe FGC reduces sexual desire of the girls and it avoids promiscuity and the second reason was to respect the culture of the community. A similar study conducted in Somalia showed that most circumcisions conducted on females is in order to keep virginity of girls as a perquisite of honorable marriage (14,40). This is all unacceptable reasons and thus strong commitment of the government and also of the community is needed to change such harmful traditional beliefs.

7. Strength and Limitations of the study

Strength

- Self-administered questionnaire had been used for collecting the quantitative data because most of the questions concerning about the practice of FGC are very sensitive so that the instrument could build the confidence of the respondents. It could also reduce interviewer bias.
- The prevalence and potential determinants of FGC had been exactly measured through the quantitative study were also complemented using the qualitative study.

Limitations

- Since clinical examination did not done, it was difficult to measure the exact magnitude of FGC and decrease information bias which can be created by those families who may deny the presence of their circumcised daughters.
- Some of the distributed questionnaires which reached to illiterate families were not responded because they were selected randomly.

Conclusions

According to the findings of this study,

- Most people believed that FGC in Addis Ababa doesn't exist and some of them assume that FGC is completely eradicated. However, the prevalence is still very high-meaning that one of four young primary in-school girls have been circumcised. The magnitude is higher in government schools than other types of school.

- Although FGC was practiced by all categories of the community, parents with higher level of education and income were less likely to support the practice as compared with those illiterate and low income parents. However, still there are a lot of families who are in favor of the practice of FGC because they believe that FGC helps to avoid sexiness.

- The majority of decisions for circumcision of the girls were made mainly by their mothers and grandmothers rather than their fathers and other relatives or neighborhoods. Most of the time, the mothers allowed FGC to be performed during the summer season when schools are closed and in the areas outside of Addis Ababa.

- The vast majority of the community had high degree of awareness about the bad complications of female circumcision and better access or source of information than any of the rural part of Ethiopia, nevertheless there is no as such significant behavioral and attitudinal change.

Therefore, different intervention programs should be designed in order to eradicate this harmful practice.

Recommendations

In order to change the attitude, belief and practice of the community, the following mixed interventions are recommended:

- Besides attempting only to increase the awareness of the community, evidence-based health education should be planned and transmitted through Televisions and other Video shows as Drama or Role play. Showing the harmful effect or complications of FGC can be assurance of people in changing their thoughts, beliefs and attitudes.

- Sensitization programs should also be arranged for all primary school communities. These programs include health education for parents through call for meetings by the school administrators and also establishment of 'Anti-FGC clubs' by the school communities.

- Effective health education should be given specifically for mothers through women's forum and Community Based Organizations. Religious leaders should also play a significant role in changing the behavior of those elderly people against the practice of FGC.

- The majority of the community do not know the new formulated penal code of criminals against FGC so that the population should be made aware of these laws through mass media.

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