Wolkite University

College of Medicine & Health Sciences

Department of Public Health

FEMALE GENITAL MUTILATION AND ASSOCIATED BIRTH COMPLICATIONS IN WOLKITE TOWN, GURAGE ZONE, SNNPR, ETHIOPIA, 2021 G.C.

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Wolkite University; ETHIOPA, 2021 G.C.

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ABSTRACT

Introduction: Female genital mutilation (FGM), commonly referred to as female circumcision, is one of the deeply rooted, harmful traditional practices that are still prevalent in a number of countries. In spite of the fact that it is taken as cultural or traditional entity and its magnitude and associated birth complication is not studied well in the study area

Objective: The main objective of this study was to assess the magnitude of FGM and birth complications among women of reproductive age groups (15-49 years) in SNNPR Wolkite town, Gurage Zone, SNNPR, Ethiopia, 2021 G.C.

Methodology: cross-sectional study design was conducted by taking a total sample size of 311 from November 1 2021 to November 16 2021 G.C the sample for the study was drawn from women who came to wolkite health center for delivery. Systematic random sampling method was used to select individual respondants. The data was collected using structured questionnaire and be analyzed as Frequencies, proportions and summary statistics was used to describe the study population in relation to relevant self and parental variables using computer software (IBM SPSS version 20.

Results: the proportion of women who were genitally mutilated was 51.4%. Episiotomies occurred among of women who were delivering for the first time and of women delivering for the second time. The rates of instrumental and cesarean deliveries among the first-time deliveries were 6.6% and 3.1%, respectively; while they were 3.2% and 1.3% among the second-time deliveries, respectively. Among primi-parous women 36.2% reported having had complicated postnatal period; 22.5%, prolonged labour; 10.3%, perineal tear and 9.8%, heavy bleeding. Internal comparison between infibulated and non-infibulated women had shown that there was a significant difference in the occurrence of hemorrhage and postnatal problems.

Conclusion: It was concluded that female genital mutilation in general and infibulation in particular were risk factors for the occurrence of birth complications.

Recommendation: It was concluded that female genital mutilation in general and infibulation in particular were risk factors for the occurrence of birth complications. Collaborative educational interventions were recommended.

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ACRONYMS AND ABBREVIATIONS

FGM	female genital mutilation
PNC	postnatal care
SNNPR	Southern Nations, Nationalities and Peoples Region
SSA	Sub-Saharan Africa
UNICEF	United Nations Children's Fund
WHO	World Health Organization
SPSS	Statistical Package for Social Science
VAW	violence against women

1 INTRODUCTION

1.1Backgrounds

Female genital mutilation (FGM), commonly referred to as female circumcision, is one of the deeply rooted, harmful traditional practices that are still prevalent in a number of countries. Inspire of the fact that it is taken as cultural or traditional entity, it is a form of violence against girls and women reflecting discrimination against these vulnerable sections of the society. In some countries where FGM is widely practiced, the condition constitutes a major health problem which puts a lot of burden on the already deficient health services (1). In fact, it is a major public health problem that damages the lives of more than 74 million women and girls in Continental Africa and adversely affects the development of more than 26 countries (2).

It is not known exactly when, where or why the tradition began, but a variety of reasons socio cultural, psychosexual, hygienic, aesthetic, and religious - are given for maintaining it. Its origin stretches far back intime; it has been practiced in many places around the world (1) (3). Today FGM survives primarily in large areas of Africa among Islamic and non-Islamic population groups. It is also confirmed on the southern part of the Arab Peninsula and is practiced by some Moslem groups in Malaysia and Indonesia in a less damaging form (1), (2).

Both traditional and modern genital surgery is performed in different societies for a variety of medical, cosmetic, psychological or social reasons. However, the surgical procedures included in the context of female genital mutilation/cutting (FGM/C) are limited to cutting rituals performed exclusively for cultural and traditional reasons on girls or young women, often without their approval or full understanding of the consequences of the procedure (4). FGM involves the

removal of some or all of the external female genitalia and is usually performed on children by traditional birth attendant, midwives or an old woman who traditionally performs this practice in the community (traditional circumcisers). The operation usually takes place under unhygienic Circumstances and without anesthesia, with the operator lacking the basic anatomical knowledge of the female genitalia and surgical skills. Therefore, it is bound to result in serious complications to the health of the child which can amount to death. Those who are fortunate enough to escape this dramatic complication are left with major disabilities which affect their psychological, sexual and reproductive health in later life (1).

Young girls subjected to these mutilations and their mothers have no choice and are not only ignorant of the health dangers involved, but they are also unaware that these operations are unnecessary, have none of the claimed beneficial results for their society and do not exist in most part of the world (2).

Complications of FGM include infertility, dysmenorrhea, diminished sexual quality of life, and propensity for vulvovaginal infection. (5)

Female genital mutilation has been associated with some adverse maternal and neonatal complications. estimated that these procedures increased perinatal morbidity rates by 10 to 20 per 1000. Small increased risks for prolonged labor, cesarean delivery, postpartum hemorrhage, and early neonatal death are found by some. (6)

The reproductive health complications of the practice range from acute trivial hemorrhage through painful sexual life and inability-to-conceive to fistula and death secondary to birth complications such as obstructed labor. (1), (2), (3), (4), (7).

1.2 Statement of the problem

It is estimated that over 200 million girls and women worldwide are living with FGM (8) Despite efforts to eradicate the practice, every year, 3 million girls and women are at risk of being cut, and exposed to the health consequences of this harmful practice . (9)

FGM is an important health issue, worldwide, but it occurs most commonly in many countries in Africa and in a few countries in Asia and the Middle East . (10) (11) FGM has also been reported among some populations in Central and South America (12). The rise in international migration has also increased the number of girls and women living in diaspora communities in Europe and North America; who have undergone or may undergo the practice. (9)

The practice of FGM is also rampant in Ethiopia: Sixty-five percent of women age 15-49 are circumcised with the highest prevalence of female circumcision recorded Somali (99%) and 78.3% among Gurage ethnic group (4), (13).

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II. LITERATURE REVIEW

Female Genital Mutilation comprises all procedures involving the removal of the external female genitalia or other injury to the female genital organs for non-medical reasons, as defined by the World Health Organization (WHO).

According to the UN Committee on CRC, “discrimination against girl children is a serious violation of rights, affecting their survival and all areas of their young lives as well as restricting their capacity to contribute positively to society”

2.1. Geographical and Historical Overview

The earliest known writings on the subject suggest that female genital cutting has been practiced in Egypt for at least 2,000 years (14). Writing in the sixth century by a Greek physician praised the Egyptian practice of genital "excision," explaining that unless the clitoris is cut, it will continue to grow and lead to inappropriate thoughts or behavior in young women (2), (14). Several varieties of FGM were carried out in Europe in the past although evidence indicates such operations were not common. Only one group is known, the Christian Skoptzy sect in Russia, which practiced infibulation as a matter of routine (1). Most theories about the origin of genital cutting suggest that these procedures provided a means for families to safeguard the "value" of women, guaranteeing virginity before marriage and the creation of legitimate heirs during marriage. Some evidence also indicates that slave-traders acquired infibulated women or infibulated female slaves because these women - whose labor would be uninterrupted by childbearing - could be sold for higher prices (1), (14). Overall, no definitive evidence exists documenting exactly when and why genital cutting began.

There is also little that can be said with certainty about the origin of different types of FGM. It seems most unlikely that the practice spread initially from any single location. One possibility

suggested by Seligman is that FGM in the African and Arabian area are derived from ceremonies enacted by the Hamito-Semitic inhabitants of the Red Sea Coast (1), (2). As for infibulation, its distribution throughout the Sudan-Ethiopia-Somalia region might indicate a relation with the Cushite's (1). Although often perceived to be a Muslim practice there can be no doubt that FGM in Egypt, Sudan and Ethiopia dates from long before Islam or Christianity (1), (2).

