

**UTILIZATION OF THE POTENTIAL OF ANTENATAL CARE AS A STRATEGY FOR THE PREVENTION OF FEMALE GENITAL MUTILATION AND ITS COMPLICATIONS AT GARISSA LEVEL 5 HOSPITAL IN 2015.**

DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF MASTER IN MEDICINE IN OBSTETRICS AND GYNAECOLOGY AT THE UNIVERSITY OF NAIROBI

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**This publication was produced by the Africa Co-ordinating Centre for the Abandonment of Female Genital Mutilation/Cutting (ACCAF) at University of Nairobi, agreement number APC-GM-0009 through Advancing Partners & Communities (APC), a five year cooperative agreement funded by the U.S. Agency for International Development under Agreement No. AID-OAA-A-12-00047, beginning October 1, 2012. The opinions expressed here-in are those of the authors and do not necessarily reflect the views of USAID.**

## **ACKNOWLEDGEMENT**

I would like to acknowledge my parents Paul M. Wamae and Theresa M. Wamae and my siblings for their unfaltering support throughout and always encouraging me to face challenges.

I appreciate my supervisors, Professor Koigi Kamau, Professor Guyo Jaldesa and Dr. Odawa for their patience and mentorship.

I appreciate the ACCAF Management Board for giving me the opportunity to work with them and learn more about female genital mutilation.

I am forever grateful to the ACCAF Secretariat – Josephine Kagucia, Vera Asubila and Miriam Jerotich for their encouragement and support throughout.

I appreciate the participants and staff of Garissa Level 5 Hospital for their eagerness and willingness to participate in the conduct of the study

I thank USAID for their financial support and technical assistance provided through ACCAF.

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## **ABBREVIATIONS, ACRONYMS AND DEFINITIONS**

FGM	-Female Genital Mutilation
FGM/C	-Female Genital Mutilation/Cutting
KDHS	-Kenya Demographic and Health Survey
UNICEF	-United Nations Children's Fund
WHO	-World Health Organisation
ARP	-Alternative Rites of Passage
CBO	-Community Based Organisation
GBV	-Gender Based Violence
MDG	-Millennium Development Goals
NGO	-Non-Governmental Organisation
KAP	-Knowledge, Attitude and Practices
Garissa L5H	-Garissa Level 5 Hospital

## **DEFINITIONS**

Potential is defined as passage of information to antenatal mothers that is related to effects of FGM as well as the readiness to receive this information constitutes the utilization of this potential.

## **ABSTRACT**

### **UTILIZATION OF THE POTENTIAL OF ANTENATAL CARE AS A STRATEGY FOR THE PREVENTION OF FEMALE GENITAL MUTILATION AND ITS COMPLICATIONS AT GARISSA LEVEL 5 HOSPITAL IN 2015.**

#### **BACKGROUND**

About 140 million girls and women worldwide are currently living with the consequences of female genital mutilation. In North Eastern Kenya, 98% of women have undergone FGM. FGM causes a wide range of immediate, long-term and obstetric complications thus increasing both maternal and neonatal morbidity and mortality. Antenatal care provides an ideal opportunity for health workers to play a role in the prevention of FGM and its complications.

#### **BROAD OBJECTIVE**

The main objective of the study was to evaluate the utilization of the potential of antenatal care as a strategy for the prevention of female genital mutilation and its complications at Garissa Level 5 Hospital.

#### **METHODS**

This was a descriptive cross sectional study conducted at Garissa Level 5 Hospital among 311 postnatal mothers who had received antenatal care. Data was collected using a structured research assistant administered questionnaire. Data entry and analysis was carried out using SPSS Version 20. Data was presented in tables and pie charts. A p-value of less than 0.05 was considered statistically significant.

#### **RESULTS:**

Majority of women 83.6% reported to have undergone FGM. There was high level of ANC attendance with 85.9% making at least 2 antenatal visits although the provision of FGM related information during the antenatal period was low at 11.9%. Antenatal birth preparedness was low with only 4.2% of those who had undergone FGM, being asked about their FGM status, 5.7% being examined and de-infibulation offered to 7.2%. Complication readiness was low with 10.7% of women who had undergone FGM being informed of birth complications. Of those who had undergone FGM, only 14.1% would undergo FGM again if they were to choose while 60% would choose a lesser form of FGM. Up to 68.3% women were willing to receive FGM related health information from health workers with health education being the most preferred at 33.4%.

#### **CONCLUSION**

The utilization of the potential of antenatal care as a strategy to prevent FGM and its complications was low despite the existence of a high potential for receptivity of information

#### **RECOMMENDATION:**

Strengthening of the health sector response towards prevention of FGM and its complications is essential so as to utilize the existing hiatus with a need to focus on communication of complications of FGM so that the community is more aware of the atrocities.

## **BACKGROUND**

Female genital mutilation (FGM) is defined by WHO as procedures that intentionally alters or cause injury to the female genital organs for non-medical reasons. It involves removal and damage of healthy and normal female genital tissue, and interferes with the natural functions of girls' and women's bodies. The procedure has no health benefits for girls and women.<sup>1</sup>

About 140 million girls and women worldwide are currently living with the consequences of female genital mutilation. In Africa an estimated 101 million girls 10 years old and above have undergone female genital mutilation and it is estimated that 3 million are at risk of female genital mutilation annually<sup>2</sup> with more than 125 million girls and women having been cut in 29 countries in Africa and the Middle East. In Africa, <sup>1,2</sup> FGM has been reported in 28 countries in Africa and occurs mainly in countries along a belt stretching from Senegal in West Africa, to Egypt in North Africa, to Somalia in East Africa and the Democratic Republic of Congo (DRC) in Central Africa. It also occurs in countries in Asia and the Middle East and among certain diaspora communities in North America, Australasia and Europe.<sup>2</sup> Female genital mutilation is mostly carried out on young girls sometimes between infancy and age 15, and occasionally on adult women.

In Kenya, according to KDHS 2014 an estimated 21% of girls and women aged 15-49 years have undergone FGM<sup>3</sup>, a figure that has decreased from 37.6% % in 1998, 32.2% in 2003 and 27.1% in 2008 - 2009. There are significant regional variations, with prevalence of 0.8% in the West to over 97% in the North-East (DHS 2008-09). The practice is particularly among the Somalis in the North Eastern province practice (97.7%), with 75% having undergone the most severe Type III infibulation. The prevalence is also high among the Kisii (96.1%) and the Maasai (73.2%).<sup>4</sup>

Female genital mutilation causes a wide range of immediate, long term and obstetric complications like postpartum haemorrhage, perineal trauma, extended maternal hospital stay, poor neonatal outcomes like still birth or early neonatal death thus increasing both maternal and neonatal morbidity and mortality.<sup>5</sup>

## **LITERATURE REVIEW**

Female genital mutilation is classified into four major types:- <sup>1</sup>Type I - partial or total removal of the clitoris and/or the prepuce (clitoridectomy); Type Ia, removal of the clitoral hood or prepuce only; Type Ib, removal of the clitoris with the prepuce. Type II - partial or

total removal of the clitoris and the labia minora, with or without excision of the labia majora (excision); Type IIa, removal of the labia minora only, Type IIb, partial or total removal of the clitoris and the labia minora, Type IIc, partial or total removal of the clitoris, the labia minora and the labia majora. Type III - narrowing of the vaginal orifice with creation of a covering seal by cutting and appositioning the labia minora and/or the labia majora, with or without excision of the clitoris (infibulation); Type IIIa, removal and apposition of the labia minora; Type IIIb, removal and apposition of the labia majora. Type IV - All other harmful procedures to the female genitalia for non-medical purposes, for example: pricking, piercing, incising, scraping and cauterization.

The reasons why female genital mutilation is undertaken include a mix of cultural, religious and social factors within families and communities. Six key factors that underpin FGM include: cultural tradition, sexual morals, marriageability, religion, health benefits and male sexual enjoyment<sup>6</sup>. For some it is an important rite of passage, for others it is closely tied to marriageability or the concept of family honour and need to preserve sexual purity, part of raising a girl properly, and a way to prepare her for adulthood and marriage, . Where FGM is a social convention, the social pressure to conform to what others do and have been doing is a strong motivation to perpetuate the practice.<sup>1</sup>FGM is often motivated by beliefs about what is considered appropriate sexual behaviour, with some communities considering that it ensures and preserves virginity, marital faithfulness and prevents promiscuity/prostitution. There is a strong link between FGM and marriageability with FGM often being a prerequisite to marriage. FGM is sometimes a rite of passage into womanhood, and necessary for a girl to go through in order to become a responsible adult member of society. FGM is also considered to make girls 'clean' and aesthetically beautiful. Although no religious scripts require the practice, practitioners often believe the practice has religious support.<sup>2</sup>

For Kenyan Somalis, Eastern Cushites originating from Somalia, tradition is cited as the strongest factor for the perpetuation of FGM, with cultural values around virginity and marriageability a close second, and belief that it is a necessary procedure to be a proper Muslim woman is the third reason. Cutting is enforced via peer pressure amongst young girls at school and by social stigma, and it is usually carried out by traditional practitioners (Population Council, 2005). Girls in the North Eastern region (the Somalis) are typically circumcised at a young age, with two thirds being cut between the ages of 3 and 7 (DHS, 2008-09)<sup>2,4,7</sup>

Female genital mutilation is known to cause a wide range of immediate and long-term complications for women subjected to the practice. Immediate complications can include severe pain, shock, haemorrhage (bleeding), tetanus or sepsis (bacterial infection), urine retention, open sores in the genital region and injury to nearby genital tissue.<sup>1</sup> Long-term consequences include recurrent bladder and urinary tract infections, cysts, infertility, dysmenorrhoea, dyspareunia, keloids, cysts and difficult vaginal deliveries with an increased risk of childbirth complications and newborn deaths thus contributing to maternal morbidity and mortality.<sup>1</sup> Female genital mutilation has also been shown to increase the risk of HIV. Cross sectional surveys in Eastern and Southern Africa have shown high HIV transmission through unhygienic circumcision.<sup>8</sup> In a case-control study done in London, they found FGM significantly reduces women's sexual quality of life.<sup>9</sup> Sexual function in women with FGM was found to be adversely altered in a prospective case-control study in Saudi Arabia.<sup>10</sup> In Senegal, a comparative cross sectional study indicated that circumcised women showed a significantly higher prevalence of PTSD (30.4%) and other psychiatric syndromes (47.9%) than the uncircumcised women.

