PREDICTORS OF FEMALE GENITAL MUTILATION AMONG WOMEN OF REPRODUCTIVE AGE IN PLATEAU STATE, NIGERIA

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ABSTRACT

Background: Despite being promoted as a highly valued cultural practice and social norm, female genital mutilation (FGM) is internationally recognized as a gross abuse of the rights of girls and women, and it is associated with adverse health and social consequences along with huge economic costs. This study was aimed at determining the factors associated with FGM among women of reproductive age in Plateau State, Nigeria.

Methods: Analysis of secondary data obtained from the Nigeria 2016 - 17 Multiple Indicator Cluster Survey (MICS) dataset was done. The survey collected data on samples of women within the reproductive age group (15-49years) using a two-stage sampling technique, information was electronically captured using computer-assisted personal interviewing. The dataset for Plateau State was extracted and analyzed using the Statistical Package for the Social Sciences version 23.

Results: There were a total of 1172 interview entries in the dataset, however only 247 had filled responses for the question: "ever been circumcised?", the remainder (78.9%) of the entries reflected as missing cases. The mean age of the respondents was 29.5yrs ± 9.3yrs, 63.6% were married or in a union, 86.6% ever attended school, 64.4% were dwelling in a rural area and 76.1% felt the practice of FGM should be discontinued. Forty (16.2%) respondents reported been circumcised. The odds of being circumcised were significantly higher for the younger age group (15 – 23 years), those without a formal education, belonging to a middle wealth quintile, and women wanting the practice of FGM to be continued ($p < 0.05$).

Conclusion: A significant proportion of women of reproductive age in Plateau State are circumcised. Therefore, there is a need to further improve extant efforts addressing FGM including awareness creation on its adverse consequences especially among the younger women, the uneducated, and the poor.

Keywords: Predictors, Female genital mutilation, Women of reproductive age, Plateau State

INTRODUCTION

Female genital mutilation (FGM) also known as female genital cutting or circumcision is defined as "all procedures that involve partial or total removal of the external female genitalia, or other injuries to the female genital organs for non-medical reasons". Although FGM is predominantly performed by traditional circumcisers, the practice has been medicalized in some settings where healthcare workers are reported to perform it believing that it makes the procedure safer. Different types of FGM exist ranging from partial or complete removal of the clitoris, the inner and outer folds of the skin of the vulva to the narrowing of the opening of the vagina and pricking, piercing, incising, scraping, and cauterizing of the female genitalia.[1] Because FGM is mostly carried out as a cultural obligation and the victims are often minors, there is little or no room for consenting, therefore, FGM constitutes a violation of the rights of girls and women and further reflects the gender-based power imbalance that occurs in the society. No health benefits have been proven for FGM, rather all forms are

associated with health risks capable of affecting the physical, mental, reproductive, and sexual health, and in general the overall wellbeing of the recipients. Some of the adverse outcomes of FGM include painful menstruation, difficulty passing menstrual blood, difficult deliveries and increased caesarean section rates, problems with urination, painful intercourse and decreased sexual satisfaction, and psychological problems such as post-traumatic stress disorder, depression, low self-esteem, and feeling of incompleteness.[1,2]