In general genital cutting occurs primarily in Africa and these practices have also been documented among African immigrant communities in a number of countries. As different researchers point out, however, genital cutting is not a practice historically restricted to Africa. As late as the 20th century, various Western physicians believed that a number of mental and physical "disorders" could be treated through the removal of women's external genitalia (14). Ianthe 1800s, some doctors theorized that "hysteria" and "lesbianism" could be managed by modifying or removing female genitalia (14). During the 19th century there were gynecological surgeons who performed clitoridectomies for allegedly medical reasons which included prevention of masturbation and treatment of nymphomania and frigidity (1).

The type of FGM that involve partial or complete removal of the clitoris and/or the labia minora(excision) is common from the east coast of Africa to the west, from Ethiopia to Senegal, from Egypt down to Tanzania. It is also found towards the southern end of the Arabian Peninsula and along the Persian Gulf. Muslims in Malaysia and Indonesia practice a mild form of genital mutilation as well. Infibulation is widespread in Sudan (excepting the south), in eastern Ethiopia (Ogaden), in Eritrea skirting the Red Sea, in Djibouti, and in Somalia and the adjacent part of Kenya. In southern Egypt infibulation continues as well and cases have been reported from Malian Nigeria (1).

It is now also practiced in Europe and North America with immigrants from Africa and Middle Eastern countries continuing to mutilate their daughters in their adopted homelands, according to traditional custom.

2.2. Definition and Classification

Controversy still continues to exist over the use of the terms "female circumcision" and "female genital mutilation" to describe the procedures employed. The most common argument over the term "female circumcision" relates to whether or not the procedure is analogous to male circumcision - a practice to which medical literatures has not yet established any sexual or other dysfunction. The procedure has been termed "female genital mutilation", often abbreviated to FGM, because of the severity and irreversibility of the damage inflicted on the girl's body. The term FGM was first endorsed by the Inter-African Committee on Traditional Practices Affecting the health of Women and Children (IAC) during its regional meeting in Addis Ababa (1989) and it is now the term generally accepted for the practice (4), (7), (15). The difference among researchers and health personnel was not only in the use of terminologies but also in the classification of the different types of genital mutilation.

Recognizing the need for a standardized classification and terminologies, WHO, UNICEF and UNFPA gave their joint statement on FGM in April 1997 with the following definition and classifications of the practice (4), (7), (15).

"Female genital mutilation refers to a group of traditional practices that involve partial or total removal of the external female genitalia or other injury to the female genital organs

for cultural, religious, or other non-therapeutic reasons."

Four different types of FGM were identified, type I through type IV:

Type I: Excision of the prepuce, with or without excision of part or all of the

clitoris.

Type II: Excision of the clitoris with partial or total excision of the labia minora.

Type III: Excision of part or all of the external genitalia and stitching/ narrowing of the vaginal opening (infibulation).

Type IV: Includes pricking, piercing or incising of the clitoris and/or labia; stretching of the clitoris and/or labia; cauterization by burning of the clitoris and surrounding tissue; scraping of tissue surrounding the vaginal orifice (angurya cuts) or cutting of the vagina (gishiri cuts); introduction of corrosive substances or herbs into the vagina to cause bleeding or for the purposes of tightening or narrowing it; and any other procedure that falls under the definition of FGM.

2.3. Prevalence and Epidemiology of FGM

The practice of FGM, in one form or another continues to exist in around 40 countries, mostly in East and West Africa, and parts of the Arabian Peninsula (2), (16). The variation in the percentage of adult female population affected by the practice between countries ranges from 5% to almost98% in most countries of the horn of Africa (2), (15), (17). With immigration, it is now also practiced in Europe and North America. Currently it is estimated that More than 200 million girls and women alive today have been cut in the 30 countries in Africa, Asia and the Middle East where FGM is concentrated. It is also estimated that some two million girls are at risk of undergoing some form of the procedure every year (4), (12). About 600 girls are genitally mutilated every day (16).

Worldwide type I and II together account for 80-85% of all FGM, although the proportion may vary greatly from country to country. Only 15-20% of all women who experienced genital mutilation have undergone type III, but in certain countries such as Djibouti, Somalia and Sudan the proportion is 80-90% (4).

In Ethiopia, types I and II are common except in the eastern part bordering Somalia and Djibouti where type III is practiced (4). According to the 2016 DHS of Ethiopia only 7% of genitally mutilated women had had FGM type III (13).

The National Baseline Survey on Harmful Traditional Practices in Ethiopia, conducted by the National Committee of Traditional Practice in Ethiopia (NCTPE) in September 1997/98, has found a prevalence of 73.6% in the country (14). According to the 2016 DHS of Ethiopia, the overall national prevalence of FGM is 65% with as low as 23% of women in Tigray and as high as 99% of women in Somali region having had genital mutilation (13). It goes without saying that with such alarming prevalence (and associated health consequences); it is a major public health problem in the country.

The age at which FGM is performed varies widely, depending on the ethnic group and geographical location. In some groups it is performed on babies; more commonly it is undertaken between the ages of 4 and 10 years but it may also be carried out in adolescence or even at the time of marriage or during a first pregnancy (15). Among the countries in which FGM is performed during infancy are Cote d'Ivoire, Eritrea and Mali but the median age for these countries are 9.7 years, 6.3 years and 1.8 months, respectively (18). A study in eastern Ethiopia has shown that the Adere and the Oromo perform FGM on girls aged 4 years to puberty, while the Amhara perform it on the 8th day following birth (18); another study in Axum area (northern Ethiopia) reported 12th day (19). Nomadic Somali women excise the clitoris and labia on most girls aged 4-8 years (20).and a mean age at genital mutilation of 6.9 years with a range as high as15 years was also found among women living in southern Somalia (21).

Operations are usually undertaken by an elderly woman in the community specially designated for this task (traditional circumcisers) or by traditional birth attendants, although in some cases, health personnel such as midwives and doctors are involved (15). In Egypt and Sudan a substantial number of the procedures are performed by medical professionals (18). The trend toward medicalization of genital cutting appears well underway in Egypt, with mothers

increasingly opting to have their daughters operated on by doctors. Among Sudanese women, where infibulation is the most common procedure performed, trained midwives are often the provider of choice. However, traditional practitioners are the most common operators in most African countries ((2), (15), (18). In the 2016 DHS of Ethiopia, it was shown that more than 97% of women had been genitally mutilated by traditional circumcisers and traditional birth attendants.

The findings from the 1997 Demographic and Health Surveys Program of seven countries(Central African Republic/CAR/, Cote d'Ivoire, Egypt, Eritrea, Mali, Sudan and Yemen) has showed that genital cutting occurs among all socioeconomic group, prevalence levels are often higher among Muslim women, attitudes and practices vary considerably by ethnicity, the daughters of urban and educated women may be less likely than others to undergo genital cutting, support levels are higher among Muslim respondents and women in high prevalence countries, and no major decrease in prevalence levels is evident across generations (18).

In countries with high prevalence levels (≥ 89 percent) there are no substantial differences in levels of cutting among women based on education or residence. For instance, prevalence among Egyptian women with some secondary education is 91%, compared with 100% among those with no education. Similarly, the difference between urban and rural women is small, with prevalence levels of 94 and 100 percent, respectively. In CAR and Cote d'Ivoire, countries with lower prevalence levels, families that educate their daughters do appear less likely to adhere to the tradition of FGM. In both countries, prevalence levels among women with at least some secondary education are 23% compared to 50% among women with no education. In all seven countries studied, urban women are not substantially less likely to have undergone FGM than their rural counterparts. A community-based study in Somalia has shown that education, ethnicity and economic status had no influence on the performance of female genital mutilation.

