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Female genital mutilation/cutting in Nigeria: Is the practice declining? A descriptive analysis of successive demographic and health surveys and multiple indicator cluster surveys (2003–2017)

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List of Acronyms

DfID	Department for International Development
DHS	Demographic and Health Surveys
FGM/C	Female Genital Mutilation/Cutting
FCT Abuja	Federal Capital Territory Abuja
GBV	Gender-based Violence
MICS	Multiple Indicator Cluster Survey
NAPTIP	National Agency for Prohibition of Trafficking in Persons
NBS	National Bureau of Statistics
NDHS	Nigeria Demographic and Health Survey
NGO	Nongovernmental Organisation
NPC	National Population Commission
SDG	Sustainable Development Goal
TBA	Traditional Birth Attendants
UK	United Kingdom
UN	United Nations
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development

Acknowledgments

Executive Summary

Background

This report gives an insight into the scale and scope of the practice of female genital mutilation/cutting (FGM/C) among women aged 15–49 years and girls younger than 15 years in Nigeria. It also presents evidence on where FGM/C occurs and highlights the dynamics of change as well as the context surrounding the practice. The report explores in detail the practice of FGM/C from all available sources of nationally representative survey data from 2003 to 2017; and the most relevant contextual information on key factors associated over time with FGM/C. The ultimate objective of the report is to generate evidence to inform strategies to address the practice in Nigeria.

Methods

Six waves of nationally representative Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS) conducted in Nigeria between 2003 and 2016–17 were examined. Data on women aged 15–49 years and girls aged 0–14 years were included in all six waves of the Nigeria DHS and MICS— namely 2003 DHS, 2007 MICS, 2008 DHS, 2011 MICS, 2013 DHS, and 2016–17 MICS. The surveys are national in scope and employ a cross-sectional design with two-stage stratified random sampling. For each of the datasets, we applied the DHS and MICS standard survey weights to allow for reporting national-level estimates. We computed descriptive statistics. For average age at cutting for women and girls we report the median estimates along with the inter-quartile ranges, and all other variables are defined as categorical and reported as such (i.e., with frequencies and percentages).

Findings

Overall, the observed national prevalence of FGM/C among women 15–49 and girls 0–14 increased from 2003 to 2008, and then fell from its peak in 2008 (DHS) to 2016–17 (MICS) with less pronounced decline among girls. However, the extent to which FGM/C is practiced in Nigeria varies greatly across the country's six geopolitical zones, with the South West and South East leading in prevalence of the practice. Over time, the prevalence among women declined in south eastern states but increased substantially in the north western states from almost zero in 2003 to 39.3% in 2016–17, with a roughly similar pattern observed among girls in these geopolitical zones. The prevalence of FGM/C was higher among women and girls from Yoruba and Igbo ethnic groups in southern states, compared to their Hausa counterparts in northern states. Over the 14–year period, FGM/C prevalence among Yoruba and Igbo women and girls declined significantly while it increased among Hausa women and girls between 2003 and 2008 and declined steadily thereafter.

The majority of cut women and girls reported Christian religious affiliation. Lower prevalence rates were observed among Muslims. Increasingly, women and daughters of women of higher educational attainment, higher household income, and living in rural areas were affected by the practice. Girls whose mothers were in polygamous unions had a higher likelihood of being cut than those whose mothers were in monogamous unions. Over time, the practice increasingly shifted from urban to rural areas.

Girls were more likely to undergo FGM/C when their mothers supported continuation of the practice; were the sole decisionmaker regarding household purchases, own health care, and expenditure; and believed that the practice was a religious requirement and prevented girls from having pre-marital sex. However, the likelihood of girls being cut was low when the decisions were not made by the mother but by her husband, partner, or someone else. The proportion of cut girls was also high

among those whose mothers had lived in their current community for more than a year prior to the survey.

Compared with their mothers, the majority of girls who had undergone FGM/C were cut at earlier ages, were more likely to be cut by traditional practitioners, and to undergo Types I and II of the practice (clitoridectomy and excision) than Types III and IV. Over time, the proportion of women cut by health practitioners remained stable, while among girls this percentage decreased.

Next steps

Reduction in FGM/C prevalence rates constitutes an important stage in the FGM/C abandonment process. In light of the current results, which did not capture several interdependent factors that have an impact on FGM/C, the next phase of this study will involve conducting multivariate and survival analyses using advanced statistical methods. These methods are necessary to account for other factors that may confound the results of the observed prevalence rates and trends in the practice. For instance, using survival analysis, we may account for the rate at which girls are cut given their time of exposure. The advanced analysis will further examine possible influences of the geographical locations of the respective populations of interest.

Introduction

Background

Female genital mutilation/cutting (FGM/C) involves the partial or complete removal of female genitalia for nonmedical reasons (WHO 2008:4; Black and Debelle 1996). WHO (2018) classifies FGM/C into four main types: Type I, also known as clitoridectomy, involves cutting part or all of the clitoris or the prepuce; Type II, also known as excision, entails removing part or all of the clitoris and the labia minora; Type III, also known as infibulation, refers to sewing up or narrowing the vagina opening; and Type IV includes all other forms (e.g., pricking, scraping, and cauterizing the genital area), which do not fit into any of the above categories.

Recent estimates suggest that at least 200 million women and girls around the world have undergone FGM/C (UNICEF 2016). The majority of those affected by, or at risk of the practice, live in Africa and Asia, although evidence shows that the practice is also prevalent in western countries with immigrants from practising countries (Kandala and Komba 2018). The practice of FGM/C is associated with poor health outcomes and prevents girls and women from thriving and enjoying their basic human rights (Center for Reproductive Health 2006: 12; Kandala and Komba 2018a). The reasons for the practice have been widely documented. A study by Briggs (1998) found that FGM/C had been used by men to control female sexuality and ensure cultural pride. It is also practised as a cultural obligation and a rite of passage from childhood to adulthood. Undergoing FGM/C enables women and girls to avoid mockery, loss of respect, social condemnation, and reduced marriage prospects (Bodunrin 1999).

High FGM/C prevalence around the world adds to a sense of urgency to eliminate the practice (UNICEF 2016). The 2012 United Nations (UN) Resolution 67/146 urged nations to ban FGM/C. Such a call has mobilised global efforts to reduce and eliminate the burden of FGM/C (UNFPA 2016: 4; UN General Assembly 2012). Given that change has been uneven in the efforts to eliminate FGM/C, analysis of context-specific evidence is needed to inform policies and interventions (Muteshi 2016). This evidence is critical if countries are to meet Target 5.3 of the Sustainable Development Goals (SDGs) on the elimination of all harmful practices including child marriage, early marriage, forced marriage, and FGM/C (UNFPA 2017).

One of the countries of high FGM/C prevalence is Nigeria. The country is home to over 180 million people, 49.4% of whom are female (UN Department of Economic and Social Affairs 2017). Along with the rest of the population, the Nigerian female population will experience dramatic increases in size by 2050 (Bisch 2016). About 250 ethnic groups scattered across 36 states (including the Federal Capital Territory [FCT) contribute to the national and regional FGM/C prevalence burden (Figure 1) (World Atlas 2018; World Bank 2018). The effect of population growth is that increasing numbers of girls and women are likely to be cut in Nigeria, even if overall FGM/C prevalence remains the same.

Figure 1. Map of Nigeria showing the six geopolitical zones and states of the study population
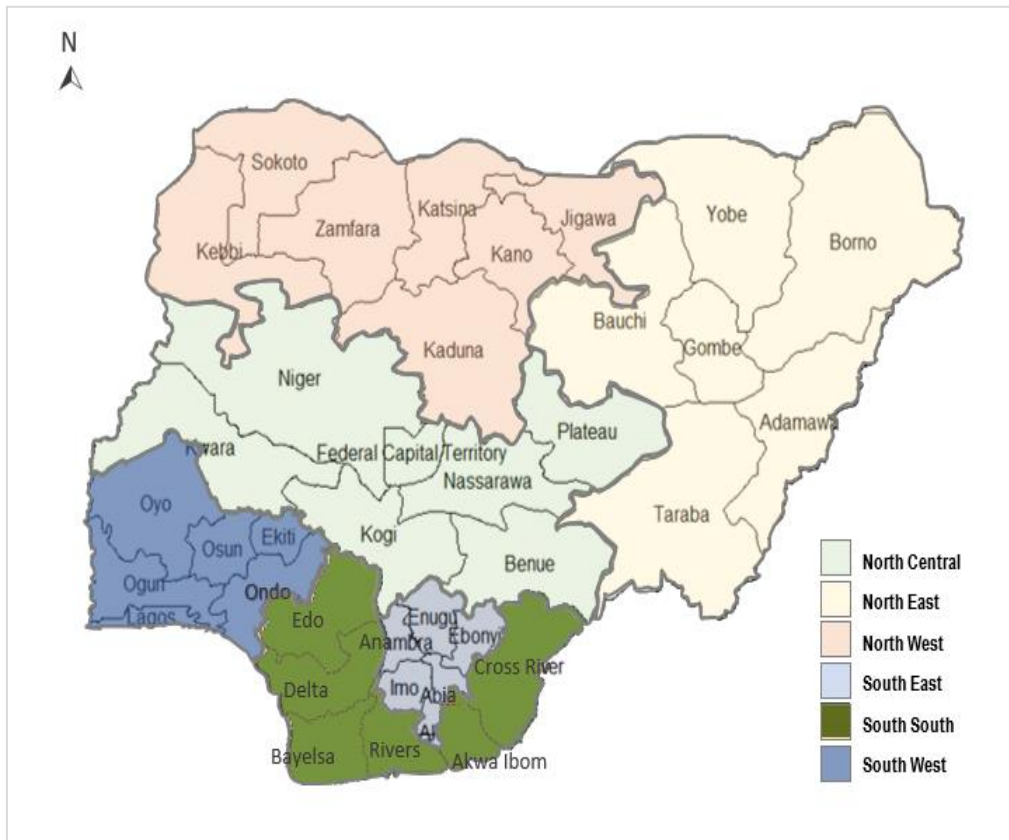
Source: Authors' own drawing

Between 2004 and 2015, 19.9 million Nigerian women and girls underwent FGM/C (Shell-Duncan, Naik, and Feldman-Jacobs 2016). Nigeria is, therefore, the third largest contributor to the overall global FGM/C burden behind Egypt and Ethiopia where the number of cut females is estimated at 27.2 million and 23.8 million, respectively (UNICEF 2016a). All types of FGM/C are practised with Type IV (e.g., scraping of tissue surrounding the vaginal orifice [angurya cuts] and using corrosive substances to narrow the vagina) being the least common in Nigeria (US Department of State 2001; Mandara 2004; Mberu 2016; NPC Nigeria and ICF International 2014).

Efforts to Abandon FGM/C Practice

Nigeria has responded to the international call for the elimination of FGM/C in several important ways. First, its government has passed federal legislation, the *Violence against Persons (Prohibition) Act 2015*, banning FGM/C and other forms of gender-based violence (GBV) (Briggs 2002; 28TooMany 2018: 2). Along with other African states, Nigeria also adopted the Maputo Protocol to the African Charter on Human and People's Rights on the Rights of Women in Africa (Maputo Protocol) in 2003, ensuring that survivors of GBV and of gross human rights violations can obtain redress before a domestic or regional court such as the Court of Economic Community of West Africa States or ECOWAS (Ngozi, Iyioha, and Durojaye 2017: 342; Kandala and Komba 2018a). Further, an inter-ministerial department committee launched the 2013/2017 National Policy and Plan of Action for Elimination of FGM/C in Nigeria (Centre for Laws of the Federal Republic of Nigeria 2018; National Agency for Prohibition of Trafficking in Persons [NAPTIP] 2015). Despite these measures, enforcement of the law has been limited (UNFPA-UNICEF Joint Programme 2017; and several states are yet to take legislative measures to mirror the federal legislation (28TooMany 2018; Briggs 2002; Briggs 1998). Nigeria's ratification of international and regional human rights

instruments however means that where laws are not being enforced to protect women and girls, it is possible for the Federal State of Nigeria to be held responsible for failure to protect women's rights under the Maputo Protocol (WUNRN 2017; Ngozi, Iyioha, and Durojaye 2017; Kandala and Komba 2018).

Civil society organisations are involved in raising public awareness about FGM/C and in programs that encourage cutters to become anti-FGM/C campaigners (Mberu 2017). Nongovernmental organisations, the media, and civil society including traditional and religious leaders have been involved in disseminating anti-FGM/C messages at the federal and state level (Mberu 2017; Nnamdi 2018). Overall, efforts to accelerate abandonment of FGM/C in Nigeria have been a mix of legal, policy, behavior-change, and advocacy interventions (UNFPA-UNICEF 2017; 28TooMany 2018).

Justification of this Study

In 2015, The Population Council launched a large-scale research programme, *Evidence to End FGM/C: Research to Help Girls and Women Thrive*. The programme calls for analysis of context-specific data to address FGM/C evidence needs and the fragmented nature of such evidence. In the specific context of Nigeria, a body of quality research has been published focusing on the socio-demographic factors driving prevalence trends in Nigeria (Mberu 2017; UNPFA 2016). However, we are not aware of any study that provides a detailed examination of successive waves of survey data on FGM/C prevalence and trends in Nigeria, which could facilitate knowledge of the precise location, time, and way FGM/C is performed. There is an urgent need for evidence-based research to ensure that resources are being directed to the identifiable "hotspots" of FGM/C practice since FGM/C is practised by specific ethnic groups. This study examined socio-demographic and additional factors (e.g., social norms, women's decision-making power, and women's mobility) to provide a detailed and richer picture of FGM/C prevalence and trends among women aged 15–49 years and girls 0–14 years in Nigeria.

Objectives

The overall objective of the study was to examine the prevalence of FGM/C in Nigeria over time with a view to generating evidence to inform policies and programmes aimed at reducing or eliminating the practice in the country. The study specifically aimed to:

1. Examine the national prevalence of FGM/C among girls aged 0–14 years and women aged 15–49 years in Nigeria.
2. Consider the extent of variation in FGM/C prevalence by geopolitical zones and states.
3. Identify any variation in FGM/C prevalence by socio-demographic (i.e., age, religion, ethnicity, education, urban–rural residence, wealth) and other factors (e.g., social norms, beliefs, mobility, and decision-making power within the household).
4. Examine whether the FGM/C prevalence among women and girls has changed over time (trends).
5. Identify the most widely practised types of FGM/C, the persons performing the procedure, and any shift in terms of age at cutting for women and girls.

Methods

Datasets and Scope of the Study

To achieve the study objectives, data from successive waves of Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS) in Nigeria conducted between 2003 and 2016–17 were examined. Data on women aged 15–49 years and girls aged 0–14 years were included in all six waves of the Nigeria DHS and MICS, namely 2003 DHS, 2007 MICS, 2008 DHS, 2011 MICS, 2013 DHS, and 2016–17 MICS. The surveys are national in scope and employ a cross-sectional design with two-stage stratified random sampling. The design, organization, sample size, and sampling design, questionnaires used, and implementation of each survey are described in the respective survey reports (NBS and UNICEF 2008, 2017; NBS, UNICEF, and UNFPA 2013; NPC/Nigeria and ORC 2004; NPC/Nigerian and ICF International 2009, 2014). To assess whether the practice of FGM/C is declining in Nigeria, we focused on two age cohorts, namely Nigerian women aged 15–49 years and girls aged 0–14 years at the time of the survey. We analysed six successive waves of the DHS and MICS datasets from 2003 to 2016–17. All surveys included modules on FGM/C questions (see Table A1 in Appendices). The overall sample sizes for our analysis are given in Table 1.

Table 1. Sample size of women aged 15–49 years and girls aged 0–14 years for each of the Nigeria DHS and MICS surveys, Nigeria 2003–2016/17

Year/type of survey	Women 15–49 years	Girls 0–14 years
2003 DHS	7,620	3,281
2007 MICS	24,566	7,768
2008 DHS	33,385	17,691
2011 MICS	30,772	16,874
2013 DHS	38,948	25,176
2016–17 MICS	34,376	17,529

Note: The sample sizes for girls aged 0 –14 years in the 2003 DHS, 2007 MICS, and 2008 DHS comprise only the most recently cut daughters, while the sample sizes for 2011, 2013, and 2017 consist of all cut daughters aged 0–14 years. All information about daughters was provided by their mothers.

In the DHS and MICS surveys, data on FGM/C prevalence were obtained via self-reports of women of reproductive age (15–49 years). The data about girls aged 0–14 years were obtained by asking mothers about the FGM/C status of their living daughters. We then used information about mothers and their daughters' status to generate a detailed and rich picture of current FGM/C practices, especially given that FGM/C is typically performed when girls are 14 years or younger (Yoder and Wang 2013). The inclusion criteria were as follows: all female respondents aged 15–49 years and their daughters aged 0–14 years. In this report, all the results were reported across the six surveys (2003–2016/17), that is, six data points in time, unless indicated otherwise.

In this context, prevalence refers to the proportion of women and girls who have already been cut at a particular time or during a specific period. Trends in prevalence over time refer to the upward or downward shifts in FGM/C prevalence from one particular time point to another.

FGM/C Module and Variables (Nigeria DHS and MICS Surveys)

The FGM/C module in the Nigeria DHS and MICS surveys has changed over time. The most recent surveys dating from 2011 contain information on FGM/C status for all girls aged 0–14 years (see Table A1 in the Appendices). The independent variables used in the analyses were selected based on their availability within the survey's datasets, mostly demographic and socioeconomic factors.

The main socio-demographic variables considered include women's age, marital status, ethnicity, level of education, urban–rural residence, zone, religion, marital status, and wealth index (as a measure of socioeconomic status). We also included women's exposure to social norms and beliefs regarding the FGM/C practice, as well as their employment and earnings, mobility, and exposure to mass media. Other relevant independent variables in the analyses were: persons who performed FGM/C, type of FGM/C, age at cutting for both women and their daughters, and women's attitudes about continuation or discontinuation of FGM/C. The outcome variable of the analyses was the FGM/C status of women and girls at the time of the surveys.

To determine the FGM/C status of the daughters (girls 0–14 years), we used information from birth datasets and restricted our analysis to daughters whose mothers responded to the FGM/C module questions (Table 1). In the absence of direct measures of readiness to change among women 15–49 years, we computed a composite indicator of readiness to change among women in five main categories. These categories are shown in Table 2.

Table 2. Categories for the composite indicator of readiness to change among women aged 15–49 years

PREFERENCE	Future Action Plan For Their Daughters				
	Daughters cut/ will perform FGM/C on their daughters		Undecided on their plan		Daughters not cut/ will not perform FGM/C on their daughters
Continuation Of FGM/C	Willing adherents				Reluctant abandoners
Undecided/ No Preference			Contemplators		
Discontinue/Stop FGM/C	Reluctant adherents				Willing abandoners

In Table 2, "***Willing adherents"*** represent women who support the continuation of FGM/C and have or will cut their daughters. The second category involves "***Contemplators***" or women who are undecided about their preferences and future of their daughters. The third category relates to "***Reluctant adherents***" or women who oppose the continuation of FGM/C but have or will perform FGM/C on their daughters. The fourth category comprises "***Reluctant abandoners***" or women who prefer to continue FGM/C but will not perform FGM/C on their daughters. The fifth category consists of "***Willing abandoners,***" being women who favour stopping FGM/C and will not perform FGM/C on their daughters.

