Breaking the FGM Cycle in Nigeria

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Abstract

Female Genital Mutilation (FGM) is widespread in Nigeria, despite efforts to reduce deep-rooted social and traditional norms that uphold its practice. Using the 2013 Nigeria DHS couple data, we employed multilevel mixed logistic models to assess couple attitudinal agreement/discordance for/against FGM on the probability that at least one daughter was circumcised. Results showed that mothers who believed FGM should end, even if their husbands believed it should continue, were 77% less likely to circumcise their daughters (95% CI: 0.16-0.33). This relationship held among FGM (OR: 0.76; 95% CI: 0.15-0.37) and non-FGM mothers (OR: 0.29; 95% CI: 0.08-0.29). When stratifying by region, this association was lost in NW, NC, and SE, where there was no association in circumcised daughters and couple FGM attitudes. Results suggest that while FGM is a normative practice in some regions, changing FGM attitudes of mothers are critical in breaking the cycle of FGM in subsequent generations.

Significance/Background

More than 125 million girls and women currently live with female genital mutilation (FGM), and approximately 19.9 million girls and women with FGM live in Nigeria (UNICEF, 2013). While widely recognized as a human rights violation to girls and women, FGM continues to be practiced widely among infants and girls in Nigeria. The majority of women with FGM (82.0%) in Nigeria reported that they were circumcised under the age of 5 (NPC, 2014). Furthermore, this cycle continues through generations where 44.7% of girls whose mothers have FGM were circumcised by the age 4 (NPC, 2014).

Tradition and culture in addition to religion, hygiene, preservation of virginity, and a decrease in sexual promiscuity have all been shown as reasons for the continued practice of FGM in Nigeria (Enwereji, E.E. and Enwereji, K.O., 2013; Garba, I.D. et al., 2012; Alo, O.A. and Gbadebo, B., 2011). Fathers and grandparents have been cited as the primary decision makers of FGM (Amusan, O.A. and Asekun-Olarinmoye, E.O., 2006; Garba, I.D. et al., 2012). Data, however, indicate that FGM is declining– 15.3% of 15-19 years olds compared to 35.8% of 45-49 year olds reported some form of FGM (NPC, 2014). Given this apparent reduction in FGM in next generations, the purpose of this study is to explore how parental attitudes within a couple influence the likelihood of a circumcised daughter.

Methods

In the present analysis, we used the couple data from the 2013 Nigeria DHS and restricted the sample to women who reported being a wife of a male head of household, men who reported being a husband of a female head of household, and women who reported having a daughter. The weighted sample was 5626.

The outcome variable was the number of daughters circumcised as reported in the woman's survey. This count variable was recoded into a dichotomous variable where 0 represents no daughters circumcised and 1 represents at least one daughter circumcised.

The main explanatory variable is a construction of two questions that asked women and men about their perceptions of whether FGM should continue or stop. The couple attitude of FGM variable forms a five category variable of: 1) both believe FGM should continue; 2) both believe FGM should stop; 3) husband believes FGM should continue and wife believes it should stop; 4) husband believes FGM should stop and wife believes it should continue; and 5) all other combination of responses that include it depends, don't know and missing.

Several addition covariates are included in the models. These include woman's characteristics like age, education, religion, wealth, and urban/rural residence. In addition, a dichotomous variable was added to the models that assess women's perceptions of when physical and sexual violence are justified in four hypothetical situations. An index was first generated combining the four situations and then dichotomized into violence not justified in any of the four situations and violence justified in at least one situation. From the men's perspective, a variable for multiple partners and wives is included in the models.

We used two-level mixed logistic models (MLM) that include random and fixed effects to assess couple attitudes of FGM on the likelihood that at least one daughter was circumcised (Rabe-Hesketh, S. and Skrondal, A. (2008). The model accounts for the sampling methodology undertaken by the DHS (i.e. households (level 1) are nested in clusters (level 2)). We used clusters as a proxy for community[1]. Individual-level variables include: urban/rural residence and region as the fixed effects while the random effects include all variables on women's characteristics, domestic violence variable, and the multiple partner/wives variable. At the cluster level, only a random intercept was added to the models to account for correlation within clusters.

Results

Results show that 18.4% (1075) of couples had at least one daughter circumcised. Thirty-two percent of couples felt that the practice of FGM should discontinue. In 7.2% of couples both husband and wife felt that the practice should continue. Among couples with discordant attitudes of FGM, 13.5% of husbands felt FGM should continue and wives felt it should end, and 10.2% husbands felt the practice should continue and wives felt it should end.

