FEMALE GENITAL CUTTING AND PREGNANCY OUTCOME AT DODOMA REGIONAL HOSPITAL

BY

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A dissertation submitted in partial fulfilment of the requirements for the Degree of Masters of Medicine (Obstetrics and Gynaecology) of the University of Dar es salaam

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CERTIFICATION

The undersigned certifies that he has read this dissertation and hereby recommends for acceptance by the University of Dar es Salaam a dissertation entitled: *Female genital cutting and pregnancy outcome at Dodoma regional hospital*, in partial fulfilment of the requirements for the Degree of Masters of Medicine (Obstetrics and Gynaecology).

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DEDICATION

I dedicate this dissertation to my wife Regina and my children Barnabas and Beatrice, who had to live in my absence for the whole period of my studies.

ABSTRACT

Background: Female genital cutting (FGC) is reported to be associated with obstetric complications during childbirth. In Tanzania however, little is known about the effects of FGC on childbirth.

Objectives: To describe types of FGC in parturients admitted in the labour ward and compare maternal and foetal outcomes between women with and without FGC.

Methodology: An unmatched prospective case-control study was conducted at the Dodoma Regional Hospital. Two hundred and twelve women with FGC and two hundred and thirteen without FGC were enrolled. A checklist was used as a tool for data collection. Parturients were examined for the presence of FGC. The nurses working in the labour ward identified obstetric complications. Foetal outcome was based on the Apgar score at five minutes. Data were entered and analysed using EPI-INFO 6 Computer Programme. The risk ratios and p – values were computed.

Results: Women with FGC had increased risk of perineal tears, episiotomies and newborns with low Apgar scores. The observed difference was statistically significant between women with and without FGC. The results indicated that FGC was not related to prolonged second stage of labour, obstructed labour and postpartum haemorrhage.

Conclusion: Types I and II FGC are not associated with serious obstetric complications and poor foetal outcome, as it has been previously reported. Rather, it is associated with minor degrees of perineal tears, birth asphyxia and high episiotomy rate.

TABLE OF CONTENTS

	Page
Title	i
Certification	ii
Declaration and copyright	iii
Acknowledgement	iv
Dedication	v
Abstract	vi
Table of contents	vii
List of tables	ix
Introduction and literature review:	1
The origin and reasons for the FGC practice	1
Types of FGC	3
The prevalence of FGC in the world	4
Obstetric complications in the presence of FGC	5
Justification of the study:	8
Research question:	9
Objectives:	9
Methodology:	9
Study Area	9

Study Design 10

Study Duration 10

Study Population 10

Sampling Method 10

Exclusion Criteria 10

Sample size 11

Study variables 11

Definition of terms 12

Data collection 14

Data handling and analysis 14

Ethical issues and clearance 15

Limitation 15

Study implementation. 15

Results: 17

Discussion: 23

Conclusion: 25

Recommendations: 26

References: 27

Appendix I: Questionnaire..... 32

Appendix II: Consent Form 38

LIST OF TABLES

Table 1.	Socio-demographic characteristics of parturients with and without FGC	18
Table 2	Maternal outcome of women with and without FGC	19
Table 3	Foetal Apgar score at 5 minutes in women with and without FGC	20
Table 4	Modes of delivery in women with and without FGC	21
Table 5	Indications for caesarean section in women with and without FGC	22

INTRODUCTION AND LITERATURE REVIEW

The World Health Organization (WHO) has defined female genital cutting (FGC) as all procedures that involve partial or total removal of the female external genitalia and or injury to the female genital organs for cultural or any other non-therapeutic reasons.[1] The term "female genital mutilation" (FGM) was adopted at international level in 1991 to replace the standard term "female circumcision".[2] This was because in almost all cases, female circumcision meant just removing the fore-skin of the clitoris.[2] However, the expression FGC has been preferred as FGM has stigma.[3]

FGC is one of the traditional procedures, which is still practised in Tanzania despite the efforts being made by the Government to abolish it. Until 1998 there was no law in Tanzania regarding FGC.[4] The reason for continuing the practice even after legal sanction is the strong cultural identity tied up with FGC. Banning the practice has led to FGC at a younger age. Before the introduction of this law, the mean age of genital cutting was 15 years, but now the practice is being carried out on very young girls from the age of toddlers and it is done secretly. [5] The reason is to avoid the offence being discovered by school officials. [5]