Some Considerations Regarding the Datasets

There are differences in the way daughter FGM/C data were collected over time (see Textbox 1 for more details). The 2003, 2007, and 2008 surveys asked about the FGM/C status of the most recently cut daughter, while the 2011, 2013, and 2016–17 surveys asked about all daughters aged 0–14 years. In other words, when interpreting the data, one needs to consider the changes in the DHS and MICS FGM/C modules over the years and their subsequent impact on the size of extracted data and consistency of indicators/variables across surveys. More specifically:

- First, the DHS and MICS surveys collected information on current FGM/C status of daughters, which may be different from the final FGM/C status: a girl who is not cut may still be cut in the future. This could serve as a limitation on the comparability in the sizes of the girls' population between different surveys. Nonetheless, this challenge can be addressed statistically through censoring, an approach we have adopted using survival analysis methods (which is a subject for a forthcoming report). That report will focus on multivariate analysis and it will consider, among other things, differences in the age at cutting among women (15–49 years) and girls (0–

14 years). To do this, we present Kaplan-Meier survival curves that allow for censoring of daughter data until the date of the interview since daughters might still be at risk of FGM/C in the period after the interview. Another important issue is the non-independence of observations for mothers with multiple daughters in the same household, which can impact the prevalence estimates. The proposed methods take this issue into consideration.

- Second, the different definitions of FGM/C that were adopted by the different surveys conducted in Nigeria would have led to an underreporting in the estimates of FGM/C before the 2008 survey. According to Mandara (2004), the main forms of FGM/C in Nigeria include Angurya (scraping of the vaginal orifice), and Gishiri (cutting of the vaginal wall). Both forms of cutting (Angurya and Gishiri) were included in the FGM/C definition in Kano State only in the 2008 DHS. However, subsequent DHS surveys explicitly followed the WHO definition of FGM/C—"the partial or total removal of the female external genitalia or other injury to the female genital organs for cultural or other non-therapeutic reasons"—during collection of FGM/C data. Earlier surveys did not follow this criterion (NDHS 2008 and 2013). Nevertheless, it must be observed that the changes in the FGM/C module overtime have improved the detail and clarity in the way questions are asked and therefore provide more reliable estimates in the recent surveys.

Overall, DHS and MICS surveys are hierarchal in nature and involve a two-stage multistage sampling design. Therefore, DHS and MCIS data are comparable. This descriptive analysis uses the survey weights to ensure that the estimates reflect the actual population size captured in both the DHS and MICS surveys.

Textbox 1: Considerations on FGM/C prevalence data for girls aged 0–14 years before 2010 DHS and MICS harmonization of the modules.

The harmonization of DHS and MICS surveys data took place in 2010. Prior to this period, the FGM/C modules focused on the following matters:

1. The respondent's own FGM/C status;
2. Information about the event for those who said they were cut;
3. Information concerning the FGM/C status of the eldest daughter or the most recently cut daughter as well as information about the events for those daughters who had been cut;
4. Information about the opinions of both men and women regarding the practice of FGM/C.

(See: Shell-Duncan 2016.)

The above means that FGM/C prevalence for girls can be computed from point 3 above. **This represents the prevalence of FGM/C among the eldest and most recently cut girls**.

After 2010, the FGM/C status of all the daughters 0–14 years was recorded, representing FGM/C prevalence among all the daughters. The underlying assumption in the pre-2010 survey data has always been that the sample of eldest or most recently cut daughter is an underestimation of prevalence of all the girls. This assumption implies that the selected woman's eldest or most recently cut daughters are not representative of all the daughters. Mothers are assumed to have had several daughters, but data were collected only on the eldest or the most recently circumcised daughter, not all of her daughters.

That assumption has never been examined empirically using DHS and MICS surveys. If justified, the assumption would mean that all surveys prior to 2010 would have underestimated the true FGM/C prevalence among girls. However, after close analysis of the pre-2010 surveys in Nigeria (see graph below), we found FGM/C prevalence before 2010 to be at an all-time high (2008 DHS) when compared to the rest of the DHS and MICS surveys, including those after 2010.

Weighted national FGM/C prevalence among girls aged 0–14 prior to and after 2010 harmonization (Nigeria 2003– 2016/17)
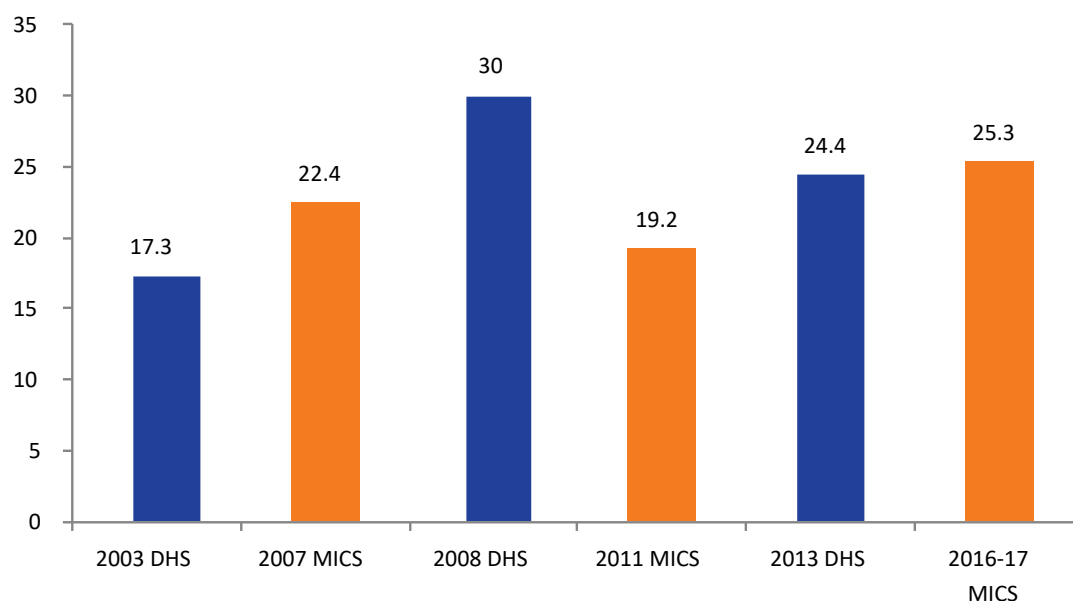
Therefore, there is no evidence that underestimation of FGM/C prevalence has occurred before the 2010 harmonization of the module in that respect in Nigeria. It may well be that the selected sample of eldest daughter/most recently cut daughter was a representative sample of the study population. This finding is consistent with the work of scholars who have computed FGM/C prevalence among daughters using data prior to 2010 harmonization (see Yoder P.S., N. Abderrahim and A. Zhuzhuni. 2004, pp. 7 and 15; and Shell-Duncan, Gathara, and Moore 2017, p. 37).

Potential reasons why underestimation of girls' FGM/C prevalence prior to 2010 has not been observed in successive data prior to 2010 harmonization in Nigeria

Samples selected in the DHS and MICS surveys use a stratified multistage sampling design, often with over-sampling of smaller domains such as urban areas or certain regions of a country. Thus, the selected sample is a random sample and representative of the entire country.

We used survey weights to compute FGM/C prevalence prior to and after 2010. In this way, we were able to account for the impact of the selection bias (i.e., selection of eldest daughters or most recently cut girls) of the underlying complex sampling design on prevalence estimates.

The use of survey weights to produce national FGM/C prevalence of daughters based on a nationally representative sample of women and their daughters may have corrected possible hypothesized underestimation of FGM/C prior to 2010 given the random nature of the selected sample of women and girls.

Computation and Analyses

For each of the datasets, we applied the DHS and MICS standard survey weights to allow for reporting national-level estimates using the *svy* command in STATA (StataCorp, College Station, TX,). We present descriptive survey results and corresponding weighted denominators for each categorical variable. For average age at cutting for women and girls, we report the median estimates along with the inter-quartile ranges, and all other variables are defined as categorical and reported as such (i.e., with frequencies and percentages).

This study also reports the significance of observed variations in FGM/C prevalence among both mothers and girls using all indicators considered in the study. Significance testing of association between different socio-demographic factors and FGM/C in women and girls was assessed using a Chi-square probability test at five percent level of significance (with P-value <0.05 indicating a

significant result). All analyses were undertaken using STATA v13. Results of detailed analyses are given in the Appendix, with excerpts provided in tables and figures throughout the report.

Results

National Prevalence of FGM/C among Women Aged 15–49 Years

National prevalence of FGM/C among Nigerian women aged 15–49 years across surveys is shown in Figure 2. FGM/C prevalence stood at 18.4% in 2016–17 (MICS), following a decrease observed from the peak of 29.6% in 2008 (MICS). Estimates from DHS surveys show, that prevalence increased by 10.6 percentage points between 2003 and 2008, before declining by 4.8 percentage points between 2008 and 2013.

Figure 2. National FGM/C prevalence among 15–49-year-old women, by survey date, Nigeria 2003–2016/17
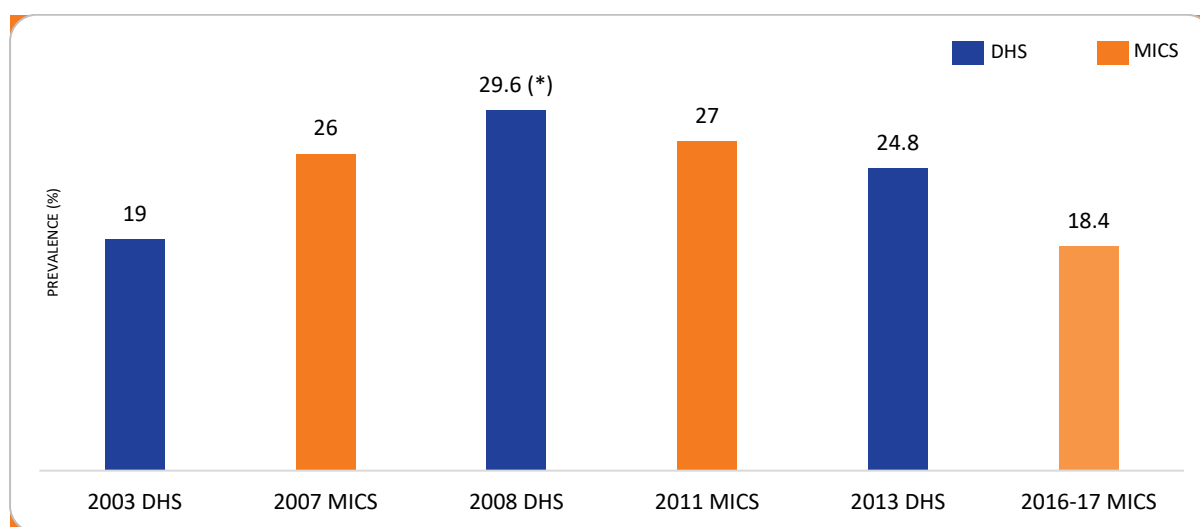
(*) The FGM/C prevalence peak reported in the 2008 DHS may be attributed to the differences in the definition of FGM/C used in the 2008 survey when compared with the other surveys.

Across surveys, with a few exceptions, similar declining trends were observed among women by age groups. For instance, in all time (all surveys), the prevalence of FGM/C among young women aged 15–19 years is more than 15 percentage points lower than the prevalence among women aged 45–49 years (Figure 3).

Figure 3. FGM/C prevalence among women by age groups, Nigeria 2003–2016/17
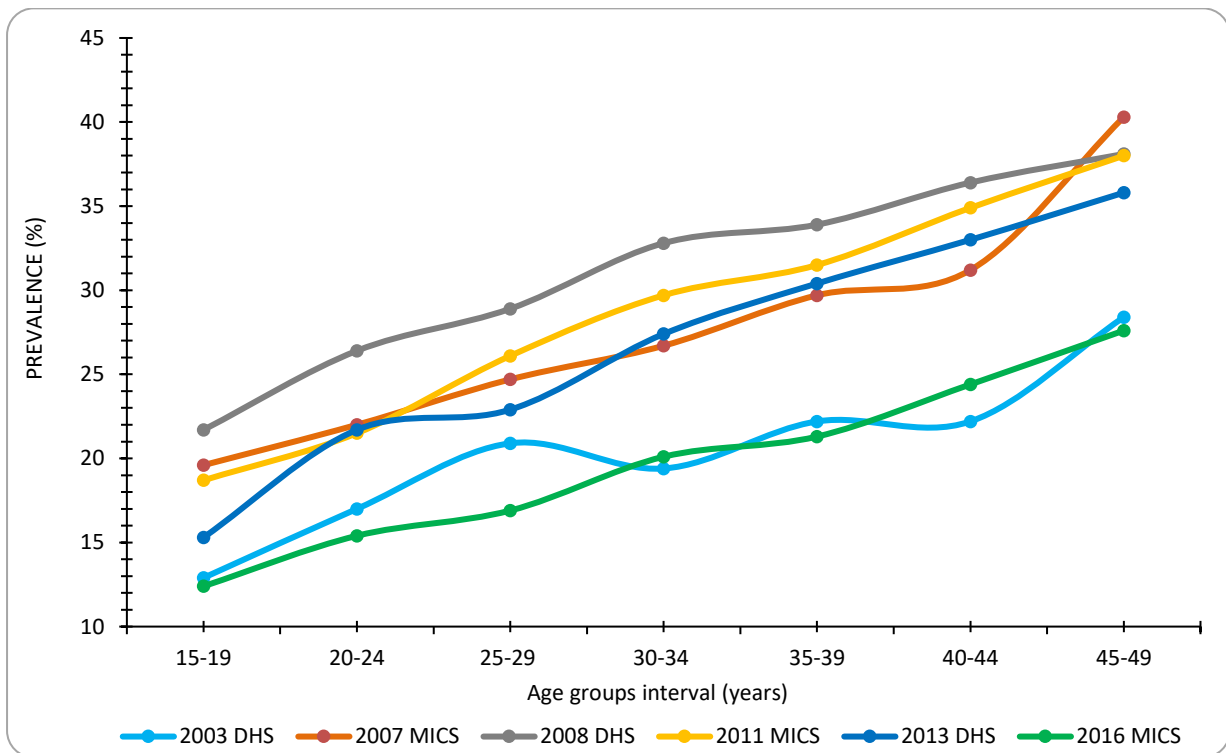
Data from the six surveys (2003–2016/17) showed significant variations in FGM/C prevalence across geopolitical zones and the respective states within Nigeria (Figure 4). Data from 2003 (DHS) indicated that prevalence among women was exceptionally higher in the three southern geopolitical zones (i.e., 34% to 56.9% prevalence range) than in northern geopolitical zones. Prevalence in the North West zone was 0.4% in the same year.

Figure 4. FGM/C prevalence among women aged 15–49 years across states, Nigeria 2003–2016/17
Shown in darker red shades are areas of higher prevalence of FGM/C
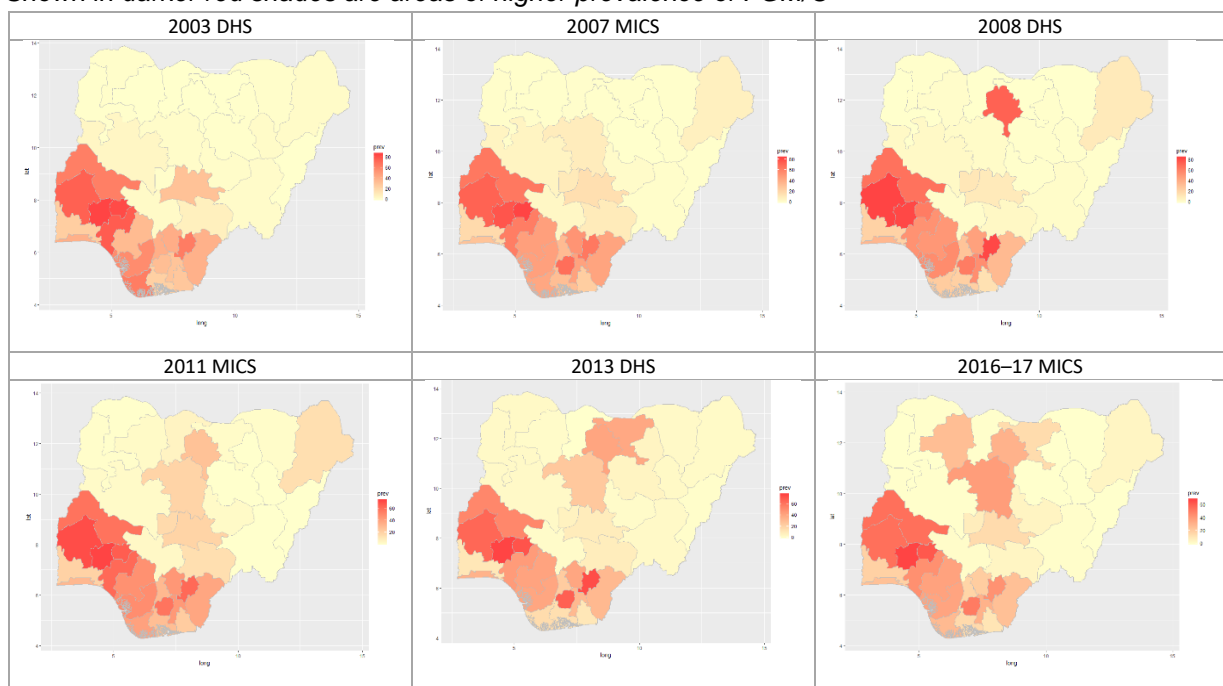
Source: Authors

There was evidence of changes in prevalence in the North West zone in 2008 where FGM/C prevalence increased from 0.4% in 2003 to 19.6% in 2008. In the North West, prevalence was highest in Kano State in 2008 (74%), although Kaduna State also experienced increased prevalence in 2011 compared with the levels in 2008. In 2008, Ebonyi, Oyo, and Osun states in the south—where the prevalence was 82.6%, 83.9%, and 82.8%, respectively—and Kano States (74%) in the North West had the highest prevalence (Table 3).