Globally, over 200 million girls and women have suffered FGM in 30 countries across Africa, Asia, and the Middle East where the practice is rife, in these countries, managing the health consequences of FGM costs in total about 1.4 billion US dollars annually. Going by the current trend, at least 3 million girls are estimated to be in danger of being circumcised yearly. An additional one to two perinatal deaths per 100 deliveries has been attributed to FGM.[3] Although FGM is a global practice, the practice is commonest in the Western, Eastern, and North-Eastern regions of the African continent. Two out of the three countries that account for more than half of the global burden of FGM are in Africa; Egypt and Ethiopia, meanwhile Nigeria ranks third in Africa for the total number of girls and women circumcised.[1] Between 2004-2015, about 25% of women aged 15-49 years in Nigeria had been circumcised, despite this, more than a third (36%) of women and men within the reproductive age bracket in the country were either ambivalent towards the discontinuation of the practice or outrightly indicated it should be continued.[4] Nigeria is a party to several global commitments seeking to end FGM, such as the 2012 United Nations General Assembly resolution calling on the global community to step up efforts to end the FGM, and the Sustainable Development Goals (SDGs) where target 5.3 seeks to eliminate all harmful practices including FGM by the year 2030.[4] Furthermore, the Nigerian government has prohibited the practice of FGM and prescriped sanctions as contained in the Violence Against Persons Prohibition Act (VAPP) of 2015,[5] additionally, the National Policy and Plan of Action for the Elimination of Female Genital Mutilation in Nigeria 2013-2017 seeks to: eradicate the medicalization of FGM by 2015, reduce the proportion of girls and women undergoing FGM to less than 5% by 2017, and reduce the proportion of women who support the continuation of FGM to

less than 2% by 2017.[6] Nonetheless, the country has seen only a 5% drop in FGM rates between 2013 and 2018, from 25% to 20%, a decline that is insignificant because it leaves the prevalence unacceptably high and far from the national target.[7] Regrettably, circumcised women in Nigeria seem to rationalize FGM by believing that the procedure is obligatory by religion[7], while in Plateau State a significant proportion (30.5%) of women are either ambivalent or not in support of legislation against FGM.[2]

Previous studies in sub-Saharan Africa have revealed sociodemographic characteristics and contextual factors to be associated with the odds of a woman being circumcised, these factors include age, marital status, parity, literacy and educational status, employment status, occupation, ethnicity, religion, household wealth quintile and place of residence.[8,9,10,11,12]

Although Plateau State is one of the 21 states in Nigeria that have domesticated the VAPP law, the act is yet to be assented to by the executive.[13] No published study in Plateau state has explored the predictors of FGM in the state, therefore, the findings from this study will provide information on the correlates of the practice and as a result, indicate opportunities for curbing the ugly act. The objective of this study was to determine the predictors of FGM among women of reproductive age in Plateau State, Nigeria.

METHODS

Study area

Plateau State is located in north-central Nigeria and is the twelfth largest state in the country, it is bordered by the following states: Kaduna, Bauchi, Nasarawa, and Taraba states. There are 17 Local Government Areas in the state spread across three senatorial zones. The state has an estimated population of over 4 million people and there are over forty indigenous ethnic groups in the state, however, people belonging to other ethnicities from other parts of the country such as Hausa, Igbo, Yoruba, and Idoma also reside in the state. The predominant occupations are farming, mining, trading, and civil service in the public and private

sectors.[14] Women of reproductive age constitute nearly a quarter (24%) of the entire population of the state.[15] Plateau state has an estimated total of 1470 health facilities; of which 85.1%, 14.5%, and 0.4% are primary, secondary and tertiary respectively, more so, 73% and 27% are public-owned and private-owned health facilities respectively.[16] Akin to other parts of Nigeria, people in Plateau utilize different forms of healthcare including orthodox medicine, faith belief healing system, and traditional medicine.

Study design

This study used secondary data obtained from the Nigeria 2016-17 Multiple Indicator Cluster Survey (MICS). The Nigeria MICS, a part of the global MICS programme which was developed by the United Nations Children's Fund (UNICEF) about 30 years ago as an international household survey programme aimed at supporting countries to collect internationally comparable data cutting across a wide range of indicators on the situation of children and women, is a nationwide cross-sectional survey that is a primary source of information on women of reproductive age (15-49 years) and children. The 2016-17 survey was the fifth round of the MICS and it was carried out between September 2016 and January 2017 by the National Bureau of Statistics with support from the UNICEF, World Health Organization, United Nations Population Fund, Bill and Melinda Gates Foundation, Save One Million Lives and the National Agency for the Control of AIDS. The survey essentially provides data for establishing baseline and monitoring progress toward goals in global and national commitments such as the SDGs. The data was collected using computer-assisted personal interviewing.[17] The dataset and permission to use it were obtained from the UNICEF MICS programme through its website: https://mics.unicef.org/surveys.