The origin and reasons for the FGC practice

FGC existed as early as the fifth century B.C.[6] However, its origin is not known. According to the Sudanese, type III of FGC originated in Egypt at the time of the Pharaohs and hence it was called the pharaonic operation. However, there is no evidence

of it in Egyptian mummies.[6,7] In Egypt, FGC was thought to have originated from Sudan and hence it was known as Sudanese circumcision.[6,7]

There are various reasons given for the FGC practice. These vary from country to country and from one tribe to another within the same country. Custom and tradition are the most frequently cited reasons.[6,8] In most cases, FGC is carried out as the rite of passage from childhood to adulthood.[6,8,9] For example, the Late Jomo Kenyatta, the former President of Kenya, defended the FGC practice by arguing that it was part of the cultural identity for Kikuyus.[8,9] In Tanzania, the Masai see the tradition as one that has been inherited from the ancestors and that they have to continue with it so as to be acceptable to the ancestors after death.[5]

The clitoris and labia are regarded by some as male parts, so their removal enhances the girl's femininity.[5,8] It is believed in some societies that if a girl is not cut, the secretions produced by the glands of her genitals kill the spermatozoa deposited in the vagina during intercourse.[6] It is also believed by some people that a cut woman has an easier time of giving birth without the interference of the labia.[6,8] Some ethnic groups believe that the clitoris has the power to kill a child when the child's head touches it.[6,8,10] It is also believed that FGC reduces a woman's desire for sex, thus reducing the chances of sex outside marriage.[5,8,9,10]

In some other societies, female genitals are considered as dirty, ugly and bulky; so they are excised to ensure cleanliness.[5,6,8] In some countries in Europe and the United States, FGC was practised for cure of illnesses such as hysteria, excessive masturbation and nymphomania.[6,8] In some parts of Tanzania, it is done to prevent and cure a condition known as Lawalawa, which is a mysterious condition associated with genital itching.[5]

Virginity in some African and Muslim societies is a pre-requisite for marriage.[6] Therefore FGC, especially type III, is considered to preserve virginity of a girl until the day she gets married.[6] In most Muslim societies practising FGC, religion is frequently cited as a reason. However, Qur'an does not contain any call for FGC.[6,8]

Types of FGC

By WHO classification, there are four types of FGC; type I, II, III and IV.[2,6,7]

- Type I (Clitoridectomy) consists of the removal of the prepuce with or without excision of all or part of the clitoris.[1,2,7]

- Type II (excision) is the removal of the prepuce with all or part of the labia minora.[1,2,7]

- Type III (Infibulation) involves the removal of not only the clitoris and adjacent tissue (labia minora) but even the labia majora as well. The raw

edges of the wound are then sewn together leaving only a tiny opening for urination and menstruation.[1,2,7]

- Type IV, the unclassified, involves 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; scrapping of tissues surrounding the vaginal orifice; introduction of corrosive substances or herbs to the vagina to cause bleeding or for the purpose of tightening or narrowing it.[1,2,7]

The prevalence of FGC

It is reported that 135 million girls and women in the world have undergone FGC, and two million girls a year or approximately 6,000 girls per day are at risk of genital cutting.[8] In the middle East, FGC is practised in Oman, Yemen and the United Arab Emirates.[8] In Western countries, it occurs predominantly among immigrants from countries where genital cutting is practised.[8]

In Africa, FGC is reportedly practised in more than 28 countries, the prevalence of it being high in some of these countries.[8] In Djibouti, for example, it is estimated that 90 – 98% of the women and girls have undergone FGC, type III accounting for 95% of all cases. In Egypt, 97% of the women are cut and the first three types of FGC being variously used. In Eritrea, 90% of the women have undergone FGC, with the first three types of FGC being more prevalent than the fourth type. It is also estimated that 90% of

the women and girls in Ethiopia are cut, with types I, II and III of FGC being most common.[8,12]

Virtually all Somali women are cut and type III accounts for 98%.[8,12] Similarly, 98% of the Sudanese women are with FGC, whereby type III of FGC predominates but type II is also reported.[8,12] In Kenya, 50% of the women undergo FGC. Types I and II are mostly done and some type III of FGC is practised in the eastern area bordering Somalia. In Uganda only 5% of the women have undergone FGC.[8,12]