Table 3. FGM/C prevalence among women 15–49 by geopolitical zones and states within zones, Nigeria 2003–2016/17

STATE		2003 DHS	2007 MICS	2008 DHS	2011 MICS	2013 DHS	2016–17 MICS
		%	%	%	%	%	%
South West zone		**56.9**	**51.3**	**53.4**	**48.4**	**47.5**	**41.2**
Ekiti		83.4	83.2	63.2	66.2	72.3	62.6
Lagos		40.3	29.8	36.0	31.0	34.8	25.0
Ogun		25.2	18.5	22.5	20.1	11.2	18.8
Ondo		77.5	62.2	53.4	62.4	45.0	44.2
Osun		85.6	78.0	82.8	73.4	76.6	67.8
Oyo		75.7	72.9	83.9	71.1	65.7	55.1
South South zone		**34.7**	**39.5**	**34.2**	**36.4**	**25.8**	**23.3**
Akwa Ibom		28.5	24.7	15.2	22.5	11.0	10.5
Bayelsa		64.3	43.4	25.9	40.7	16.2	28.0
Cross River		39.8	45.0	34.4	38.7	32.2	25.4
Delta		57.6	46.6	56.5	48.9	40.3	36.4
Edo		35.0	47.1	51.2	47.5	41.6	37.1
Rivers		24.3	32.4	23.9	28.5	14.6	15.1
South East zone*		**40.8**	**52.7**	**52.9**	**46.8**	**49.0**	**32.5**
Abia		30.2	45.9	55.2	44.0	31.9	31.1
Anambra		40.7	33.6	29.6	30.8	23.4	17.1
Ebonyi		64.8	64.5	82.6	62.4	74.2	43.2
Enugu		41.5	52.2	46.8	45.0	40.3	20.4
Imo		33.3	68.7	63.5	58.4	68.0	51.6
North West zone		**0.4**	**2.8**	**19.6**	**11.9**	**20.7**	**19.3**
Jigawa		0.0	0.7	0.0	2.0	39.4	14.4
Kaduna		1.5	9.3	2.0	19.0	25.1	39.3
Kano		0.1	0.5	74.0	27.0	40.9	30.9
Katsina		0.0	0.8	0.0	5.4	0.0	0.6
Kebbi		0.5	0.9	0.0	1.2	2.6	0.0
Sokoto		1.1	0.5	0.6	0.8	3.0	0.5
Zamfara		0.0	0.5	1.3	2.5	1.7	26.4
North Central Zone		**9.6**	**14**	**11.5**	**13.9**	**10**	**8.6**
Kwara		63.3	64.6	67.4	58.8	53.3	55.2
Benue		8.0	10.2	3.8	14.4	8.4	4.1
Niger		4.8	5.5	3.2	2.3	2.6	0.6
Plateau		1.7	1.8	0.7	2.5	1.7	4.5
Kogi		2.7	3.8	1.3	3.3	1.8	1.4

Nassarawa		31.5	15.9	10.5	19.2	9.0	14.5
FCT Abuja		1.2	10.7	11.9	16.5	6.1	7.2
North East zone		**1.3**	**2.0**	**2.7**	**3.5**	**2.9**	**1.4**
Borno		2.2	7.5	10.4	14.4	2.4	4.2
Adamawa		0.0	0.3	0.5	0.4	1.0	0.0
Yobe		1.0	0.4	0.1	1.7	2.7	0.0
Taraba		1.9	0.9	1.5	0.2	2.8	1.0
Gombe		2.3	0.5	0.7	0.4	2.9	0.0
Bauchi		0.5	0.0	0.5	0.2	5.2	0.0

* Geographical zones and states, as mentioned in this sub-section only. For data on women FGM prevalence for all six geographical zones and all 36 states and the Federal Capital Territory (FCT) Abuja, refer to Appendix Table A2 and Table A7, respectively.

Data from 2003 to 2016–17 showed that prevalence in the South South zone decreased by 11 percentage points (from 34.7% in 2003 to 23.3% in 2016–17), compared to a 19 percentage point increase observed in the North West zone (from 0.4% in 2003 to 19.3% in 2016–17). From 2007 to 2016/17, a general decline was observed across most of the states within the South West, South East, and South South zones, while four of the seven states in the North West zone recorded a rise in prevalence during the same period. In particular, between 2007 and 2016–17, there was an increase in FGM/C prevalence of 30.0 percentage points in Kaduna, 30.4 percentage points in Kano, 25.9 percentage points in Zamfara, and 13.7 percentage points in Jigawa in the North West zone. The other three states in the North West zone, Katsina, Kebbi, and Sokoto, had an FGM/C prevalence of less than 6% across all survey years. Between 2008 and 2016–17, Kwara was the only North Central state that had a prevalence pattern similar to that of the states in the southern zones. For example, Kwara had a consistently high prevalence until 2008, before experiencing a 12 percentage point drop in 2016–17.

Prevalence of FGM/C among women by socio-demographic factors

Table 4 presents FGM/C prevalence among women aged 15–49 years by socio-demographic characteristics, including marital status, type of union, age difference between couples, place of residence (rural versus urban), marital status, and household wealth index.

Table 4. FGM/C prevalence among women aged 15–49 years by socio-demographic characteristics, Nigeria 2003–2016/17

BACKGROUND CHARACTERISTICS	2003 DHS	2007 MICS	2008 DHS	2011 MICS	2013 DHS	2016–17 MICS
	%	%	%	%	%	%
Marital status						
Never married	23.0	26.0	27.9	23.3	19.6	13.0
Currently married/in union	17.4	25.2	29.8	27.8	25.9	19.9
Formerly married	20.6	40.3	37.4	36.5	33.5	24.1
Age difference with husband/partner (*currently married women only*)						
Wife is older	23.7	10.0	24.0	32.0	29.1	23.5
Wife is same age	24.2	22.2	34.4	34.4	28.6	25.4
Wife is 1–4 years younger	26.7	34.4	34.7	38.3	30.6	27.7
Wife is 5–9 years younger	17.3	28.7	30.5	29.0	26.7	20.0
Wife is 10+ years younger	18.5	24.5	28.5	24.4	22.9	16.2
Type of union (*currently married women only*)						
Monogamous	19.7	-	32.0	29.7	27.4	20.9
Polygamous	13.4	-	25.2	23.8	23.0	18.4
Residence						
Urban	28.3	36.2	36.8	32.6	32.3	23.4

Rural	14.0	20.8	25.6	23.8	19.3	15.6
Wealth quintile						
Lowest	11.7	7.6	13.4	12.2	16.5	9.9
Second	11.5	16	23	20.8	20.3	14.6
Middle	13.3	25.3	29.9	29.3	23.5	19
Higher	22.4	40.2	39.1	38.9	30.6	22.9
Highest	33.1	35.7	39.2	30.8	31	23.3
TOTAL	**19.0**	**26.0**	**29.6**	**27.0**	**24.8**	**18.4**

Results from all six surveys show that women residing in urban areas had consistently higher FGM/C prevalence than their counterparts in rural areas. Prevalence among formerly married women was higher than that of never married women and those in unions at the time of the survey (p<0.001). FGM/C prevalence among women in 2003 was lower among those in a polygamous union than in a monogamous union. For example, in 2003 the FGM/C prevalence was 19.7% among women in monogamous unions, compared to 13.4% among women in polygamous unions. In the 2016–17 MICS the percentages were 20.9 and 18.4%, respectively—indicating a narrowing of the difference between the two subgroups (to 2.5 percentage points of difference). In all surveys, FGM/C prevalence increased significantly with higher wealth status. In other words, women from the wealthiest households had a higher prevalence than those from the poorest households.

FGM/C prevalence among women by social norms and beliefs regarding the practice

Social norms and beliefs have an influence on the degree to which community members adopt and practise FGM/C (Shell-Duncan 2016). Table 5 shows beliefs regarding FGM/C among women aged 15–49 years across all six surveys. The percentage of cut women who believe that FGM/C should be continued fluctuated between 40.3% and 48.0% across surveys, with the exception of the 2011 MICS where it was substantially higher (68.7%). The percentage of women who stated that FGM/C was required by religious norms ranged from 23% to 27% and declined slightly over time. The 2003 and 2008 surveys also interrogated whether women believed that FGM/C prevented premarital sex, a belief that was endorsed by 14.4% of women in 2003 and 19.0% of women in 2008.

Table 5. Trends in opinion regarding continuation or discontinuation of FGM/C among cut women aged 15–49 years, Nigeria 2003–2016/17*

	2003 DHS	2008 DHS	2011 MICS	2013 DHS	2016–17 MICS
	%	%	%	%	%
Women's attitudes toward FGM/C					
Should be continued	41.5	39.7	39.7	40.4	48.0
Should be discontinued	48.7	43.3	51.3	50.3	41.8
Depends/Don't know	9.8	17.0	9.0	9.3	10.2
Missing	-	-	-	-	-
Women's beliefs about FGM/C					
Required by religion					
FGM/C is required by religion	26.7	26.0	-	22.7	-
FGM/C is not required by religion	62.1	56.4	-	64.0	-
Missing	11.2	17.6	-	13.3	-
Beliefs about premarital sex					
Believes that FGM/C prevents a girl from having sex before marriage	14.4	19.0	-	-	-
Does not believe that FGM/C prevents a girl from having sex before marriage	63.1	80.8	-	-	-

Missing	22.6	0.3	-	-	-

* The 2007 MICS has no record of data on support for FGM/C among women.

A woman's opinion on the continuation of FGM/C is a good indicator of the prevailing social norms in a community and the risk for the practice being perpetuated across generations (Shell-Duncan, Naik, and Feldman-Jacobs 2006). The percentage of cut women who believed that FGM/C should be continued ranged between 39.7% and 48.0%, compared to 21.1% and 22.8% among all women, across the six surveys (Table 5 and Figure 5). The support for FGM/C was higher among women who are cut compared to all women.

Figure 5: Comparison of support for the continuation or discontinuation of FGM/C in Nigeria: All women respondents vs. cut-women respondent only
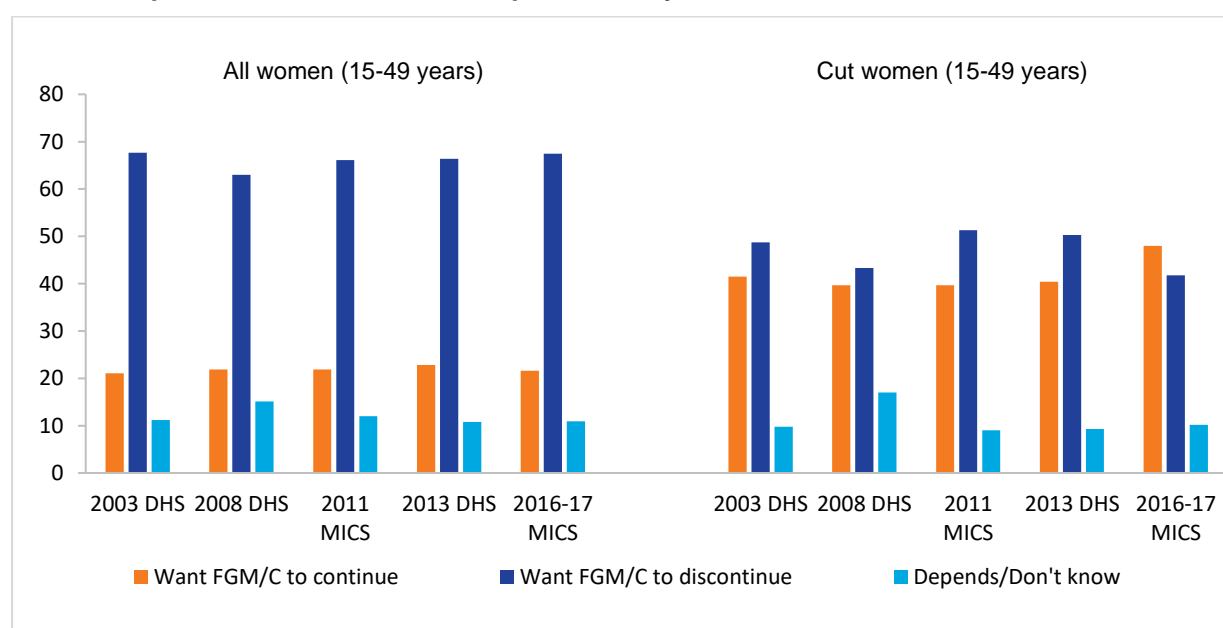
Figure 5 also indicates that almost two-thirds of all Nigerian women aged 15–49 years wanted the FGM/C practice to be discontinued during the same period. Women's support for the abandonment of FGM/C and their readiness to change are important indicators which may translate support into commitment and action to abandon in the short and medium term.

Table 6 presents the distribution of cut women by the various categories of readiness to change based on their beliefs regarding FGM/C and intentions to have their daughters undergo the practice. Over time, between 31% (in 2008) and 43.4% (in 2011) of cut women did not favor the continuation of the practice and did not cut or have any intention to cut their daughters ("**willing abandoners**"). A relatively high proportion of respondents were "**willing adherents,**" that is supported the continuation of FGM/C and cut or planned to cut their daughters (ranging from 17.6% in 2013 to 39.5% in 2016–17).

Table 6. Percentage of cut women by readiness to change

SURVEY AND YEAR	Willing adherent*		Contemplator*		Reluctant adherent*		Reluctant abandoner*		Willing abandoner*	
	%	Number of respondents	%	Number of respondents	%	Number of respondents	%	Number of respondents	%	Number of respondents
2003 DHS	25.1	198	4.2	33	15.3	121	17.2	136	38.1	301
2008 DHS	32.0	1,869	10.9	640	13.2	772	12.9	759	31.0	1,821
2011 MICS	26.2	2,108	3.2	255	7.4	593	19.8	1,596	43.4	3,491
2013 DHS	17.6	1,695	2.6	248	8.3	797	29.7	2,878	41.8	4,033
2016–17 MICS	39.5	2,679	5.0	331	9.6	652	14.1	958	31.8	2,156

*As defined in Figure 2

Comparing all survey data between 2003 and 2016, we observed a fluctuation between 2003 and 2011 in the percentage of "**willing abandoners,**" followed by a decline thereafter.

National FGM/C Prevalence Among Girls Aged 0–14 Years

The national prevalence of FGM/C among girls aged 0–14 was 25.3% in 2016–17. Results showed that prevalence among girls between 2003 and 2008 followed a pattern similar to that of women, with DHS estimates indicating an increase in the proportion of cut girls by 12.7 percentage points over the period 2003–08, followed by a decline of 5 percentage points between 2008 and 2013 (Figure 6). In contrast, data from the three MICS surveys showed that prevalence declined by 3.2 percentage points between 2007 and 2011, before increasing by 6.1 percentage points between 2011 and 2016–17. However, as indicated earlier, these patterns must be interpreted with caution given changes in the FGM/C module after 2010 and differences in the DHS and MICS study designs.

Figure 6. National FGM/C prevalence among girls (0–14 years), Nigeria 2003–2016/17
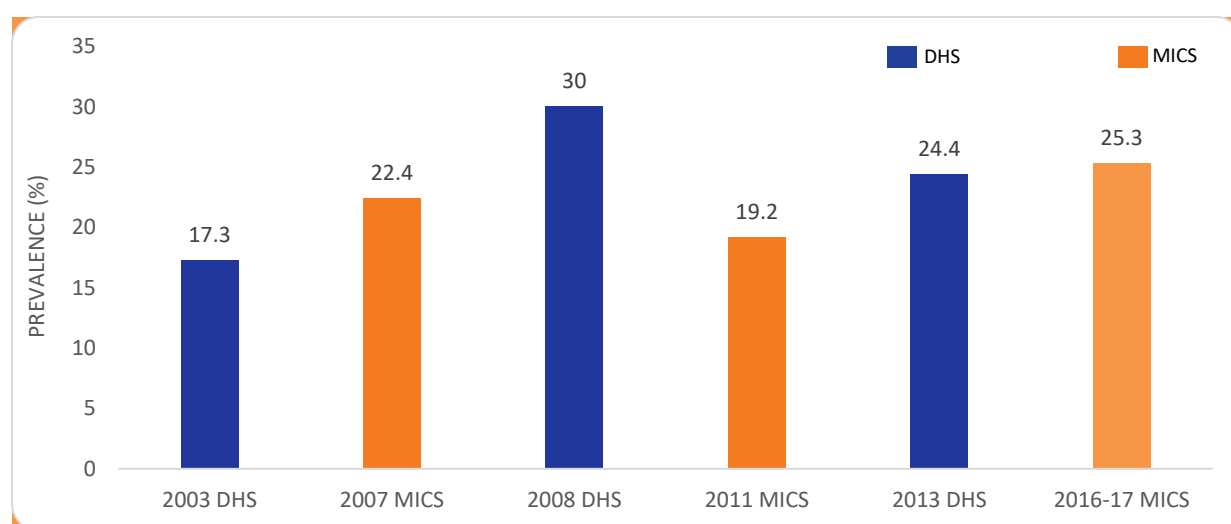
Change in the practice over time was also examined by prevalence by age groups over time, using data from the 2003, 2008, and 2013 DHS surveys, as shown in Figure 7. Regardless of the cohort effects, a decline in prevalence (from 2008 to 2011) was observed for each age group. However, considering the cohort effect, Figure 6 also seems to suggest an increase in prevalence as girls age between 2003 and 2008. For example, in 2003 the prevalence for the 0–4-year age group was 13%.

In 2008, when this group would be aged 5–9 years, the prevalence was 31%. Figure 7 confirms the pattern in the proportion of cut girls.

Figure 7. FGM/C prevalence among girls aged 0–14 years by age groups, across the three DHS surveys: 2003, 2008, and 2013
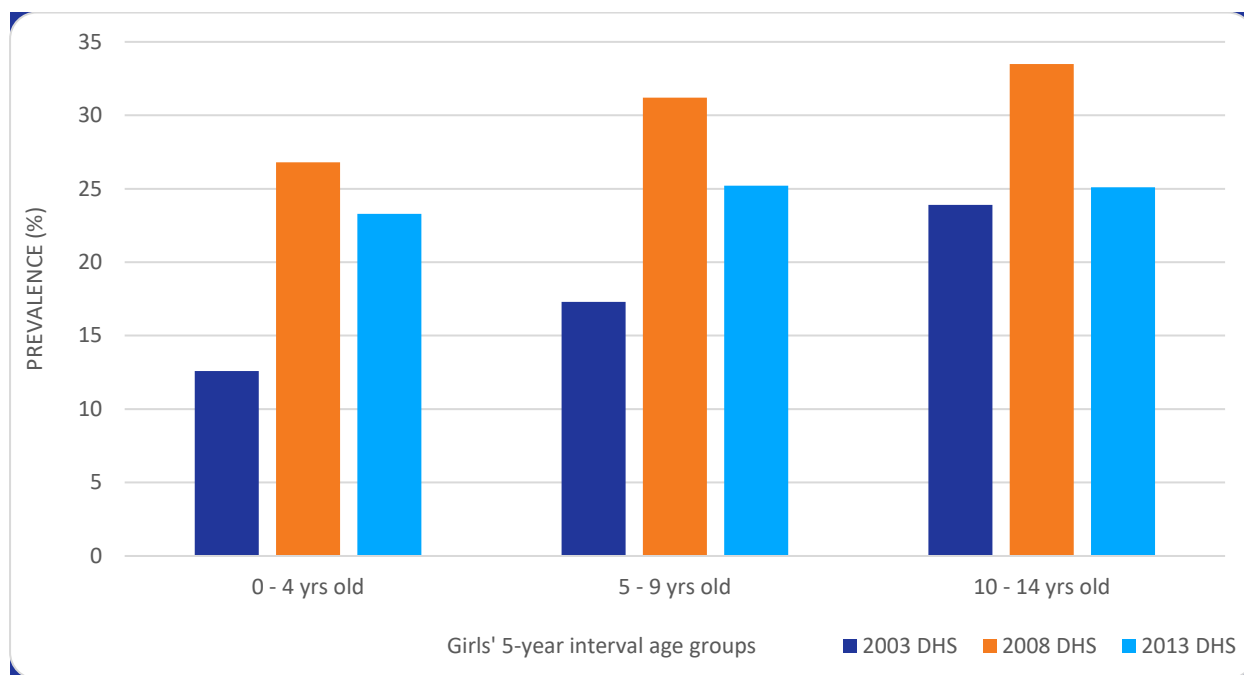
FGM/C prevalence among girls by socio-demographic differences

Data from DHS and MICS showed a general trend toward an increase in prevalence among girls aged 0–14 years across most surveys. Nonetheless, as shown in Figure 8, there were notable variations in prevalence by urban–rural residence.

