Research Article

Does Female Genital Cutting Influence Age of Initiation of Sex in Nigeria: A National Demographic Survey Data Analysis

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Abstract

Background: Female genital cutting is a harmful non-therapeutic modification of external genitalia, an ancient practice rooted in culture. Early age of exposure to sex has been associated with an increased risk of lifetime undesirable sexual outcomes. There is widely held belief that FGC influences sexual behavior and this study strives to validate or refute the assertion.

Methods: A secondary data analysis involving 2013 NDHS was done. Data on 21,747 respondents were extracted from 36,800 participants. Women aged 15-49 were studied. Data was collected using questionnaires. Chi-square test and Binary Logistic Regression were used in analysis.

Results: Of the 21,747 studied, 8,484 (39%) were circumcised. Also 4,211(49.6) circumcised and 7,892 (59.5) non circumcised had first sex at age <18 years. Female Genital Cutting (FGC) is not a predictor risk of being exposed to sex at < 18 years (AOR 1.03; 95% CI 0.99-1.07). Predictors of risk of age of exposure to sex from this study were living in southern region (AOR 1.16; 95% CI 1.10-1.23), living in rural area (AOR 0.82; 95% CI 0.78-10.85), having attained secondary education and above (AOR 0.79; 95% CI 0.76-0.84), being a Moslem (AOR 0.92; 95% CI 0.87-0.96) and belonging to richer/ richest class (AOR 0.83; 95% CI 0.79-0.88).

Conclusions: Influence of FGC on protection virginity that was propagated is largely unfounded. Legislation backed up with political will for implementation, community based anti FGC interventions and continued dialogue with religious leaders and community members are needed to discourage and finally eliminate the harmful practice of FGC.

Keywords: Female genital cutting; Age of initiation of sex; Predictors; Nigeria

Introduction

Female Genital Cutting (FGC) previously referred to as Female circumcision and later Female genital mutilation was renamed in an attempt to remove the stigma associated with the term mutilation [1]. Female genital cutting is a non-therapeutic modification of external genitalia, an ancient practice that is rooted in culture [2]. According to the World Health Organization, (WHO), FGC includes all procedures that involve partial or total removal of the female external genitalia or other injury to the female genital organs for non-medical reasons [3]. The WHO equally classified FGC into four types namely; clitoridectomy, excision, infibulation and others [3]. The practice has been purported to have cultural significance as it manifest the sexuality of women and their reproductive role in the society.3 However, in reality it is injurious to women [4].

Female genital cutting is practiced for a variety of socio-cultural reasons and this varies from one country and ethnic group to another. In Nigeria, some major reasons for FGC include custom and tradition including passage into womanhood, peer pressure, purification, family honour, hygiene and aesthetic reasons, protection of virginity, spiritual or religious reasons as well as prevention of promiscuity [5]. Female genital cutting is performed mostly during infancy in Nigeria. Studies documented that four in five women (82%) who have been circumcised had their circumcision before their fifth birthday [2]. The long term complications are protean including difficulty in passing urine due to urethral stenosis and scarring, chronic pelvic infections which may result in infertility, recurrent urinary tract infection etc [3,4].

The practice is global though, it is presently practiced mainly in countries of Africa, Middle East and Asia. In Africa, it is performed in a total of 30 countries mostly those in the west, east and north east regions of the continent. While FGC prevalence varies across countries and communities, it is a norm in nations like Somalia, Mali, Sudan and Egypt where levels remain at approximately 90 percent. In contrast, it is rarely practiced in other countries in the same region like Uganda with only one percent prevalence rate [6]. Approximately 200 million women and girls have undergone the procedure and every year an estimated 3 million girls are at risk of undergoing the procedure.3 Female genital cutting is also practiced in Europe and North America especially among immigrant communities from

countries where the prevalence is high [3]. Female genital cutting has been criticized by numerous international treaties and conventions. Likewise, most countries including 24 out of the 29 countries where it is practiced have national legislation that criminalizes FGC. Moreover, FGC violates Article 25 of the Universal Declaration of Human Rights, which expresses the sentiment that all people have the "right to a standard of living adequate for health and well-being". Despite these treaties, the practice has persisted.

Age at first intercourse is an indicator and a summary measure of the average age at which adolescents become sexually active [7]. Early age of exposure to sex has been associated with an increased risk of having lifetime multiple sexual partners, unprotected sex, acquiring Sexually Transmitted Infections (STIs), unwanted pregnancy, [8-12] and undesirable sexual outcomes, such as problems with orgasm and arousal [12]. Recent studies have found that early sexual intercourse is associated with psychosocial problems including; depression and low self-esteem [13-15]. Established risk factors for early sexual intercourse include low parental educational level, household income, being raised by a single parent, poor parent-adolescent relationship, religion and religious group affiliation, reproductive health knowledge and sex education [16-23]. According to the classic ecological model, many other environmental factors like leisure time activities may also affect adolescents' sexual development including early sexual intercourse initiation [24].