Sampling technique

In each state, respondents in the 2016-17 MICS were selected via a two-stage sampling involving in the first stage the systematic selection of 60 enumeration areas (EAs) while the second stage was the systematic selection of 16 households drawn from each selected EA. More details on the description of the study design and sampling can be found in Appendix A of the Nigeria MICS 2016-17 survey findings report.[17]

Statistical analysis

Analysis was done using the Statistical Package for the Social Sciences version 23, at a significance level of $p \leq 0.05$, following the extraction of the dataset for Plateau state. Three levels of statistical analyses were done: firstly univariate analysis was used to describe the sociodemographic characteristics of the respondents and the prevalence of FGM using frequencies and proportions, the second was a bivariate analysis using chi-square test to explore statistically significant association between the explanatory variables (individual-level factors: age group, marital status, school attendance, highest educational level, ethnicity, childbirth status, awareness of FGM, wealth quintile and the thoughts towards the continuation of FGM, and the contextual factor - the place of residence) and FGM, and lastly, a multivariable logistic regression analysis was used to determine which of the explanatory variables found to be statistically significant in the bivariate analysis are predictors of FGM. The strength of association between a predictor explanatory variable and FGM while controlling for the effect of other variables was expressed as an adjusted odds ratio (AOR) at a 95% confidence interval (CI).

RESULTS

There were a total of 1172 interview entries in the dataset, however, only 247 had valid responses for the question: "ever been circumcised?", the remainder of the entries (925) reflected as missing cases.

The mean age of the respondents was 29.5 ± 9.3 years and the majority (63.6%) of the women were married or in a union, 82.6% had a formal education of at least a primary level, the richest wealth quintile had the highest proportion (31.2%) of respondents, most of the women (64.4%) resided in a rural area and majority (76.1%) want the practice of FGM to be discontinued. Forty (16.2%) of the respondents reported been circumcised (Table 1).

Table 1: Sociodemographic characteristics and prevalence of FGM among women aged 15–49 years in Plateau State, Nigeria (n= 247).

Variables	Frequency	Percentage
Age group (years)		
15 – 23	77	31.2
24 – 32	80	32.4
33 – 41	61	24.7
42 – 49	29	11.7
Mean age ± standard deviation	29.5 ± 9.3 years	
Marital/union status		
Currently married/in union	157	63.6
Formerly in married/in union	7	2.8
Never married/in union	83	33.6
Ever attended school		
Yes	214	86.6
No	33	13.4
Educational level		
None	33	13.4
Non-formal	10	4.0
Primary	38	15.4
Secondary	108	43.7
Tertiary	58	23.5
Ethnicity		
Hausa	88	35.6
Igbo	4	1.6
Yoruba	2	0.8
Others[*]	153	62.0
Ever given birth		
Yes	152	61.5
No	95	38.5
Wealth index quintile		
Poorest	40	16.2
Second	29	11.7
Middle	46	18.6
Fourth	55	22.3
Richest	77	31.2
Area of residence		
Rural	159	64.4
Urban	88	35.6
Heard of female circumcision		
Yes	224	90.7
No	23	9.3
FGM practice be continued		
Yes	27	11.0
No	188	76.1
Depends	9	3.6
Don't know	23	9.3
Ever circumcised		
Yes	40	16.2
No	207	83.8

FGM = Female genital mutilation

[*]Others includes those belonging to the following ethnic groups: Plateau indigenous tribes and other Nigerian ethnic groups.

Table 2: Bivariate analysis on factors associated with FGM among women aged 15-49 years in Plateau State, Nigeria (n =247).

