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RESEARCH ARTICLE

PATTERN AND DELIVERY OUTCOME OF NULLIPAROUS PREGNANT WOMEN WITH FEMALE GENITAL CUTTING (FGC) IN CALABAR, NIGERIA

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ABSTRACT

Background: Every year, at least 2 million females are at risk of varying degrees of mutilation of their external genitalia. This potentially hazardous prehistoric practice has persisted despite decades of outcry for its termination in diverse settings, especially in Africa, Asia, and the Middle East. Effective evaluation of interventions, require regular assessment of pattern of the practice as well as associated adverse effects, especially among nulliparous pregnant women. Assessment among this subpopulation is key, since nulliparous pregnant women may represent a generational change in trend of the practice. This study was therefore aimed at assessing pattern of female genital mutilation (FGM) and its delivery outcome among nulliparous pregnant women in Calabar and its environs, where the practice is socioculturally rooted. **Methods:** Medical records were used to assess number of vaginally-delivered pregnant women in UCTH within one year beginning January, 2017. Prospective observational cross-sectional study design was carried out to assess presence of obstetric complications among all nulliparous pregnant women with FGM. Convenience sampling was used to recruit nulliparous pregnant women without FGM as comparative study group, who were also observed for presence of obstetric complications. Data was entered and analyzed using SPSS version 21.0, and p-value was set at 0.05. **Results:** During the study period, 2,160 vaginal deliveries were conducted in the facility. Of this number 780 had various forms of FGM yielding prevalence rate of 36.1%. Among those with FGM, 448 were nulliparous constituting cases, which were matched with same number of nulliparous pregnant women without FGM as controls. Mean age was 26.2 ± 3.7 years and commonest age group (32.1%) was 25 to 29 years. Most subjects had spontaneous vaginal delivery (84.6%) and at least one form of obstetric complication (89.7%). Episiotomy (22.3%) was the commonest complication, and was significantly commoner among subjects with FGM (25.8% vs. 16.4%, $p < 0.00$). **Conclusion:** There is high prevalence of FGM in the study setting, and episiotomy is still a common complication of the practice. There is need to improve on intervention efforts, especially through women education and empowerment, involvement of traditional, community and religious leaders, and effective legislation against the practice, especially in endemic settings.

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INTRODUCTION

Female genital mutilation (FGM) or female genital cutting (FGC) is the cutting of the female external genitalia (clitoris, labia minora and majora) or other cuttings on the vagina for cultural and traditional reasons, rather than for therapeutic purposes (Payne *et al.*, 2019). According to the World Health Organization (WHO), more than 200 million girls and women have undergone FGM in more than 30 countries including Nigeria (Payne *et al.*, 2019; Siddig, 2016). The international community has since recognized that FGM is a fundamental violation of human rights, and reflects deep-seated existence of gender inequality and discrimination against girls and women (Siddig, 2016). In most African countries, especially in sub Saharan Africa and the Middle East, laws have been passed restricting FGC and studies have also shown a decline in regional FGC. However, the long term impact on females with

genital cuttings, and the immediate psychological and health complications on those who are at risk of being genitally mutilated annually is still of critical concern to all. In Nigeria, the practice is commoner in South-East (63.3%), South-West (53.2%) and the least 13% in the Northern Nigeria, though with the most severe forms of FGM (Garba *et al.*, 2012; Ugboma *et al.*, 2004; WHO, 2008). Female genital cutting has no known health benefits, rather gynecological complications include severe bleeding which may lead to death, recurrent infections, acute or chronic urinary retention, severe anemia which may lead to cardiac failure and death, dense fibrous tissue formation, dense scar or Keloid formation, gynatresia (with associated painful coitus), infertility, vesico-vaginal fistula (VVF) or recto-vaginal fistula (RVF), aparunia or severe dyspareunia (Siddig, 2016; Teufel and Dorfler, 2013). Obstetric complications include perineal lacerations, higher rates of episiotomy, delay in second stage of labour, caesarean