Tables 1 through 3 show the results of the multilevel mixed models. In Table 1, the unconditional and conditional intraclass correlation (ICC) and standard errors are presented for the three models in Table 2. The ICC is the proportion of the total variance in circumcised daughters that explained by all community-level factors. The unconditional ICC presents the empty model and excludes all predictors and the conditional ICC includes all predictors. The proportion of the variation in circumcised daughters explained by communities varies across the three empty models from 33% to 46%. Even though adding level-1 covariates reduced this variation in all models, approximately 16% to 39% of the variation in circumcised daughters is still explained by communities.

Table 2 shows the results of the adjusted multilevel mixed logistic model among the full sample, FGM mothers, and non-FGM mothers adjusted for women's characteristics and men's report of multiple partners/wives. In the full sample (Model I), couples in which the husband believed FGM should continue while the wife believed it should end were 77% (95% CI: 0.16-0.33) less likely to have circumcised a daughter when compared to husbands who believed the practice should end and wives who believed it should continue. In couples where both parents believe FGM should end were also less likely to have circumcised their daughters (OR: 0.13; 95% CI: 0.09-0.18). Older women compared to 15-19 year olds, were more likely to circumcise their daughters. Significant differences were also observed by religion, wealth, and region of residence. The probability of circumcising a daughter was not different by education, residence, and perceptions of domestic violence.

Given the strong effect of mothers with FGM on circumcised daughters in the full sample, we ran models limiting the sample to FGM mothers (Model II of Table 2) and non-FGM mothers (Model III). Women who felt that FGM should stop, even if their husbands felt it should

[1] Nigeria is divided into states and each state is subdivided into a local government area. Each LGA was divided into enumeration areas (clusters) in the 2006 population census. The Nigeria DHS used these clusters as the basis of stage one of the sampling strategy.

continue, were 76% (95% CI: 0.15-0.37) less likely and 71% (95%: 0.14-0.61) less likely to circumcise a daughter among FGM mothers and non-FGM mothers, respectively.

In Table 2, the association between circumcised daughters and region remained among the full sample and FGM mothers. All regions of Nigeria – North Central, North West, South East, South South, and South West – had significantly lower odds of circumcising their daughters than the North West, net of couple FGM attitudes, female characteristics, and multiple partners/wives. In Table 3, we stratified the analysis by region among only FGM mothers. In South East and South South regions only, couples in which the husband believed FGM should continue while wives believed it should stop were less likely to circumcise at least one daughter. This association, however, was lost in North West, North Central, and South East, where there was no relationship in circumcision of a daughter and couple FGM attitudes.

Discussion

In order to break the generational cycle of FGM in Nigeria, the results of these analyses suggest that interventions aimed at reducing FGM should focus on mother's perceptions and attitudes of the practice. Furthermore, interventions in North West, North Central and South East may need additional community-based programs to address traditional attitudes and beliefs that perpetuate its use.

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Table 1: Effect of Couple Attitude of FGM on the Probability of Circumcised Daughter among Full Sample, FGM Mothers, and Non-FGM Mothers