Figure 8. FGM/C prevalence among girls ages 0–14 years by area of residence, Nigeria 2003–2016/17
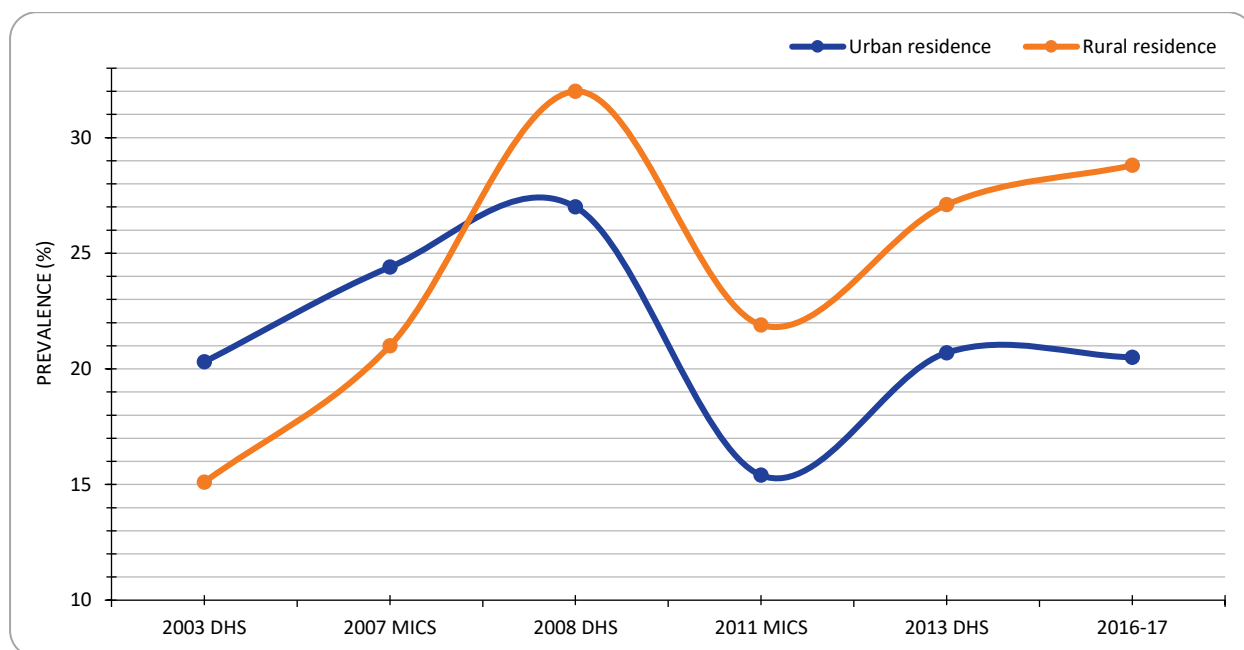
During the period between 2003 and 2007, prevalence was higher among urban girls than among girls in rural areas (see Appendix Table A3). However, the pattern was reversed in more recent surveys (i.e., 2008, 2011, 2013, and 2016–17), with prevalence being higher among rural girls than girls in urban areas.

Variations in FGM/C prevalence among girls by geopolitical zones

Prevalence estimates of FGM/C from DHS and MICS surveys by geopolitical zones and state are shown in Table 7. The data on FGM/C prevalence among girls by all six geopolitical zones and states including the FCT Abuja are found in Appendix A3 and Table A7, respectively. There was an increase in FGM/C prevalence among girls, particularly in north western states (Table 7). This contrasted with the decreasing trend among women in the South East zone. The prevalence of FGM/C among girls aged 0–14 years in most north western states increased between 2003 and 2016–17. One notable finding was the prevalence of FGM/C among girls in Ebonyi and Imo states, which showed overall declining trends from 26.4% in 2003 to 4% in 2016/17 in Ebonyi State and from 40.6% in 2003 to 16.9% in 2016/17 in Imo State (Table 7). Prevalence among girls was substantially high in 2008 in Kano State at 82.1%, an increase from a reported zero prevalence recorded in 2007. States such as Kaduna and Jigawa in the North West zone experienced an upward trend from 3.3% in 2008 to 50.6% in 2016–17 and from zero in 2008 to 55% in 2016–17, respectively. The following states recorded an upward trend between 2013 and 2016–17: Zamfara (from 9.2% in 2003 to 45% in 2016–17), Plateau (from 6.1% in 2003 to 22.2% in 2016–17), Kogi (from 4.0% in 2003 to 8.5% in 2016–17), and FCT Abuja (from 1.3% in 2013 to 5.9% in 2016–17). On the other hand, a decline in prevalence between 2013 and 2016–17 was recorded in Oyo (from 68.9% in 2003 to 22.8% in 2016–17), Osun (from 62.3% in 2003 to 25.1% in 2016–17), Ondo (from 68.2% in 2003 to 18.2% in 2016–17), and Lagos (from 15.9% in 2003 to 8.5% in 2016–17).

Table 7. FGM/C prevalence by girls aged 0–14 years by state, Nigeria 2003–2016/17

ZONES/STATES	2003 DHS	2007 MICS	2008 DHS	2011 MICS	2013 DHS	2016–17 MICS
	%	%	%	%	%	%
North West zone	**2.6**	**8.7**	**46.3**	**37.3**	**35.5**	**56**
Jigawa	0.0	7.0	0.0	36.9	52.2	54.9
Kaduna	0.0	16.6	3.3	38.3	46.7	50.6
Kano	1.5	0.0	82.1	51.4	45.0	57.0
Katsina	0.0	0.0	0.0	53.0	0.0	3.9
Kebbi	1.0	1.4	0.0	0.3	9.4	1.3
Sokoto	3.0	0.0	1.3	0.0	24.4	1.1
Zamfara	9.2	0.9	4.9	5.0	28.8	45.1
North Central zone	**17.2**	**16.6**	**20.0**	**11.5**	**12.8**	**16.1**
Benue	14.5	14.0	1.0	6.6	4.3	1.2
FCT Abuja	0.0	5.2	7.8	1.1	1.3	5.9
Kogi	4.0	2.3	1.0	5.2	2.2	8.5
Kwara	60.0	48.7	59.4	32.9	31.5	34.8
Nassarawa	6.8	8.8	10.0	9.7	11.3	14.6
Niger	15.5	4.9	7.2	2.2	10.8	1.8
Plateau	6.1	3.8	0.8	7.2	2.5	22.2
North East zone	**0.6**	**2.3**	**6.3**	**4.7**	**8.3**	**1.4**
Adamawa	4.7	2.1	1.2	1.6	0.6	0.7
Bauchi	0.0	0.0	7.1	0.1	22.0	0.2
Borno	0.0	5.2	10.3	8.8	5.0	1.4

Gombe	1.5	0.0	0.0	0.7	1.6	0.8
Taraba	0.0	0.0	2.9	0.7	11.8	5.7
Yobe	0.0	0.9	0.0	3.6	4.2	0.0
South West zone	**40.1**	**35.2**	**37.2**	**24.2**	**27.8**	**21.6**
Ekiti	65.1	61.2	47.3	40.3	49.3	30.0
Lagos	15.9	16.1	18.3	10.6	10.8	8.5
Ogun	7.6	4.8	12.3	8.0	3.1	3.0
Ondo	68.2	48.8	49.3	34.5	37.4	18.2
Osun	62.3	57.4	58.7	33.4	35.5	25.1
Oyo	68.9	48.8	56.8	32.9	44.9	22.8
South South zone	**18.0**	**17.9**	**18.5**	**11.6**	**8.1**	**6.1**
Akwa Ibom	27.8	7.3	6.9	1.5	2.0	1.6
Bayelsa	4.2	7.7	6.5	1.9	1.0	1.2
Cross River	28.1	15.9	7.5	13.6	2.8	2.4
Delta	11.8	19.3	28.2	19.3	11.0	4.8
Edo	13.3	29.9	40.9	23.2	24.1	15.6
Rivers	9.8	21.7	15.7	8.6	4.2	4.3
South East zone	28.8	24.1	29.9	14.8	23.5	12.7
Abia	3.0	13.8	29.9	7.9	18.4	11.9
Anambra	27.2	22.5	13.7	9.5	10.7	5.5
Ebonyi	26.4	23.1	39.1	6.4	26.5	4.0
Enugu	16.2	24.1	36.6	12.9	26.0	5.3
Imo	40.6	36.0	38.1	33.4	32.5	16.9

The results on the extent of geographical variations across states and specific hotspots for FGM/C prevalence among girls aged 0–14 years are shown in Figure 9. Generally, prevalence declined in the South West zone but increased in the North West over the years. We now turn specifically to the question on whether FGM/C prevalence is declining in Nigeria.

Figure 9. FGM/C prevalence among girls aged 0–14 years by state, Nigeria 2003–2016/17.

Shown in darker red shades areas of higher prevalence of FGM/C
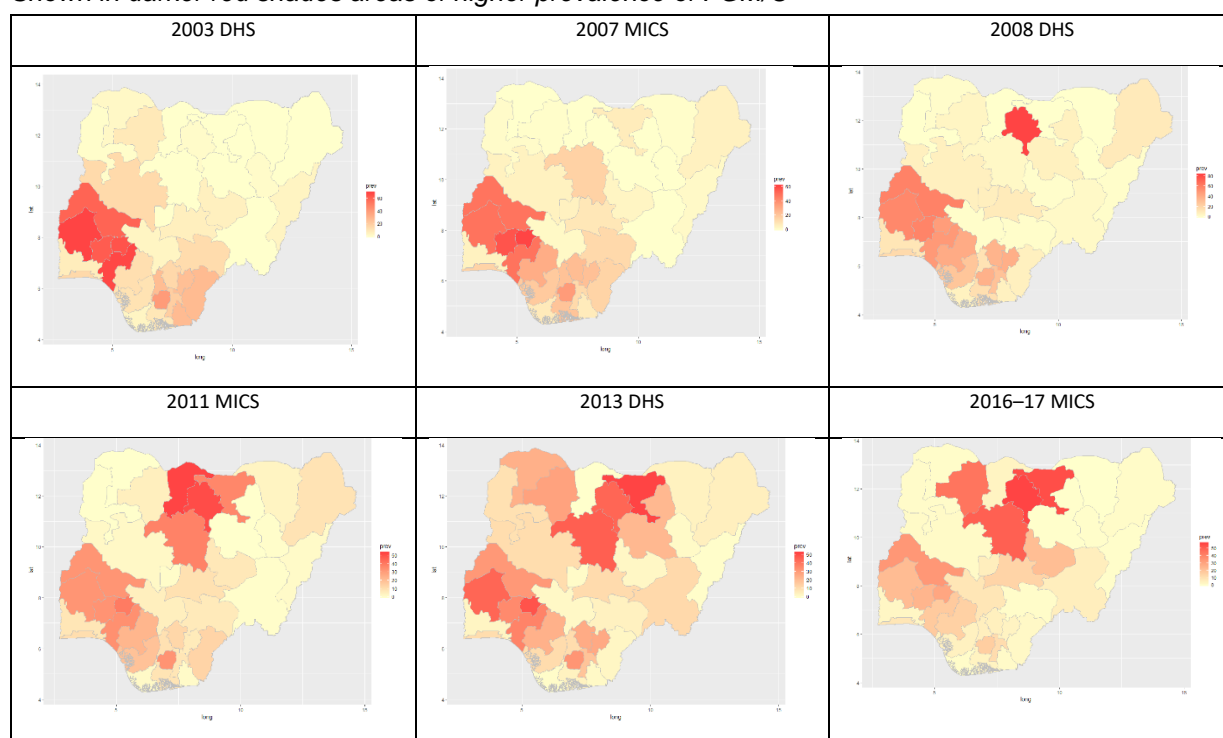
Source: Authors.

Trends in FGM/C in Nigeria: Is the Prevalence Declining?

FGM/C prevalence: decline for women (15–49 years) and rise for girls (0–14 years)

Overall, the national prevalence of FGM/C among Nigerian girls aged 0–14 years increased from 2003 to 2016/17, while FGM/C prevalence among women aged 15–49 years declined between 2008 and 2016–17. For instance, from the peak in FGM/C prevalence observed in 2008 among both women and girls (29.6% and 30%, respectively), the overall percentage point decline in FGM/C prevalence between 2008 and 2016–17 was greater among women than among girls (11.2 percentage points versus 4.7 percentage points [see Figures 2 and 6 above]). Furthermore, variations in prevalence were manifest across states from south eastern and western to north western states.

Variations in FGM/C prevalence among women by selected socio-demographic characteristics

The FGM/C prevalence among women aged 15–49 years varied by woman's ethnicity, geopolitical zones of residence, and religion. There is no clear demarcation between religious practices. However, zone (region) of residence matters, as the southern zones have had higher FGM/C prevalence for years and there is a clear linkage with ethnicity, as well. Across surveys, prevalence among Christian women was higher than that among Muslim women. Women who belonged to 'other religions' had the highest prevalence although the number of such women was small (Figure 10). Data suggest that women living in the South West and South East zones have the highest FGM/C prevalence. Broadly speaking, FGM/C prevalence has increased over time in some northern states and declined in southern states. There was also a decline in FGM/C prevalence in the Yoruba ethnic group in the south and an increase in the Hausa ethnic group in the north.

Figure 10. FGM/C prevalence among women by geopolitical zone of residence, religion, and ethnicity, Nigeria 2003–2016/17
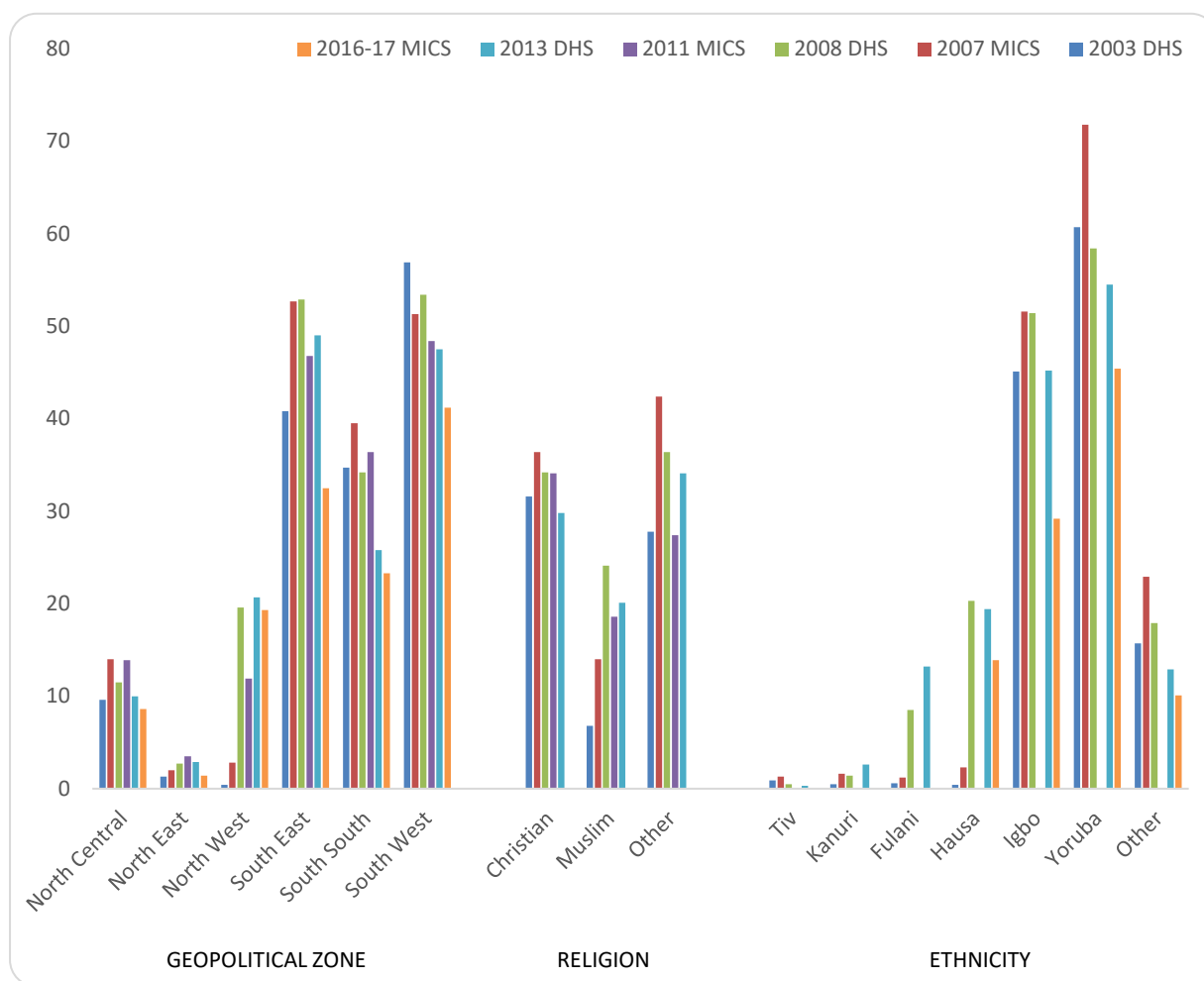
With respect to ethnicity, results showed that between 2003 and 2016–17, prevalence of FGM/C among Yoruba women was consistently higher compared with their Igbo counterparts (both predominantly found in southern Nigeria), followed by Hausa and Fulani (Figure 10). The practice was therefore most common among women in the southern geopolitical zones. This suggests that there is a cultural link between FGM/C and ethnic inhabitants within geopolitical zones.

Prevalence by education attainment

Detailed information on FGM/C prevalence by the woman's and her partner's education is shown in Table 8. The results indicate that in all surveys, women with no education had the lowest prevalence. FGM/C prevalence was higher among women who attained higher levels of education. A similar pattern was observed with respect to prevalence by husband's or partner's education. For example, FGM/C prevalence among women whose partners had primary-level education was 25.5% in 2003 compared to 19.2% among women whose partners had higher than a secondary education in the same year.

Table 8. FGM/C prevalence among women 15–49 years of age by education attainment of women and their husbands/partners, Nigeria 2003–2016/17

	2003 DHS	2007 MICS	2008 DHS	2011 MICS	2013 DHS	2016–17 MICS
	%	%	%	%	%	%
Woman's education						
No education	6.4	10.1	18	12.7	17.2	16.5
Primary	26.2	38.2	35.8	34.8	30.7	24.3
Secondary	28.6	37.5	36	32.3	28.8	20.2
Higher	30.9	36.7	37.2	32.1	29.1	21.5
Husband's/partner's education (*currently married women only*)						
No education	6.9	-	18.1	-	18.3	-
Primary	25.5	-	38.3	-	34.5	-
Secondary	28.3	-	39.7	-	32.1	-
Higher	19.2	-	32.7	-	27.5	-

Note: Information on partners' education was only captured in DHS surveys.

Variations in FGM/C Prevalence among Girls Aged 0–14 Years by Mothers' Characteristics

In this section, we report the results from the DHS surveys showing prevalence of FGM/C among girls by mothers' socio-demographic characteristics. The main aim here was to determine the most relevant changes in FGM/C by looking at trends in FGM/C prevalence among daughters aged 0–14 years in relation to mothers' characteristics and other community-level factors.

Mothers' geopolitical zone and place of residence

Data revealed that the prevalence of FGM/C among girls aged 0–14 years varied by their geopolitical zone of residence and urban–rural residence. As already noted in Figure 8, between 2003 and 2007 urban girls were more likely to be cut than rural girls. This pattern was reversed from 2008 onward, with rural girls being more likely to be cut than urban girls and the rural–urban gap getting wider. FGM/C prevalence among girls was highest in the South West zone in 2003 and 2007, while it was highest (and increasing steadily) in the North West zone in the subsequent four surveys (Figure 11).