In Tanzania, it estimated that 18% of the women have undergone FGC, the highest prevalence being in Arusha region where 81% of the women have had FGC. In the remaining regions, the situation is as follows: Dodoma 68%, Mara 44%, Kilimanjaro 37%, Iringa 27%, Singida and Tanga 25%, and Morogoro 20%. The only place where this practice is not reported is Kigoma region.[13] Types II and I are the most common forms of FGC performed in Tanzania, while type III is performed by people of Somali ethnic group and those of Nubian origin from Sudan.[9]

Obstetric complications in the presence of FGC

It is reported that, types II and III of FGC affect the childbirth outcome in several ways. The rigid and inelastic scar tissues of the major and minor labia are not flexible enough to allow normal passage of the foetus at birth.[1,14] Moreover, keloids and cysts formed inside the vagina after FGC obstruct the birth canal.[14] These two factors prolong the

second stage of labour and easily lead to foetal distress, intracranial damage and thus increasing chances of still birth and neonatal mortality.[1,14] In Saudi Arabia a cross sectional childbirth study was carried out for all types of FGC and non-FGC among the Sudanese women and it was found that there was a significant increase in the duration of the second stage of labour and postpartum haemorrhage in the FGC group.[15] Also there was a significant high incidence of birth asphyxia in neonates of the FGC group compared with the non-FGC group.[15]

In Somalia, it was found that, the effect of types II and III of FGC was strong in neonatal, infant and early childhood mortality and declined after the first year of life.[14] It was speculated that, with the removal of the major and minor labia, the vagina was much exposed to the risk of receiving outside germs and hence acquiring internal infection.[14] This led to the increased risk of stillbirth, birth of premature foetus and neonatal death. The sequelae of prolonged and obstructed labour, as a result of excessive scarring, could also be related to the increased mortality in this age group.[14] In Sweden, however, a study which was carried out on immigrant women from Africa, showed no evidence that FGC was related to perinatal death.[16] Obstructed labour or prolonged labour caused by scar tissue from FGC was found to have no impact on the number of perinatal death.[16]

Difficulty in performing vaginal examination in parturients can lead to incorrect monitoring of labour and foetal presentation.[1] This fact is supported by the findings of

the previous studies, whereby there was inability to assess the degree of cervical dilatation in parturients with type III of FGC and opening up procedure had to be performed before pelvic examination.[17,18,25]

FGC is reported to be associated with prolonged and obstructed labour which can lead to tearing of the perineum, postpartum haemorrhage, fistula formation and rupture of the uterus.[1] Some of these complications can ultimately lead to maternal death.[1] In Sudan, a high maternal mortality rate was reported in Bara district.[19] In addition to commonly known risk factors for maternal mortality such as haemorrhage, puerperal infection, obstructed labour and anaemia, FGC was identified as a major threat to maternal survival.[19]

In Saudi Arabia, it was found that the incidence of postpartum haemorrhage was higher in the FGC group than in the non-FGC one.[15] Likewise at Usangi hospital one case of a woman suffering from haemorrhage after delivery as a result of perineal tear was reported.[20] At the Dodoma regional hospital, it was found that, for all patients with vesico-vaginal fistulas, 84% had undergone FGC and 16% had not. However, the presence of FGC could not be associated with the genesis of obstetric fistula.[21]

As stated earlier, parturients with type III of FGC must be opened up to allow passage of the baby.[1] When the midwives and doctors are not familiar with opening up procedures, the rate of caesarean section increases.[1] However, at the Dodoma regional hospital no

significant difference was observed in terms of the mode of delivery between FGC and non-FGC groups.[21]

Sometimes it is necessary to perform anterior and posterior episiotomies when vaginal opening is very small and scarred. This was observed in France, where a significantly increased episiotomy rate was found among primigravidae with type II of FGC compared to those with no FGC.[22] The perineal tear rate was also significantly high in the FGC group.[22]

JUSTIFICATION OF THE STUDY

The prevalence of FGC in some of the regions of Tanzania is very high.[13] As it is reported in various studies, FGC is associated with obstetric complications during childbirth.[14, 15,19,20,23] In Tanzania, however, little is known about the effects of FGC on childbirth. The only study that dealt with the effects of FGC on childbirth was conducted more than six years back. The study, however, had focused only on the association of FGC with vesicovaginal fistula.[21] This study goes further in trying to identify the possible maternal and foetal outcomes associated with FGC. It therefore attempts to fill knowledge gap that exists on the effects of FGC on childbirth.