The findings of the 2016 DHS Program and other small-scale studies also showed that tradition /custom and religion are the most common reasons given for supporting and practicing FGM, and medical complications are the most commonly given reason for opposing the practice (1), (2), (14), (18), (21).

2.4. Health Consequences of FGM

All types of female genital mutilation involve removal or damage to the normal functioning of the external female genitalia and can give rise to a range of well documented physical complications. They are irreversible and their effects last a lifetime.

The occurrence of physical complications depends on several factors, including the extent of cutting; i.e., the type of mutilation, the skill of the operator, the cleanliness of the tools used and the environment, and the physical condition of the girl or woman concerned (4).Another factor related to the occurrence of complication is the timing of FGM as this may affect childbirth outcome since FGM performed antenatally may precede labor and delivery by only a few days or weeks, whereas FGM performed on neonates or in childhood will precede labor and delivery by many years (22). Although serious complications are possible following all types of FGM, those resulting from type III occur more frequently, tend to be more serious and last longer (1), (2), (4) (3). However, the same picture of mechanics (obliterated vulva) can occasionally follow types I& II due to infection and inflammation at the time of mutilation leading to valval adhesions which effectively narrow or completely obliterate the vaginal opening (22).

The procedure is generally performed outside the health care system and commonly results in potentially serious, short-and long-term complications. Among the long-term/late complications are those occurring before, at and/or after delivery, affecting the health of both mothers and children. These complications are typical of FGM type III as a result of the mechanical obstruction caused by the scarring covering the urethra and vagina, and further damage caused by defibulation and by "re-infibulation" (2, 4).

During childbirth, the infibulated woman must be defibulated to allow the fetal head to emerge from the vagina. This increases the risk of complications of labor and delivery such as bleeding, perineal tear and wound infection. Case reports are abundant in the literature to show that female genital mutilation is a cause of reproductive morbidity (4). and most of the earlier studies that related FGM with negative birth outcomes were either case reports, case series or observational series (22). Cases of ruptured valval scar, perineal tears, fetal distress and vesicovaginal and vesicoureteral fistulae have been reported (23). There have also been reports of severe lacerations, including third-degree tears involving the anal musculature and injuries to the urinary tract including avulsion (tearing away) of the urethra from the bladder (24).

Episiotomies and perineal tears are by far the most common complications reported and there is substantial evidence to show that women with FGM suffer more perineal damage as a result of delivery than do those without FGM (22).

De Silva in1989 provided strong evidence that FGM leads to a higher incidence of postpartum hemorrhage in his study among Sudanese women in Saudi Arabia. He showed that 5.4%of multiparas and primiparas with FGM (Types I, II and III) had postpartum hemorrhage compared to1.6% of no FGM women ($p<0.001$). This finding is supported by other studies ((22), (25).

Postpartum genital wound infection was also found to be more common among women who had had genital cutting than those without the cutting (25).

An unpublished report cited in the above study from Mali suggests that women who have undergone FGM are nearly seven times more likely than those who have not to experience complications during child birth.

Unfortunately, most studies conducted in Ethiopia on female genital mutilation were on prevalence and epidemiology of the practice and it was not possible to get a single study related with birth complications.

2.5. International and National legal perspectives to enable fight Against FGM

In contemporary world states came at consensus to curb the Devastating effect of FGM under the umbrella of Harmful Traditional practices (HTP's) across the globe. The concern to act against FGM more aggravated with international and National effort of Gender equality and emergence of Gender sensitive agenda on global arena.

This scattered effort organized under the auspices of United Nation which came in to sight in 1945.Based on this organized international organization many International and National Laws enacted to enhance gender equality and restrain harmful practices endangering health and life of women.

International Legal Instrument Against FGM

Under UN human rights protection effort one of the most commonly referred international Convention for protection women rights is the Convention to Eliminate all Forms of Discrimination against Women (CEDAW) which was adopted in 1979 by UN general assembly., where more than 200 states ratified this convention.

African states including Ethiopia is also a party to this internationally binding legal instrument.

Under its Article 12 this convention address obligation on the state parties as follow;

> States are obliged to take all appropriate measures to eliminate discrimination against women in the field of Health care in order to ensure basis of equality of men and women access to health service including those related to family planning are states obligation.

Similarly, the Committee on Elimination of Discrimination against Women in its General Recommendation No 14 related to female circumcision in 1990 address that;

> State parties to include in their National health policy appropriate strategies aim at eradicating female circumcision in public health care. Such strategies could

include special responsibilities of health personnel including traditional birth attendants to explain harmful effect of female circumcision.

There are also ample provision in international human rights documents of 1948 of Universal Declaration of Human Rights (UDHR) and 1966 of International convention on Civil and Political Rights (ICCPR) in cognizant of all harmful traditional practices which embrace FGM are against human rights bodily and integrity of women.

National Laws prohibiting FGM

Ethiopia besides to ratifying various international convention to promote women rights also enacted many policies, strategies, institutions and laws to curb the effect of Harmful traditional practices which includes FGM.

One of the notable and superior laws with regard to this concept is the 1995 FDRE constitution. The constitution under Article 35 sub article (4) and (5) address as follow;

Article 35 (4)

> The state shall enforce the right of women to eliminate the influence of harmful Customs, laws and Practices that oppress or cause bodily or mental harm to women are prohibited.

Article 35(5)

> Women have right to prevent from harm arising from pregnancy and child birth in order to safeguard their health.

In addition to this superior law the newly enacted criminal code of Ethiopia which came in to force in 2004 in its various provisions address crimes against personal health where intentionally or by negligence cause bodily injury on other person or impair health by whatsoever means is punishable. This punishment may include payment of damage for the injured party as a result of criminal act performed.

Particularly under Article 565 and 566 respectively address that female circumcision and infibulations of female genitalia may extend penalty depending on case and injury ranging from 3-month imprisonment 10 years imprisonment.

Furthermore, besides to health-related legal efforts in Ethiopia many policies, informal women organizations and Gender sensitive offices are currently joining the effort of averting fatal consequence of FGM in its multiple dimensions of impact on women no matter how until now the problem depicted in various magnitude in different places of the country. (26) (26) (27) (28) (29) (30)

2.6 Significance of the Study

Although the prevalence of FGM is exceedingly high in the region and the literature clearly shows the negative health consequences associated with it, the regional health bureau and other related sectors responsible for the health of the people of the region appear to have opted for a conscious silence reflected by the absence of any visible anti-FGM initiatives.

Hence, this study is expected to demonstrate the ill-health effects of FGM among women of the Town, so that by providing area-specific information for decision-makers, who themselves are natives (mostly males); it will help in breaking the mute consensus that prevailed in the region. At the same time, it will also remind health planners of the region to visualize the extent of the problem in terms of its significant lifelong negative health impacts and special health care needs of victims. The study will also be a contribution, however small, to fill the deficiencies of such studies in the country.

III. OBJECTIVES

3.1General objective

To assess the occurrence of FGM and birth complications among women of reproductive age groups (15-49 years) in wolkite town.

3.2 Specific objectives

1. To determine the prevalence of FGM in wolkite town.
2. To determine the determinant factors associated with FGM in wolkite town.
3. To assess birth complications associated to FGM during delivery.