Deliveries of women who have undergone female genital mutilation are significantly more likely to be complicated by caesarean section, postpartum haemorrhage and prolonged maternal hospitalization than those women who have not. Those who have undergone the most severe type III have a 30% higher risk for delivery by caesarean section and a 70% higher risk of postpartum haemorrhage than women who have not undergone genital mutilation. The proportion of primiparas who require an episiotomy range from 41% among those who have not undergone genital mutilation to 88% among those who have undergone type III. The rate of neonatal resuscitation is 66% higher for infants of women who have undergone type III mutilation than for those who have no female genital mutilation. The death rates among infants during and immediately after birth are higher for those born to mothers with genital mutilation than those without, being 15% higher for women with type I, 32% higher for those with type II and 55% higher for those with type III.<sup>5</sup>

FGM is recognized internationally as a violation of the human rights of girls and women. It reflects deep-rooted inequality between the sexes, and constitutes an extreme form of discrimination against women. It is nearly always carried out on minors and is a violation of the rights of children. The United Nations Convention on the Rights of the Child and the Maputo Protocol of the African Union recognise FGM as a violation of a girl child's basic

human rights. The practice also violates a person's rights to health, security and physical integrity, the right to be free from torture and cruel, inhuman or degrading treatment, and the right to life when the procedure results in death.<sup>1</sup>

Since 1997, great efforts have been made to counteract FGM, through research, work within communities, and changes in public policy. Progress at both international and local levels includes: wider international involvement to stop FGM; international monitoring bodies and resolutions that condemn the practice; revised legal frameworks and growing political support to end FGM (this includes a law against FGM in 24 African countries, and in several states in two other countries, as well as 12 industrialized countries with migrant populations from FGM practicing countries); in most countries, the prevalence of FGM has decreased, and an increasing number of women and men in practising communities support ending its practice.<sup>11</sup>

In 2008 WHO together with 9 other United Nations partners, issued a new statement on the elimination of FGM to support increased advocacy for the abandonment of FGM. In 2010 WHO published a "Global strategy to stop health care providers from performing female genital mutilation" in collaboration with other key UN agencies and international organizations.<sup>12</sup> In December 2012, the UN General Assembly adopted a resolution on the elimination of female genital mutilation. WHO efforts to eliminate female genital mutilation focus on: strengthening the health sector response: guidelines, training and policy to ensure that health professionals can provide medical care and counselling to girls and women living with FGM; building evidence: generating knowledge about the causes and consequences of the practice, how to eliminate it, and how to care for those who have experienced FGM; increasing advocacy: developing publications and advocacy tools for international, regional and local efforts to end FGM within a generation.<sup>1,11</sup>

Efforts to encourage the abandonment of FGC in Kenya began in the 1930s with the colonial administration and Christian missionaries and continued with the involvement of national and international NGOs. Anti-FGC campaigns have employed various strategies, including alternative rites of passage for adolescent girls, empowerment of the girl child, public education campaigns, and advocacy programs for women and girls. Key government officials have made public pronouncements against the practice and the mass media has increased its coverage of the practice.<sup>2</sup> A broad range of initiatives and strategies that have been used

include: health risk/harmful traditional FGM practices approach; addressing the health complications of FGM; educating traditional FGM practitioners and offering alternative income; alternative rites of passage (ARPs); religious-oriented approach; legal approach; human rights approach; intergenerational dialogue; promotion of girls' education to oppose FGM and supporting girls escaping from FGM/child marriage.<sup>2,13</sup>

At the national level, efforts to eradicate FGC are now reflected in key policy guidelines. In 1999, the Kenyan Ministry of Health (MOH) launched a National Plan of Action for the Elimination of Female Circumcision in Kenya whose primary goal was to accelerate elimination of female genital mutilation in order to improve the health, quality of life and well being of female girls, families and communities.<sup>14</sup> The National Policy calls on the government to take concrete steps to promote the abandonment of FGM through legislation, public education and outreach programmes, advocacy, media coverage, the empowerment of women and access to reproductive health and other support services.<sup>11</sup> The Ministry of Health has also published a Reference Manual for Health Service Providers on the management of complications of FGM.<sup>15</sup> In 2001, the MOH circulated a policy directive making FGC illegal in all health facilities. Chapter 4 of The Bill of Rights, Sections 74, 250, and 251 of the current national constitution protect every individual from torture and inhuman and degrading treatment, and have been used to argue that FGM should be seen as an unlawful practice. The Children's Act, enacted in 2001, specifically criminalized FGC. Section 14 of the Act states, "No person shall subject a child to female circumcision, early marriage or other cultural rites, customs or traditional practices that are likely to negatively affect the child's life and health. The University of Nairobi through the department of Obstetrics and Gynaecology has established an African Coordinating Centre for the Abandonment of FGM/C which provides an enabling environment for change through provision of research and leadership training opportunities<sup>16</sup>.

There are still many challenges anti-FGM initiatives face. A government report indicates some major challenges to eradicating FGM (Population Council, 2007): cultural sensitivities surrounding FGM and the difficulty with identifying appropriate entry points into communities; entrenched religious and cultural beliefs; high level of illiteracy, making dissemination of information challenging; difficulties covering the vast geographical areas and remote populations; lack of adequate rescue homes for run-away girls; issue of

medicalisation; lack of support from politicians that represent communities that practise FGM and lack of national coordination of anti-FGM activities.

The drive of efforts to eliminate the practice of FGM has picked up over the last thirty years, and although a decline has been evident, this has occurred at a slower rate than was hoped since interventions were developed without the intended beneficiaries. Interventions were also not developed using research based evidence which could ensure the correct allocation of limited resources. Finally, and most importantly, the majority of anti-FGM interventions failed to have incorporated an evaluation programme.<sup>17</sup>

Thus, despite numerous efforts, FGM has remained an important reproductive health menace. The practice remains deeply entrenched in culture and tradition particularly among the Somali, Maasai and Kisii which are coincidentally communities that are also highly reproductive in Kenya. There are gaps in areas of knowledge and interventional strategies that remain un-exploited to their full potential and relevant ministries have not shown definitive strategies. Opportunities to pass messages related to adversities of FGM have not been identified and utilized as FGM is a subject that remains a taboo and hence not openly discussed. The subject of gender discrimination remains enigmatic as exemplified by existence of guidelines that are not enforced for use.

A cross sectional study among the Somali found that the health system is ill equipped to serve women who have been cut, and particularly infibulated women who are pregnant and delivering. This stems from an overall weakness in the availability and quality of maternal and neonatal health services in North Eastern Province.<sup>7</sup> Evidence from the Kenya Demographic and Health survey (2003) showed very low antenatal care (ANC) attendance among this population, with about 70% not attending any ANC care, compared with less than 10% nationally.<sup>4</sup>

A cross sectional study done in Switzerland showed that opportunities to identify FGM are frequently missed and recommended that measures should be taken to improve FGM diagnosis and care.<sup>18</sup> Studies done in Nigeria amongst nurses showed that only 6.6% identified all types of FGM correctly and only 58.3% viewed it as a bad practice.<sup>19</sup> Healthcare professionals in Gambia despite being in an area where the prevalence of FGM is 76.3%, only 40.9% had seen a girl with the complications of FGM indicating a possible deficiency in identification, management and prevention of complications of FGM.<sup>20</sup> In a



KAP study in Sudan, amongst 157 midwives there was low level of awareness of types of FGM practice since only 7% identified the four types correctly. 53.5% identified type I correctly while 18.5%, 17.8% and 15.9% identified type II, III and IV as correct.<sup>21</sup> In a KAP study done in Nigeria it was found that health education intervention had a positive impact on the attitude of respondents towards FGM. However, for sustainable behavioural changes that will lead to elimination of FGM practice, they recommend placing FGM elimination efforts within a comprehensive development strategy and the larger context of reproductive health and gender education in Nigeria.<sup>22</sup>

In a systematic review their ability to conclude regarding both the question of effectiveness of FGM/C abandonment interventions and how factors related to FGM/C help explain the effectiveness of interventions was hampered by a general lack of information.<sup>23</sup> The findings show that much work remains to be conducted regarding the evaluation of FGM/C abandonment efforts. There is a need to conduct methodologically rigorous intervention evaluations. In 2007, the Population Reference Bureau (PRB) published their results of an extensive survey of current intervention projects taking place in African countries (Feldman-Jacobs & Ryniak, 2007). While contributing valuable understanding about the range of interventions initiated to reduce the prevalence of FGM/C, this was not a systematic review and it did not reach any conclusions about the effectiveness of interventions.

More recently, a systematic review specifically examined the effectiveness of interventions to reduce the prevalence of FGM/C<sup>24</sup> and concluded that while the evidence base was insufficient to draw definite conclusions, there are possible advantageous developments as a result of anti-FGM/C efforts though they were unable to provide any assessment of the degree to which the interventions were appropriate responses to the populations' needs with respect to FGM/C, including the degree to which factors that contribute to the perpetuation of the practice were taken into account in the interventions. It is apparent that the degree of relevance of the intervention exerts a considerable influence on an intervention's effectiveness in reaching its designated goals, and may to a large extent help explain variation in behavioural and other outcomes among members of groups.