deliveries, neonatal resuscitation, fresh still births and primary post-partum hemorrhage (PPH) (Balachandran *et al.*, 2018; Von Rege and Campion, 2017). Occurrence of these complications especially in endemic settings with poor access to maternal health services constitutes the rationale and drive for persistence and consolidation of efforts towards termination of the age-old practice (Siddig, 2016; WHO, 2008). However, effective evaluation of educational and other interventions, require regular assessment of pattern of the practice as well as associated adverse effects, especially among nulliparous pregnant women (Siddig, 2016). Assessment among this subpopulation is key, since nulliparous pregnant women may represent a generational change in trend of the practice (WHO, 2008; Von Rege and Campion, 2017). Unfortunately, there is paucity of research on the pattern and delivery outcome among nulliparous women in many FGM-endemic settings (Abdulcadir *et al.*, 2015; Berg *et al.*, 2014). Since information on genital cuttings are typically shrouded in secrecy during booking, vaginal examination during labour may afford opportunity for assessment of its presence. This study therefore aims to evaluate the pattern and compare the delivery outcome of parturients who were circumcised with those who were not.

METHODS

This was a cross-sectional prospective observational study carried out in the University of Calabar Teaching hospital, a tertiary hospital in Calabar, in Southern Nigeria. Parturients were observed in labour and assessed to determine number deliveries and parturients that had FGM over a 1-year study period beginning January, 2018. Nulliparous women that had FGM and were delivered of their fetus per vagina were identified and observed through labour for presence of obstetric complications. Similar parturients without FGM were identified and also followed-up for presence of complications as comparative group. Consenting subjects are admitted into the labour ward in active phase labour (cervical dilatation 4cm and above). A partograph is opened for each parturient in labour and monitored to delivery or whenever it is decided to terminate the labour. The progress of labour, maternal and fetal outcomes were documented. The same criteria, procedure and method were used for the comparable control group. Data was entered and analyzed using SPSS version 21.0, with p-value set at 0.05.

RESULTS

Sociodemographic characteristic: Review of medical records revealed that 2,160 vaginal deliveries were conducted in the facility during the study period. Of this number 780 had various forms of FGM yielding prevalence rate of 36.1%. Eight hundred and ninety-six (896) parturients were observed, comprising equal proportion in study (448) and control (448) groups, with and without FGM, respectively. Mean age was 26.2 ± 3.7 years, ranging from 17 to 41 years. The commonest age group was 25 to 29 years (32.1%), and most subjects (71%) had at least secondary level of education (table 1). Civil servant (25.2%) and school teacher (23.2%) were the common occupations, while approximately one-fifth of subjects each were doing business (20.1%) or unemployed (20.1%). There was no significant difference in each of these Sociodemographic characteristics comparing study and control groups ($p > 0.05$).

Mode of delivery: Most subjects (84.6%) had vaginal delivery, while a little above one-tenth (11.2%) had caesarean delivery (table 2). Twenty four subjects (4.3%) had either Ventouse (2.5%) or forceps (1.8%) assistance at delivery. There was no statistically significant difference in prevalence of each mode of delivery comparing study and control groups ($p > 0.05$).

Table 1. Sociodemographic characteristics of subjects (N=896)

Variable	Study group n (%)	Control group n (%)	Total n (%)	Chi-square (p-value)
Age group (in years)				
≤18	22 (4.9)	24 (5.4)	46 (5.1)	2.62
19-24	122 (27.2)	138 (30.8)	260 (29.0)	(0.62)
25-29	146 (32.6)	142 (31.7)	288 (32.1)	
30-34	112 (25.0)	95 (21.2)	207 (23.2)	
≥35	46 (10.3)	49 (10.9)	95 (10.6)	
Total	448 (100)	448 (100)	896 (100)	
Educational level				
Primary	126 (28.1)	134 (29.9)	260 (29.0)	4.15
Secondary	224 (50.0)	240 (53.6)	464 (51.8)	(0.13)
Tertiary	98 (21.9)	74 (16.5)	172 (19.2)	
Total	448 (100)	448 (100)	896 (100)	
Occupation				
Unemployed	86 (19.2)	94 (21.0)	180 (20.1)	6.67
Civil servant	112 (25.0)	114 (25.4)	226 (25.2)	(0.25)
School teachers	110 (24.5)	98 (21.9)	208 (23.2)	
Business	88 (19.6)	92 (20.5)	180 (20.1)	
Military personnel	28 (6.3)	38 (8.5)	66 (7.4)	
Petty traders	24 (5.4)	12 (2.7)	36 (4.0)	
Total	448 (100)	448 (100)	896 (100)	