IV. METHODS AND MATERIALS

4.1. Study Area and Period

This study was conducted in wolkite town, Gurage zone, southern Ethiopia. From November 1 to November 16, 2021. It is found 158km south of Addis Ababa 271.6km from Hawassa. Wolkite town is one of the two reform towns in gurage zone, SNNPR It is found 155km south of Addis Ababa & 271 km from Hawassa. The town is located at $37^0$6400"latitude E and $08^0$1753" longitude N, & it is bordered with kebena woreda from North, South & North east & Abeshige woreda from South east and West. It is found at latitude of 1710-1950m (Average 1850m) above sea level with total area of 1600 hectare. The town comprises three sub cities, six urban kebeles, 39 villages & 104 blocks. In addition to being the capital town of Gurage zone, it serves as an administrative site for Abeshige & kebena woredas. The major inhabitants of the town are Gurage, Amhara, Kebena & Oromo, & most of them are Islamic & Orthodox Christianity followers. In addition to these Catholic, Protestant, Adventist & Jehovah witness believers are also found within the town. Most of the town populations speak Amharic, in addition to this Guragigna & Oromifa are also common.

The climatic condition of the town is Weinadega with daily temperature ranges from 19^0c-21^0c & annual rain fall of 1137.4mm[3].

The total population of the town is about 48,524 with 23,777 males & 24,747 females. There are 11.307 women of reproductive age.

There is level-1 Asphalt road that crosses the town centrally, & cobble stone roads in many of the villages. There are also different infrastructures like telecommunication, electrical power, water, legal & security services. The main economic source of the town is trade. In addition they involved in the production of garden products & animal breeding.The town acts as a corridor for the long journey from Addis Ababa to Jimma and Gambella.

In the town there is one level-A governmental health center. In addition to these there are 7 private clinics, 10 drug stores, 1 NGO clinic, 1 pharmacy, 1health post 6 health extension workers offices & 1 hospitals and 1 health center, all of which has electric power, water and telephone accesses. There are different clubs (sport, anti-HIV, gender), governmental & non-governmental youth friendly service providers that the community uses for leisure time.

The data for the study was collected from November 1 2021 to November 16 2021.

4.2. Study Design

A facility based cross-sectional survey was the design of the study.

4.3.1 **Study population**

All women who attended delivery in addis ketema health center in Wolkite town.

4.3.2 Sample size

The total number of samples needed for the study from N = 11303 women of reproductive age (23.29% of total population of wolkite town), based on a precision level of 5% (d=0.05), desired confidence level of 95% (Z 2 $\alpha/2 = 1.96$) from a study of female genital mutilation prevalence and its effect on woman health in bale zone the prevalence 78.5% . (31)

we used this as our p value. The formula used to calculate the required sample size was:

$$n=\mathbf{z^2pq/d^2}$$

and based on this formula our sample size will be 259. with 20% non-response rate and design effect of 2 considered total sample size was 311.

4.3.3 Sampling Technique

Systematic random sampling Technique was implemented, sample was taken from every other attending women i.e. our k value was 2.

4.3.4. Study variables

4.3.4.1.: Dependent variable

FGM practice was our dependent variable.

4.3.4.2. Independent variables

Socio-demographic characteristics: Age, religion, ethnicity, schooling, level of school attainment, place of birth, marital status, marital type (in terms of polygamous versus monogamous union), parental education and parental religion.

Socio-economic variables: occupation, average monthly income, household possession (wealth), parental occupation and parental wealth,

Income: Average monthly income was categorized in to low (Birr 0 to 5000), medium (Birr 5000 to 15000) (and high above Birr 15,000).

• *Wealth*: Information on household income is very difficult and unreliable to collect. However, a proxy measure of the household economic status of the respondents was calculated from information on housing characteristics and household possessions. The scores were created by assigning a point each for possession of a radio, television, refrigerator, cot, bicycle, car, electricity, safe drinking water and sanitation facilities, and for the type of building material (brick and either cement or concrete). The total scores, which could range from 0 to 10, were divided into three groups (0-2, 3-6 and seven or more) signifying low, medium and high economic status, respectively.

4.3.5. Operational definition

• Infibulated women are those genitally mutilated women whose vaginal area is sewn Closed (FGM Type III)

• Labor was labeled as prolonged when it lasted longer than 16 hours for primiparas and 12 hours for multiparas

• Postnatal period was considered to be problematic (complicated) when one or more of the following complications had been reported by the respondents: heavy bleeding, foul-smelling discharge, urinary incontinence, rectal incontinence, generalized fever, or wound infection.

4.3.6. Data Collection method and Instrument

A structured close and open-ended questionnaire, which includes all the relevant information to meet the objectives, was originally developed in English. Then translated into Amaric and back translated to English to check for consistency. The questionnaire was pre-tested before actual data collection. Data collectors also rehearsed on the content of the questionnaire and process of data collection. Data was collected by face to face interview of the respondents.

4.3.7 Data Quality assurance

Before the actual data collection commenced, pretest was conducted in adjacent woreda health facility on 5% of respondents to ensure the validity of the survey tools and to standardize the questioner. The principal investigators were making frequent cross check on the data collection process to ensure the completeness and consistency of the gathered information. Any error that can found during the process was corrected immediately.

4.4 Data management, analysis and interpretation

After pre-coding of all the study variables and giving appropriate variable names, the raw data Was entered into computers using SPSS version 20 data entry program. This was done by the

principal investigators. Logical and consistency errors were also checked after completing data entry. Any error identified at this stage will be corrected after revision of the original questionnaire retrieved using the corresponding record number.

Analysis was done using both statistical packages. Frequencies, proportions and summary statistics were used to describe the study population in relation to relevant self and parental variables. Odds ratio with 95% confidence interval in most cases and Chi-squared test with p value in some cases, along with binary & multiple logistic regression were used to assess the significance and strength of associations.

4.5 Ethical Considerations

Verbal consent of subjects to participate in the study was secured before conducting the interview. This was done with a page of consent letter attached to the cover of the questionnaire which stated the general purpose of the study, the need and benefits of conducting the study, and issues of confidentiality (Annex 1). The interviewers briefly discussed the contents of the consent letter before proceeding to the interview. Participants were also informed that they have the right to refuse to participate in the study or to discontinue the interview at any time they want to. The data was kept confidential and for this reason their name was not be written on the questionnaire during data collection

the wolkite town Health Bureau and the wolkite university health science college, public health department will write formal letters before beginning the formal data collection procedure.

V. RESULTS

5.1. Socio-demographic description of study subjects

The total number of women studied was 294 with a non-response rate of 5.5%. Of the sampled 294 women, the majority of subjects were between 25 and 34 years (44.6%). The major ethnic groups were Gurage constituting 42.5% and Amhara, 32.7%.

Orthodox Christian was the dominant religion, (41.1%), followed by Islam, (37.4%). The majority (86.1%) of women were literate with 52.1% of them having reached secondary school level. Most women, 53.4%, were born in rural settings.

Twelve (4.1%) of the subjects had been married with a polygamous marriage. The majority of women, 47.6%, were merchants and only 6.5 % were involved in the civil sector. Fifty-nine (20 %) families earned an average monthly income of less than Birr 5000, 130 (44.2%) earned between birr 5000 to 10000 and 60(20.4 %) earned between birr 10000 to 15000 and 25 (8.5%) earned above 15000 the rest 20(6.8%) doesn't know their monthly income.

Table 1 : Socio-demographic and economic characteristics of the study population (n=294), Wolkite Town, Ethiopia, 2014.

Socio-demographic and economic characteristics	Frequency	Percent
Age (in years)		
15-24	118	40.1
25-34	131	44.6
35-49	27	9.2
Don't know	18	6.1

Religion		
Orthodox Christian	134	45.6
Muslim	131	44.6
Protestant	10	3.4
Catholic	19	6.5
Education		
literate	253	86.1
illiterate	41	13.9
Educational level		
primary	14	5.5
Secondary	86	33.9
Tertiary and above	153	60.4
Marriage Type (n=294)		
Monogamous	282	95.9
Polygamous	12	4.1
Occupation		
housewife	88	29.9
civil servant	19	6.5
merchant	140	47.6
student	47	16.0
Income (Birr)		
< 5000	59	20
5000 – 10000	130	44.2
10000 - 15000	60	20.4

> 15000	25	**8.5**

5.2. Reproductive Health Status

Of the total 294 respondents 151 (51.4%) were genitally mutilated while 143 (48.6%) were non-mutilated. Of the 151 genitally mutilated women, 44 (29.1%) were of (FGM type I), 46 (30.4%) had them clitoris partially or completely cut (FGM type II/ III) and the rest 61 (40.3%) could not tell the type of mutilation they had undergone. No subject mentioned the atypical FGM type IV. The majority (72.8%) were mutilated by a traditional birth attendant (TBA) or a traditional circumciser. The rest doesn't recall who performed the operation.