## **RATIONALE**

There is a need for a multi-faceted approach and antenatal care would utilize what would have been a missed opportunity. The antenatal period provides an opportunity for health

workers to educate women (and other family members where possible) about the health consequences of FGM/C. The objective should be to discourage women from subjecting their own daughters or granddaughters to FGM/C, as well as to discourage them from demanding re-infibulation after delivery. Counselling women and their husbands will help to dispel some of the myths and misunderstandings about the need for "tightness" to enhance the man's sexual pleasure. It also provides an opportunity to explain the dangers of repeated surgery to open up the vulva before and re-stitching after every delivery.<sup>25</sup> Messages about the adverse health effects of female genital mutilation should be incorporated into all efforts to combat the practice and presented to practising communities.

The health care professional should take advantage of the prenatal visits to properly prepare the woman and her family for the delivery in the presence of female genital mutilation. The focus should be on developing a detailed birth plan with her and her family. Attention should be given to sharing information verbally and in other formats (if available) about FGM, when to come to the hospital, admission procedures, hospital policies, what to expect in the delivery room, who will be part of the health care team, the care she can expect from hospital nurses and staff, how interpreters are used at the hospital and length of stay. Providing information about when and why deinfibulation will take place, when and why Caesarean sections are performed the pain medication options available (during and after labour) and other medical procedures that might be necessary to help the woman prepare for delivery.<sup>25</sup>

Antenatal care should be used to establish the extent of the damage and the degree of physical barrier presented. Recording the appearance of the vulva on the client's ANC card can help to avoid unnecessary examinations in the future, or to highlight when specific procedures may be difficult to carry out. Give the client factual information about the potential effects of type III on her pregnancy and delivery. Give her information on the anatomy and physiology of the female reproductive system. Counsel the client and her husband (and/or other family members where appropriate) on the importance of opening up her infibulation before delivery. Discuss with them the importance of not re-infibulating her after delivery. Give the client and her husband detailed information about the changes that will occur in such functions as urination and sexual intercourse. If the woman has had previous pregnancies, the history of the deliveries will help to indicate whether she is likely to have recurrent problems. It is important to find out whether re-suturing has taken place following previous deliveries. Repeated deinfibulation and re-infibulation leave extensive scarring. Opening up the

infibulation during pregnancy also allows for clean samples of urine to be obtained, and vaginal infections, premature rupture of membranes and antepartum bleeding can be easily investigated if they occur. Ideally, opening up of the infibulation should be performed between the 20th and 28th weeks of pregnancy will allow time for healing before labour starts. Follow-up support during the postpartum period is important to prevent re-infibulation at a later time. <sup>15</sup>

Health workers have an important role to play, not only in the care of women affected by FGM/C, but also in the provision of education about FGM/C, and advocacy and community sensitization against sustaining the practice. They are in a unique position to do this owing to their medical training, the respect they command in the community, the relevance of health issues to FGM/C and the frequency with which they are likely to interact with affected community members. Education provided by health workers can give strong support to other arguments made against FGM/C through media campaigns, criminalization. Information in a health context provides a non-threatening and objective criticism of FGM/C, particularly when backed up by tangible evidence of health consequences.

Studies involving the recipients of interventions are needed to evaluate use of these strategies and identify the gaps so that activities can be enhanced to better suit the recipients of the service. The study sought to better understand utilization of what could be a missed opportunity of provision of information on female genital mutilation during antenatal care provision through which information can be availed and lead to acceptance that FGM is not a favourable practice for themselves and their children. The information obtained will lead to improvement of policies for utilization of missed opportunities in passing messages on adversities of FGM that would hopefully lead to the elimination of the practice.

Potential was defined as passage of information to antenatal mothers that is related to effects of FGM as well as the readiness to receive this information constituting the utilization of this potential. During antenatal care provision there exists potential to utilize what would have been a missed opportunity to effect change of harmful traditional reproductive practices. The level of provision of information is the indicator of the level of utilization of this existing potential. Therefore the study assessed the levels of provision of information on FGM as a procedure, its effects on pregnancy and birth and potential of receptivity to information provided by healthcare workers.

## **CONCEPTUAL FRAMEWORK:**

### **A.)NARRATIVE**

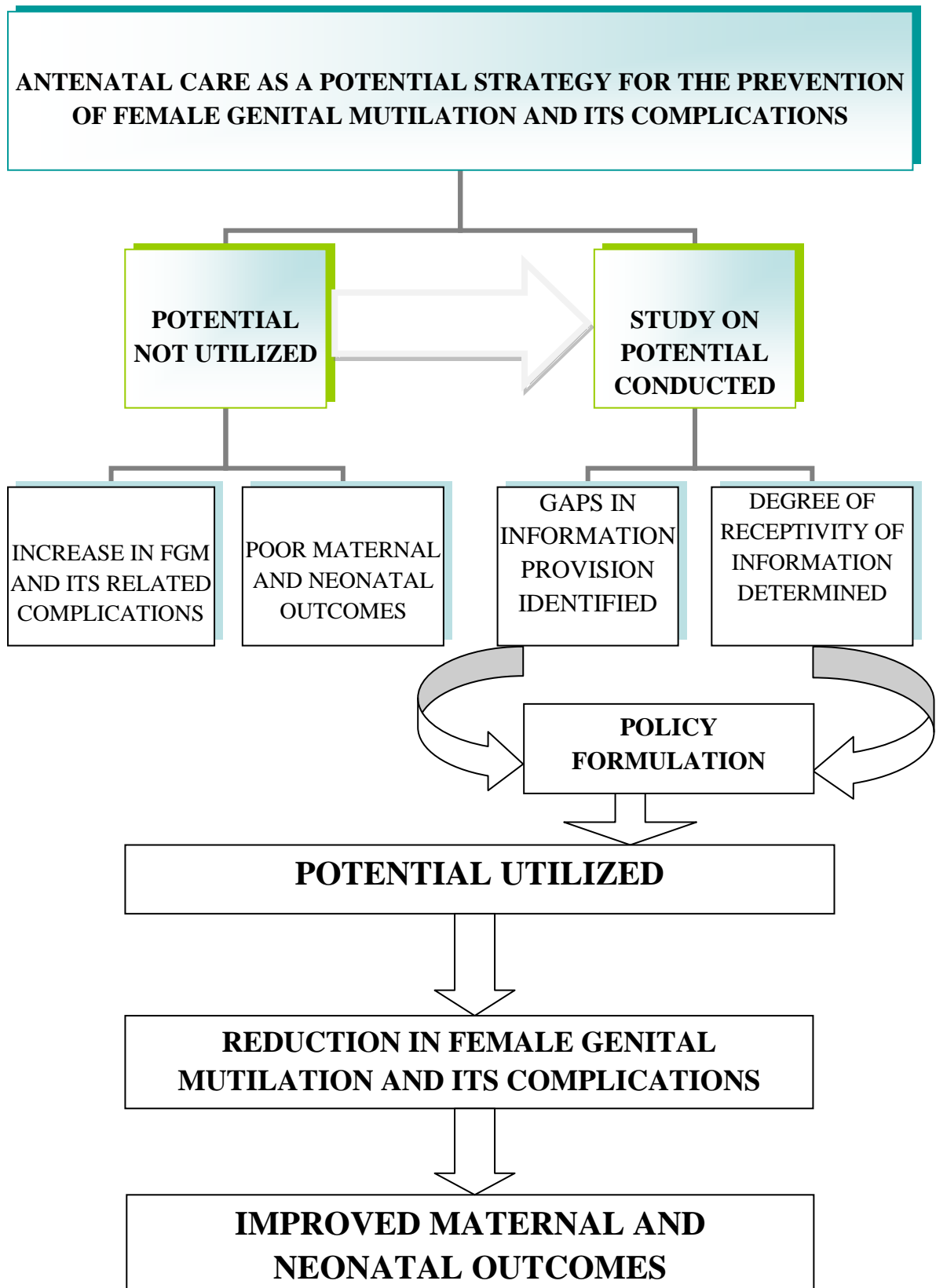
In Kenya, a reference manual for health service providers exists for the management of complications, pregnancy, childbirth and the postpartum period in the presence of FGM. Antenatal care provides a good opportunity for the health care worker to play a role in the prevention of female genital mutilation and its complications as it provides a non threatening and objective opportunity. Antenatal care is a good entry point for intervention as health workers interact with the community frequently. Contact in health facilities can be used to provide education, appropriate care and advocacy and community education.

Proper utilization of antenatal care allows the health care worker to provide information on risks and consequences of female genital mutilation, thus leading to possible attitude changes and abandonment of female genital mutilation in the future generations. Antenatal assessment of women for risk determination will also allow birth preparedness and thus lead to improved outcomes for both the mother and child as complications can be prevented.

Due to a wide knowledge gap among healthcare workers, FGM poses a serious public health challenge requiring widespread education to eradicate it. Healthcare workers have the potential to become important agents for the prevention and eradication of FGM due to their integration into the communities where they serve and are actually first line responders to the complications of FGM.

Obtaining timely, comparable and reliable information on FGM is a key aspect of efforts towards its elimination. This study will seek to establish current practices in the utilization of antenatal care as a potential strategy in the prevention of female genital mutilation and its complications. Data collected in this study can be used to generate evidence which governments and other agencies can use to improve interventions to eliminate FGM that involve healthcare workers.

**B.) SCHEMATIC**



## **RESEARCH QUESTION**

Is the potential of antenatal care being utilized as a strategy for the prevention of female genital mutilation and its complications among postpartum mothers at Garissa Level 5 Hospital in 2015?

## **BROAD OBJECTIVE**

To evaluate utilization of the potential of antenatal care as a strategy for the prevention of female genital mutilation and its complications among postpartum mothers at Garissa Level 5 Hospital in 2015.