Table 2. Mode of delivery among subjects (N=896)

Variable	Study group n (%)	Control group n (%)	Total n (%)	Chi-square (p-value)
Vaginal delivery				
Yes	372 (83.0)	386 (86.2)	758 (84.6)	1.68
No	76 (17.0)	62 (13.8)	138 (15.4)	(0.19)
Total	448 (100)	448 (100)	896 (100)	
Caesarean delivery				
Yes	52 (11.6)	48 (10.7)	100 (11.2)	0.18
No	396 (88.4)	400 (89.3)	796 (88.8)	(0.67)
Total	448 (100)	448 (100)	896 (100)	
Ventouse				
Yes	14 (3.1)	8 (1.8)	22 (2.5)	1.71
No	434 (96.9)	440 (98.2)	874 (97.5)	(0.19)
Total	448 (100)	448 (100)	896 (100)	
Forceps				
Yes	10 (2.2)	6 (1.3)	16 (1.8)	1.02
No	438 (97.8)	442 (98.7)	880 (98.2)	(0.31)
Total	448 (100)	448 (100)	896 (100)	

Table 3. Obstetric complications among subjects (N=896)

Variable	Study group n (%)	Control group n (%)	Total n (%)	Chi-square (p-value)
Had at least one complication				
Yes	438 (97.8)	366 (81.7)	804 (89.7)	62.8
No	10 (2.2)	82 (18.3)	92 (10.3)	0.00
Total	448 (100)	448 (100)	896 (100)	
Perineal bruise				
Yes	24 (5.4)	14 (3.1)	38 (4.2)	2.75
No	424 (94.6)	434 (96.9)	858 (95.8)	0.10
Total	448 (100)	448 (100)	896 (100)	
Perineal tear				
Yes	72 (16.1)	52 (11.6)	124 (13.8)	3.74
No	376 (83.9)	396 (88.4)	772 (86.2)	0.05
Total	448 (100)	448 (100)	896 (100)	
Prolonged second stage				
Yes	88 (19.6)	76 (17.0)	164 (18.3)	1.08
No	360 (80.4)	372 (83.0)	732 (81.7)	0.30
Total	448 (100)	448 (100)	896 (100)	
Fetal distress				
Yes	52 (11.6)	64 (14.3)	116 (12.9)	1.43
No	396 (88.4)	384 (85.7)	780 (87.1)	0.23
Total	448 (100)	448 (100)	896 (100)	
Cervical lacerations				
Yes	76 (17.0)	86 (19.2)	162 (18.1)	0.75
No	372 (83.0)	362 (80.8)	734 (81.9)	0.39
Total	448 (100)	448 (100)	896 (100)	
Episiotomy				
Yes	126 (28.1)	74 (16.5)	200 (22.3)	17.4
No	32 (81.9)	374 (83.5)	696 (77.7)	0.00
Total	448 (100)	448 (100)	896 (100)	

Obstetric complications: Eight hundred and four subjects (89.7%) had at least one obstetric complication. Prevalence of at least one complication was significantly higher among study compared with control group (97.8% vs. 81.7%, $p < 0.05$, table 3). Episiotomy (22.3%) was the commonest complication, followed by prolonged second stage (18.3%), cervical laceration (18.1%), perineal tear (13.8%), and fetal distress (12.9%). The prevalence of episiotomy was significantly higher among study compared with control group (28.1% vs. 16.5%, $p < 0.00$). Also, the prevalence of perineal tear was higher among study compared with control group, though this difference was marginally statistically significant (16.1% vs. 11.6%, $p = 0.05$). There was no statistically significant difference in prevalence of each of the other obstetric complications comparing study and control groups ($p > 0.05$).