RESEARCH QUESTION

Is there a difference in pregnancy outcome between women with and without FGC?

BROAD OBJECTIVE

1. To determine the association of FGC with maternal /foetal outcome.

SPECIFIC OBJECTIVES

1. To describe types of FGC in parturients admitted in the labour ward.

2. To compare maternal outcome between parturients with and without FGC.

3. To compare foetal Apgar scores between the two groups.

METHODOLOGY

Study Area

The study was conducted at the Dodoma Regional Hospital, located in the centre of the Dodoma Municipality. The region is in the central part of Tanzania with a population of 1,237,817 people (Census, 1988). It is one of the regions with high prevalence of FGC predominantly among the Gogo tribe.[13] The capacity of the hospital is 395 beds. In the year 2001, the total number of deliveries was 5,733.[29]

Study Design

An unmatched prospective case-control study was undertaken.

Study Duration

The study was conducted from September 2002 to January 2003 (four months).

Study Population

Parturients with FGC were taken as cases and those without FGC as controls.

Sampling Methods

The non-probability sampling technique was applied. The subjects were selected when it was convenient and that depended on the workload in the labour ward. This was done purposely as follow-up of the subjects was more feasible when the ward was not too busy. Essentially the selection was made depending on the daily workload.

Exclusion Criteria

All parturients with foetal malpresentation, intrauterine foetal death before the onset of labour, previous caesarean section, previous extensive perineal tears, those who were appointed for elective caesarean section and patients arriving in the second stage of labour were excluded from the study.

Sample Size

The sample size was obtained using the following formula:

$$n = \frac{\{ Z_x / 2\sqrt{2p(1-P)} + Z\beta\sqrt{[P_1(1-P_1) + P_2(1-P_2)]} \}}{(P_1 - P_2)^2}$$

n = Sample size

P_1 = (estimated) true proportion of perineal tears in primparas with no FGC (3.8%).

P_2 = (estimated) true proportion of perineal tear in women with FGC (11.4%).

Z_x = Point on standard normal distribution such that area to the right of it is x (1.96).

α = Level of significance (0.05)

β = Probability of failing to detect an existing difference (and $1 - \beta$ is referred to as the power of the study = 80%)

P = (P1 + P2)/2. Contingency -10%.

The sample size obtained was 110 women per group. This was, however almost doubled, so as to increase power of the study. This resulted in 212 FGC and 213 non-FGC women.

Study Variables

The study variables were prolonged second stage of labour, obstructed labour, perineal tear, postpartum haemorrhage, episiotomy, Apgar score and mode of delivery.

Definition of Terms

Prolonged labour:

This is defined as the duration of active labour that exceeds twelve hours.

Prolonged second stage of labour:

This is defined as the duration of second stage of labour that exceeds two hours in primigravida and one hour in multigravida.

Outlet obstruction:

This is a situation whereby with a fully dilated cervix, the head has descended to the outlet but cannot be delivered without surgical intervention.

Perineal tears:

- First degree perineal tear involves tear of the skin, the related posterior vaginal wall and minor part of the perineal body.
- Second degree perineal tear involves the skin or vaginal mucosa with the disruption of the superficial fascia and transverse perineal muscle (perineal body), the sphincter muscle is spared.
- Third degree perineal tear involves the above structures plus the sphincter ani muscle.
- Fourth degree perineal tear involves the above structures plus entry into the rectal lumen.

Postpartum haemorrhage:

This is defined as blood loss greater than 500 mls in a vaginal delivery and greater than 1000 mls in a caesarean delivery.

Estimation of blood loss:

- A blood clot size of a clenched fist is roughly equal to 500 mls.
- A large sized kidney dish full of blood is equal to 1000 mls, while the medium sized one is 500 mls and the smallest one 250 mls.

When a suction machine is used, the bottle is calibrated in milliliters.

Foetal outcome/ Apgar score:

This is immediate evaluation of the newborn infant at 5 minutes after birth.

- The infant with Apgar score 8 – 10 is regarded as being in the best condition. He/she is vigorous, pink and crying.
- Moderately depressed infant (Apgar score 5 – 7) appears cyanotic with slow and irregular respiration but has good muscle tone and reflexes.
- The severely depressed infant (Apgar score 4 or less) is limp, pale or blue, apnoeic and has slow heart rate less than 100 beats/minute.