In light of the widely held belief among perpetrators of FGC that it influences sexual behavior and initiation, this study (strives) aims to ascertain the validity of the assertions. The understanding of this may contribute to and improve the prevention and intervention strategies to curb or eradicate the practice of FGC and help in the development of policies against it.

Materials and Method

Study Area: Nigeria is in sub-Saharan Africa. It is grouped into six geo-political zones including North-west, North-east, North-central, South-east, South-west and South-south zones. Administratively, Nigeria is divided into 36 states and Abuja, the Federal Capital territory. Each state is made up of a number of Local Government Areas (LGAs). There are 774 LGAs in Nigeria. Each LGA is divided into autonomous communities. There are widely varied regional health and educational indices with southern region being better than the northern region. Nigeria's urbanization growth rate is estimated at 5.3% per year.13 Nigeria consists of many tribes and languages.

Study Design: This is a secondary data analysis involving 2013 Nigeria Demographic and Health Survey (NDHS). The NDHS is a cross sectional survey executed by the National population commission (NPC) with the main objective to provide updated estimates of basic social, demographic, economic and health indicators covering human reproductive health, maternal and child health; awareness and behaviour regarding HIV/AIDS and other sexually transmitted infections; violence against women as well as age of exposure to sex.

Sampling Technique and Sample Size: The Primary Sampling Unit (PSU) used in the survey was defined on the basis of Enumeration Areas (EAs) from the 2006 census. During the 2006 national population census, Local Government Areas were divided into localities and each locality was further subdivided into census enumeration areas and then clusters for convenience. Household enumeration and mapping in the selected clusters was done to produce a list of households which made up the sampling frame. The final sample size was 36,800 households selected with a minimum target of 950 completed interviews per state. A stratified, 2 stage cluster designs that uses Probability Proportional To Size (PPS) technique was used to identify clusters within the EAs and choose households randomly within the clusters, achieving a nationally representative sample that appropriately include both rural and urban residents as well as both upper, middle and lower Socio Economic Status (SES) groups. In the first stage a total of 888 clusters (PSU), 286 in urban and 602 in rural areas were selected by systematic sampling using the PPS technique. In the second stage an average of 41 households were selected by equal probability systematic sampling in each cluster from list of all private households.

Study Population/Participants: All women aged 15-49 who were either permanent residents of the households or visitors were studied.

Study Instruments: Data collected for the 2013 NDHS involved use of questionnaires (Household Questionnaire, Women's Questionnaire and the Men's Questionnaire). However, women data was analyzed for this study. It was pretested and a standard protocol observed in administering them. These questionnaires were adapted to collect information on relevant demographic, social and economic factors, and health status/indicators including age of exposure to sex. It was translated from English into three major Nigerian languages of Hausa, Igbo and Yoruba. The questionnaires were interviewer administered through face to face interview to all eligible participants.

Data Analysis: Data on 21,747 respondents were extracted from 36,800 participants in the 2013 NDHS data. The extracted data was cleaned for missing observations in the outcome variable. Data were summarized using frequency and percentages. Chi-square test of statistical significance was used to verify associations of characteristics of respondents with age of exposure to sex, while Binary Logistic regression model was used to identify predictors of risk of age of exposure to sex. The level of statistical significance was determined by a p value $\leq$ 0.05.

Results

The mean age of the respondents was 30.1±9.6 years. Respondents have similar distribution of age (about 30%) and region (50%). A higher proportion of respondents (54.7%) attained primary education and below, resides in urban areas (54.4%), were Christians (53.0%), belong to richer/richest class (47.4%), in union (87.7%), never used contraceptives (78.1%), were not circumcised (61.0%) and have incorrect knowledge of ovulation (75.1%). Table 1.

Of the 21,747 studied, 8,484 (39%) were circumcised. About half of those who had FGC [4,211(49.6%)] and majority of those who were not circumcised [7,892 (59.5%)] had their sexual debut at age < 18 years.

There were statistically significant association between the of age of exposure to sex with FGC, region, residence, educational level, religion, wealth index, marital status, contraceptive use, and knowledge of ovulation (all p < 0.001).

Table 1: Characteristics of respondents.

Socio-demographic variables	Frequency (n =21747)	Percent
Age		
< 25	6950	32
25-34	7323	33.7
≥ 35	7474	34.4
Mean ± SD		**30.1 ± 9.6**
Region		
North	10911	50.2
South	10836	49.8
Residence		
Urban	11839	54.4
Rural	9908	45.6
Educational level		
Primary and below	11895	54.7
Secondary and above	9852	45.3
Religion		
Christianity	11517	53
Islam	9966	45.8
Others (Traditionalist, atheist)	264	1.2
Wealth index		
Poorer/Poorest	7326	33.7
Middle	4112	18.9
Richer/ Richest	10309	47.4
Marital status		
Never in union	2666	12.3
Union	19081	87.7
Contraceptive use		
Never used	16982	78.1
Used	4765	21.9
FGC		
Circumcision	8483	39
No circumcision	13264	61
Knowledge of ovulation		
Correct	5406	24.9
Incorrect	16341	75.1

Table 2: Relationship between characteristics of respondents and age of exposure to sex.