The majority of subjects were multigravida (53.1%) and primiparous (27.2%) mothers. Only 7 (2.4%) of the women had had a still birth with all of them being mutilated, and forty-three (14.6%) of the subjects had experienced abortion with the majority (55.8%) having it once but some 44.2% of them had it twice not necessarily consecutively. Of the reported abortions thirty (75%) are mutilated.

Genital mutilation was associated with religion, ethnicity, education, place of birth, marital status and occupation of the women on unadjusted analysis.

When variables which were presumed to have association with FGM were entered into a logistic regression analysis, only religion and occupation had statistically significant relation with the prevalence of genital mutilation. Age, which was not associated with genital mutilation in the unadjusted analysis, was found to be significantly associated with female genital mutilation. Age above 25 years and being Muslim were associated with higher odds of being genitally mutilated. Employed women had significantly lower odds of reporting genital mutilation. Logistic regression in relation to type of genital mutilation showed that religion and ethnicity were significant factors.

Table 2: Relationship between genital mutilation and socio-demographic characteristics of the study population, wolkite Town, Ethiopia, 2014

Variables	Mutilated, n (%)			Crude OR (95%CI)	Adjusted OR (95% CI)
	Yes (n=151)	No (n=143)	Total (n=294)		
Age(n=249)					
15-25	110(33.4)	8(6.7)	118(40.1)	1.00	1.00
26-49	120(41.3)	11(3.7)	131(44.6)	2.58(0.86,10.4)	3.79(1.17,12.3)
Religion(n=294)					
Christian	51(40.6)	112(92.3)	163(55.4)	1.00	1.00
Muslim	100(59.4)	31(7.7)	131(44.6)	17.5(4.3,153.7)	24.3(1.3,456.0)
Ethnicity(n=294)					
Non gurage	61(55.8)	59(96.2)	120 (57.1)	1.00	1.00
gurage	90(44.2)	84(3.8)	174(42.9)	19.8(3.2,815.4)	1.6(0.09,28.03)
Education(n=294)					
Illiterate	38(35.8)	3(11.5)	41(35.1)	1.00	1.00
Literate	230(64.2)	23(88.5)	253(64.9)	0.23(0.04,0.78)	0.66(0.11,4.13)
Elementary/Junior	111(57.9)	7(30.4)	118(56.8)	1.00	1.00
Secondary/Higher	137(42.1)	16(69.6)	153(43.2)	0.32(0.12,0.84)	0.78(0.24,2.60)
Birth Place (n=294)					
Urban	115(64.0)	22(84.6)	137(64.6)	1.00	1.00
Rural	153(36.0)	4(15.4)	157(35.4)	3.1(1.04,12.46)	1.66(0.40,6.88)
Occupation(n=294)					
Unemployed	68(93.2)	20(27.9)	88(92.7)	1.00	1.00
Employed	200(68.8)	6(3.1)	206(7.3)	0.24(0.09,0.77)	0.29(0.09,0.93)

5.3. Pregnancy and Delivery Outcomes

The majority of women had attended antenatal care (ANC) during their pregnancies (77.8%) The mean month of their first visit was 3.7 (±1.5) months for both pregnancies. More than 90% of women during their pregnancy visited ANC for either check-up or vaccination and only 6-7% of women visited ANC for pregnancy related illnesses. Morning sickness (55%) followed by peptic ulcer disease-PUD (12.5%) and anemia (10%) were the three most common illnesses for the initial ANC visit during the first pregnancy.

During pregnancy, the majority (76.1% and 71.3%, respectively) had made four or more visits to the ANC. Some 9-10% of women had major illnesses during their pregnancies. Severe anemia (30.7%), febrile illnesses (21.3%) and hypertension (18.7%) were the most common major illnesses among women who were pregnant for the first time.

Two hundred fifty (85 %) of the first pregnancies were delivered at health institutions. Episiotomies occurred among 61% of women who were delivering for the first time. Only a few deliveries needed instrumentation; 6.6% of the first-time and 3.2% of the second-time deliveries ($p<0.05$). The Cesarean section rate was found to be 3.1% and 1.3% during the first-time and second-time deliveries respectively ($p<0.05$).

in general, among women who were delivering for the first time: 22.5% reported having had prolonged labor; 10.3%, perineal tear; 9.8%, heavy bleeding during labor; 36.2%, problematic

postnatal period and 1.1% blood transfusion. Of the proxy birth complication measures: 13.7% reported having used IV fluid; 21.1% and 62.5%, sitzbath.

Among those who delivered in health institution, only 3.2% of uncut women required the assistance of higher professionals (GP & Gyn/ Obs specialist) while 38.7% and 58.1% of non-infibulated and infibulated women respectively requiring so ($p<0.05$). infibulated women sought the attention of professionals 2.46(CI:1.68,3.61) and 3.0(CI:1.39,6.54) times more commonly than did non-infibulated women during their first delivery.

Length of labor was found to significantly differ ($p<0.05$) among the three groups of mothers when they had their first baby. Four (15.4%) of uncut (non-mutilated), 76(19.2%) of non-infibulated and 112(25.9%) of infibulated women had their labor prolonged. In addition, infibulated women were 1.47(CI:1.04,2.08) and 1.99(CI:1.17,3.39) times more likely than their cut counterparts to report prolonged labor during their first and second deliveries, respectively.

Episiotomy and genital trauma (perineal tear) were not found to be significantly associated with genital mutilation or type of genital mutilation during either deliveries; however, their proxy measure - sitzbath - was less commonly used by genitally mutilated women than was by non-mutilated women during the first delivery (OR=0.29; CI:0.08,0.92). Moreover, the odds of an infibulated women having used sitzbath was 0.69(CI:0.52,0.93) times lower than a non-infibulated woman having used it.

Heavy bleeding during labor was reported to be more common among non-infibulated women than infibulated women during both deliveries (OR=2.39; CI:1.43,4.03 and OR=3.07; CI:1.12,8.55, respectively) with no significant differences found among uncut women.

Testing for the likelihood of postnatal birth complications showed that genitally mutilated women were at a lower risk (OR=0.35; CI:0.14,0.83) of having problematic postnatal period than were non-mutilated women during delivery-one; specifically this difference was significant between uncut and FGM type I/II ($p<0.001$) with no significant difference existing between uncut and FGM type III. However, during both deliveries, infibulated mothers were 2.6(CI:1.91,3.55) and 4.96(CI:2.58,9.68) times more likely to report problematic postnatal period than were non- infibulated women.

Following the first delivery, infibulated women were found to be 0.37 (CI: 0.18,0.76) times less likely to develop wound infection than were non-infibulated ones.

Logistic regression of some of the first delivery complications that had significant association with the type of genital mutilation on the bivariate analysis showed that hemorrhage and postnatal complications maintained their statistical significance even after controlling for possible confounders. Regression of labor length on selected confounding variables identified that only birth weight was significant predictors of labor length. Women who had delivered at health institutions or attended by professionals had significantly higher odds of having postnatal problems.