Data Collection

At first, a pilot study was carried out and the questionnaire/checklist was pre-tested. Data on demographic characteristics, types of FGC, foetal outcome, obstetric complications, mode of delivery and episiotomy were collected through a questionnaire/checklist. Swahili version questionnaire was translated from an English questionnaire for easy understanding. One nursing officer trained on the administration of the questionnaire/checklist and 2 nurse-midwives on day and night shifts assisted the Principle Investigator in data collection. They identified patients with and without - FGC and managed their labour. An episiotomy was not performed as a routine procedure, except whenever there were features of soft tissue obstruction at the outlet. The doctor in-charge of the labour and postnatal wards helped the principle investigator during his absence.

Follow-up of quality and quantity of research activities was carried out on daily basis by the principal investigator. When he could not be physically present, telephone conversation was carried out.

Data Handling and Analysis

Data were entered and cleaned using EPI-INFO (Version 6.) Computer Program. The risk of FGC on the principal outcome (perineal tear in this case) and other secondary outcomes were assessed using the risk ratio as the measure of effect. Estimates, together with corresponding 95% confidence interval of the estimates were computed. A

significance level of 0.05 was used to conclude whether the observed risk ratios and differences were statistically significant.

Ethical issues and clearance

Ethical clearance was requested from the Research and Publication Committee at the Muhimbili University College of Health Sciences. The aim of the study was explained to the patients. They were assured confidentiality and that there was no risk involved if one was enrolled in the study. Written consent was required for inclusion. For the non-consenting patients, the management of labour continued as per hospital protocol.

Limitation

There was no follow-up of patients for six weeks post delivery, therefore late complications like fistula, maternal death could not be evaluated.

Study implementation

All members of staff involved in the study were recruited and familiarized with the different types of FGC, the working definitions and the questionnaire/checklist used during the study.

- On admission, all parturients were examined for the presence of FGC. The types were classified according to WHO's Classification. Cervical dilatation was assessed

at 4 hours interval and a partograph was used as a tool for monitoring labour progress. The foetal heart rate was checked half hourly using a foetoscope.

- The nurses working in the labour and postnatal wards identified obstetric complications during intrapartum and early postpartum period. Foetal outcome was based on the Apgar score at five minutes after delivery. The doctor/researcher was giving hand on the identification of obstetric complications and in their management whenever it was necessary.
- After each delivery the questionnaire/checklist was completed.

RESULTS

Two hundred and twelve parturients with FGC and 213 without FGC were enrolled in the study. Among women with FGC, 159 (75%) had type II and 53 (25%) type I of FGC respectively. There were no patients with type III of FGC.

The Wagogo ethnic group had a higher prevalence of FGC (78.3%) followed by the Warangi and Wasandawi who accounted for 9% and 4.7% respectively.

TABLE 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF PARTURIENTS WITH AND WITHOUT FGC

AGE	FGC (N=212) n (%)	NON-FGC (N=213) n (%)	P-value
≤ 24	111 (52.4)	124 (58.2)	
25 – 34	62 (29.2)	71 (33.3)	0.011
≥ 35	39 (18.4)	18 (8.5)	
HEIGHT:			
< 150 cm	25 (11.8)	29 (13.6)	0.57
≥ 150 cm	187 (88.2)	184 (86.4)	
MARITAL STATUS:			
Married	196 (92.5)	186 (87.3)	
Single	16 (7.5)	27 (12.7)	0.08
EDUCATION:			
Illiterate	37 (17.5)	11 (5.2)	
Primary school education	121 (57.1)	159 (74.6)	
Secondary school education	7 (3.3)	22 (10.3)	< 0.001
Post secondary school education	1 (0.5)	2 (0.9)	
School drop-out	46 (21.7)	19 (8.9)	
PARITY:			
Primipara	82 (38.7)	111 (52.1)	
2 – 3	56 (26.4)	52 (24.4)	
4 – 5	41 (19.3)	34 (16.0)	0.011
≥ 6	33 (15.6)	16 (7.5)	

- Thirty-nine (18%) FGC women were aged 35 years and above compared to 18 (8.5%) non-FGC women.
- There was a statistically significant difference in the age distribution between FGC and non-FGC women (P = 0.01).