## **SPECIFIC OBJECTIVE**

Among postpartum mothers being managed at Garissa Level 5 Hospital in 2015,

1. To determine extent to which FGM related health education is provided during the antenatal period.
2. To determine level of antenatal birth preparedness and complication readiness among those with FGM.
3. To determine future intention of FGM practices based on FGM related information provided during the antenatal period.
4. To determine the level of potential of receptivity of antenatal provision of FGM related information.

## **STUDY METHODOLOGY**

**Study Design:** A hospital based descriptive cross sectional study at Garissa Level 5 Hospital. This design was suitable as it enabled assessment of any impact achieved during antenatal care regarding female genital mutilation in relation to its discouragement and possible abandonment. Information was collected through a research assistant administered questionnaire.

**Study Site:** The study site was Garissa Level 5 Hospital Maternity Unit. It is managed by the Ministry of Health and is the main referral hospital in Garissa County which is predominantly inhabited by the Somali community with 98% prevalence for FGM with 75% women having undergone type III FGM. The hospital serves a population of 2,345,000 people and has a total bed capacity of 224. It is well staffed with 131 health care workers, 37 of whom are stationed in labour ward and maternity theatre. It has senior medical cadres serving at the hospital amongst them a Consultant Obstetrician and Gynaecologist. Antenatal care clinics are held every Monday to Friday from 8.30 am – 4.30pm and an average 20 mothers are attended in one day and an average of 300 mothers per month. The clinics are run by 6 nurses and 3 Clinical Officers and any high risk mothers are referred to the Medical Officers and Obstetrician & Gynaecologist. The hospital has two delivery areas, the labour ward and the main theatre. Most labour ward deliveries are conducted by nurses. The deliveries conducted in the theatre are conducted by doctors working in the Obstetrics and Gynaecology department. The labour ward has 3 beds for delivery and 2 nurses at any one point are on shift. The hospital conducted 3176 deliveries in the year 2013. Garissa Level 5 Hospital is thus suitable as it is the main referral hospital in this county with a high prevalence of female genital mutilation and it should take lead in the utilization of this potential.

**Study Population:** Study population consisted of all postnatal mothers at Garissa Level 5 Hospital who received antenatal care at Garissa Level 5 Hospital and those who had antenatal care at other facilities. This enabled assessment of the impact of antenatal care at Garissa Level 5 Hospital and other facilities in the presence of female genital mutilation.

- Inclusion criteria:
  - Postnatal mother within two weeks postpartum period
  - Had attended antenatal care services at Garissa Level 5 Hospital or other facility

- Age 18 – 49
- Emancipated minors
- Willing to consent
- Exclusion criteria
  - Very sick mothers

**Study Duration:** The study was conducted from February to March 2015

**Sampling procedure:** The sampling procedure in this study was consecutive. Those who accepted to participate and consent were interviewed in a consecutive manner till the desired sample size was achieved.

## **RECRUITMENT AND CONSENTING PROCEDURES**

The principal investigator trained three research assistants, two female nurses and one male clinical officer, on the study protocol and how to administer the questionnaire. Thereafter the research assistants liaised with the Nursing Officer in Charge every morning to identify postnatal mothers who had received antenatal care at Garissa Level 5 Hospital and other facilities, in the wards who were at least more than 6 hours post delivery and postnatal mothers in the postnatal clinic who were not more than two weeks postpartum. They explained to them the purposes of the study and those who were willing to participate were interviewed after the consenting process. The consent forms used are attached as **Appendix IA – English version** and **Appendix IB – Kiswahili version** depending on the choice of the study participant.

## **DATA COLLECTION PROCEDURES**

During data collection the entry point was the Medical Superintendent of Garissa Level 5 Hospital who was requested to link us to the Reproductive Health Unit through the Nursing Officer in Charge and the Consultant Obstetrician and Gynaecologist who in turn linked us to the other staff including Records Clerks and shift Team Leaders who were made aware of the study and its purposes. The research assistants were located in the postnatal wards and clinic where they explained the study and its purpose to individual mothers. When a mother accepted to participate they were moved to a comfortable private room in the maternity ward



which had been identified for obtaining written informed consent and thereafter proceeded to administer the questionnaire in a safe, secure and confidential environment.

### **Data Collection Instrument**

This was a structured questionnaire that was administered by the principal investigator and research assistants to study participants that fulfilled the eligibility criteria. It consisted of pre-coded and open ended questions organized into the following subsections:- Section A: General socio-demographic and reproductive characteristics of the postnatal mothers, Objective 1 - Section B: Antenatal provision of FGM related health education, Objective 2 - Section C: Antenatal birth preparedness and clinical assessment for complication readiness in the presence of female genital mutilation, Objective 3 - Section D: Future intent of FGM practices after antenatal care, Objective 4 - Section E: Potential of receptivity towards antenatal provision of FGM related information. This is attached as **Appendix II**.

Pretesting of the questionnaire was done at Garissa Level 5 Hospital Postnatal wards to inform any changes necessary before final administration to research participants. Mothers involved in the pretesting were not involved in the actual study.

In order to avoid double recruitment, the participants' file numbers were entered in a register upon recruitment for serialization. This register was counter checked on a regular basis for double entries and if so discovered, one of the questionnaires would be withdrawn and discarded and the serialization rectified before recruitment was continued.

Data was collected through the researcher and research assistant administered questionnaires to postnatal mothers in the postnatal wards and postnatal clinics at Garissa Level 5 Hospital after informed consent was obtained. Upon receiving the completed questionnaire the principal investigator verified all questionnaire items to ensure completeness.

## **DATA MANAGEMENT AND ANALYSIS**

### **Data management**

The quantitative data from the field was coded and entered into a computer database designed using Epi Version 3.1. Files Back-up was regularly done to avoid any loss or tampering. Data cleaning and validation was performed in order to achieve a clean dataset that was exported into a statistical package format (IBM SPSS Version 20) for analysis. All the questionnaires were stored in a lockable drawer for confidentiality.

### **Data analysis**

Data analysis was conducted using IBM SPSS Version 20 statistical software. Exploratory data techniques were used at the initial stage of analysis to uncover the structure of data and identify outliers or unusual entered values. Descriptive statistics such as frequencies and proportions were used to summarize categorical variables while measures of central tendency such as mode were used for continuous variables. Bivariate analysis, descriptive logistic regression using facility attended as the strata was done. Pearson's Chi-square was used to test for the strength of association between categorical variables. For continuous variable, a t-test was used. All statistical tests were conducted at  $\alpha=0.05$  level of significance. Further analysis of this data was done according to subgroups of the ANC facility attended.

### **Multiple Logistic Regression Analysis**

All independent variables identified to significantly associate with dependent variable at bivariate logistic regression analysis were considered together in a multiple logistic regression analysis.

## **ETHICAL CONSIDERATIONS**

The study subject is sensitive as it deals with cultural connotations and hitherto a much closed community in terms of cultural practices. It is also a community that requires male approval for procedures and passage of information. The study though non-invasive sought to obtain culturally sensitive information and thus confidentiality was strictly maintained through measures that included coding of records and no record of names, conduct of interviews in a private room and only by the research assistants trained for this study with a minimum of two female research assistants employed for the study. Verbal consent was sought through explanation about the study. For the benefit of participants who did not understand English or Kiswahili, two research assistant employed for the study were fluent in the use of the local Somali language and accepted the need for change.

Ethical approval was sought from the Kenyatta National Hospital – University of Nairobi Ethics and Research Committee and also the Garissa Level 5 Hospital administration. Study participants were also required to give written informed consent for participation. All information collected remained confidential and was only used for purposes of the study only. Participation was voluntary and no incentives were given. Participants were free to withdraw from the study without forfeiting their right to postnatal care.

## **RESEARCH TIMELINES**

The research plan was as follows:-

Proposal Writing: February – June 2014

Ethical Committee Review – July – September 2014

Data Collection and Analysis – February – March 2015

Departmental Presentation, Correction and Writing of Thesis – April – May 2015

This is attached as **Appendix V**

## RESULTS

A total of 311 postpartum mothers were interviewed at Garissa L5H and data analysed. The mean age of participants at Garissa L5H was 25.2 years (SD 6.4) compared to a mean age of 24.8 years (SD 7) in other facilities. The results will be presented as per objectives.

### BASELINE CHARACTERISTICS OF STUDY POPULATION

**Table 1: Place of ANC attendance by postpartum mothers at Garissa L5H in 2015**

Facility	ANC attendants	Frequency
	N=311.	%
Garissa Level 5 Hospital	237	76
Other	74	24
Specific other facility		
• District Hospital	32	10
• Health Centre	12	4
• Dispensary	12	4
• Sub-district Hospital	07	3
• Private facilities	11	4

Table 1 shows antenatal facility attended by the mothers. 237 (76%) had attended antenatal care at Garissa Level 5 Hospital and 74 (24%) had attended antenatal care at other facilities that included District Hospital (n=32), Sub District Hospital (n=7), Health Centre (n=12), Dispensary (n=12), and Private facility (n=11). It indicates that a majority of the women 76% attended antenatal care at GL5H and of those attending other facilities, 10% attended District Hospitals. Majority 97% attended government facilities.