Figure 11. FGM/C prevalence among girls (0–14 years), by geopolitical zones and urban–rural residence, Nigeria 2003–2016/17
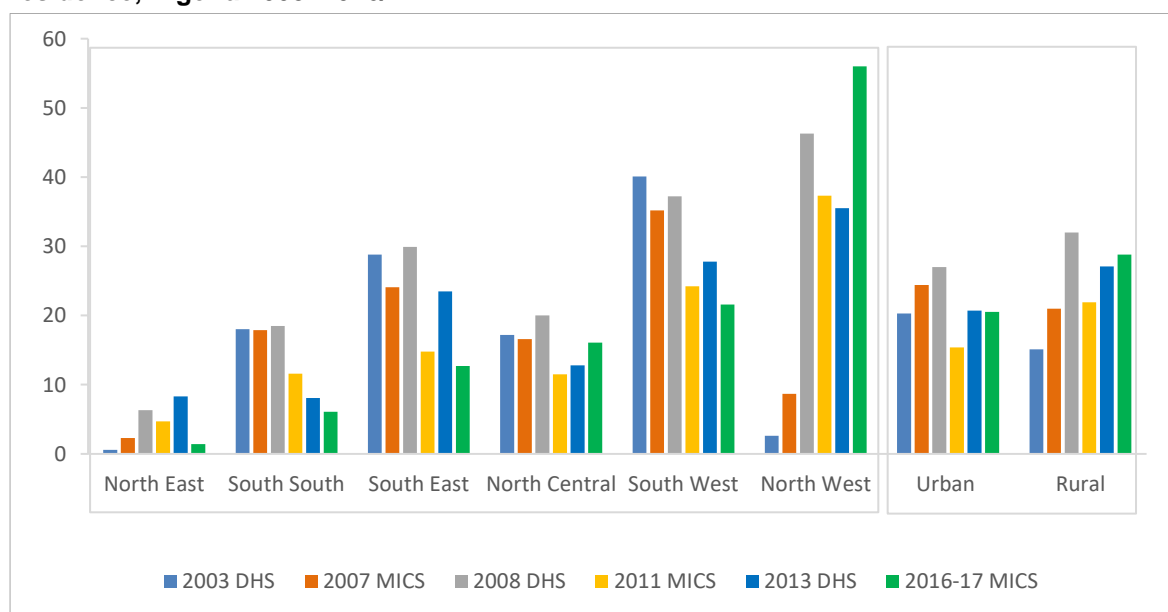
Mothers' religion and ethnicity

In relation to religion, Figure 12 shows that FGM/C prevalence between 2003 and 2008 was higher among daughters of Christian mothers than those whose mothers were Muslim. However, from 2008 and in all subsequent surveys, daughters of Muslim women had a much higher prevalence than daughters of Christian women. The prevalence declined among daughters of Christian mothers over time, while it increased or fluctuated among daughters born to Muslim women.

Figure 12. FGM/C prevalence among girls 0–14 years, by mother's religion and ethnicity, Nigeria 2003, 2008, and 2013 DHS
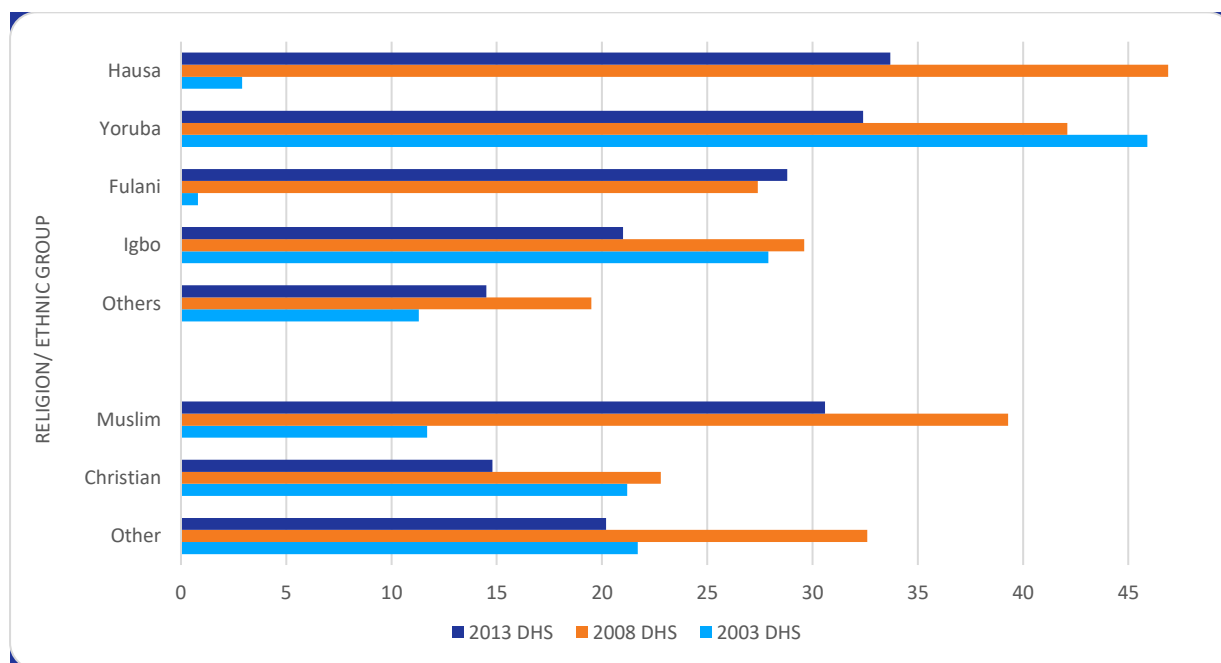
There were also some ethnic differences in trends over time. FGM/C prevalence among girls increased among the Hausa (from 2.9% in 2003 to 38.6% in 2016–17), Fulani (from 0.8% in 2003 to

28.8% in 2013) and declined among the Yoruba (from 45.9% in 2003 to 27.4% in 2016–17) and the Igbo (from 27.9% in 2003 to 11.3% in 2016–17) (Table 9). We also observed shifts in FGM/C prevalence among girls—in 2003 prevalence was highest among the Yoruba girls but in 2016–17 the prevalence was highest among the Hausa girls.

Table 9. FGM/C prevalence among girls 0–14 years by mother's ethnicity, Nigeria 2003–2016/17

	2003 DHS	2007 MICS	2008 DHS	2011 MICS	2013 DHS	2016–17 MICS
	%	%	%	%	%	%
Hausa	2.9	7.6	46.9	-	33.7	38.6
Yoruba	45.9	51.1	42.1	-	32.4	27.4
Fulani	0.8	5.1	27.4	-	28.8	-
Igbo	27.9	26.3	29.6	-	21.0	11.3
Other	11.3	14.6	13.8	-	7.8	8.3
Kanuri	0.0	0.0	3.5	-	5.4	-
Tiv	0.0	0.0	2.2	-	1.3	-

Mothers' marital status and type of union

The association between FGM/C prevalence among girls and their mothers' marital status, as well as the age difference between mothers and their husbands/partners varied across the surveys and followed no clear pattern. Results indicated that between 2008 and 2016–17 daughters whose mothers were in a monogamous union had a lower FGM/C prevalence than those from polygamous households. We note at this point that a good estimate of FGM/C prevalence can be calculated from the three most recent surveys since the denominator was all girls aged 0–14 years (see Figure 13).

Figure 13. FGM/C prevalence among girls (0–14 years) by mother's type of union and marital status, Nigeria 2003–2016/17
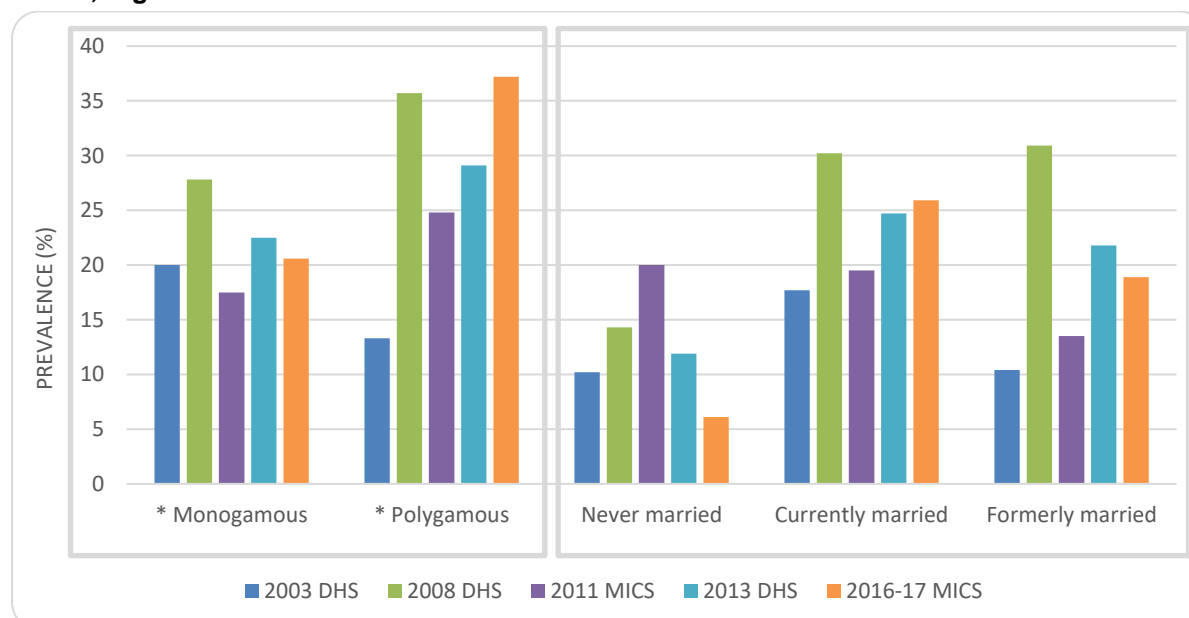
Note: The 2007 MICS did not have data on type of union.

Mothers' beliefs regarding FGM/C

Variations in FGM/C prevalence by mothers' attitudes and beliefs are summarized in Table 10. We assessed trends in FGM/C prevalence among girls by mothers' attitudes and beliefs about FGM/C.

The results showed that FGM/C was highest among girls whose mothers believed that the practice should continue (ranging from 51% to 76%). Similarly, girls whose mothers believed that FGM/C was required by religion, and those whose mothers believed that FGM/C prevents girls from having premarital sex had higher prevalence than girls whose mothers did not hold such beliefs.

Table 10. Trends in the FGM/C prevalence among girls aged 0–14 years* by mother's beliefs about the practice, Nigeria 2003–2016/17

	FGM/C prevalence among girls 0–14					
	2003 DHS	2007 MICS	2008 DHS	2011 MICS	2013 DHS	2016–17 MICS
	%		%	%	%	%
Mother's attitudes toward FGM/C						
Should be continued	51.0	-	76.1	58.8	61.5	58.9
Should be discontinued	8.8	-	10.7	6.6	10.5	5.3
Depends/Don't know	14.3	-	39.8	14.3	23.6	21.9
Mother's beliefs about FGM/C						
Required by religion						
FGM/C is required by religion	41.6	-	60.1	-	51.4	-
FGM/C is not required by religion	13.1	-	20.8	-	17.9	-
Beliefs about premarital sex						
Believes that FGM/C prevents a girl from having sex before marriage	29.3	-	60.8	-	-	-
Does not believe that FGM/C prevents a girl from having sex before marriage	19.6	-	26.2		-	-
Total prevalence	**17.3**		**30.0**	**19.2**	**24.4**	**25.3**

* The 2007 MICS did not have data on beliefs and norms.

Variations by mothers' education and their husband's/partner's education

From 2003 to 2007, prevalence was lowest among daughters born to women with higher-than-secondary education and no education as compared with daughters born to women with secondary education (results shown in Appendix Table A3). From 2008 onward, the prevalence increased among daughters born to women with no education as compared with their counterparts from women with secondary or higher educational attainment. Similar patterns were observed with respect to the education of the mother's husband or partner.

Variations by mothers' opportunities and decision-making autonomy

Data on girls' FGM/C prevalence by mothers' decision-making autonomy are shown in Table 11. In 2003, FGM/C prevalence was higher among girls whose mothers were the sole decisionmakers (own wealth/social capital) regarding household purchases and their own health care and expenditures than their counterparts whose mothers made such decisions jointly with their husband or with someone else. With respect to women's employment status, daughters whose mothers were in formal employment had lower FGM/C prevalence than their counterparts with mothers who worked in the informal sector.

In contrast, daughters whose mothers worked all year consistently had higher FGM/C prevalence compared to those whose mothers were employed on a seasonal basis. Generally, daughters born to mothers who earned less than their husbands and reported being the main decisionmaker on how their own earnings would be used had higher FGM/C prevalence rates, compared to other girls in 2008 and 2013 (DHS).

Table 11. FGM/C prevalence among girls 0–14 years by mother's decision-making autonomy and opportunities, Nigeria 2003–2013

	FGM/C prevalence for girls (0–14 years)		
	2003 DHS	**2008 DHS**	**2013 DHS***
	%	**%**	**%**
Final say in making specific decisions:			
Large household purchases			
Mother only	25.6	25.3	-
Mother jointly with husband/someone else	21.0	25.1	-
Husband/someone else only	14.3	34.0	-
Mother's own health care			
Mother only	29.6	32.0	-
Mother jointly with husband/someone else	19.1	24.2	-
Husband/someone else only	12.3	34.5	-
Employment and earnings			
Mother currently employed (last 7 days)			
Yes	8.3	30.7	22.6
No	19.6	29.8	25.0
Mother's occupation			
Formal	10.9	16.5	12.6
Informal	20.5	31.9	25.9
Not working	8.5	27.4	23.3
Mother's employment all year or seasonal			
All year	19.5	32.8	25.4
Seasonal/part of the year/once in a while	18.7	23.4	21.2
Woman works for cash (cash only/cash and kind)			
Yes	25.7	22.1	14.2
No	18.4	32.3	25.5
Mother's income (currently married women only)			
Less money than her husband/partner		30.5	26.8
More money than her husband/partner		25.8	16.3
About the same		33.9	23.2
Husband/partner doesn't bring in any money		23.3	10.0
Don't know		56.5	16.9
Who usually decides on mother's cash earnings (currently married women only)			
Mother only	19.7	35.5	27.9
Mother jointly with husband/someone else	16.0	25.5	18.6
Husband/someone else	15.4	28.7	22.7
Who usually decides on husband's/partner's cash earnings (currently married women only)			
Mother only		17.1	24.4
Mother jointly with husband/partner		22.2	18.5
Husband/partner only		34.6	26.9
Husband/partner has no earnings		9.5	8.0
Total prevalence	**17.3**	**30.0**	**24.4**

* Blank spaces indicate that there is no information available.

Variations in FGM/C prevalence among girls by mothers' mobility and exposure to mass media

Table 12 presents the results of prevalence of FGM/C among girls by their mothers' mobility and exposure to mass media. There was no clear pattern in FGM/C prevalence among girls by the number of years their mothers lived continuously in their current community as at the time of the survey. FGM/C prevalence among girls tended to decline with increasing number of women's trips away from the community in the last twelve months.

Table 12. Trends in the FGM/C prevalence among girls 0–14 years by mother's mobility and exposure to mass media, Nigeria 2003–2013

	2003 DHS	2008 DHS	2013 DHS
	%	%	%
MOTHER'S MOBILITY			
Years mother lived continuously in current location			
0 years	4.2	26.1	-
1–10 years	16.5	27.9	-
11–20 years	22.9	31.0	-
21 or more years	17.3	27.1	-
Mother's number of trips away from the community (slept away) in the last 12 months			
0	-	32.7	25.1
1–25	-	26.5	23.7
26–50	-	29.8	20.0
51 or more	-	0.0	14.9
MOTHER'S EXPOSURE TO MASS MEDIA			
Frequency of reading newspaper or magazine			
Not at all	16.8	32.3	26.2
Less than once a week	17.4	22.5	16.7
At least once a week	20.2	21.4	12.5
Frequency of listening to the radio			
Not at all	15.6	24.9	25.2
Less than once a week	22.9	31.4	27.9
At least once a week	16.4	31.8	21.8
Frequency of watching TV			
Not at all	16	33.4	27.7
Less than once a week	14.7	27.7	28
At least once a week	19.5	27.3	17.2
Total prevalence	**17.3**	**30.0**	**24.4**

Note: Blank spaces indicate that there is no information available.

The general trend in FGM/C prevalence among girls aged 0–14 years is that in the surveys conducted in 2008 and 2013, girls were more likely to be cut when their mothers were not exposed to the media and they did not spend a substantial amount of time away from their community.

Ethnic Variations in FGM/C Prevalence for Women and Girls within Abuja and Lagos

There was a clear divide in FGM/C prevalence along each of three southern and northern geopolitical zones. FGM/C prevalence varied among women and girls. The other socio-demographic factor

associated with the geographical location in Nigeria is ethnicity (Figure 14), which is a cultural characteristic that is associated with community-level factors and beliefs. As shown in Figures 10 and 12, FGM/C is predominantly practised by four major ethnic groups (namely, Igbo and Yoruba mainly from the southern states and Hausa and Fulani from the northern states). To better understand FGM/C patterns within states and how various "cultural" influences contribute to the practice among girls aged 0–14 years, we examined FGM/C prevalence within two Nigerian cosmopolitan cities with a diversity of ethnic groups, namely FCT Abuja and Lagos State.

Figure 14. Geographic distribution of major ethnic groups in Nigeria
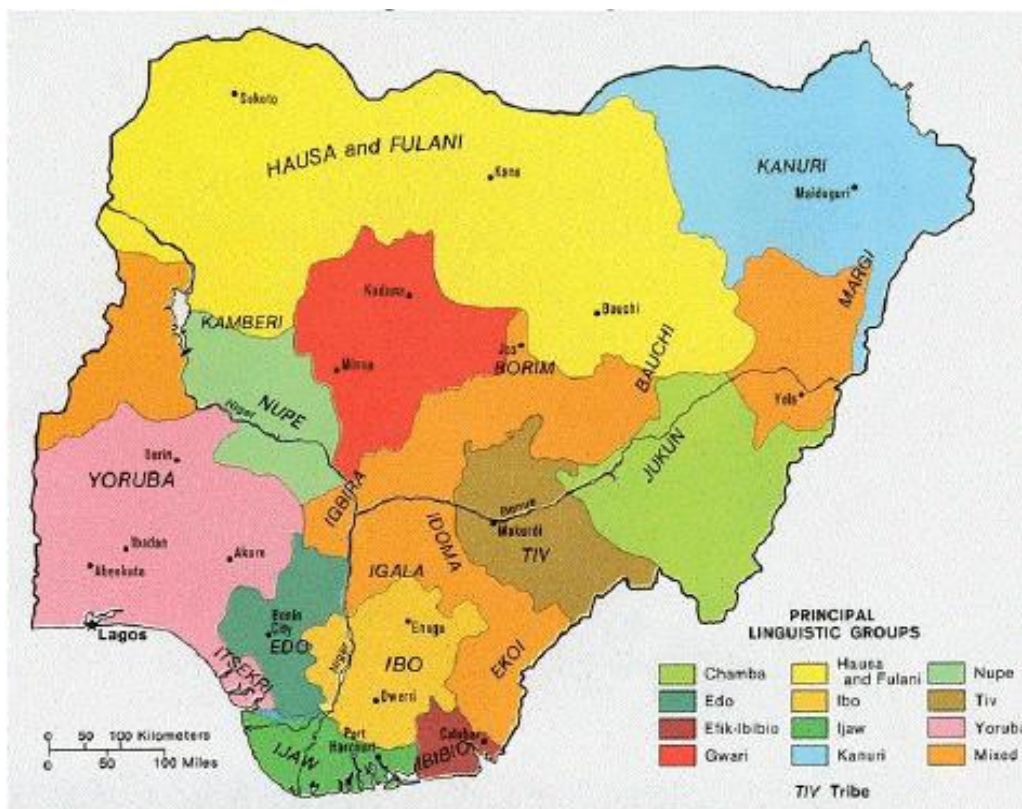
Source: Adapted from Bakare, M.O. et al. 2015

Trends in FGM/C prevalence among women and girls within FCT Abuja and Lagos

Prevalence among girls varied according to their mothers' ethnicity across all six surveys (Appendix Table A3). Between the 2003 and 2016–17 surveys, FGM/C prevalence among girls residing in FCT Abuja varied significantly by their mothers' ethnic background (Figure 15). For example, while there were very few to no cases of cut girls in 2003, data from 2008 showed that girls from the Hausa and Igbo ethnic groups contributed 54% of the total reported cases in FCT Abuja.