- There was a statistically significant difference in terms of education between women with and without FGC ($P < 0.001$). Women without FGC were more educated than women with FGC.
- Grand-multiparity was observed more in FGC than in non-FGC women [33 (15.6%) FGC vs. 16 (7.5%) non-FGC]. There was a statistically significant difference in the distribution of parity between the two groups ($p = 0.011$).

TABLE 2: MATERNAL OUTCOME OF WOMEN WITH AND WITHOUT FGC

CATEGORY	FGC n (%)	NON-FGC n (%)	TOTAL n (%)	P-VALUE	RR	95% CI
Prolonged second stage	12 (14.8)	11 (22.0)	23 (17.7)	0.2508	1.1	0.5, 2.4
Obstructed labour	3 (3.7)	2 (4.0)	5 (3.8)	0.7055	1.5	0.3.8.9
Perineal tears	18 (22.2)	5 (10)	23 (17.7)	0.005	3.6	1.4, 9.6
Postpartum haemorrhage	4 (4.9)	4 (8)	8 (6.2)	0.7426	1.0	0.3, 4.0
Episiotomy	41 (50.6)	25(50.0)	66 (50)	0.0304	1.7	1.02, 2.61
Others	3 (3.7)	3 (6.0)	6 (4.6)			
Total	81 (100)	50 (100)	131 (100)			

Others = lacerations, Bruises and Uterine rupture

The results show that:

- 131 women recruited for the study had some obstetric complications. 81 were FGC women and 50 were not.

- Women with FGC had 1.5 times more risk of obstructed labour than those without FGC but the difference between the two groups was not statistically significant (RR =1.5, P = 0.70).

- The risk of perineal tears was higher in FGC than in non-FGC women. The observed difference was highly significant (RR = 3.6, P = 0.005).

- Women with FGC had 1.7 times more risk of episiotomy than those without FGC. The observed difference was statistically significant (RR = 1.7, P = 0.03).

TABLE 3: FOETAL APGAR SCORE AT FIVE MINUTES IN WOMEN WITH AND WITHOUT FGC

CATEGORY	FGC n (%)	NON-FGC n (%)	TOTAL N (%)	P-VALUE	RR	95% CI
SCORE ≤ 7	14 (6.6)	4 (1.9)	18 (4.2)	0.0156	3.5	1.2, 10.5
SCORE > 7	198 (93.4)	209 (98.1)	407 (95.8)			
TOTAL	212 (100)	213 (100)	425 (100)			

- It is evident from this table that, neonates born by FGC women were 3.5 times more likely to get low Apgar Score than those who were born by non-FGC women. The observed difference was statistically significant (RR = 3.5, P = 0.01).

TABLE 4: MODES OF DELIVERY IN WOMEN WITH AND WITHOUT FGC

CATEGORY	FGC n (%)	NON-FGC n (%)	TOTAL n (%)	P-VALUE	RR	95% CI
CAESAREAN SECTION	16 (7.5)	15 (7.1)	31 (7.3)	0.8413	1.1	0.5, 2.1
VAGINAL DELIVERY	196 (92.5)	198 (92.9)	394 (92.7)			
TOTAL	212 (100)	213 (100)	425 (100)			

While 16 (7.5%) FGC women had caesarean section, 196 (92.5%) had vaginal delivery. For the non-FGC women, it was 15 (7.1%) and 198 (92.9%) respectively. It was observed that; there was no statistically significant difference in terms of caesarean section between the two groups (RR = 1.1, P = 0.84).

TABLE 5: INDICATIONS FOR CAESAREAN SECTION IN WOMEN WITH AND WITHOUT FGC

CATEGORY	FGC n (%)	NON-FGC n (%)	TOTAL N (%)	P-VALUE
Prolonged/Obstructed labour	4 (25)	3 (20)	7 (22.6)	0.92
Cephalopelvic Disproportion	8 (50)	8 (53.3)	16 (51.6)	0.85
Others	4 (25)	4 (26.7)	8 (25.8)	
TOTAL	16 (100)	15 (100)	31 (100)	

Others include: Uterine rupture, cord prolapse, placenta praevia and foetal distress.