**Table 2: Socio-demographic characteristics of postpartum mothers at Garissa L5H in 2015**

<b>Sociodemographic Characteristic</b>	<b>Garissa L5H</b>	<b>Other facilities</b>	<b>Total</b>
	Frequency (%) N = 237	Frequency (%) N = 74	Frequency (%) N=311
<b>Age</b>			
<20 years	47(20)	22(30)	69(22)
20-24 years	80(34)	17(23)	97(31)
25-29 years	48(20)	15(20)	63(20)
30-34 years	38(16)	14(19)	52(17)
=>35 years	24(10)	6(8)	30(10)
<b>Marital status</b>			
Single	13(6)	7(10)	20(6)
Married	217(92)	61(82)	278(90)
Divorced/Separated	5(2)	6(8)	11(3.5)
Widow	2(1)	0(0)	2(<1)
<b>Religion</b>			
Muslim	211(89)	59(80)	270(87)
Catholic	14(6)	6(8)	20(6)
Protestant	12(5)	9(12)	21(7)
<b>Ethnic group</b>			
Somali	210(87)	56(76)	266(85)
Other	27(11)	18(24)	45(15)
<b>Education level</b>			
None	153(65)	44(60)	197(63)
Primary	49(21)	18(24)	67(22)
Secondary	25(11)	10(14)	35(11)
Tertiary	10(4)	2(3)	12(4)
<b>Gainfully employed</b>			
Self	48(20)	15(20)	63(20)
Spouse	144(61)	48(69)	192(62)

Table 2 shows a total of 311 postnatal mothers were interviewed at Garissa Level 5 Hospital. The modal age groups were 20-24 years (80, 34%) at Garissa Level 5 Hospital and <20 years at other facilities with 50% generally being 20-29 years indicative of a young population. Most women in both groups were married (92 versus 82%), Muslim (89 versus 80%), belonged to the Somali ethnic group (89 versus 76%) and had no formal education (65 versus 59%). 50% were generally between 20-29 years indicative of a young population. Marriage was universal with over 90% married and there was a preponderance of Muslims – 87%. Most had no education 63% and only a fifth had attained primary level education. Only 20% women had any gainful employment and 62% of the spouses were employed.

**Table 3: Reproductive characteristics of postpartum mothers at Garissa L5H in 2015**

<b>Reproductive Characteristic</b>	<b>Garissa L5H</b>	<b>Other facilities</b>	<b>Total</b>
	Frequency (%) N = 237	Frequency (%) N = 74	Frequency (%) N=311
<b>Parity</b>			
Para 1-3	148(62)	48(65)	196(63)
Para 4-6	42(18)	15(20)	57(18)
Para 7-9	35(15)	3(4)	38(12)
Para =>10	12(5)	8(11)	20(6)
<b>Number of ANC visits</b>			
1 visit	28(12)	16(22)	44(14)
2 visits	104(44)	21(28)	125(40)
3 visits	60(25)	23(31)	83(27)
4 visits	41(17)	13(18)	54(17)
=5 visits	4(2)	1(1)	5(2)
<b>Gestation at first visit</b>			
≤ 14 weeks	62(26)	34(46)	96(31)
15-28 weeks	140(59)	28(38)	168(54)
≥29 weeks	35(15)	12(16)	47(15)

**\*All patients had delivered at least once therefore lowest parity is 1**

As seen in Table 3 most women attending ANC at Garissa Level 5 Hospital (62%) and other facilities (65%) reported a parity between 1 and 3. At Garissa Level 5 Hospital most mothers reported having made 2 ANC visits (44%) while in other facilities clients more commonly reported having made 3 visits (31%). 19% had  $\geq 4$  ANC visits. The gestation age at first visit was 15-28 weeks in 140 (59%) of participants at Garissa Level 5 Hospital and <14 weeks in 34 (46%) participants in other facilities.

Majority were between Para 1-3 which is comparable to the national Total Fertility Rate (KDHS 2014) of 3.9 but lower than regional rate of 6.1. There was high level of ANC attendance with 86% making  $\geq 2$  antenatal visits. 85% also attended ANC by the 2<sup>nd</sup> trimester.

**Objective 1: To determine extent to which FGM related health education is provided during the antenatal period among postpartum mothers at Garissa Level 5 Hospital.**

**Table 4: Antenatal provision of FGM related health education among postpartum mothers at Garissa L5H in 2015**

	<b>Garissa L5H</b>	<b>Other facilities</b>	<b>Total</b>
	Frequency (%) N = 237	Frequency (%) N = 74	Frequency N=311
<b>FGM related health education</b>			
<b>Total number provided any information</b>	26(11)	11(15)	37(12)
<b>Immediate risks</b>			
• Pain	24(10)	11(15)	35(11)
• Bleeding	24(10)	11(15)	35(11)
• Infections	25(11)	11(15)	36(12)
• Risk of HIV infection	25(11)	11(15)	36(12)
• Death	25(11)	11(15)	36(12)
<b>Long term complications</b>			
• Infertility	26(11)	11(15)	37(12)
• Dysmenorrhoea	24(10)	11(15)	35(11)
• Recurrent bladder infections	23(10)	11(15)	34(11)
• Dyspareunia	24(10)	11(15)	35(11)
<b>Psychological complications</b>	25(11)	11(15)	36(12)
<b>Difficult deliveries</b>	26(11)	11(15)	37(12)
<b>Information on government policies</b>	25(11)	11(15)	36(12)

Table 4 indicates eleven percent of ANC clients at Garissa L5H were provided with any information on FGM related health education compared to 15% of ANC clients at other facilities. On the immediate risks of FGM 24 (10%) participants in Garissa L5H were informed of the possibility of pain and bleeding, and 25 (11%) were informed of the risks of infections, HIV infection and death. All the immediate risks of FGM were known to 11 (15%) of clients in other facilities.

In Garissa L5H health education was provided in the following areas: infertility 26(11%), dysmenorrhoea 24(10%), recurrent bladder infection 23(10%) and dyspareunia 24(10%). Health education on all the four long term risks of FGM (infertility, dysmenorrhoea, recurrent bladder infection and dysmenorrhoea) was provided to 11 (15%) ANC clients in other facilities.

Other areas of health education were: psychological complications of FGM (11 versus 15%), difficult deliveries (11 versus 15%) and information on government policies (11 versus 15%).

The provision of FGM related information during the antenatal period was generally low at 12% with no significant difference between the types of information provided.

**Objective 2: To determine level of antenatal birth preparedness and complication readiness among postpartum mothers with FGM at Garissa Level 5 Hospital**

**Table 5: Antenatal birth preparedness and complication readiness information among postpartum mothers with FGM at Garissa L5H in 2015**

Element of antenatal birth preparedness and complication readiness	Garissa L5H	Other facilities	Total
	Frequency (%) N = 205	Frequency (%) N = 58	Frequency N=263
<b>Asked about type of FGM</b>	8(4)	3(5)	11(4)
<b>Examined for FGM status</b>	13(6)	2(3)	15(6)
<b>Informed Birth complications due to FGM</b>			
• Bleeding	20(8)	9(12)	29(11)
• Episiotomies	19(8)	9(12)	28(11)
• Perineal tears	19(8)	9(12)	28(11)
• Poor neonatal outcomes	16(7)	8(11)	24(9)
• Need to deliver in EmOC facility	20(8)	6(8)	26(10)
• De-infibulation	16(7)	3(4)	19(7)
• Re-infibulation	11(5)	2(3)	13(5)
<b>Informed on post delivery changes</b>			
• Sexual patterns-less dyspareunia	13(6)	5(9)	18(7)
• Menstrual flow-less dysmenorrhoea	14(7)	5(9)	19(7)
• Urine passage increase	14(7)	5(9)	19(7)

Table 5 summarizes the level of birth preparedness and complication readiness among postpartum women who attended ANC care at Garissa L5H and other facilities. ANC clients reported that they were asked about FGM status in 4% and 3% of occasions in Garissa L5H and other facilities, respectively and a low percentage (6% and 3%) were examined for FGM status. Awareness of birth complications including bleeding, perineal tears, episiotomies and poor neonatal outcomes ranged from 7 to 8% in Garissa L5H and 11 to 12% in other facilities. The clients who were aware of the need to deliver in EmOC facility was 8% and 8% in Garissa L5H and other facilities respectively. Five (7%) of clients in other facilities were aware of post-delivery changes while 6% of clients at Garissa L5H were aware of these changes.

Antenatal birth preparedness was low with only 4% of those who had undergone FGM being asked about their FGM status and 6% being examined for FGM status. De-infibulation was only offered to 7% of women with FGM. Complication readiness was also low with 11% of women who had undergone FGM being informed of birth complications like episiotomies and perineal tears. Bleeding was the most common complication appraised (11%)



**Objective 3: To determine future intention of FGM practices based on FGM related information provided during the antenatal period among postpartum mothers at Garissa Level 5 Hospital.**

**Table 6: Attitudes towards FGM among postpartum mothers with FGM at Garissa L5H**

	<b>Garissa L5H</b>	<b>Other facilities</b>	<b>Total</b>
<b>Attitude</b>	Frequency (%) N = 205	Frequency (%) N = 58	Frequency(%) N=263
Undergo FGM again given a choice	26(13)	11(19)	37(14)
Choose lesser form of FGM given a choice	137(67)	19(33)	156(60)

Table 6 represents the attitudes towards FGM among the 263 women who had undergone FGM of whom 205 (78%) had attended ANC at Garissa L5H and 58 (22%) attended other facilities. Of those who attended ANC at GL5H and had undergone FGM, twenty six (13%) said they would undergo FGM again if they were to choose and 137 (67%) would choose a lesser form of FGM. Eleven (19%) of women who had undergone FGM and attended ANC in other facilities were willing to undergo FGM again and 19 (33%) would choose a lesser form of FGM. A total of 14% of women would undergo FGM again given a choice while up to 60% would opt for a less severe form.

**Table 7: Future intent of FGM practices among postpartum mothers at Garissa L5H in 2015**

	<b>Garissa L5H</b>	<b>Other facilities</b>	<b>Total</b>
<b>Future Intent</b>	Frequency (%) N = 237	Frequency (%) N = 74	Frequency (%) N= 311
Recommend FGM for female relatives	70(30)	45(61)	115(38)
Advise others to perform FGM on daughters	81(34)	44(60)	125(41)
Recommend FGM for daughters	84(35)	39(53)	123(40)
Discourage others from having FGM performed on self or daughters	127(54)	24(32)	151(49)

As seen in Table 7 participants in other facilities were more likely to recommend FGM for female relatives (61% versus 30%), advise others to perform FGM on their daughters (60 versus 34%) and recommend FGM for their own daughters (53 versus 35%). Upto 38% women would recommend FGM for female relatives and 41% indicated intent to perform FGM on their daughters. Only 49% expressed intent to discourage others from performing FGM on themselves or their daughters.