Variables	Circumcised f(%)	Not circumcised f(%)	Total f(%)	X^2	df	p-value
Age group (years)						
15 – 23	20(26.0)	57(74.0)	77(100.0)	8.712	3	0.033[+]
24 – 32	8(10.0)	72(90.0)	80(100.0)			
33 – 41	7(11.5)	54(88.5)	61(100.0)			
42 – 49	5(17.2)	24(82.8)	29(100.0)			
Marital/union status						
Currently married/in union	29(18.5)	128(81.5)	157(100.0)	2.482	2	0.289
Formerly in married/in union	0(0.0)	7(100.0)	7(100.0)			
Never married/in union	11(13.3)	72(86.7)	83(100.0)			
Ever attended school						
Yes	27(12.6)	187(87.4)	214(100.0)	15.105	1	<0.001[+]
No	13(39.4)	20(60.6)	33(100.0)			
Educational level						
None	13(39.4)	20(60.6)	33(100.0)	76.385	4	<0.001[+]
Non-formal	8(80.0)	2(20.0)	10(100.0)			
Primary	14(36.8)	24(63.2)	38(100.0)			
Secondary	4(3.7)	104(96.3)	108(100.0)			
Tertiary	1(1.7)	57(98.3)	58(100.0)			
Ethnicity						
Hausa	11(12.5)	77(87.5)	88(100.0)	2.603	3	0.457
Igbo	1(25.0)	3(75.0)	4(100.0)			
Yoruba	1(50.0)	1(50.0)	2(100.0)			
Others	27(17.6)	126(82.4)	153(100.0)			
Ever given birth						
Yes	24(15.8)	128(84.2)	152(100.0)	0.048	1	0.827
No	16(16.8)	79(83.2)	95(100.0)			
Wealth index quintile						
Poorest	16(40.0)	24(60.0)	40(100.0)	43.964	4	<0.001[+]
Second	8(27.6)	21(72.4)	29(100.0)			
Middle	13(28.3)	33(71.7)	46(100.0)			
Fourth	3(5.5)	52(94.5)	55(100.0)			
Richest	0(0.0)	77(100.0)	77(100.0)			
Area of residence						
Rural	38(23.9)	121(76.1)	159(100.0)	19.522	1	<0.001[+]
Urban	2(2.3)	86(97.7)	88(100.0)			
Heard of FGM						
Yes	40(17.9)	184(82.1)	224(100.0)	[#]	1	0.032[+]
No	0(0.0)	23(100.0)	23(100.0)			
FGM practice be continued						
Yes	20(74.1)	7(25.9)	27(100.0)	74.433	3	<0.001[+]
No	9(4.8)	179(95.2)	188(100.0)			
Depends	3(33.3)	6(66.7)	9(100.0)			
Don't know	8(34.8)	15(65.2)	23(100.0)			

FGM = Female genital mutilation; [+] Statistically significant; [#] Fischer's exact test

As shown in Table 2 above, bivariate analysis using Chi-square test found a statistically significant association between FGM and age group (p = 0.033), school attendance (p <0.001), level of education (p <0.001), wealth index quintile (p <0.001), area of residence (p <0.001), awareness of FGM (p = 0.032) and opinion on the continuation of the practice of FGM (p <0.001). The following categories of respondents had the highest proportion of circumcised women: 15–23 years age group (26%), never attended school (39.4%), no formal education (80%), poorest wealth quintile (40%), residing in a rural area (23.9%), and those who felt the practise should be continued (74.1%).