- The commonest indication for caesarean section was cephalopelvic disproportion in both two groups [8 (50%) FGC vs. 8 (53.3%) non-FGC]. Next was prolonged and obstructed labour [4 (26.6%) FGC vs. 3 (20%) non-FGC].

- There was no significant difference in terms of the indications for caesarean section between the two groups.

DISCUSSION

In this study, the distribution of FGC by type differs from that of the 1996 Tanzania Demographic health survey (DHS) data.[13] For most women who had undergone FGC, 75% had type II and 25% type I. On the contrary, the DHS showed that 57% of the women had type I, 36% type II and 5% type III respectively.[13] However, the DHS covered the whole country and it was based on self-reporting rather than pelvic examination. In a Nigerian study, women's self reporting of FGC status was found to be less accurate than direct observation during pelvic examination.[24] In this study type III of FGC was not seen. This is supported by unpublished study (1999), which indicated that, type III is predominantly practised by immigrants from neighbouring countries.[5]

FGC and non-FGC women did not have significantly different risks of prolonged second stage of labour. The scarring of the introitus secondary to FGC is not thick enough to counteract the force exerted by the uterine contraction and the maternal efforts of bearing down. Supporting this finding are two studies which were conducted in Nigeria and Sweden.[16,30] In contrast, other researchers report that, FGC is associated with prolonged second stage of labour.[15,25] The difference can be explained by the fact that, there was a high prevalence of type III of FGC in their study population. There is no doubt, that the scarring produced by type III of FGC is more extensive than the one produced by types I and II FGC.

The risk of obstructed labour was 1.5 times more in the FGC group but the observed difference in the two groups was not statistically significant ($p = 0.7$). If FGC is not associated with prolongation of the second stage of labour, then it should not be implicated as the cause of obstructed labour. The observed small difference is regarded as a coincidental finding. Obstruction that is said to be associated with FGC can be easily overcome by an episiotomy, thus it is not true obstructed labour according to the definition that has been used in this study. These results agree with the findings of Essen et al and Okonofua et al, in which obstructed labour was not related to FGC.[16, 30]

In this study, the risk of perineal tear was 3.6 times more in the FGC group than in the non-FGC group. This can be well explained by the scarring of the introitus following FGC, which reduces its elasticity. The perineum being unscarred, gives way easily during the second stage of labour because of overstretching. Moreover, the scarred part of the introitus is tougher than the perineum. The increased risk of perineal tear in FGC women is reported by several other researchers.[15, 17,20,22,28,30]

The perineal tears observed in this study were mainly first degree and some few second-degree tears. There were no third degree tears, and the bleeding associated with these tears was not severe. In the few cases of postpartum haemorrhage in both groups, the causes of haemorrhage were uterine atony, retained placenta, twins delivery and not FGC. This finding is in contrast to a study done in Saudi Arabia, where the FGC group had higher incidence of postpartum haemorrhage than the non-FGC group.[15]

Foetal outcome was significantly different between the two groups. The Low Apgar scores were more frequent among neonates of FGC women. There is no complication that can be related to the observed low Apgar scores. Neither prolonged nor obstructed labour was noted to be associated with FGC. The low Apgar scores among FGC women were also reported in another study conducted in Saudi Arabia. [15] It was speculated that, the removal of the labia led to ascending infection in utero. But this needs microbiological analysis before the foetus is born, which was not carried out in this study.

There was no statistical difference in terms of the mode of delivery as it was also reported in unpublished study of obstetric fistula at Dodoma regional hospital.[21] One would have expected the difference if at all FGC was associated with difficult labour, which in this study is not an issue. However, due to the loss of elasticity of the introitus, the risk of episiotomy in the FGC group is increased, as it is also reported by other researchers.[15].

CONCLUSION

Types I and II FGC are not associated with serious obstetric complications and poor foetal outcome, as it has been previously reported. Rather, they are associated with minor degrees of perineal tears, birth asphyxia and high episiotomy rate.

RECOMMENDATIONS

- The present study should be replicated on a larger sample to better determine the association between FGC and obstetric complications as there are about eight regions with high prevalence of FGC.
- The findings of this study cannot be generalized for the whole country, given the small sample size on which it was based, the variability of the circumstances and different prevalence rates in various regions.
- Obstetric complications and foetal outcome have to be determined for each type of FGC, however in this study the tables of the results were merged as the majority of the women had type II FGC and the sample size was small.

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