By 2016–17, the proportion of cut Hausa girls in FCT Abuja increased to 43% (from 27% in 2008). There was also a notable increase in cut Yoruba girls in this zone (6% in 2008 to 22% in 2016–17). Looking at Figure 15 (Lagos State), the highest proportion of cut girls was observed among Yoruba girls aged 0–14 years. However, the proportion of cut Yoruba girls in Lagos State steadily declined from 80% in 2003 to 64% in 2016–17.

Figure 15. Ethnic composition of cut girls aged 0–14, FCT Abuja and the City of Lagos 2003–2016/17
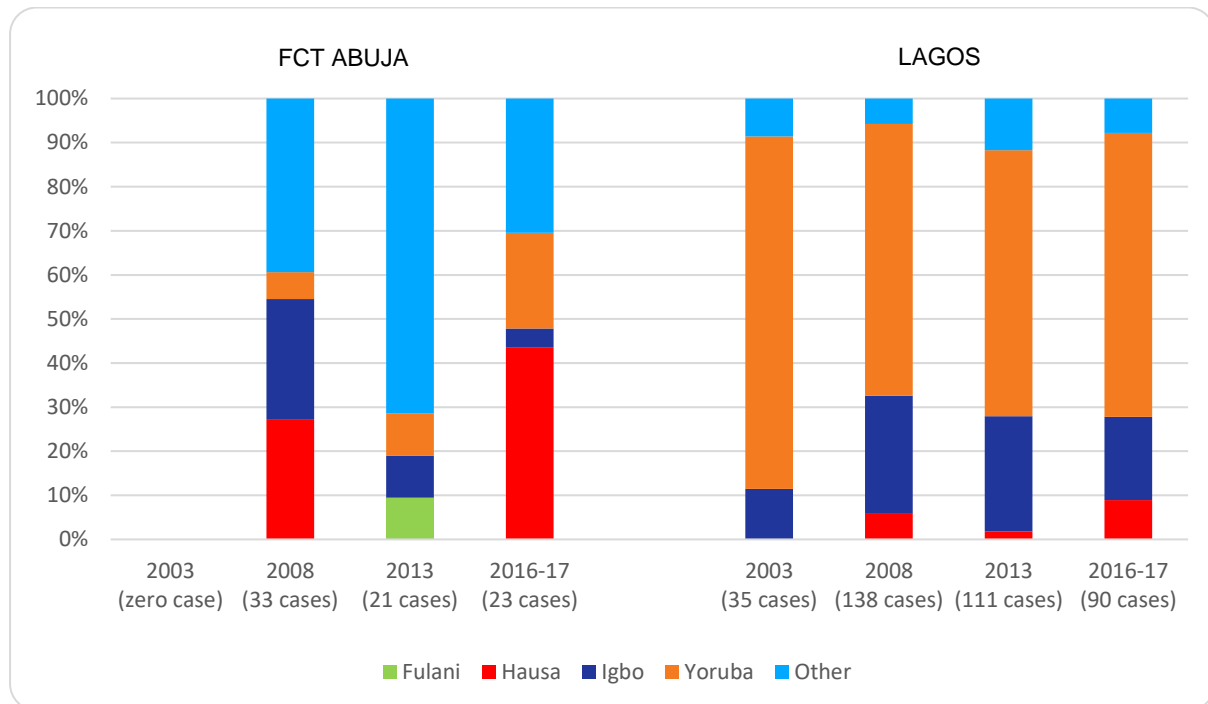
Figure 16. Ethnic composition of cut women aged 15–49 in FCT Abuja and the City of Lagos, Nigeria 2013–2016/17
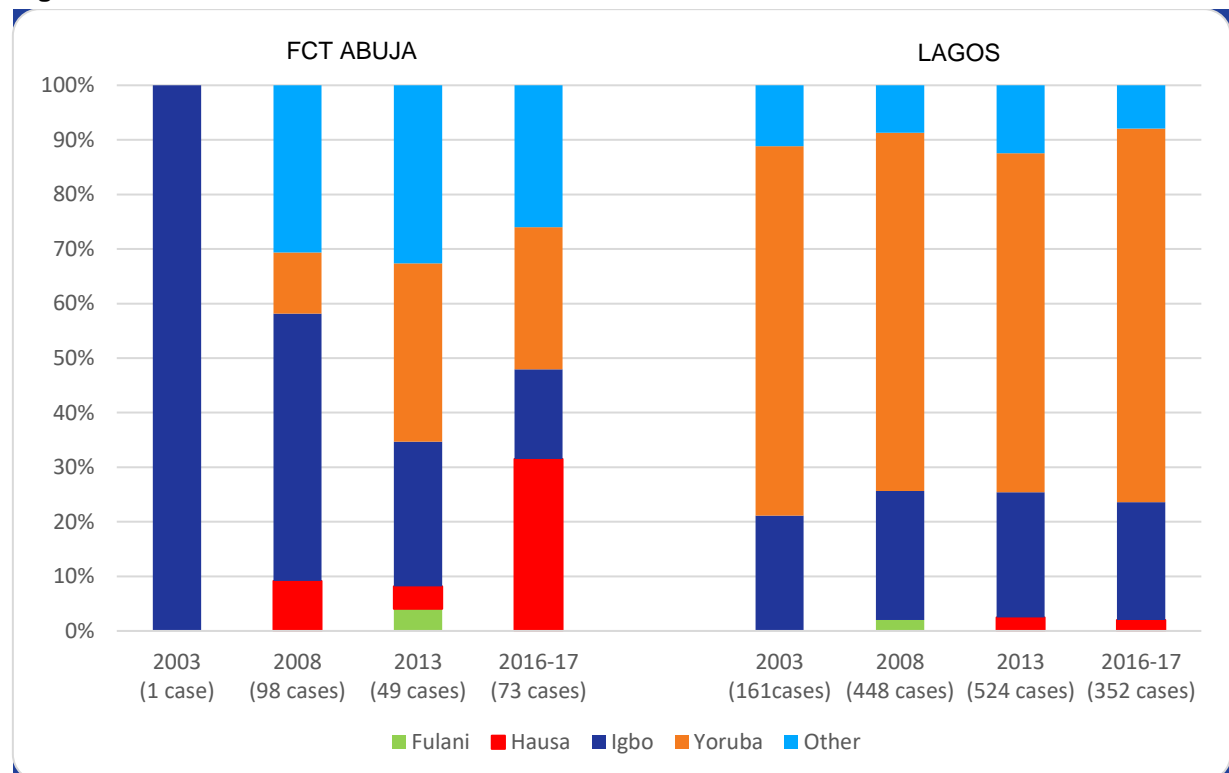
We found increasing divergence in the ethnic background of cut women in FCT Abuja over time. For example, there was a notable increase in cut women among Hausa and Yoruba women in 2016–17 compared to 2008. In Lagos City, the trend showed a predominance of cut Yoruba and Igbo women

from 2003 to 2016–17. FGM/C among women from other ethnic groups remained somewhat stable over time.

Overall, results indicate that FGM/C prevalence among girls in terms of ethnicity followed a pattern like that observed in their mothers, even when these mothers were out of their indigenous areas. This further support the finding that FGM/C stands as an intergenerational cultural practice passed down in families (Shell-Duncan, Gathara and Moore 2017).

The special case of Kwara State among North Central states

FGM/C prevalence among women and girls in Kwara state showed similar patterns to those of the three southern states (Ondo, Ogun, and Oyo), despite the marked difference in prevalence between northern and southern states (Table 3 and Figure 4). The distribution of the main ethnic groups in Nigeria (Figure 14) shows that most of the population in Kwara State (Ilorin is the state capital) is of Yoruba descent. This suggests that the observed patterns in FGM/C prevalence are more linked to the cultural traits of the indigenous population of the state rather than the geographical location.

Changes in Age at Cutting, Type of FGM/C, and Medicalisation in Women and Girls

To examine the extent to which FGM/C is a practice passed down from mother to daughters among families across generations (Shell-Duncan, Gathara and Moore 2017: 43) we compared mother-to-daughter trends. The key point here is to examine whether FGM/C among girls is carried out in the same way as in their mothers' time. As noted, before, such a comparison may be limited by the fact that some of the girls who were not cut at the time of the survey may still be cut at some point in the future. It is, therefore, important to distinguish between "current status" and "final status" as considered below (age at cutting) by conducting survival analysis. Thus, no direct comparison between the two age groups of interest can reliably be made unless careful consideration is given to censoring (Shell-Duncan, Gathara and Moore 2017).

Moreover, data collected by successive waves of survey employed different approaches in that questions were phrased slightly differently according to the FGM/C module year. One way to examine mother to daughter changes in FGM/C trends is to compare "the proportion of girls cut by their current age to the proportion of women who stated they were cut at the same age" (Yoder and Wang 2013; Shell-Duncan, Gathara and Moore 2017). Only the 2014 Kenya DHS captured information that may permit such analysis (Shell-Duncan, Gathara and Moore 2017; Yoder, Wang and Johansen 2013). So far, the surveys in Nigeria do not provide enough information for such comparisons.

A comparison of age at cutting for women and girls suggests that the practice in Nigeria is mostly carried out when girls are younger than 15 years (Figure 17). Across surveys, more than six in 10 of the cut women were cut when aged 0–4 years (ranging from 66% to 84%). An even higher percentage of girls were cut at 0–4 years of age (ranging from 70% to 98%). The distribution of women by age at cutting across surveys is provided in Appendix Table A5.

Figure 17. Comparison of age at cutting between women 15–49 and girls 0–14*, Nigeria 2003–2016/17

Women (15–49 years old)

Girls aged (0–14 years old)

*Data contain missing observations
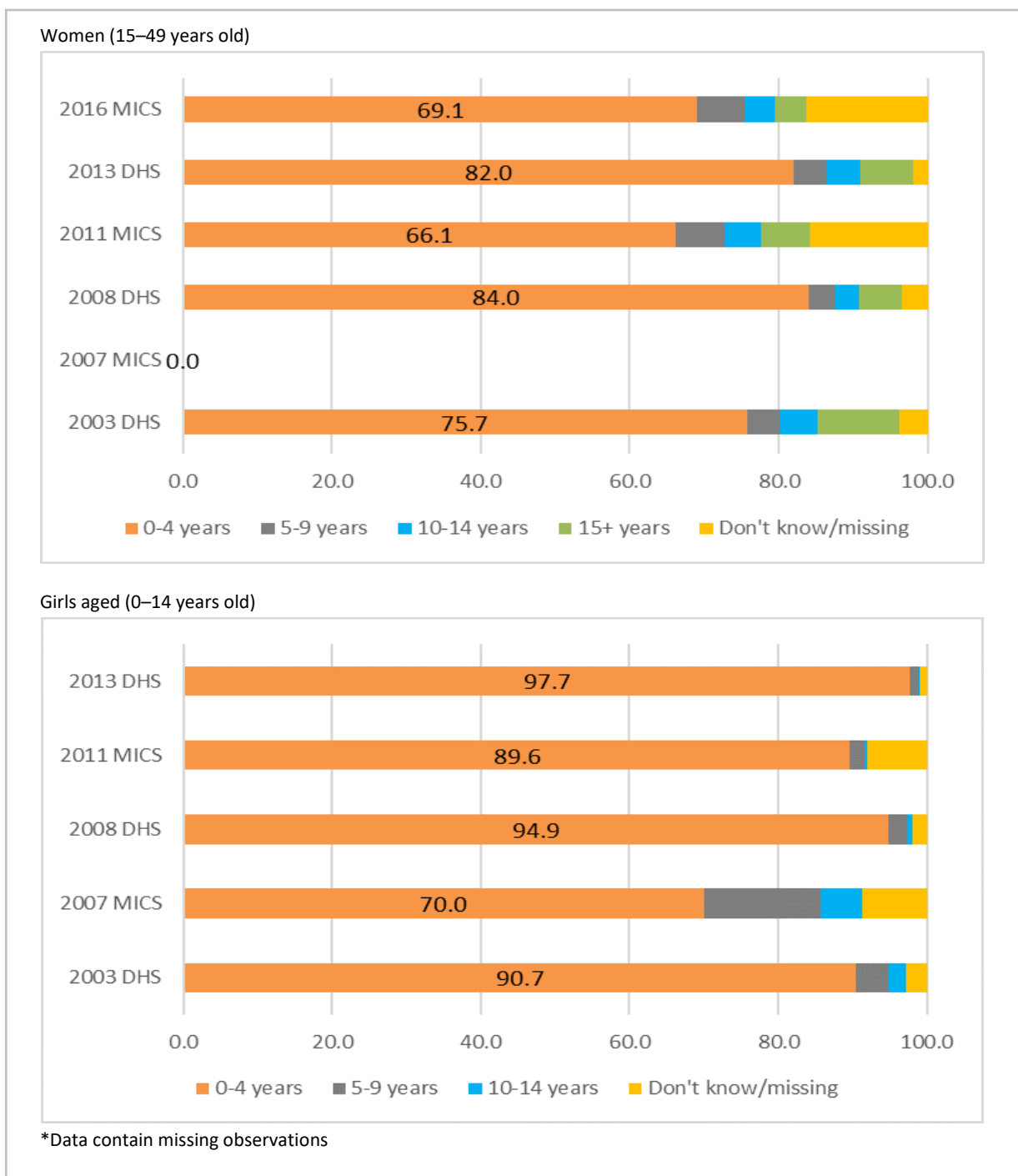
Age at cutting for girls and women

The Kaplan-Meier survival estimate curves showing age at cutting for girls (0–14 years) and women (15–49 years) are shown in Figure 18. These curves were stratified by ethnic groups—using 2013 DHS data as this survey is the most recent DHS survey with complete information on FGM/C. The patterns show that girls were cut at much younger age than their mothers (Figure 18, left). They also reveal that Yoruba women were cut at a much younger age than women from other ethnic groups (Figure 18, right).

Figure 18. Kaplan-Meier survival estimates of age at cutting among girls 0–14 and women 15–49 (NDHS 2013 DHS)
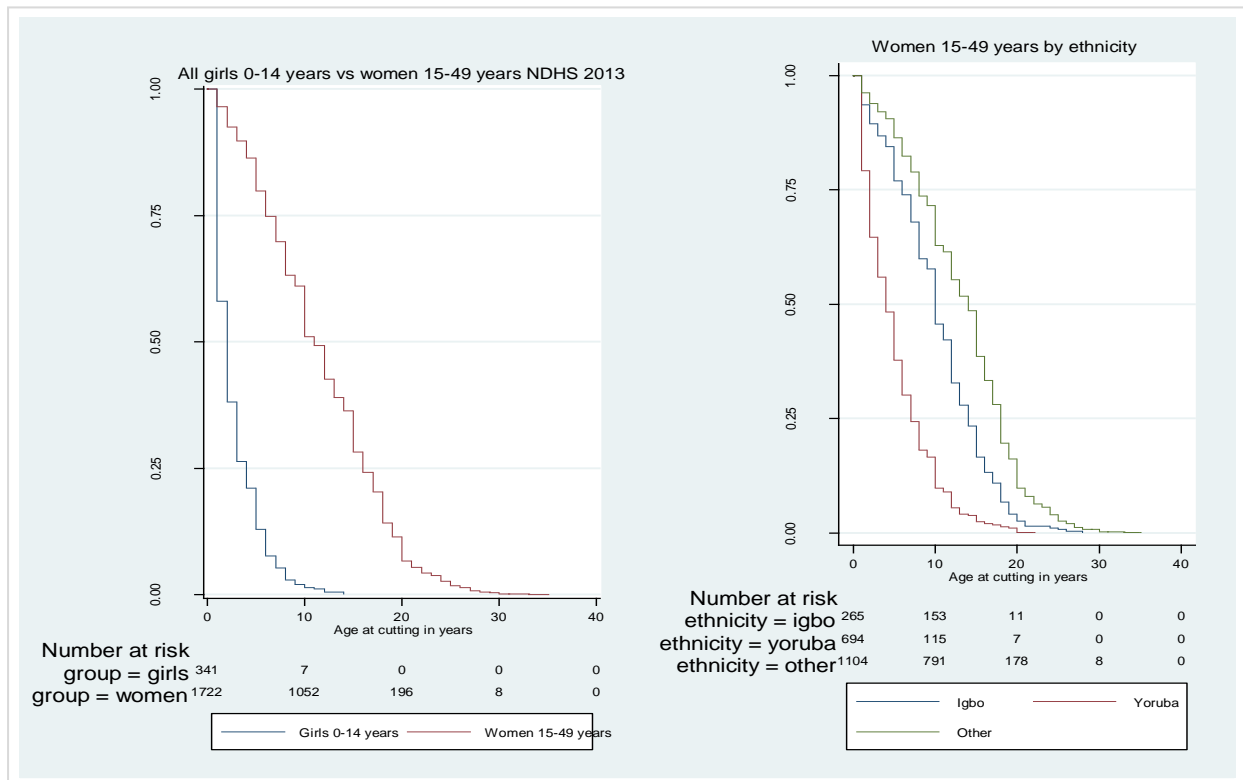
Persons who cut girls and women

Figure 19 presents the distribution of the person who performed cutting for women and girls (see also Appendix Table A4). The results show that FGM/C among women and girls was largely performed by traditional cutters. In 2013 (DHS), the proportion of girls cut by traditional circumcisers was substantially higher (84%) than that performed by doctors (0.9%) and other health workers and nurses (11.0%) (Appendix Table A4).

Figure 19. Person who performed FGM/C on women aged 15–49 and girls aged 0–14, Nigeria 2003–2016/17.

Women (15 – 49 years old)

Girls (0–14 years old)

Type of FGM/C among women and girls

Results in Figure 20 and Table A6 (in the Appendix) show that up to 11% of women and girls had experienced infibulation. However, a substantial proportion of women were unsure about the type of FGM/C they had undergone. Most of the mothers reported that their daughters had experienced a less severe form of FGM/C (not sewn closed).

Figure 20. Type of FGM/C among women 15–49 and girls 0–14, Nigeria 2003–2016/17.

Discussion

This research examined trends in FGM/C prevalence among girls aged 0–14 years and women aged 15–49 years in Nigeria. The data suggest that there has been a steady decline in the prevalence of FGM/C among women since 2008, while there has been an increase in prevalence among girls. This increase in FGM/C prevalence among girls seems to be largely driven by increases in the prevalence of FGM/C among girls from the northern states rather than increases generally as we observed a substantial decrease among the Yoruba and Igbo in the southern states. The decline in prevalence in the south may reflect the concentration of FGM/C abandonment programmes in the south (Mberu 2017).

Despite the decline in FGM/C prevalence among women, there exist variations across and within states, socioeconomic groups, beliefs, and social norms. For example, women from South West and South East zones, especially those of Yoruba and Igbo ethnic groups, had the highest FGM/C prevalence, followed by those in the South South zone. Overall, however, FGM/C prevalence in all the southern zones declined, unlike in the northern parts where there were significant increases in prevalence between 2003 and 2016–17, especially in the north western region. This was the case among Hausa and Fulani ethnic groups in the north.