Table 3: Multivariable logistic regression for the predictors of FGM among women aged 15–49 years in Plateau State, Nigeria

Variable	AOR (95% CI)	p-value
Age group (years)		
15 – 23	1	
24 – 32	0.26 (0.07 – 1.05)	0.058
33 – 41	0.11 (0.02 – 0.56)	0.008[+]
42 – 49	0.31 (0.05 – 2.06)	0.226
Educational level		
None	1	
Primary	0.13 (0.01 – 1.64)	0.113
Secondary	0.02 (0.01 – 0.35)	0.006[+]
Tertiary	0.03 (0.01 – 0.70)	0.030[+]
Ever attended school		
Yes	1	
No	0.13 (0.01 – 1.62)	0.114
Wealth index		
Lower[*]	4.51 (0.62 – 32.70)	0.136
Middle	8.63 (1.34 – 55.69)	0.023[+]
Upper[**]	1	
Place of residence		
Rural	1	
Urban	1.34 (0.20 – 9.17)	0.767
Heard of FGM		
Yes	1	
No	0.00 (0.00)	0.998
FGM practice be continued		
Yes	1	
No	0.02 (0.01 – 0.10)	<0.001[+]
Depends	0.08 (0.01 – 0.74)	0.027[+]
Don't know	0.10 (0.02 – 0.62)	0.013[+]

FGM = Female genital mutilation, AOR = Adjusted Odds Ratio, CI = Confidence Interval

[*] Lower combines those in the poorest and second wealth index quintile

[**] Upper combines those in the fourth and richest wealth index quintile

[+] Statistically significant

Results of multivariable logistic regression, as shown in Table 3, indicated that the odds of FGM was 89 % lower among women aged 33-41 years (AOR = 0.11, 95% CI = 0.02-0.56) compared to those aged 15-23 years, also, 98% and 97% lower odds of circumcision were found among those with secondary education (AOR = 0.02, 95% CI = 0.01-0.35) and tertiary education (AOR = 0.03, 95% CI = 0.01-0.70) respectively compared to women without any form of education. Additionally, compared to women who did not want the practice of FGM to be discontinued, lower odds of circumcision were found among women who wanted it discontinued (AOR = 0.02, 95% CI = 0.01-0.10), women who were indifferent (AOR = 0.01, 95% CI = 0.02-0.62) and those who responded with "depends" (AOR = 0.08, 95% CI = 0.01-0.74). However, women belonging to the middle wealth quintile had about 9 times increased odds of experiencing FGM compared to those in the richest/fourth wealth quintile (AOR = 8.63, 95% CI = 1.34-55.69).

DISCUSSION

Eliminating all harmful practices on girls and women is one of the ways the global community seeks to achieve the commitment of ensuring gender equality and empowerment of all girls and women. As outlined in SDG 5, FGM is targeted for elimination worldwide by the year 2030.[18] Nonetheless, nearly one out of every five women in this study had experienced circumcision, a level that is significantly higher than the 2017 target of 5% stipulated in the Nigerian National Plan of Action[6]. The prevalence of FGM in this study is substantially higher than the prevalence (3%) reported for Plateau state in the 2018 NDHS, even though the two surveys were conducted at about the same time.[7] Possible explanations for the huge

difference may be the variance in the sample sizes used for the calculation of the prevalence; while in the MICS only 247 women responded to the question on circumcision, in the NDHS the respondents were about twice this number (571). Additionally, since harmful traditional practices have generally been reported to be practised more commonly in rural areas,[19] the significant level of FGM found in this study is not unexpected owing to the fact majority of the respondents in this study resided in a rural area. Previous studies conducted in the country in 2014 and 2018 reported nearly similar estimates for FGM in Plateau State and Nigeria respectively.[2,7] Conversely, some studies conducted in sub-Saharan Africa have found over 50% prevalence for FGM.[8,9,20] It is worthy of note that the sample of women that responded to the question on circumcision constitute only 21% (247 out of 1172) of interview entries for Plateau state, therefore the FGM estimate obtained may be a biased estimate owing to the very low response rate and sample size. Nevertheless, there is still room for improvements in addressing FGM in the state if the global and national targets are to be realized.

Similar to previous studies conducted across Africa,[8,9,12,20] this study found age-group, educational level, wealth index, and attitude towards the continuation of FGM to be the predictors of FGM.