Table 3 :*Relationship between genital mutilation /type and birth complications during the first delivery of the study population, Wolkite Town, Ethiopia, 2014.*

Mutilated, n (%)				**OR**	
Episiotomy					
(n=130, 121)					
No	47(39.2)	9(34.6)	51(39.0)	1.00	
Yes	74(60.8)	17(65.4)	79(61.0)	0.	82(0.33,1.9
Instrumentation					
(n=45,39)					
No	36(93.4)	25(96.2)	42(93.5)	1.00	
Yes	3(6.6)	1(3.8)	3(6.5)	1.	77(0.28,78
Cesarean section					
(n=28, 31)	30(96.9)	25(96.2)	27(96.9)	1.00	
No	1(3.1)	1(3.8)	1(3.1)	0.	80(0.12,34
Yes					
Prolonged labor					
(n=32, 29)					
No	22(77.4)	22(84.6)	25(77.6)	1.00	
Yes	7(22.6)	4(15.4)	7(22.4)	1.	61(0.54,6.4
Heavy bleeding					
(n=55, 62)					
No	56(90.3)	21(84)	50(90.1)	1.00	
Yes	6(9.7)	4(16)	5(9.9)	0.57(0.19,2.33)	

Perineal tear				
(n=33, 40)	16(89.9)	14(80.8)	30(89.6)	1.00
No	2(10.1)	1(19.2)	3(10.4)	0.47(0.17,1.64)
Yes				
Postnatal problems				
(n=67,61)	39 (64.2)	4(38.5)	43(63.5)	1.00
No	22(35.8)	2(61.5)	24(36.5)	0.35(0.14,0.82)
Yes				

Variables	**Yes**	**No**	**Total**

VI. DISCUSSION

The practice of female genital mutilation is a very deeply rooted harmful tradition that dates back centuries in most African and some Arabian countries. Apart from being a form of violence against females it has debilitating and long-lasting health hazards. Its ill-effects are associated with the very nature of the practice. It is interference to a normal human body part on the one hand and it is mostly performed in an unhygienic environment by a person who is illiterate to the anatomy of the female genitalia on the other. In addition, unintended damage is often caused because of the crude tools, poor light, and poor eyesight of the practitioner compounded by the struggles of the girls or women during the procedure.

For a variety of reasons people at different corners of the world are practicing it. In our study area 51.4% of the women interviewed had undergone the operation with some of them severely mutilated with the most devastating type of FGM – infibulation. The prevalence figures is consistent with the one reported in the EDHS 2016.

Like other studies, the main factor determining the prevalence of the practice was Muslim religion. Education and place of birth (residence) failed to show significant effect in the prevalence of FGM, women's occupation was found to significantly affect the prevalence of female genital mutilation. However, this differential per se could not be the reason for a woman not to be a victim since the women were genitally mutilated at early age.

In this study, women's occupation was found to significantly affect the prevalence of female genital mutilation. However, this differential per se could not be the reason for a woman not to be a victim since the women were genitally mutilated at early age.

The majority of respondents were primigravid and primiparous women. This is because of the restriction of selection of the study subjects for reasons of recall bias. Infibulated women reported experience of more than one abortion almost 4 times more commonly than did non-infibulated women. This could be due to psychological effect of the mutilation since infibulated women have a sense of deep fear of pregnancy and childbirth (4). The overall stillbirth rate (5.3%) was very small compared to most reproductive health studies in developing world. The short reproductive life of study subjects could be one reason. Stillbirth was reported more

commonly by infibulated women than was by non-infibulated women. Soft tissue dystocia due to scarring could be one of the reasons.

The most common birth complication reported by mutilated women who were delivering for the first time was episiotomy (61%) followed by complicated postnatal period (36%), findings in line with most other studies ((32) (19). The cesarean and instrumental delivery rates are on the lower side. The occurrence of almost all obstetric complications decreased with parity. The proportion of women with prolonged labor increased from 23% during the first-time deliveries to 40% during the second-time deliveries. This is contrary to other studies (22) which showed that the length of labor was shorter in subsequent deliveries following the first deliveries.

In this study, the most significant delivery complications that are associated with FGM are heavy bleeding and postnatal complications. Contrary to other findings bleeding was significantly associated with the less severe form of mutilation-FGM type I/II. The most plausible explanation for this may be the timing of the episiotomy. All infibulated women are cut open early during their delivery to allow the passage of the descending fetal head, and this may decrease the chance of having perineal tears that contribute to hemorrhage. However, the occurrence of post-partum hemorrhage was significantly higher among mutilated women than non-mutilated women. Post-natal period was commonly smoother for non-infibulated women than were for infibulated women. Prolonged labor as a complication of genital mutilation in general and infibulation in particular is commonly found in the literature (22), (9). Although this was also found in this study, it was not significant on the multivariate analysis.

VII. STRENGTHS AND LIMITATIONS OF THE STUDY

The study employed a random sample of women who came to the selected health center for delivery which can represent women of wolkite town.

To ensure the validity and reliability of the information generated by this study reliability was checked during pre-testing and actual data collection, data were compared with findings of other similar studies and some variables were counter checked with each other. Results were compared with findings from similar surveys in Ethiopia as a means of validating the content indirectly.

Because of the cross-sectional nature of the study, the findings should be interpreted with some caution. All results reported with regard to genitally mutilated versus non-mutilated women were based on such a small sample of genitally non-mutilated women that the precision with which the difference was observed was questionable.

VIII. CONCLUSION

Based on the results and considering the limitations of the study it is possible to conclude that the prevalence of female genital mutilation was high (51.4%) in wolkite town and it goes without saying that with such alarming occurrence and the possible health consequences attached, it is a major public health problem. The practices of infibulation as well as genital mutilation in general were highly associated with Muslim religion and the majority of women had the perception of their religion demanding it. Knowledgeable women advocated the less severe form of genital mutilation. These are indications that women's lack of knowledge about the health hazards of FGM contribute to the perpetuation of the practice. In addition, education was found to be a significant predictor of favorable knowledge about and negative attitude towards female genital mutilation. The practice of infibulation was found to have a negative impact on the reproductive health behaviors of women. It was also found to be associated with increased occurrence of some birth complications.

VIIII. RECOMMENDATIONS

The following recommendations are forwarded in line with what has been found in this study:

- The regional health bureau and other related sectors of the region responsible for the health of the people of the region should take the magnitude of the problem and its health implications seriously and initiate activities against the practice of female genital mutilation.
- There is a clear need to disseminate information, generate internal discussion and present the basic health and religious facts in an accessible manner. Women's reasons given for favoring discontinuation of FGM (such as medical complication, painful personal experiences and sexual dissatisfaction) (by involving religious leaders elders of the society) can be used in mass media campaigns and educational forum. The greater health risks associated with FGM Type III should be emphasized and publicized through local media. Men should also be involved in the campaign with their side of the story by publicizing the effect of infibulation on sexual satisfaction and hence marital relationships.
- Since FGM is a deeply rooted, multifaceted social practice, there should be a concerted effort by the government, religious leaders, community and women's leaders, non-governmental organizations and international agencies against the practice.

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Figure 1: QUESTIONNAIRE (English Version) Informed Consent for Questionnaire

WOLKITE UNIVERSITY
COLLEGE OF MEDICINE AND HEALTH SCIENCE
DEPARTMENT OF PUBLIC HEALTH

Good morning/afternoon, my name is……. We are 4th-year Public health students at Wolkite University. Now we are collecting data for a study, we are interviewing women living in this kebele whose age is between 15 and 49 in order to find out people's knowledge and attitude about female genital mutilation and its health effects, and the occurrence of these health impacts among these women. The purpose of the study is to gather information relevant to wolkite town, we assure you that the information that you are going to give us will not be expressed for others and will be kept as secrete. Do you agree to participate in the study?

YES

N0

Signature: ……Date ……

Section I: Background characteristics

First, I would like to ask you some general questions about you and your parents!