	Model I – Full Sample		Model II – FGM Mothers		Model III-Non-FGM Mothers	
	OR	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**
Couple Attitude- FGM						
Husband stop/ wife continue	ref		ref		ref	
Husband continue/ wife stop	0.23	(0.16-0.33)	0.24	(0.15-0.37)	0.29	(0.14-0.61)
Both stop	0.13	(0.09-0.18)	0.14	(0.09-0.21)	0.15	(0.08-0.29)
Both continue	1.26	(0.88-1.79)	1.29	(0.84-1.99)	1.14	(0.50-2.56)
Wife had FGM			-		-	
No	ref		-		-	
Yes	11.5	(8.84-15.08)	-		-	
Age						
15-19	ref		ref		ref	
20-24	2.21	(1.38-3.52)	1.74	(0.94-3.23)	2.36	(1.09-5.09)
25-29	5.63	(3.60-8.81)	5.23	(2.87-9.54)	4.44	(2.14-9.20)
30-34	8.37	(5.27-13.29)	7.19	(3.88-13.31)	5.62	(2.61-12.08)
35-39	6.86	(4.25-11.06)	6.77	(3.59-12.78)	2.96	(1.27-6.90)
40-44	5.23	(3.08-8.87)	4.73	(2.40-9.32)	1.87	(0.60-5.89)
45-49	6.18	(3.00-12.74)	6.61	(2.67-15.78)	1.09	(0.11-11.26)
Education						
None	ref		ref		ref	
Primary	1.22	(0.89-1.66)	1.24	(0.82-1.89)	1.17	(0.65-2.08)
Secondary	1.24	(0.86-1.78)	1.21	(0.76-1.92)	1.53	(0.72-3.23)
Higher	1.00	(0.58-1.68)	0.93	(0.49-1.74)	2.12	(0.55-8.17)
Religion						
Islam	ref		ref		ref	
Other Christian	0.58	(0.41-0.84)	0.67	(0.45-1.00)	0.25	(0.09-0.69)
Other	0.42	(0.24-0.73)	0.47	(0.25-0.86)	0.21	(0.05-0.91)
Wealth						
Poorest	ref		ref		ref	
Poorer	1.04	(0.77-1.39)	0.96	(0.61-1.53)	0.90	(0.57-1.43)
Middle	0.77	(0.52-1.13)	0.72	(0.42-1.24)	0.77	(0.40-1.48)
Richer	0.62	(0.39-0.96)	0.69	(0.38-1.24)	0.35	(0.14-0.90)
Richest	0.48	(0.28-0.80)	0.52	(0.27-1.00)	0.18	(0.05-0.64)
Justified domestics violence						
In no instances	ref		ref		ref	
In any of 5 instances	0.95	(0.77-1.18)	0.84	(0.64-1.11)	1.18	(0.79-1.74)
Residence						
Rural	ref		ref		ref	
Urban	0.97	(0.77-1.18)	0.90	(0.63-1.30)	1.12	(0.53-2.37)
Region						
North West	ref		ref		ref	
North Central	0.31	(0.18-0.53)	0.34	(0.18-0.66)	0.24	(0.08-0.75)
North East	0.35	(0.22-0.54)	0.21	(0.09-0.49)	0.35	(0.19-0.65)
South East	0.39	(0.21-0.74)	0.35	(0.17-0.66)	0.49	(0.07-3.12)
South South	0.13	(0.07-0.24)	0.12	(0.09-0.49)	0.08	(0.01-0.76)
South West	0.51	(0.31-0.83)	0.43	(0.17-0.71)	0.70	(0.20-2.40)
Husband multiple wives/partners						

Table 1: Effect of Couple Attitude of FGM on the Probability of Circumcised Daughter among Full Sample, FGM Mothers, and Non-FGM Mothers

	Model I – Full Sample		Model II – FGM Mothers		Model III-Non-FGM Mothers	
	OR	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**
One wife/partner	1.17	(0.94-1.47)	1.14	(0.84-1.55)	1.45	(0.97-2.15)
>1 wife/partner	ref		ref		ref	
Number of couples	5626		1899		3330	
Number of clusters	842		505		727	

Table 2: Proportion variance in circumcised daughters explained by differences between communities (clusters) among full sample, FGM mothers, non-FGM mothers

	Intraclass correlation (ICC)	Standard Errors
Full Sample (Model I):		
≥1 daughter circumcised	0.43	0.03
≥1 daughter circumcised + fixed & random effects	0.22	0.03
FGM mothers (Model II):		
≥1 daughter circumcised	0.33	0.11
≥1 daughter circumcised + fixed & random effects	0.16	0.04
Non-FGM mothers (Model III):		
≥1 daughter circumcised	0.46	0.05
≥1 daughter circumcised + fixed & random effects	0.39	0.06

Table 3: Effect of Couple Attitude of FGM on the Probability of Circumcised Daughter among FGM Mothers by Region

	Model IVa NW region		Model IVb NC region		Model IVc NE region		Model IVd SE region		Model IVe SS region		Model IVf SW region	
	OR	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**	**OR**	**95% CI**
Couple Attitude FGM												
Husband stop/ wife continue	ref		ref		ref		ref		ref		ref	
Husband continue/ wife stop	0.44	(0.16-1.16)	0.17	(0.03-1.02)	-		4.28	(0.90-20.32)	0.05	(0.01-0.50)	0.09	(0.04-0.20)
Both stop	0.44	(0.20-0.97)	0.07	(0.01-0.63)	-		0.67	(0.15-3.00)	0.13	(0.03-0.53)	0.06	(0.03-0.12)
Both continue	1.04	(0.42-2.53)	1.58	(0.30-8.29)	-		7.33	(1.45-37.09)	1.17	(0.22-6.10)	0.83	(0.41-1.68)
Number of couples	531		162		24		223		303		609	
Number of clusters	91		50		19		89		98		134	

*Models adjusted for woman's age, education, religion, wealth, domestic violence perceptions, and residence. Model also adjusted from man's report of multiple wives/partners.