**Table 8: Association of socio-demographic characteristics of postpartum mothers at Garissa L5H in 2015 with future intention of recommending FGM for their daughters and other person's daughters**

Socio-demographic characteristic	Recommend FGM for daughter N=123				Advise others to perform FGM on daughters			
		RR	95% CI	p-value		RR	95% CI	p-value
<b>Age</b>								
<20 years	43(35)	1.00(ref)			43(37)	1.00(ref)		
20-24 years	36(29)	0.60	0.44-0.83	0.002	28(24)	0.47	0.32-0.67	<0.001
25-29 years	20(16)	0.52	0.35-0.78	0.001	20(17)	0.79	0.38-1.64	0.53
30-34 years	16(13)	0.49	0.32-0.77	0.002	16(14)	0.49	0.31-0.76	0.002
=>35 years	8(7)	0.43	0.23-0.80	0.007	8(7)	0.42	0.23-0.79	0.006
<b>Marital status</b>								
Single	5(4)	1.00(ref)			5(4)	1.00(ref)		
Married	117(95)	1.70	0.78-3.67	0.18	110(96)	1.61	0.74-3.48	0.23
Divorced/Separated	1(<1)	0.36	0.05-2.74	0.326	0(0)	4.00	0.53-30.17	0.179
Widow	0(0)	NA	NA	NA	0(0)	NA		NA
<b>Ethnicity</b>								
Somali	120(98)	1.00(ref)			114(99)	1.00(ref)		
Other	3(2)	0.15	0.05-0.44	0.001	1(<1)	0.05	0.01-0.33	0.002
<b>Level of education</b>								
None	94(76)	1.00(ref)			90(78)	1.00(ref)		
Primary	24(20)	0.74	0.52-1.06	0.099	20(17)	0.57	0.37-0.89	0.013
Secondary	3(2)	0.18	0.06-0.53	0.002	3(3)	0.16	0.05-0.50	0.001
Tertiary	2(2)	0.35	0.10-1.24	0.103	2(2)	0.32	0.09-1.16	0.082

Table 8 shows there was a significant association between age and participants recommendation of FGM for their own daughters with 35% of participants aged <20 years recommending the practice. Women aged 20-24 years were less likely to recommend FGM (RR 0.60 95% CI 0.44-0.83) compared to women < 20 years. Further reductions in the chances of FGM recommendation were seen in the age groups 25-29 (RR 0.52 95% CI 0.35-0.78), 30-34 (RR 0.49 95% CI 0.32-0.77) and =>35 years (RR 0.43 95% CI 0.23-0.80). Participants responded in a similar pattern regarding whether they would advise others to perform FGM on their daughter. Participants with no formal education were likely to recommend FGM for their daughters (76%) and advise others to perform FGM on daughters (78%). These percentages reduced significantly with increasing levels of formal education.

**Table 9: Association of socio-demographic characteristics of postpartum mothers at Garissa L5H in 2015 with future intention of recommending FGM for female relatives and discouraging others from performing FGM on self or daughters**

Sociodemographic characteristic	Recommend FGM for female relatives			Discourage others from performing FGM on self or daughters			p-value	
	RR	95% CI	p-value	RR	95% CI	p-value		
<b>Age</b>								
<20 years	41(33)	1.00(ref)		22(15)	1.00(ref)			
20-24 years	30(24)	0.52	0.36-0.74	<0.001	54(36)	1.76	1.20-2.60	0.004
25-29 years	25(20)	0.67	0.47-0.96	0.028	32(21)	1.65	1.08-2.50	0.02
30-34 years	20(16)	0.64	0.43-0.95	0.026	26(17)	1.57	1.01-2.43	0.045
=>35 years	9(7)	0.50	0.28-0.89	0.018	17(11)	1.78	1.11-2.83	0.016
<b>Marital status</b>								
Single	5(4)	1.00(ref)		15(10)	1.00(ref)			
Married	119(95)	1.73	0.80-3.75	0.164	127(84)	0.62	0.46-0.82	0.001
Divorced/Separated	1(<1)	0.36	0.05-2.74	0.326	7(5)	0.85	0.51-1.42	0.531
Widow	0(0)		NA	NA	2(1)	1.33	1.03-1.72	0.026
<b>Ethnicity</b>								
Somali	123(98)	1.00(ref)		112(74)	1.00(ref)			
Other	2(2)	0.10	0.02-0.37	0.001	39(26)	2.04	1.70-2.44	<0.001
<b>Level of education</b>								
None	101(81)	1.00(ref)		70(46)	1.00(ref)			
Primary	18(14)	0.52	0.34-0.78	0.002	43(29)	1.78	1.37-2.31	<0.001
Secondary	4(3)	0.22	0.09-0.56	0.001	29(19)	2.30	1.80-2.92	<0.001
Tertiary	2(2)	0.32	0.09-1.14	0.08	9(6)	2.08	1.43-3.03	<0.001

As evidenced in Table 9, participant age was significantly associated with both probability of recommending FGM for female relative and discouraging others from performing FGM on self or daughters. Risk of recommending FGM for female relatives reduced with age 20-24 years (RR 0.52, 95% CI 0.36-0.74), 25-29 years (0.67, 0.47-0.96), 30-34 years (0.64, 0.43-0.95), and >35 years (0.50, 0.28-0.89). Participants aged above 20 years were more likely to discourage FGM compared to those less than 20 years: 20-24 years (1.76, 1.20-2.60), 25-29 years (1.65, 1.08-2.50), 30-34 years 1.57 (1.01-2.43), >35 years 1.78 (1.11-2.83). Participants with formal education were less likely to recommend FGM (primary 0.52 [0.34-0.78]; secondary 0.22 [0.09-0.56]; tertiary 0.32 [0.09-1.14]) and more likely to discourage others from performing FGM (primary 1.78 [1.37-2.31]; secondary 2.30 [1.80-2.92]; tertiary 2.08 [1.43-3.03]).

**Objective 4: To determine the level of potential of receptivity of antenatal provision of FGM related information among postpartum mothers at Garissa L 5 Hospital.**

**Table 10: Potential of receptivity of FGM related health information among postpartum mothers at Garissa L5H in 2015**

Parameter	Garissa L5H	Other facilities	Total
	Frequency (%) N = 237	Frequency (%) N = 74	Frequency(%) N = 311
Think education of women would reduce/eliminate FGM	166(70)	33(45)	199(65)
Think community is more receptive to FGM elimination efforts	146(62)	36(49)	182(59)
Would like to receive FGM information from health workers	168(71)	39(53)	207(68)
Support government FGM eradication efforts	162(68)	29(39)	191(62)

As depicted in Table 10, 65% women thought education of women would reduce/eliminate FGM with 59% of the opinion that the community is more receptive towards FGM elimination efforts. Up to 68% women were willing to receive FGM related health information from health workers and 62% mothers would support government efforts to eradicate FGM.

**Figure 1: Preferred mode of receiving FGM related health education and information among postpartum mothers at Garissa L5H**

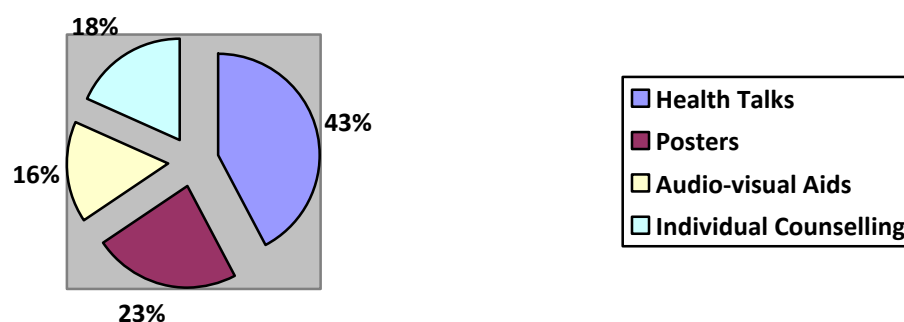


Figure 1 indicates the preferred mode of receiving FGM related health education and information. Health education was the most preferred at 43 % ( n=106). Posters were 23%, individual counselling at 18% and audiovisual aids at 16% being the least preferred mode of health education.

**Table 11: Association of socio-demographic characteristics of postpartum mothers at Garissa L5H supporting FGM eradication and seeking health information on FGM**

Sociodemographic Characteristic	Support government efforts to eradicate FGM			p-value	Would you like to receive FGM information from health workers			P value
	RR	95% CI			RR	95% CI		
<b>Age</b>								
<20 years	26(13.6)	1.00(ref)			40(19.3)	1.00(ref)		
20-24 years	66(34.6)	1.80	1.29-2.50	0.001	58(28.0)	1.01	0.78-1.30	0.955
25-29 years	42(22.0)	1.77	1.25-2.51	0.001	49(23.7)	1.33	1.05-1.67	0.017
30-34 years	38(19.9)	1.91	1.35-2.70	<0.001	39(18.8)	1.26	0.99-1.62	0.065
=>35 years	19(9.9)	1.66	1.10-2.49	0.015	21(10.1)	1.15	0.85-1.57	0.354
<b>Marital status</b>								
Single	15(7.9)	1.00(ref)	1.00		13(6.3)	1.00(ref)		
Married	165(86.4)	0.80	0.61-1.05	0.107	187(90.3)	1.01	0.74-1.38	0.958
Divorced/Separated	9(4.7)	1.09	0.75-1.59	0.651	5(2.4)	0.66	0.32-1.36	0.264
Widow	2(1.0)	1.33	1.03-1.72	0.026	2(1.0)	1.46	1.08-1.98	0.015
<b>Ethnicity</b>								
Somali	151(79.1)	1.00(ref)			188(90.8)	1.00(ref)		
Other	40(20.9)	1.55	1.34-1.79	<0.001	19(9.2)	0.59	0.42-0.84	0.003
<b>Level of education</b>								
None	102(53.4)	1.00(ref)			134(64.7)	1.00(ref)		
Primary	48(25.1)	1.36	1.11-1.67	0.003	45(21.7)	1.01	0.84-1.21	0.937
Secondary	32(16.8)	1.74	1.47-2.06	<0.001	21(10.1)	0.86	0.65-1.14	0.301
Tertiary	9(4.7)	1.43	1.00-2.03	0.049	7(3.4)	0.84	0.51-1.36	0.471

As seen in Table 11, participants support for government efforts to eradicate FGM was related to age, ethnicity and level of education. Participants aged 20 years and above were more likely to support such efforts 20-24 years RR 1.8 [95% CI 1.29-2.50]; 25-29 years 1.77 [1.25-2.51]; 30-34 years 1.91 [1.35-2.70]; => 35 years 1.66 [1.10-2.49], and those with formal education were also more supportive of such initiatives (primary 1.36 [1.11-1.67]; secondary 1.74 [1.46-2.06]; tertiary 1.43 [1.00-2.03]). Support was also higher among other ethnic groups compared to Somali ethnic group 1.55 [1.34-1.79].