S.No	Questions and filters	Coding categories	Skip to	Code
Q101	In what month and year were you born?	Month [___/___] Don't Know Month No Response Year [___/___] Don't Know Year No Response		
Q102	How old were you at your last birthday?	Age in completed years [___/___] Don't Know No Response		
Q103	What is your religion?	Orthodox 1 Muslim 2 Catholic 3 Protestant 4 Traditional 5 No Religion 6 Others (Specify)7 No Response 99		
Q104	What is your ethnicity?	Somali 1 Amhara 2 Oromo 3 Tigrawi4 Gurage 5 Other (Specify)___ 6 No Response 99		
Q105	Have you ever attended school? {Or Did you have any schooling?}	Yes 1 No 2 No Response 99	→ Q107	
Q106	What is the highest level of school youreached?	Read and write 1 Grade 1-6 2 Grade 7-8 3 Grade 9-12 4 Above grade 12 5 No Response 99		
Q107	Has either of your parents ever attended school? {Or Did either of your	Yes, father only 1 Yes, mother only 2 Yes, both 3 None 4	→ Q109 → Q109	

	parents have any schooling?}	Don't Know 88 No Response 99		
Q108	What is the highest level of school theyreached?	Father Mother Read and write _____ _____ 1 Grade 1-6 _____ _____2 Grade 7-8 _____ _____ 3 Grade 9-12 _____ _____ 4 Above grade 12 ____ _____ 5 Don't Know _____ _____ 88 No Response _____ _____ 99		
Q109	Where were you born?	Urban 1 Rural 2 Don't Know 88 No Response 99		
Q110	What is your marital status?	Never Married 1 Married/Living as married 2 Divorced 3 Separated 4 Widowed 5 No Response 99	→ Q114	
Q111	How old were you when you first gotmarried?	Age in years [___/___] Don't Know No Response		
Q112	Does/Did your husband have otherwife/wives?	Yes 1 No 2 Don't Know 88 No Response 99		
Q113	What do you do for living? {Or What is your occupation?}	Housewife 1 Civil Servant 2 Merchant 3 Student 4 Daily Laborer 5 House maid 6 Other (Specify) _____ 7 No Response 99		
Q114	How much is the average family income per month?	Less than 5000 Birr 1 5000 - 10000 Birr 2 10000 - 15000 Birr 3 More than 15000 Birr 4 Unknown 5 No Response 99		
Q115	What is your family size?	Size in number [___/___] No Response		
Q116	How many brothers and sisters do you have? (Same father and	Their number [___/___] No Response		

	mother)			
Q117	What is your father's occupation?	Farmer 1 Civil Servant 2 Merchant 3 Driver 4 Daily Laborer 5 Soldier/ex-soldier 6 Jobless 7 Other (Specify) _____ 8 No Response 99		
Q118	What is your mother's occupation?	Housewife 1 Civil Servant 2 Merchant 3 Daily Laborer 4 House maid 5 Other (Specify) _____ 6 No Response 99		
Q119	Do you have any of these?	Yes No DK NR Radio 1 2 3 99 Television 1 2 3 99 Refrigerator 1 2 3 99 Cot 1 2 3 99 Bicycle 1 2 3 99 Car 1 2 3 99 Electricity 1 2 3 99 Safe drinking water 1 2 399 Sanitation facilities 1 2 399 Brick cement/concrete house 1 2 3 99		
Q120	Did your parents have any of these?	Yes No DK NR Radio 1 2 3 99 Television 1 2 3 99 Refrigerator 1 2 3 99 Cot 1 2 3 99 Bicycle 1 2 3 99 Car 1 2 3 99 Electricity 1 2 3 99 Safe drinking water 1 2 399 Sanitation facilities 1 2 399 Brick cement/concrete house 1 2 3 99		
Q121	What is your parents' religion?	Orthodox 1 Catholic 2 Protestant 3 Muslim 4 Traditional 5		

		No Religion 6 Others (Specify)_____ 7 No Response 99		

Section II: Reproductive History

Now we will move on to more personal questions about you and your pregnancy/childbirth!

S.No	Questions and filters	Coding categories	Skip to	Code
Q201	How many times have you beenpregnant? (Gravidity)	Only once 1 2 - 4 times 2 5 and above 3 No Response 99		
Q202	What was your age at your firstpregnancy?	Age in years [___/___] Don't Know No Response		
Q203	How many times did you give birth?(Parity) {Or How many children have you had?}	Number of times [___/___] No Response		
Q204	How many of your children are alive?	Number alive [___/___] No Response		
Q205	How old is your first child?	Age in months [___/___] No Response		
Q206	Did you ever have a still birth?	Yes 1 No 2 No Response 99	→ Q209	
Q207	How many times did you have stillbirths?	Number of times [___/___] No Response		
Q208	What was the gestational age of the stillbirth(s)?	1st 2nd 3rd Seven month__ ____ 1 Eight month__ __ __ 2 Nine month__ __ __ 3 Don't Know __ __ __ 88 No Response __ __ __99		
Q209	Did you ever havemiscarriage/ abortion?	Yes 1 No 2 No Response 99	→ Q212	
Q210	How many times did you have abortions?	Number of times [___/___] No Response		
Q211	What was the gestation of	1st 2nd 3rd		

	the abortion?	First trimester__ __ __ 1 Second trimester __ __ __ 2 Don't Know __ __ __ 88 No Response __ __ __ 99		
Q212	Are you circumcised?	Yes 1 No 2 Don't Know 88 No Response 99	→ Q301	
Q213				
Q214	Which type of circumcision do you think was performed on you?	Infibulation 1 Excision/Clitoridectomy (Sunna) 2 Others (Specify) _____ 3 Don't Know 88 No Response 99		
Q215	Who did the operation?	TBA 1 Midwife 2 Nurse 3 Physician 4 Other (Specify)___.._ 5 Don't Know 88 No Response 99		

Section III: A first pregnancy that ended in delivery

Now I am going to ask you some specific questions pertaining your first pregnancy and delivery; so think of those particular times!

S.No	Questions and filters	Coding categories	Skip to	Code
Q401	Did you go for antenatal care during your first pregnancy?	Yes 1 No 2 Don't remember 88 No Response 99	→ Q407	
Q402	Where did you go for the antenatal care?	Hospital 1 Health center 2 MCH clinic 3 Private clinic 4 Don't remember 88 No Response 99		

Q403	What month of pregnancy was your first visit?	Months of pregnancy [___/___] Don't remember No Response		
Q404	Why did you first attend the antenatal care?	Routine check up1 Problem with pregnancy 2 Vaccination 3 Others (Specify) _____ 4 Don't remember 88 No Response 99	→ Q405 Otherwise go toQ406	
Q405	What was the problem?	Problem [_____] Don't know 88 No Response 99		
Q406	How many times in total did you go forantenatal care during this first pregnancy?	Only once 1 Two times 2 Three times 3 More than three times 4 Don't remember 88 No Response 99		
Q407	id you have any of thefollowing duringthis first pregnancy?	Diabetes mellitus 1 Hypertension 2 Fits 3 Vaginal bleeding 4 Febrile illnesses 5 Jaundice 6 Swelling of the face 7 Cardiac problems 8 I had none of these 9 Others (Specify) _____ 10 No Response 99		
Q408	Where did you deliver your first baby? {Or Where did you have your first child?}	Hospital/health center/clinic 1 Home 2 No Response 99		
Q409	Was the delivery at the expected time?	Term 1 Preterm 2 Post term 3 Don't know 88 No Response 99		
Q410	Who assisted you during the delivery?	Gynecologist/obstetrician 1 General practitioner 2 Nurse or Midwife 3 TBA 4 Relative/Friend (non-TBA) 5 I delivered on my own 6 Don't know 88		