Girls were increasingly being cut at younger ages. Cutting at younger ages may reflect the fact that households practising FGM/C may wish to be more discreet about the cutting to avoid social condemnation or legal prosecution, or a belief that cutting girls when they are younger reduces the risk of health complications (Powell and Yussuf 2018; Kimani and Kabiru 2018). There were also indications of shifts in the type of FGM/C with a greater proportion of girls than women undergoing less severe forms of the practice. We also found that most FGM/C was performed by traditional cutters, although health professionals also performed FGM/C. Even though the majority of women and girls are cut by traditional practitioners, Nigeria has the fifth highest rate of medicalisation (Shell-Duncan, Njue, and Moore 2018). This finding is also consistent with a recent qualitative study which found that medicalised FGM/C is provided as a routine neonatal service in some settings in Nigeria (Obianwu, Adetunji, and Dirisu 2018).

From 2008 onward, the percentage of girls who were cut by traditional circumcisers was consistently higher than that of women cut by the same persons the previous years. There was, however, a relative increase in FGM/C performed by nurses and other health practitioners. The choice of health professionals for cutting could be informed by awareness of health risks associated with the practice (Shell-Duncan 2016) or perceptions that they are more careful, knowledgeable, skilled, and hygienic when dealing with any health-related matter (Obianwu, Adetunji, and Dirisu 2018). However, in recent years, the focus has been on complete abandonment with no acceptable, less severe alternative form of FGM/C. In addition, there have been increased efforts to strengthen and enforce the anti-FGM legislation (Briggs 1998; Nnamdi 2018), which might explain the decline in medicalisation from 2011 as healthcare providers may be less willing to be involved in the practice.

Although FGM/C prevalence among women has generally declined over time, especially from the peak prevalence of 29.6% in 2008, the percentage of women who want FGM/C to continue has remained relatively stable, ranging from 21% to 23%. With respect to readiness to change, 31% to 43% of women across surveys were "willing abandoners," that is women who did not favour the continuation of FGM/C and would not circumcise their daughters. The relatively high proportion of women who support the practice is significant because Nigeria is a populous country and if little is done to change community acceptance of FGM/C, the country may experience an increase in its contribution to the global number of circumcised girls in the world.

For girls aged 0–14 years, the national prevalence showed a decline from 30% in 2008 to 25% in 2016–17. There were variations by ethnicity, mothers' marital status, area of residence, religion, and mothers' beliefs about FGM/C and the practice. These variations underscore the need for targeted and culturally tailored programs that capitalise capitalize on the reduction in prevalence in the southern states and among Yoruba and Igbo and target the surge among Hausa girls and all girls regardless of their religion affiliations.

Although declines in FGM/C may reflect increasing awareness of health and legal risks associated with the practice (UNFPA 2017), the nature of the relationship between these factors and the decline in FGM/C in certain zones of the country is unclear (UNFPA 2017). None of the interventions to reduce or eliminate FGM/C in Nigeria have been sufficiently evaluated (Mberu 2017). A more fundamental question is to identify the specific relationship between the practice of FGM/C and women's exposure to social norms and other factors that may contribute to changes in the practice

in Nigeria (Mberu 2017; Hernlund and Shell-Duncan 2007). Among women, prevalence was higher in urban areas in earlier surveys but shifted to rural areas in later surveys. A similar pattern occurred for girls aged 0–14 years. The reason behind the shift of the practice from urban to rural areas is unclear. However, more cultural diversity in urban settings may limit negative social sanctions, particularly where there is a significant mix of practicing and non-practising groups (Shell-Duncan, Gathara, and Moore 2017). Although a recent study using data from Kenya found that living in a community with more extrafamilial opportunities for women increased a daughter's likelihood of FGMC (Grose et al. 2019), and diminished the importance of social networks based on lineage, the influence from interaction with those who do not practice FGM/C may shift opinions about the practice (Shell-Duncan, Gathara, and Moore 2017) and reduce the likelihood of girls in urban areas undergoing FGM/C.

Increases of FGM/C prevalence observed among girls in the northern states raise questions about the implications of these trends for policymakers and call for further research measuring association between individual/community-wide factors and FGM/C (UNICEF 2013a). As observed by Mberu (2017) most interventions have been concentrated in the southern states. At the individual level, policies that emphasize behavior change, including education and legal enforcement, can produce significant long-term effects and reduced rates in prevalence. It is likely that the increasing prevalence of FGM/C among Nigerian girls in the north can be reversed through detailed evidence-based interventions addressing the key determinants of the practice. It has also been noted that given low prosecution rates, including in Nigeria, recourse to legal measures to encourage abandonment of the FGM/C practice alone will not work; and therefore, a combination of approaches is called for, including the involvement of community and religious leaders and culturally tailored programs (Kandala and Komba 2018).

Our results must be interpreted in light of the following limitations. Variations in the questions and the wording of questions in the different surveys limit comparability of some indicators over time. This may affect the observed increase in FGM/C prevalence from 0% to 39% in Jigawa state in the north as the increase may be simply reflect improved measurement. However, by combining six surveys' data with a large sample size, we can minimize measurement errors as changes in the FGM/C module over time have improved the details and clarity in the way questions are asked and therefore our results provide more reliable estimates in the recent surveys and combined surveys. Prior to the 2010 surveys, the FGM/C information was available only for the most recently cut daughter, while after 2010 the surveys collected FGM/C status of all daughters aged 0–14 years. This suggests that it would be misleading to compare pre- and post-2010 data when the collection method changed. However, as shown above (see text box pp. 6–7), we used survey weights to compute FGM/C prevalence prior to and after 2010. In this way, it was possible to account for the impact of the selection bias (selection of eldest daughters or most recently cut girls) of the underlying complex sampling design on prevalence estimates. Implicit in this approach is an assumption that utilizing a survey's weights to generate national FGM/C prevalence of daughters based on a nationally representative sample of women and their daughters is a good way to remedy any potential underestimation of FGM/C prior to 2010, given the random nature of the selected sample of women and girls.

Conclusion

This descriptive report considered the question of whether FGM/C is declining over time in Nigeria. We examined the prevalence and trends of FGM/C among women 15–49 and girls 0–14 in Nigeria. We found an overall national downward trend for women and an increase for girls. However, the

national picture on trends is mixed, varying considerably across specific geopolitical zones as well as states in Nigeria.

Prevalence of FGM/C among girls declined all three southern zones but increased in the North West zone. The trends of FGM prevalence were driven by important individual-level and community-level factors. Higher FGM/C prevalence rates among women aged 15–49 years were observed in the southern zones among Yoruba and Igbo women, though the rates were found to decrease over time. Kwara State, which is predominantly inhabited by the Yoruba, was found to be the only North Central state with FGM/C prevalence rates similar to those of states in the southern zones. Ethnicity may therefore drive FGM/C prevalence in those areas. Evidence further showed that girls in northwest Nigeria and in the poorest households had a relatively high risk of being cut. Another important factor associated with trends in FGM/C among girls was education, as girls whose mothers attained high educational level had significantly lower chance of being cut.

The intergenerational mother to daughter patterns of FGM/C were assessed based on age at cutting, types of FGM/C, and the persons who performed the cutting. Evidence showed important shifts, with daughters being cut at a much earlier age than their mothers. There was also an increasing trend in subjecting girls to less severe forms of FGM/C (i.e., not sewn closed). Moreover, the proportions of women and girls cut by medical professionals were low and decreasing.

Next steps

The results in this report are descriptive in nature but provide valuable information on the prevalence and trends of FGM/C for girls aged 0–14 years and women aged 15–49 years. This implies that it is now possible to understand when, how, and where change in FGM/C prevalence is taking place at national, geopolitical, and state levels in Nigeria. That evidence is important for policymakers and programme implementers to contribute to the reduction of FGM/C burden in Nigeria. This is an important step in promoting the abandonment of the practice in the country. The next phase of this study will involve conducting multivariate and survival analyses using advanced statistical methods. These methods are necessary to account for the possible effects of other confounders on the observed prevalence rates and trends in the practice.

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Appendix

Table A1. Female genital mutilation/cutting (FGM/C) questions administered in the Nigeria DHS and MICS surveys, Nigeria 2003–2016/17

Questions	2003 DHS	2007 MICS	2008 DHS	2011 MICS	2013 DHS	2016–17 MICS
WOMAN'S QUESTIONNAIRE						
Have you ever heard about female circumcision?	√	√	√	√	√	√
In many communities, girls are introduced to womanhood by participating in some ceremonies and undergoing specific procedures. I want to discuss with you the circumcision of girls. In this community, is female circumcision practiced?	√	√				
In some countries, there is a practice in which a girl may have part of her genitals cut. Have you heard about this practice?						√
Have you ever been circumcised?	√	√	√	√	√	√
How old were you when you were circumcised?	√		√	√	√	√
Was any flesh removed from the genital area?	√	√	√	√	√	√
Was the genital area just nicked without removing any flesh?	√	√	√	√	√	√
Was your vaginal area sown closed?	√	√	√	√	√	√
Which type of procedure was performed on you?					√	
a) Removal of clitoris along with partial or total excision of the labia minora?						
b) Infibulation: removal of clitoris, labia minora, and adjacent medial part of labia majora and stitching it?						
c) scraping of tissue surrounding the vaginal orifice (e.g., angurya cuts, etc.)?						
d) Cutting of the vagina (e.g., gishiri cuts, etc.)?						
Have you ever used corrosive substances or herbs in the vagina with the aim of tightening or narrowing it or to cause bleeding?					√	
Who performed the circumcision?	√	√	√	√	√	√
Do you think circumcision should be continued, or should it be discontinued?	√	√	√	√	√	
Do you think that men want this practice to be continued or discontinued?	√					
Do you believe that this practice is required by your religion?	√				√	
Questions about female respondent's daughters*						

	2003 DHS	2007 MICS	2008 DHS	2011 MICS	2013 DHS	2016–17 MICS
Have any of your daughters been circumcised?	√		√	√	√	√
Has (NAME OF EACH DAUGHTER 0–14) been circumcised?			√	√	√	√
Is (NAME) younger than 15 years of age?				√		√
How many girls were circumcised?	√	√	√			
To which of your daughters did this happen most recently?	√	√	√			
Was any flesh removed from the genital area?	√	√	√	√		√
Was her genital area just nicked without removing any flesh?	√	√				√
Was her genital area sewn closed?	√	√			√	√
How old was (NAME OF DAUGHTER) when she was circumcised?	√	√	√	√	√	√
Who performed the circumcision?	√	√	√	√	√	√
At the time of circumcision or afterward, did (NAME OF THE DAUGHTER) have any of the following:	√					
Excessive bleeding?						
Difficulty in passing urine or urine retention?						
Swelling in the genital area?						
Infection in the genital area/wound that did not heal properly?						
Do you intend to have any of your daughters circumcised in the future?	√		√			
What benefits do girls themselves get if they undergo this circumcision? Any other benefits?	√					
What benefits do girls themselves get if they do *not* undergo this circumcision? Anything else?	√		√			
Would you say that this practice is a way to prevent a girl from having sex before marriage or does it have no effect on premarital sex?	√					

MAN'S QUESTIONNAIRE

	2003 DHS	2007 MICS	2008 DHS	2011 MICS	2013 DHS	2016–17 MICS
Have you ever heard of female circumcision?	√		√		√	

In some countries, there is a practice in which a girl may have part of her genitals cut. Have you ever heard about this practice?	√		√			
Do you believe that female circumcision is required by your religion?	√		√			
Do you think that female circumcision should be continued, or should it be stopped?	√		√		√	
What benefits do girls themselves get if they undergo this circumcision? Any other benefits?	√					
What benefits do girls themselves get if they do *not* undergo this circumcision? Anything else?	√		√			
Would you say that this practice is a way to prevent a girl from having sex before marriage or does it have no effect on premarital sex?	√					
* In the 2003 DHS, 2007 MICS, and 2008 MICS, the FGM/C questions were asked for the most recently circumcised daughters of any age. In the 2008 DHS, 2011 MICS, 2013 DHS, and 2016–17 MICS surveys, the FGM/C questions were asked for all daughters aged 0–14 years.						

Table A2. Trends in FGM/C prevalence among women aged 15–49 by main demographic characteristics, Nigeria 2003–2016/17

Demographic characteristic	FGM/C prevalence among women 15–49											
	2003 DHS		2007 MICS		2008 DHS		2011 MICS		2013 DHS		2016–17 MICS	
	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number
Age	<0.0001		<0.0001		<0.0001		<0.0001		<0.0001		<0.0001	
15–19	12.9	1,716	19.6	4,215	21.7	6,493	18.7	5,436	15.3	7,820	12.4	6,822
20–24	17.0	1,494	22.0	4,303	26.4	6,133	21.5	5,278	21.7	6,757	15.4	5,816
25–29	20.9	1,382	24.7	4,972	28.9	6,309	26.1	5,923	22.9	7,145	16.9	5,915
30–34	19.4	941	26.7	3,988	32.8	4,634	29.7	4,882	27.4	5,467	20.1	5,390
35–39	22.2	816	29.7	3,150	33.9	3,912	31.5	3,756	30.4	4,718	21.3	4,339
40–44	22.2	688	31.2	2,270	36.4	3,032	34.9	3,113	33.0	3,620	24.4	3,571
45–49	28.4	583	40.3	1,666	38.1	2,872	38.0	2,384	35.8	3,422	27.6	2,524
Marital status	<0.0001		<0.0001		<0.0001		<0.0001		<0.0001		<0.0001	
Never married	23.0	1,926	26.0	6,368	27.9	8,397	23.3	7,674	19.6	9,326	13.0	8,520
Currently married/in union	17.4	5,336	25.2	17,247	29.8	23,578	27.8	21,740	25.9	27,830	19.9	24,373
Formerly married	20.6	358	40.3	950	37.4	1,409	36.5	1,358	33.5	1,793	24.1	1,405
Age difference with husband/partner (*currently married women only*)	0.0029		<0.0001		<0.0001		<0.0001		<0.0001		<0.0001	
Wife is older	23.7	50	10.0	590	24.0	311	32.0	407	29.1	272	23.5	718
Wife is same age	24.2	31	22.2	139	34.4	283	34.4	205	28.6	371	25.4	289
Wife is 1–4 years younger	26.7	661	34.4	2,389	34.7	3,645	38.3	3,395	30.6	4,437	27.7	3,392
Wife is 5–9 years younger	17.3	1,755	28.7	5,068	30.5	7,705	29.0	6,452	26.7	9,425	20.0	7,272
Wife is 10+ years younger	18.5	5,123	24.5	16,380	28.5	21,442	24.4	20,313	22.9	24,444	16.2	22,704
Type of union (*currently married women only*)	<0.0001				<0.0001		<0.0001		<0.0001		<0.0001	
Monogamous	19.7	3,390			32.0	15,715	29.7	14,243	27.4	18,600	20.9	15,324
Polygamous	13.4	1,909			25.2	7,702	23.8	7,310	23.0	9,051	18.4	9,006
Residence	<0.0001		<0.0001		<0.0001		<0.0001		<0.0001		<0.0001	
Urban	28.3	2,629	36.2	8,246	36.8	11,934	32.6	11,330	32.3	16,414	23.4	12,373
Rural	14.0	4,991	20.8	16,320	25.6	21,451	23.8	19,442	19.3	22,534	15.6	22,003
Zone	<0.0001		<0.0001		<0.0001		<0.0001		<0.0001		<0.0001	
North Central	9.6	1,121	14.0	3,069	11.5	4,748	13.9	4,603	10.0	5,572	8.6	6,006
North East	1.3	1,368	2.0	3,998	2.7	4,262	3.5	3,873	2.9	5,766	1.4	6,584
North West	0.4	2,095	2.8	5,571	19.6	8,022	11.9	7,108	20.7	11,877	19.3	10,932
South East	40.8	737	52.7	2,411	52.9	4,091	46.8	3,673	49.0	4,476	32.5	2,445
South South	34.7	1,342	39.5	3,777	34.2	5,473	36.4	4,964	25.8	4,942	23.3	3,668
South West	56.9	958	51.3	5,740	53.4	6,789	48.4	6,551	47.5	6,314	41.2	4,741
Woman's education	<0.0001		<0.0001		<0.0001		<0.0001		<0.0001		<0.0001	
No education	6.4	3,171	10.1	391	18.0	11,942	12.7	1,307	17.2	14,729	16.5	5,646
Primary	26.2	1,628	38.2	4,603	35.8	6,566	34.8	5,453	30.7	6,734	24.3	4,963
Secondary	28.6	2,370	37.5	8,034	36.0	11,904	32.3	12,143	28.8	13,927	20.2	12,466
Higher	30.9	451	36.7	1,726	37.2	2,974	32.1	3,404	29.1	3,558	21.5	3,502
Husband's/partner's education (*currently married women only*)	<0.0001				<0.0001				<0.0001			
No education	6.9	2,382			18.1	9,463			18.3	11,498		
Primary	25.5	1,281			38.3	5,317			34.5	5,454		
Secondary	28.3	1,259			39.7	6,715			32.1	8,314		
Higher	19.2	700			32.7	3,084			27.5	4,064		
Religion	<0.0001		<0.0001		<0.0001		<0.0001		<0.0001			
Christian	31.6	3,654	36.4	12,642	34.2	17,907	34.1	16,493	29.8	18,237		
Muslim	6.8	3,862	14.0	11,539	24.1	14,826	18.6	13,780	20.1	20,149		
Other	27.8	98	42.4	385	36.4	481	27.4	481	34.1	369		
Ethnicity	<0.0001		<0.0001		<0.0001				<0.0001		<0.0001	
Fulani	0.6	463	1.2	1,203	8.5	2,020			13.2	2,565		

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	%	N	%	N	%	N	%	N	%	N	%	N
Hausa	0.4	2,055	2.3	5,079	20.3	7,431			19.4	10,699	13.9	15,920
Igbo	45.1	1,037	51.6	2,707	51.4	5,295			45.2	5,636	29.2	3,558
Kanuri	0.5	232	1.6	485	1.4	674			2.6	680	0.0	0
Tiv	0.9	170	1.3	526	0.5	801			0.3	836	0.0	0
Yoruba	60.7	865	71.8	3,060	58.4	5,924			54.5	5,482	45.4	4,380
Other	15.7	2,797	22.9	11,505	17.9	11,101			12.9	13,050	10.1	10,518
Woman from mixed ethnicity household (*husband/partner from a different ethnic group; currently married women only*)					*<0.001*				*<0.0001*			
Yes	0.0	0			20.0	826			16.1	1,241		
No	100.0	1,168			29.1	7,709			24.9	7,775		
Wealth quintile	*<0.0001*		*<0.0001*		*<0.0001*		*<0.0001*		*<0.0001*		*<0.0001*	
Lowest	11.7	1,414	7.6	4,443	13.4	6,194	12.2	5,456	16.5	7,132	9.9	6,120
Second	11.5	1,439	16.0	4,569	23.0	6,234	20.8	5,742	20.3	7,428	14.6	6,478
Middle	13.3	1,513	25.3	4,617	29.9	6,341	29.3	6,099	23.5	7,486	19.0	6,708
Fourth	22.4	1,526	40.2	5,113	39.1	6,938	38.9	6,475	30.6	7,992	22.9	7,053
Highest	33.1	1,728	35.7	5,825	39.2	7,678	30.8	7,001	31.0	8,910	23.3	8,017
Total	**19.0**	**7,620**	**26.0**	**24,566**	**29.6**	**33,385**	**27.0**	**30,772**	**24.8**	**38,948**	**18.4**	**34,376**

Note: Blank space indicates variable is missing in data and values along the categories (in bold) are p-values

Table A3. Trends in FGM/C prevalence among girls aged 0–14*, by main demographic characteristics, Nigeria 2003–2016/17