Precisely, the odds of FGM decreased in older age groups, with women aged 33-41 years less likely to have experienced circumcision compared to those aged 15-23years. The age group 15-23 years is the youngest in this study and it had the largest number and proportion of women who had undergone FGM, therefore, this group may constitute relatively new cases of FGM and be a reflection of ongoing circumcisions in the state. Also, the women in this age group just exited the age bracket (0-15 years) where FGM is predominantly carried out.[1,21] Younger women as seen in this study are more at risk of being circumcised probably because they are may not be fully independent of parental influence and care, therefore, they are incapable of fully expressing and exercising their rights by refusing harmful traditional practices. Contrariwise, a study conducted in Ethiopia showed the odds of FGM to be higher among older women, which may be a reflection that fewer younger women are being circumcised.[22] Girls and young women especially adolescents need to be protected more by

legislation against FGM since they may lack the power and aptitude to strongly resist circumcision.

Furthermore, similar to previous studies,[9,12,20] in this study a low wealth index was found to significantly increase the odds of FGM. The women belonging to low wealth status in this study might have been born and raised in poor households. Poor households are characterised by low parental education especially maternal education, and low levels of maternal education have been reported to increase the likelihood of a daughter becoming circumcised.[22] Moreso, because women of lower wealth status constitute a group that has less support for the discontinuation of FGM, which is a likely consequence of less power and capacity to take strong decisions against the practice, it is plausible to find them at higher odds of experiencing this harmful act.[22] On the contrary, a similar study has found women from wealthy households to be more likely of being circumcised.[22] Even so, it is paramount to empower women by alleviating poverty amongst them with the hope that they stand and make decisions independently so as to reject being circumcised.

Women who had attained at least a secondary level of education were found to have lower odds of FGM compared to their counterparts who had no formal education. This finding is not surprising because the educated women were possibly born and raised in families with strong educational background and such families have a higher tendency to oppose circumcision for girls because of their awareness of the dangers and lack of benefits from the practice. As an illustration, some studies have observed that FGM rates among daughters decreased with increasing level of mother's education.[20,22] Because most female circumcisions are carried out at an early age, the decision often lies with the parents[1,21] which is why families with higher educational backgrounds are less likely to circumcise their daughters. Moreso, a close link has been demonstrated between girls and women education and their ability to make choices about their own lives as a result well-educated women can easily refuse harmful traditional practices because they are better informed. In a similar vein, high educational attainment increases the likelihood of a higher wealth status which as illustrated earlier is associated with a lower odds of FGM.[23] Additionally, well-educated women have superior power and confidence in decision

making.[24] There is a need to improve education among girls and women so that they can become better aware of the dangers of FGM in order to be more confident in jettisoning the practice.

Women who did not express support or were indifferent towards the continuation of the practice of FGM were less likely to be circumcised compared to those who were affirmative for its continuation. It is plausible to find women who want FGM continued to be more at risk of being circumcised, motivations arising from the alleged sociocultural usefulness and benefits of FGM may be a driving force leading to an increase in its desirability. Some of these perceived social benefits of FGM include reduction in promiscuity to promote decency among women, and initiation into womanhood which in turn increases acceptance among peers so much so that those who are not circumcised may be labelled or ostracized by their peers and the community.[25] The robust link between FGM and culture and/or religion implies that stakeholders in these spheres of influence need to be purposefully engaged using educational opportunities, with an intent to dispel and correct myths and unsubstantiated assertions about the alleged benefits of the practice.

Despite using state-wide data, social desirability, self-reporting not subject to clinical confirmation, having an enormous number of missing cases in the data-set might have resulted in a biased estimate of FGM in the state.

CONCLUSION

Despite the dangers associated with FGM, a good number of women in the reproductive age group in Plateau state are circumcised. Additionally, younger age, lack of formal education, low wealth status and wanting the continuation of the practice were identified to be predictors of FGM, therefore, women in these categories should be prioritized for interventions targeted at eliminating FGM such as education and poverty alleviation.

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