		No Response 99		
Q411	Did they cut your vagina open to help thebaby out? {Or Did you have episiotomy?}	Yes 1 No 2 Don't know 88 No Response 99	→ Q413	
Q412	What do you think was the reason?	Reason [_____ _____] Don't know 88 No Response 99		
Q413	Did they use instruments to help the babyout? (forceps or vacuum)	Yes 1 No 2 Don't know 88 No Response 99	→ Q415	
Q414	What do you think was the reason?	Reason [_____ _____] Don't know 88 No Response 99		
Q415	Was IV fluid used just before or during the labor?	Yes 1 No 2 Don't know 88 No Response 99		
Q416	Was Pitocin used just before or during the labor?	Yes 1 No 2 Don't know 88 No Response 99		
Q417	What part of the baby came out first?	The head 1 The breech 2 Limb(s) 3 The shoulder 4 Other (Specify) _____ 5 Don't know 88 No Response 99		
Q418	Did they C/section you to bring the baby out?	Yes 1 No 2 No Response 99	→ Q420	
Q419	What do you think was the reason?	Reason [_____] Don't know 88 No Response 99		
Q420	What was the outcome of the labor?	Alive and healthy baby 1 Alive but sick baby 2 Dead baby 3 No Response e 99		
Q421	How did you estimate the weight of the baby at birth?	Very small 1 Small 2		

		Normal/Average 3 Big 4 Very big 5 Weight in Kg _____ 6 Don't know 88 No Response 99		

Q422	How long did this first labor last?	One day or one night 1 A day/a night and a half 2 A day and a night 3 Two days and a night 4 Two days and two nights 5 More than options 6 Don't know 88 No Response 99		
Q423	How long after the birth of the child was the placenta delivered?	Less than 30 minutes 1 30 minutes -1 hour 2 More than 1 hour 3 Don't know 88 No Response 99		
Q424	Were any instruments or manipulations used to help the delivery of the placenta?	Yes 1 No 2 Don't know 88 No Response 99		
Q425	Did you have any genital trauma? (perineal tearing/lacerations)	Yes 1 No 2 No Response 99		
Q426	Did you use any sitz bath drugs or warm salt water at home?	Yes 1 No 2 No Response 99		

Q427	How was your bleeding during and just after the labor?	Wet my clothes 1 Wet the bed 2 Wet the floor 3 Don't know 88 No Response 99		
Q428	Did you receive any blood transfusion?	Yes 1 No 2 Don't know 88 No Response 99	→ Q430	
Q429	How many bags of blood were you transfused?	Number of bags [___/___] Don't know No Response		
Q430	Did you have any of the following problems after the completion of the labor?	Excessive vaginal bleeding 1 Foul smelling vaginal discharge 2 Urine leakage wetting the underwear 3 Stool leakage through the vagina 4 Febrile illness 5 Wound infection 6 Don't know 88 No Response 99		

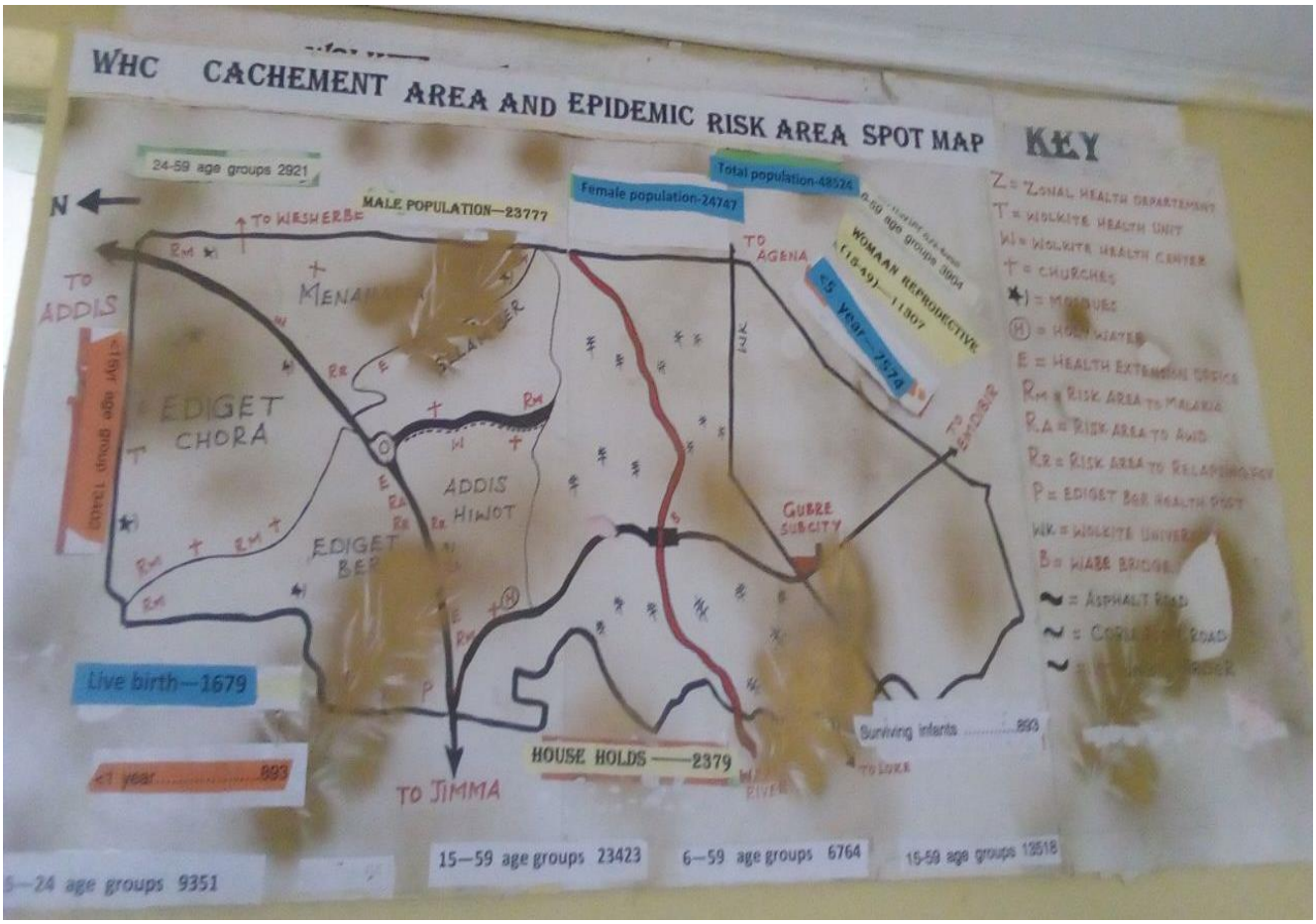
004 INTERVIEWER: Code [___/___] Name _____

005 DATE OF INTERVIEW: [___/___/___]

CHECKED BY SUPERVISOR:

Name _____ Signature _____ Date [___/___/___]

Figure 2 wolkite town map


WHC CACHEMENT AREA AND EPIDEMIC RISK AREA SPOT MAP
KEY
N
24-59 age groups 2921
MALE POPULATION—23777
Female population-24747
Total population-48524
TO WESHERBE
TO ADDIS
TO AGENA
TO EMDIBIR
TO JIMMA
EDIGET CHORA
ADDIS HIWOT
GUBRE SUBCITY
Live birth—1679
<1 year 893
Surviving infants 893
HOUSE HOLDS —2379
15—59 age groups 23423
6—59 age groups 6764
15-59 age groups 13518
Z = ZONAL HEALTH DEPARTMENT
T = WOLKITE HEALTH UNIT
H = CHURCHES
E = HEALTH EXTENSION
Rm = RISK AREA TO MALARIA
R.A = RISK AREA TO AWD
P = EDIGET BER HEALTH POST
B = WABE BRIDGE
= ASPHALT ROAD