There was also a significant association between willingness to receive FGM information from health workers and ethnicity with participants from other ethnic groups being less likely to express willingness to receive information, RR 0.59 [0.42-0.84].

## **DISCUSSION**

The study was a hospital based descriptive cross sectional study at Garissa Level 5 Hospital. It aimed to evaluate the utilization of the potential of antenatal care as a strategy for the prevention of female genital mutilation and its complications.

The main findings of the study were antenatal provision of FGM related health education and antenatal birth preparedness and complication readiness among women who have undergone FGM is low. There is a significant association of future intention of FGM practices with education. There is also a high potential of receptivity of FGM related information and abandonment interventions.

One fifth of the women are in their reproductive career by the age of 20 and by then they have already undergone FGM. Their exposure to the morbidity and mortality associated with FGM therefore spans over a long period as the reproductive period spans to 49 years of age and up to 81% attaining a parity of 1-6.

Provision of FGM related health education was very low irrespective of facility of attendance with 12% antenatal attendants being provided with any information on female genital mutilation. 12% had been provided information on immediate health risks, 11% on long term complications and 12% on other complications. Only 12% had been provided with information on government policies regarding FGM. A KAP study among the Abagusii showed 43% providers reported ever discussing FGM with their clients and more than 50% had difficulties in discussing the topic.<sup>26</sup>. This similarity could indicate a lack of recognition of FGM as a cause of obstetric morbidity and mortality signalling a possible lack of knowledge.

Antenatal birth preparedness and complication readiness was low. Antenatal care has been always a strategy by health care workers to identify mothers at risk of birth complications. Amongst 311 women who had delivered at the facility, 263 had undergone FGM. Amongst this number only 4% (n=11) were asked if they had undergone FGM and 6 % ( n=15) were examined for FGM status. 11% were informed of birth complications with bleeding being the most common complication appraised. 19 women (7%) were offered de-infibulation. The study demonstrated that despite adequate exposure to antenatal care with 31% attending by at least 20 weeks gestation and a total of 85% women attending antenatal care by second trimester, little or no FGM related information was provided. The study demonstrated that

there was no specific package of care offered to mothers in a region which has a high FGM prevalence of 98% with 75% undergoing the most severe form of Type III.<sup>4</sup> This further indicates a wide gap in knowledge among health care providers. A study conducted among nurses in Nigeria showed a wide gap in knowledge among health care providers, 72% were of the opinion that FGM is a harmful practice but only 6.6% identifying all four types of FGM correctly<sup>22</sup> while a study in among midwives in Eastern Sudan showed that only 7% identified all types of FGM correctly and up to 76.4% reporting that some types of FGM were not harmful<sup>21</sup> and perhaps this could be the reason for poor utilization of this potential.

There were significant associations between age and future intent of FGM practice. Increase in age showed a less chance of recommending FGM for daughters or advising others to perform FGM on their daughters. Level of education was seen to significantly influence future intent of FGM practice with intent of FGM practice being inversely proportional to level of education. 65% women indicated that they thought education of women would reduce/eliminate FGM. Despite 263 women having undergone FGM, 14% (n=37) would still undergo FGM again though 60% (n=156) given a choice would choose a lesser form to satisfy the cultural coercion. 40% (n=123) would recommend FGM for daughters and 38% (n=115) would recommend FGM for female relatives. Despite 86% not willing to undergo FGM themselves if they had a choice, 51% indicated they would recommend FGM for their daughters demonstrating presence of a hiatus between future intent and exposure to FGM related health information indicating the potential for change is not being utilized to effect change.

The opportunity for the potential to be utilized was present given the high number of ANC visits with majority of women attending ANC more than four visits and despite > 80% attending  $\geq 2$  visits and starting as early as <14 weeks gestation. This depicts a great period of mothers being exposed to health workers yet low levels of information provision. 62% would support government efforts to eradicate FGM and 68% would like to receive FGM related health education indicating receptivity to FGM elimination interventions in a community mostly considered culturally closed. Health talks were the most preferred mode of health education and this can be used as an entry point. A study among the Abagusii showed 43% providers reported ever discussing FGM with their clients and more than 50% had difficulties in discussing the topic. 86% indicated a willingness to influence their

colleagues and community. Thus a silent thirst for FGM related information that hitherto has not been discussable is indicated by the high potential of receptivity of nearly 70%.

Study depicts that despite presence of guidelines there has been little utilization of the available potential of antenatal care as a strategy to prevent female genital mutilation and its complications. During interpretation of the study results the following limitations need to be considered. There could have been recall bias. However the study has the strength in that it is the first of its kind in Kenya and was conducted in a region with the highest prevalence of FGM.

## **CONCLUSION**

The potential of utilization of antenatal care as a strategy for the prevention of female genital mutilation and its complications does exist as evidenced by the negative attitudes towards FGM by the mothers. Yet despite early and frequent ANC attendance, the passage of FGM related health information is dismal indicating a hiatus due to possible lack of interest, lack of policies on FGM related health education in this hitherto previously believed to be an impenetrable closed cultural community. There is an overall dislike of FGM but there is a conflict with culture in existence. A high potential for receptivity of information especially with increase in education and therefore creates a window of opportunity that can be utilized.



## **RECOMMENDATIONS**

1. The level of FGM related information provision needs to be improved
2. There is a need to focus on communication of complications of FGM so that the community is more aware of the complications and therefore encourage abandonment of FGM.
3. The health sector response to the prevention of female genital mutilation and its complications needs to be strengthened. More research needs to be conducted to identify barriers leading to under utilization of this potential.

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## **APPENDICES**

### **APPENDIX IA - CONSENT FORM - ENGLISH.**

#### **EVALUATION OF UTILIZATION OF THE POTENTIAL OF ANTENATAL CARE AS A STRATEGY FOR THE PREVENTION OF FEMALE GENITAL MUTILATION AND ITS COMPLICATIONS AT GARISSA LEVEL 5 HOSPITAL IN 2015.**

**Principle investigator:** Dr Ruth Wamuyu Wamae.

#### **Introduction**

**I Dr. Ruth Wamuyu Wamae**, of the Department of Obstetrics and Gynaecology, University of Nairobi, am conducting a study on **EVALUATION OF UTILIZATION OF THE POTENTIAL OF ANTENATAL CARE AS A STRATEGY FOR THE PREVENTION OF FEMALE GENITAL MUTILATION AND ITS COMPLICATIONS AT GARISSA LEVEL 5 HOSPITAL IN 2015.**

#### **Purpose**

The study wants to find out whether patients are receiving health education on genital cutting and its effects on pregnancy and delivery during their antenatal care.

#### **Procedure**

If you agree to participate in the study, it will involve me or the research assistant asking you a few questions and then we write your answers. The questions will be about your the antenatal clinic and genital cutting.

#### **Risks/Discomfort**

This study will not involve any procedures except what we communicate therefore there is no possibility of harm. However, you may experience some discomfort due to the personal nature of the questions but this will be asked in private and confidentiality will be maintained at all times.

#### **Benefits**

There will be no direct benefit in participating in the study but in case you have any question or would like to obtain more information regarding female genital mutilation the investigator will readily assist you. This study is expected to benefit the local community, Kenya and the world as a whole.

## **Confidentiality**

Your confidentiality will be maintained at all times. Questions will be answered alone in private rooms, at a time of your convenience and there shall be no mention of names or other identifiers in the report or publications which may arise from the study. All records will be kept in a lockable cabinet which will only be accessible to the principle researcher and assistants. Your participation in the study will not be revealed to others.

## **Compensation**

There will be no compensation for participation in the study.

## **Voluntariness**

Participation in the study is voluntary. No one will be forced to answer questions and if you choose not to participate, you will not be denied any services at the hospital and are free to ask any questions regarding genital cutting. You will be free to withdraw from the study at any time.

## **Persons to contact**

If you have any questions regarding the study, you can contact Dr. Ruth Wamuyu Wamae through telephone number 0722359182

You may also contact the KNH/UoN/ERC Committee-0735-274288/0721-665077.

Your participation in the study will be highly appreciated.

I \_\_\_\_\_ hereby voluntarily consent to participate in the study. I acknowledge that a thorough explanation of the nature of the study has been given to me by Dr/Mr./Mrs.\_\_\_\_\_. I clearly understand that my participation is completely voluntary.