Demographic characteristic	FGM/C prevalence among girls 0–14											
	2003 DHS		2007 MICS		2008 DHS		2011 MICS		2013 DHS		2016–17 MICS	
	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number
Girl's age	<0.0001				<0.0001				<0.0001			
0–4	12.6	1,324			26.8	7,165			23.3	9,839		
5–9	17.3	1,037			31.2	5,882			25.2	8,737		
10–14	23.9	920			33.5	4,645			25.1	6,599		
Mother's age	0.0028		<0.0001		<0.0001		0.0069		0.1373		<0.0001	
15–19	1.3	64	17.8	136	29	253	27	194	33.5	425	43.9	257
20–24	14.6	284	14.2	582	26.5	1,525	18.9	1,296	26.3	2,179	29.3	1,476
25–29	11.8	736	15.4	1,514	26.9	3,800	16.3	3,435	24.4	5,243	27.4	3,210
30–34	10.9	747	19.5	1,729	26.6	4,251	19.5	4,404	23.6	5,824	22.6	4,681
35–39	18.6	729	23.4	1,585	30.4	3,817	18	3,552	23.6	5,722	18.6	4,811
40–44	28.5	471	29.3	1,219	36.6	2,613	19.9	2,609	24.2	3,499	14.2	4,677
45–49	34.4	250	33.5	1,003	39.6	1,432	26.8	1,385	25.5	2,283	11.5	3,473
Mother's marital status	0.1616		0.3785		0.01		0.2398		0.0012		<0.0001	
Never married	10.2	49	18.7	167	14.3	205	20	185	11.9	223	6.1	197
Currently married/in union	17.7	3,079	22.3	7.04	30.2	16,642	19.5	15,809	24.7	23,800	25.9	16,398
Formerly married	10.4	153	25	559	30.9	844	13.5	879	21.8	1,153	18.9	916
Mother's age difference with husband/partner (*currently married women only*)	0.2873		0.9739		0.0049		0.2616		0.0018		<0.0001	
Wife is older	8	36	20.3	115	18.6	214	20.8	324	19.9	200	48.7	565
Wife is same age	4.8	12	23.9	47	32.6	228	21.8	188	15.4	288	24.8	244
Wife is 1–4 years younger	22.9	410	22.3	1,177	29.2	2,726	17.7	2,903	19.9	3,509	19.1	2,528
Wife is 5–9 years younger	16	1,076	23	2,234	27.2	5,415	16.2	4,732	24.4	8,022	21.5	4,951
Wife is 10+ years younger	17	1,749	22.2	4,195	32.2	9,107	21.2	8,726	26	13,156	27.7	9,243
Mother's type of union	0.0094				0.0001		<0.0001		<0.0001		<0.0001	
Monogamous	20	2,033			27.8	11,624	17.5	11,114	22.5	15,546	20.6	11,086
Polygamous	13.3	1,032			35.7	4,915	24.8	4,544	29.1	8,082	37.2	5,291
Residence	0.1894		0.0616		0.1089		0.0019		0.0001		0.0008	
Urban	20.3	1,354	24.4	3,299	27	6,957	15.4	6,866	20.7	10,577	20.5	7,254
Rural	15.1	1,927	21	4,469	32	10,734	21.9	10,008	27.1	14,598	28.8	10,276
Zone	<0.0001		<0.0001		<0.0001		<0.0001		<0.0001		<0.0001	
North Central	17.2	389	16.6	806	20	1,368	11.5	1,756	12.8	1,630	16.1	2,323
North East	0.6	566	2.3	664	6.3	1,869	4.7	1,654	8.3	3,562	1.4	2,761
North West	2.6	556	8.7	801	46.3	3,856	37.3	2,937	35.5	10,153	56	5,329
South East	28.8	473	24.1	982	29.9	2,725	14.8	2,697	23.5	2,747	12.7	1,476
South South	18	791	17.9	1,753	18.5	3,274	11.6	3,389	8.1	2,882	6.1	2,311
South West	40.1	506	35.2	2,762	37.2	4,600	24.2	4,442	27.8	4,203	21.6	3,329
Mother's education	0.0562		<0.0001		<0.0001		0.0095		<0.0001		<0.0001	
No education	13.5	1,106	16.1	92	35.3	5,895	31.2	610	30.2	11,638	44.2	3,002
Primary	20.5	961	28.4	2,301	31.8	4,838	19	4,263	23.4	5,396	23.6	3,378
Secondary	20.3	977	23	2,498	26.5	5,436	17.9	5,976	18.5	6,349	17.2	5,576
Higher	9.2	237	13.7	681	16.5	1,522	7	1,852	10.6	1,793	9.8	1,909
Husband's/partner's education	0.0112				<0.0001				<0.0001			
No education	14.1	816			34.9	4,695			30.7	9,542		
Primary	24.6	850			32.7	4,403			25.5	4,929		
Secondary	17.9	912			29.5	5,636			20.3	6,898		
Higher	11.2	600			18.3	2,498			14.6	3,370		
Mother's religion	0.002		0.7127		<0.0001		<0.0001		<0.0001			
Christian	21.2	1,881	22.6	4,907	22.8	9,719	14.1	9,792	14.8	9,618		
Demographic characteristic	FGM/C prevalence among girls 0–14											
	2003 DHS		2007 MICS		2008 DHS		2011 MICS		2013 DHS		2016–17 MICS	
	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number
Muslim	11.7	1,348	22	2,717	39.3	7,530	26.3	6,830	30.6	15,212		
Other	21.7	52	26.3	144	32.6	385	27.3	241	20.2	227		

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Characteristic												
Mother's ethnicity	*<0.0001*		*<0.0001*		*<0.0001*				*<0.0001*		*<0.0001*	
Fulani	0.8	82	5.1	170	27.4	657			28.8	1,654		
Hausa	2.9	639	7.6	768	46.9	3,682			33.7	9,581	38.6	7,785
Igbo	27.9	649	26.3	1,081	29.6	3,428			21	3,387	11.3	2,153
Kanuri	0	110	0	69	3.5	543			5.4	505		
Tiv	0	53	0	112	2.2	316			1.3	233		
Yoruba	45.9	484	51.1	1,582	42.1	3,963			32.4	3,823	27.4	2,984
Other	11.3	1,264	14.6	3,986	13.8	5,016			7.8	5,993	8.3	4,608
Woman from mixed ethnicity household (*husband/partner from a different ethnic group; currently married women only*)					*0.0026*				*0.0102*			
Yes	0	0			20.9	597			16.7	993		
No	14.5	732			33.8	5,490			25.4	6,559		
Wealth quintile	*0.2364*		*<0.0001*		*0.0243*		*<0.0001*		*<0.0001*		*<0.0001*	
Lowest	16.4	494	12.6	764	26.8	2,425	24.7	2,099	29.8	5,600	43	2,209
Second	17.3	512	21.7	1,075	37.3	3,064	23.1	2,843	32.5	5,030	37.7	2,633
Middle	17.2	555	22.6	1,408	30.5	3,497	20.8	3,574	23.7	4,412	25.7	3,737
Fourth	12.5	781	29.5	2,100	30.8	4,149	21.4	4,238	20.7	4,934	20.1	4,414
Highest	21.7	939	19.6	2,422	25.8	4,556	10.2	4,120	15	5,199	14.5	4,537
Total	**17.3**	**3,281**	**22.4**	**7,768**	**30**	**17,691**	**19.2**	**16,874**	**24.4**	**25,176**	**25.3**	**17,529**

Note: Blank space indicates variable is missing data. Values (in bold) along the characteristics are p-values

* In the 2003 DHS, 2007 MICS, and 2008 DHS, FGM/C questions were asked about the most recently cut daughters of any age; for this analysis, sample size is limited to most recently cut girls aged 0–14. In the 2011 MICS, 2013 DHS, and 2016–17 MICS the FGM/C questions were asked for all daughters aged 0–14 years.

** MICS 2007 & 2016–17 asked religion and ethnicity of the head of the household.

Table A4. Distribution of the person who performed cutting for women aged 15–49 and girls aged 0–14*, Nigeria 2003–2016/17

SURVEY AND YEAR:	PERSON PERFORMING FGM/C				TOTAL	NUMBER
	Doctor	Nurse/Midwife/ Other health worker	Traditional circumciser	Don't know/ Missing		
2007 MICS						
Women 15–49	3.7	10.1	63.7	16.6	100.0	6,375
Girls 0–14	60.8	4.9	8.8	0.9	100.0	1,741
2008 DHS						
Women 15–49	2.3	19.0	69.6	0.4	100.0	3,419
Girls 0–14	2.7	16.9	72.2	0.3	100.0	5,253
2011 MICS						
Women 15–49	3.3	13.7	66.2	13.3	100.0	8,321
Girls 0–14	3.6	24.5	65.7	2.2	100.0	3,243
2013 DHS						
Women 15–49	2.3	10.3	72.2	8.0	100.0	9,652
Girls 0–14	0.9	11.0	84.0	1.5	100.0	9,558
2016–17 MICS						
Women 15–49	2.1	9.8	66.5	14.0	100.0	6,312
Girls 0–14	2.3	10.0	81.0	0.3	100.0	4,443

*In the 2003 DHS, 2007 MICS, and 2008 DHS, FGM/C questions were asked about the most recently cut daughters of any age. For this analysis, sample size is limited to most recently cut girls aged 0–14. In the 2008 DHS, 2011 MICS, 2013 DHS, and 2016–17 MICS surveys, the FGM/C questions were asked for all daughters aged 0–14 years.
TBA = Traditional birth attendant.

Table A5. Comparison of age at cutting between women aged 15–49 and girls aged 0–14* by age groups, Nigeria 2003–2016/17

Survey and year: Nigeria	Age at FGM/C					Total	Number of cut women/girls
	0–4 years	5–9 years	10–14 years	15+ years**	Missing/ don't know		
2003 DHS							
Women 15–49	75.7	4.4	5.1	11.0	3.8	100.0	1,445
Girls 0–14	90.7	4.3	2.2		2.8	100.0	556
2007 MICS							
Women 15–49						100.0	
Girls 0–14	70.0	15.8	5.5		8.8	100.0	1,741
2008 DHS							
Women 15–49	84.0	3.5	3.3	5.7	3.5	100.0	9,890
Girls 0–14	94.9	2.4	0.7		2.0	100.0	5,312
2011 MICS							
Women 15–49	66.1	6.6	5.0	6.5	15.8	100.0	8,321
Girls 0–14	89.6	2.1	0.3		8.0	100.0	3,243
2013 DHS							
Women 15–49	82.0	4.4	4.6	7.0	2.0	100.0	9,652
Girls 0–14	97.7	1.1	0.2		1.0	100.0	6,150
2016–17 MICS							
Women 15–49	69.1	6.4	4.0	4.2	16.3	100.0	6,312
Girls 0–14							

Note: Blank space indicates variable is missing in data
*In the 2003 DHS, 2007 MICS, and 2008 DHS, FGM/C questions were asked about the most recently cut daughters of any age; for this analysis, sample size is limited to most recently cut girls aged 0–14. In the 2008 DHS, 2011 MICS, 2013 DHS, and 2016–17 MICS surveys, the FGM/C questions were asked for all daughters aged 0–14 years.

Table A6. Type of FGM/C among women aged 15–49 and girls aged 0–14, across the six surveys. Nigeria 2003–2016/17

Survey and year: Nigeria	Type of FGM/C			Total	Number of cut women/girls
	Sewn closed	**Not sewn closed**	**Don't know/ missing**		
2003 DHS					
Women 15–49	3.9	50.2	45.9	100.0	1,445
Girls 0–14	4.1	73.0	22.9	100.0	556
2007 MICS					
Women 15–49	10.6	18.7	70.7	100.0	6,375
Girls 0–14	10.8	62.7	26.5	100.0	1,741
2008 DHS					
Women 15–49	5.3	50.7	44.0	100.0	9,890
Girls 0–14	7.9	68.5	23.6	100.0	5,290
2011 MICS					
Women 15–49	4.4	60.8	34.8	100.0	8,321
Girls 0–14	5.7	84.5	9.8	100.0	3,243
2013 DHS					
Women 15–49	5.3	77.4	17.3	100.0	9,651
Girls 0–14	2.6	92.5	4.9	100.0	6,150
2016–17 MICS					
Women 15–49	4.9	72.6	22.5	100.0	6,312
Girls 0–14	5.3	92.0	2.7	100.0	4,443

*In the 2003 DHS, 2007 MICS, and 2008 DHS, FGM/C questions were asked about the most recently cut daughters of any age; for this analysis, sample size is limited to most recently cut girls aged 0–14. In the 2008 DHS, 2011 MICS, 2013 DHS, and 2016–17 MICS surveys, the FGM/C questions were asked for all daughters aged 0–14 years.

Table A7. FGM/C prevalence by states among women aged 15–49 and girls aged 0–14, Nigeria 2003–2016/17 (states with substantial FGM prevalence only)

	WOMEN (15–49 years old)							GIRLS (0–14 years old)					
	2003 DHS	2007 MICS	2008 DHS	2011 MICS	2013 DHS	2016–17 MICS		2003 DHS	2007 MICS	2008 DHS	2011 MICS	2013 DHS	2016–17 MICS
Abia	30.2	45.9	55.2	44.0	31.9	31.1		3.0	13.8	29.9	7.9	18.4	11.9
Adamawa	0.0	0.3	0.5	0.4	1.0	0.0		4.7	2.1	1.2	1.6	0.6	0.7
Akwa Ibom	28.5	24.7	15.2	22.5	11.0	10.5		27.8	7.3	6.9	1.5	2.0	1.6
Anambra	40.7	33.6	29.6	30.8	23.4	17.1		27.2	22.5	13.7	9.5	10.7	5.5
Bauchi	0.5	0.0	0.5	0.2	5.2	0.0		0.0	0.0	7.1	0.1	22.0	0.2
Bayelsa	64.3	43.4	25.9	40.7	16.2	28.0		4.2	7.7	6.5	1.9	1.0	1.2
Benue	8.0	10.2	3.8	14.4	8.4	4.1		14.5	14.0	1.0	6.6	4.3	1.2
Borno	2.2	7.5	10.4	14.4	2.4	4.2		0.0	5.2	10.3	8.8	5.0	1.4
Cross River	39.8	45.0	34.4	38.7	32.2	25.4		28.1	15.9	7.5	13.6	2.8	2.4
Delta	57.6	46.6	56.5	48.9	40.3	36.4		11.8	19.3	28.2	19.3	11.0	4.8
Ebonyi	64.8	64.5	82.6	62.4	74.2	43.2		26.4	23.1	39.1	6.4	26.5	4.0
Edo	35.0	47.1	51.2	47.5	41.6	37.1		13.3	29.9	40.9	23.2	24.1	15.6
Ekiti	83.4	83.2	63.2	66.2	72.3	62.6		65.1	61.2	47.3	40.3	49.3	30.0
Enugu	41.5	52.2	46.8	45.0	40.3	20.4		16.2	24.1	36.6	12.9	26.0	5.3
FCT Abuja	1.2	10.7	11.9	16.5	6.1	7.2		0.0	5.2	7.8	1.1	1.3	5.9
Gombe	2.3	0.5	0.7	0.4	2.9	0.0		1.5	0.0	0.0	0.7	1.6	0.8
Imo	33.3	68.7	63.5	58.4	68.0	51.6		40.6	36.0	38.1	33.4	32.5	16.9
Jigawa	0.0	0.7	0.0	2.0	39.4	14.4		0.0	7.0	0.0	36.9	52.2	54.9
Kaduna	1.5	9.3	2.0	19.0	25.1	39.3		0.0	16.6	3.3	38.3	46.7	50.6
Kano	0.1	0.5	74.0	27.0	40.9	30.9		1.5	0.0	82.1	51.4	45.0	57.0
Katsina	0.0	0.8	0.0	5.4	0.0	0.6		0.0	0.0	0.0	53.0	0.0	3.9
Kebbi	0.5	0.9	0.0	1.2	2.6	0.0		1.0	1.4	0.0	0.3	9.4	1.3
Kogi	2.7	3.8	1.3	3.3	1.8	1.4		4.0	2.3	1.0	5.2	2.2	8.5
Kwara	63.3	64.6	67.4	58.8	53.3	55.2		60.0	48.7	59.4	32.9	31.5	34.8
Lagos	40.3	29.8	36.0	31.0	34.8	25.0		15.9	16.1	18.3	10.6	10.8	8.5
Nassarawa	31.5	15.9	10.5	19.2	9.0	14.5		6.8	8.8	10.0	9.7	11.3	14.6
Niger	4.8	5.5	3.2	2.3	2.6	0.6		15.5	4.9	7.2	2.2	10.8	1.8
Ogun	25.2	18.5	22.5	20.1	11.2	18.8		7.6	4.8	12.3	8.0	3.1	3.0
Ondo	77.5	62.2	53.4	62.4	45.0	44.2		68.2	48.8	49.3	34.5	37.4	18.2
Osun	85.6	78.0	82.8	73.4	76.6	67.8		62.3	57.4	58.7	33.4	35.5	25.1
Oyo	75.7	72.9	83.9	71.1	65.7	55.1		68.9	48.8	56.8	32.9	44.9	22.8
Plateau	1.7	1.8	0.7	2.5	1.7	4.5		6.1	3.8	0.8	7.2	2.5	22.2
Rivers	24.3	32.4	23.9	28.5	14.6	15.1		9.8	21.7	15.7	8.6	4.2	4.3
Sokoto	1.1	0.5	0.6	0.8	3.0	0.5		3.0	0.0	1.3	0.0	24.4	1.1
Taraba	1.9	0.9	1.5	0.2	2.8	1.0		0.0	0.0	2.9	0.7	11.8	5.7
Yobe	1.0	0.4	0.1	1.7	2.7	0.0		0.0	0.9	0.0	3.6	4.2	0.0
Zamfara	0.0	0.5	1.3	2.5	1.7	26.4		9.2	0.9	4.9	5.0	28.8	45.1

Note: FCT Abuja – The Federal Capital Territory, Abuja.

Table A8. Trends in opinion regarding continuation or discontinuation of FGM/C among cut women only and all women (aged 15–49 years), with respective sample size, Nigeria 2003–2016/17*

	2003 DHS	2008 DHS	2011 MICS	2013 DHS	2016–17 MICS
	%	%	%	%	%
Women's attitudes toward FGM/C *cut women only)*					
Should be continued	41.5	39.7	39.7	40.4	48.0
Should be discontinued	48.7	43.3	51.3	50.3	41.8
Depends/don't know	9.8	17.0	9.0	9.3	10.2
Missing	-	-	-	-	-
Number of respondents	**1,443**	**9,861**	**5,242**	**9,607**	**6,312**
Women's attitudes toward FGM/C *(all women)*					
Should be continued	21.1	21.9	21.9	22.8	21.6
Should be discontinued	67.7	63.0	66.1	66.4	67.5
Depends/don't know	11.2	15.1	12.0	10.8	10.9
Missing					
Number of respondents	**3,783**	**20,064**	**10,803**	**24,385**	**17,925**
Women's beliefs about FGM/C					
Required by religion					
FGM/C is required by religion	26.7	26.0	-	22.7	-
FGM/C is not required by religion	62.1	56.4	-	64.0	-
Missing	11.2	17.6	-	13.3	-
Beliefs about premarital sex					
Believes that FGM/C prevents a girl from having sex before marriage	14.4	19.0	-	-	-
Does not believe that FGM/C prevents a girl from having sex before marriage	63.1	80.8	-	-	-
Missing	22.6	0.3	-	-	-
*The 2007 MICS has no record of data on support for FGM/C among women.					