DISCUSSION

This study was aimed at assessing pattern of FGM and comparing presence of associated obstetric complications among parturients with and without FGM. Findings from the study demonstrate continued practice of FGM in the study setting. At least one in every three subjects (36.1%) was found to have had FGM. This is an unacceptably high rate that indicates persistence of the hazardous practice despite decades of regional and global interventions. Varying rates were reported in South-East (63.3%), South-West (53.2%) Northern Nigeria (13%) (Garba *et al.*, 2012; Ugboma *et al.*, 2004; WHO, 2008). Differences in rates may be attributable to differences in tenacity of adherence to the sociocultural foundation of the practice of FGM (Perron *et al.*, 2013; Davis, 2010; Nour, 2008). Persistence of FGM practice in the study setting may be due to sociocultural belief in its efficacy in reducing promiscuity among females (Farage *et al.*, 2015). Poor or inadequate knowledge of its immediate and long-term complications may contribute to its persistence (Farage *et al.*, 2015). However, subjects in this study in a tertiary hospital may not necessarily be representative of all parturients in the setting. This is because the general hospital and several private clinics which were not included in the study also provide maternity care to parturients who may be victims of FGM. Hence, the true prevalence of FGM among parturients may not be ascertained from the study, but the overall burden of FGM would have been seen to be higher due to additional number of victims of FGM from these settings. In this study, subjects were compared with those without FGM had higher prevalence of having at least one obstetric complication including episiotomy ($p < 0.05$). This finding is in tune with the generally acceptable position that mutilation of female external genitalia, may distort the structural anatomy required for uncomplicated or seamless vaginal delivery (Von Rege and Campion, 2017; Berg *et al.*, 2014). Occurrence of these obstetric complications may be contributing significantly to maternal morbidity and mortality in resource-poor settings (Siddig, 2016). This scenario may be worse in rural settings with higher prevalence of FGM and poorer access to maternal health care services (Siddig, 2016). Higher prevalence of episiotomy among cut subjects in this study differs from similar previous studies. Similar multicenter study among nulliparous women in private hospital setting in Edo state, Southern Nigeria, found no significant difference in prevalence of episiotomy comparing cut and uncut subjects (Slanger *et al.*, 2002). Also, Adinma *et al.* (1997) in their study in North East Nigeria, found no significant difference in

prevalence of episiotomy comparing cut and uncut women (Adinma *et al.*, 1997). These previous studies relied on self-reporting, rather than direct clinical examination of the external genitalia during labour. Self-reportage may lead to under-reporting of the presence of FGM among cut parturients, potentially accounting for these differences in rates. In this study, though obstetric complications were more commonly observed among cut compared with uncut subjects, other factors may be responsible for presence of complications. These include poor or inadequate infrastructure, non-attendance to antenatal care clinic for proper assessment, and late presentation at labour (Payne *et al.*, 2019; Abdulcadir *et al.*, 2015). Yet, findings from this study may be useful for improving on care for parturients with FGM.

Conclusion

There is still unacceptably high prevalence of FGM practice in the study setting. Obstetric complications associated with the practice are also prevalent. There is need to redouble effort aimed at termination of the practice, especially through sustained health education and legislation against the practice. Further research in other settings is recommended, especially in rural settings where the effects of culture on FGM practice may be most prominent.

Author contribution

ASE: proposed and designed the study; initiated and supervised collection of data

OEE: managed the data and wrote the draft manuscript

OPO: assisted in data collection and reviewed the manuscript

OAO: reviewed the manuscript

Conflict of interest: There is no conflict of interest to declare

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