Signature\_\_\_\_\_Date\_\_\_\_\_

Signature of Reseacher/Assistant\_\_\_\_\_Date\_\_\_\_\_

## **APPENDIX IB - CONSENT FORM – KISWAHILI**

**MHUJUMU MKUU:** Dr. Ruth Wamuyu Wamae

Kwa majina naitwa **Dr.Ruth Wamuyu Wamae** kutoka chuo kikuu cha Nairobi, idara ya wamama. Hili ni ombi kwako ukubali kushiriki katika utafiti. Lengo la fomu hii ya ridhaa ni kukufahamisha yale utakayohitajika kujua ili kukusaidia kuamua ushiriki wako katika utafiti. Tafadhali isome fomu hii kwa makini. unaweza kuuliza maswali kuhusu yale nitakayo hitaji kufanya, athari zozote, manufaa, haki zako kama mshirika.

### **LENGO NA MANUFAA YA UTAFITI**

Utafiti huu utachunguza mambo kadha ambayo inahusu uteketaji wa wanawake na huduma za afya kwa hawa wanawake wakiwa waja wazito.

### **TARATIBU ZITAKAZO FUATWA**

Ukikubali kuhusishwa katika utafiti utaulizwa maswali ambayo utajibu. Maswali yatagusiya juu ya maarifa, mitazamo na tabia za wafanyi kazi wa huduma za afya kuhusu uteketaji wa wanawake na huduma za afya kwa hawa wanawake wakiwa waja wazito.

### **MADHARA NA MATATIZO.**

Kushiriki kwako katika utafiti huu ni wa hiari. Wakati wowote ukiwa na swali kuhusu uteketaji wa wanawake, mhujumu atakusaidia. Unaruhusiwa kutojibu swali/ maswali au kujiondoa kwenye mjadala /mahojiano wakati wowote bila kuhujumiwa.

### **SIRI**

Habari zozote wakati wa mahojiano zitahifadhiwa vyema. Majina hayatawekwa wakati wa mahojiano. Mahojiano yatafanywa kwa chumba pekee ukiwa peke yako. Kila juhudi itatiwa kuhakikisha kuwa yale utakayo yasema yamehifadhiwa kwa siri, Jina lako halitatokea katika ripoti yeyeote itakayo andaliwa baada ya utafiti isipokua namba ya kutambulisha walio husika katika utafiti. Fomu zitahifadhiwa katika sehemu maalum. Mtafiti pekee ndiye atakaye kua na kibali .

## **GHARAMA**

Hutohitajika kulipa chochote cha ziada ili kushiriki katika utafiti huu isipokua wakati wako.

Mimi -----Nimekubali kuhusika na utafiti kuhusiana na uteketaji wa wanawake na huduma za afya kwa hawa wanawake wakiwa waja wazito. Nimefahamu ya kwamba kujihusisha ni kwa hiyari.Ninauwezo wakujitoa katika utafiti huu wakati wowote bila kushurutishwa.Kuhusika ni bure. Nimehakikishiwa kwamba mchango wangu utahifadhiwa na kutumiwa kwa utafiti kwa manufaa ya jamiii.

SAHIHI \_\_\_\_\_

Mimi..... ninadhibitisha ya kwamba nimemueleza kwa uwazi na umakini bwana/bibi.....kuhusiana na uteketaji wa wanawake na huduma za afya kwa hawa wanawake wakiwa waja wazito.

SAHIHI \_\_\_\_\_

Kwa maswala yeyote kuhusiana na utafiti unaweza kuwasiliana na Dr.Ruth Wamuyu Wamae nambari 0722359182

Unaweza kuwasiliana na Komitii ya uadilifu kwa utafiti: KNH/UoN/ERC-0735-274288/0721-665077.

## APPENDIX II - STUDY INSTRUMENT

### Questionnaire – To Evaluate the Utilization of the Potential of Antenatal Care as a Strategy for the Prevention of Female Genital Mutilation and its complications at Garissa Level 5 Hospital in 2015.

#### Section A: Socio-Demographic and Reproductive Characteristics of the Postnatal Mother

*Instruction: Circle the answers*

1. Age (in years).....
2. Marital Status
  - a. Single
  - b. Married
  - c. Divorced/Seperated
  - d. Widow/Widower
3. Religion
  - a. Muslim
  - b. Catholic
  - c. Protestant
  - d. Other \_\_\_\_\_(Specify)
4. Ethnic Group
  - a. Somali
  - b. Other \_\_\_\_\_(specify)
5. Level of Education
  - a. None
  - b. Primary
  - c. Secondary
  - d. Post-secondary
6. Gainfully employed
  - a. Yes
  - b. No
7. Partner/Spouse gainfully employed
  - a. Yes
  - b. No
8. Parity.....
9. Facility where antenatal care was attended
  - a. Garissa Level 5 Hospital
  - b. Sub-District Hospital
  - c. District Hospital
  - d. Health Centre
  - e. Dispensary
  - f. Private facility
10. Number of antenatal visits made.....
11. Gestation at first visit (in weeks).....

<b>OBJECTIVE 1</b>			
<b>Section B: Antenatal provision of FGM related health education</b>			
<i>Instructions: Probe the patient for answers</i>			
During your antenatal clinics was any of the following information provided?			
		YES	NO
<b>1. Immediate risks of female genital mutilation</b>			
a.) Pain			
b.) Bleeding			
c.) Infections			
d.) Risk of HIV infection			
e.) Death			
<b>2. Long term complications of female genital mutilation</b>			
a.) Recurrent bladder infections			
b.) Dyspareunia			



	c.) Painful periods		
	d.) Infertility		
<b>3.</b>	<b>Psychological complications of female genital mutilation</b>		
<b>4.</b>	<b>Difficulties in delivery due to female genital mutilation</b>		
<b>5.</b>	<b>Information on government policies regarding FGM</b>		
	<b>OJECTIVE 2</b>		
	<b>Section C: Antenatal birth preparedness and complication readiness in the presence of female genital mutilation.</b>		
		<b>YES</b>	<b>NO</b>
	Have you undergone FGM? If YES, proceed to complete section. If NO, skip to section D		
	During your antenatal clinic was any of the following done?		
	<b>Birth preparedness and complication readiness</b>		
	a.) Were you asked whether you have had FGM?		
	b.) Were you asked the type of FGM you have had?		
	c.) Were you informed of any of the risk of birth complications due to FGM?		
	i) Bleeding		
	ii) Episiotomies		
	iii) Perineal tears		
	iv) Poor neonatal outcomes - poor APGAR score, still birth or early death		
	d.) Were you offered de-infibulation (opening up your vaginal opening to allow passage of the baby) prior to delivery		
	e.) Were you informed that re-infibulation (stitching back of the FGM areas ) will not be done		
	f.) Were you informed of the need to deliver in a facility with emergency obstetric care		
	g.) Were you made aware of the changes in the following after delivery		
	i) Sexual patterns - less dyspareunia		
	ii) Menstrual flow - less dysmenorrhoea (Painful periods)		
	iii) Passage of urine will increase		
	h.) Were you examined to confirm the type of FGM?		
	<b>OBJECTIVE 3</b>		
	<b>Section D: Future intent of FGM practices after antenatal care.</b>		
	Answer the questions below based on your antenatal clinic experience		
		<b>YES</b>	<b>NO</b>
	<b>Attitudes towards FGM abandonment and health education</b>		
	After your antenatal care experiences, given a choice:		
	a.) Would you undergo FGM again?		

b.) Would you choose a lesser form of FGM?		
c.) Would you recommend FGM for your daughters?		
d.) Would you recommend FGM for your female relatives?		
e.) Would you advise others to have FGM performed on their daughters?		
f.) Would you discourage others from undergoing FGM or having FGM performed on their daughters?		
<b>OBJECTIVE 4</b>		
<b>Section E: Potential of receptivity towards provision of FGM related information</b>		
a.) Would you support government efforts to eradicate FGM?		
b.) Do you think education of women would reduce or eliminate FGM?		
c.) Do you think the community is becoming more receptive to FGM prevention and elimination strategies?		
d.) Would you like to receive more information on FGM from your health care workers?		
If yes, in what form?		
i) Health talks		
ii) Posters		
iii) Audio-visual aids - videos, skits		
iv) Individual counselling		
<b>Thank you for your participation.</b>		

### APPENDIX III - BUDGET

Activity	Quantity	Unit cost (Kshs)	Total cost (Kshs)	Justification
Ethics Clearance	-	3000	3,000	Clearance by KNH-UoN ERC
Proposal development	300 pages	10 per page	3,000	Purchase of stationery, printing, photocopying
Research tools	315 questionnaires (7 pages) = 2205	10 per page	22,050	Photocopying, printing
Transport	Principal Investigator	15,000	30,000	Transport from Nairobi to Garissa
	Local Transport 30 days	500	15,000	Transport within Garissa town
Accommodation	Principal Investigator 30 days	3000	90,000	Accommodation
Research assistants	3 assistants	40000	120,000	Wages
Development of data entry template	1pax * 2 days	10,000	20,000	Wages
Data Entry	4 assistants (4pax*5days)	5000	100,000	Allowances
Data analysis	1 statistician	90,000	90,000	Wages
Printing analyzed data	7 proposal books 200pages, printing and binding	1000	7,000	Stationery
Departmental and Poster Presentation and Submission to UON	50 participants	500	25,000	Tea, snacks, stationery
Results dissemination to Garissa L5 Hospital	100 participants	500	50,000	Tea, Snacks
Contingencies to nearest 10%			49,405	
<b>TOTALS</b>			<b>624,450</b>	

## APPENDIX IV – RESEARCH PLAN

### TIMELINE

	2014								2015			
ACTIVITY	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Feb	Mar	Apr	May
Research question	X	X										
Departmental presentation of proposal			X									
Corrections			X									
Review by Supervisors				X	X							
Ethical review and corrections						X	X					
Ethical review and corrections						X	X	X				
Data collection									X			
Data analysis										X		
Data presentation/report											X	
Final marking												X
Poster presentation												X

**APPENDIX V – KNH/UON ERC APPROVAL LETTER**