Socio-demographic	Age of exposure to sex	Bivariate analysis	Multivariate analysis	
	(n = 21747)	χ^2 (p value)	AOR (95%CI)	
	< 18 Freq 9%0	≥ 18 Freq (%)		
Age (years)				
<25	3862(55.6)	3088(44.4)		
25-34	4074(55.6)	3249(44.4)	0.052 (0.974)	NA
≥35	4167(55.8)	3307(44.2)		
Region				
North	7671(70.3)	3240(29.7)	1904.6 (0.000)	1
South	4432(40.9)	6404(59.1)		1.16 (1.10-1.23)
Residence				
Urban	7582(64.0)	4257(36.0)	741.0 (0.000)	1
Rural	4521(45.6)	5387(54.4)		0.82 (0.78-0.85)
Educational level				
Primary and below	8537(71.8)	3358(28.2)	2763.1(0.000)	1
Secondary and above	3566(36.2)	6286(63.8)		0.79 (0.76-0.84)
Religion				
Christianity	5183(45.0)	6334(55.0)		1
Islam	6780(68.0)	3186(32.0)	1148.7 (0.000)	0.92 (0.87-0.96)
Others	140(53.0)	124(47.0)		1.00 (0.85-1.18)
Wealth index				
Poorer/Poorest	5675(77.5)	1651(22.5)		
Middle	2415(58.7)	1697(41.3)	2596.4 (0.000)	0.99 (0.94-1.04)
Richer/Richest	4013(38.9)	6296(61.1)		0.83 (0.79-0.88)
Marital status				
Never in union	1100(41.3)	1566(58.7)	255.1 (0.000)	1
Union	11003(57.7)	8078(42.3)		1.03 (0.91-1.36)
Contraceptive use				
Never used	10214(60.1)	6768(39.9)	633.8(0.000)	1
Used	1889(39.6)	2876(60.4)		1.01 (0.96-1.07)
FGC				
Circumcision	4211(49.6)	4272(50.4)	203.8 (0.000)	1
No circumcision	7892(59.5)	5372(40.5)		1.03 (0.99-1.07)
Knowledge of ovulation				
Correct	2394(44.3)	3012(55.7)	376.8 (0.000)	1
Incorrect	9709(59.4)	3012(55.7)		1.09(1.04-1.14)

Those who had FGC were similarly (AOR 1.03; 95% CI 0.99-1.07) likely to be exposed to sex at < 18 years with those not circumcised. Respondents from southern region were about 1.2 times (AOR 1.16; 95% CI 1.10-1.23) likely to be exposed to sex at < 18 years compared to those from north. Those that stay in rural area were about 0.8 times (AOR 0.82; 95% CI 0.78-10.85) likely to be exposed to sex at < 18 years compared to those in urban area. Those that had secondary education and above were about 0.8 times (AOR 0.79; 95% CI 0.76-0.84) likely to be exposed to sex at < 18 years compared to those that had primary education and below. Moslems (Islam) were about 0.9 times (AOR 0.92; 95% CI 0.87-0.96) likely to be exposed to sex at < 18 years than Christians. Middle class were similarly (AOR 0.99; 95% CI 0.94-1.04) likely and richer class were 0.8 times (AOR 0.83; 95% CI 0.79-0.88) likely to be exposed to sex at < 18 years compared to the poorer class. Those with incorrect knowledge of ovulation were 1.1 times (AOR 1.09; 95% CI 0.7-0.9) likely to be exposed to sex at < 18 years compared to those with correct knowledge. Respondents that were in union and use contraceptives were similarly likely to be exposed to sex at < 18 years as their counterpart (Table 2).

Discussion

This study shows that those who had FGC were similarly likely to be exposed to sex at < 18 years as those not circumcised. This is revealing. It points to the fact that the practice of female genital cutting cannot control the sexual drive of women [25]. Yet that is one of the major reasons adduced for its continued practice. The finding is supported by report from other studies which documented that there is no relationship between FGC and the sexual behavior of women in Kenya and Nigeria. The implication is that the widely held belief among perpetrators that FGC influences female sexual behavior including protection of virginity is not valid. Again considering how injurious (both physical and psychosexual) this practice is to women it should be discarded and prevented by all means.

However, there were previous efforts in different communities and countries to curb this. Preventive measures from experience and studies achieved some success in some areas but failed in others. For instance, legislation and enforcement of the law against practice of FGC as used in Egypt did not achieve much as FGC remained high in the area [26]. In Senegal, a community led anti-FGC interventions approach was effective in curbing the practice of FGC [27]. Based on these observations, multi-dimensional approaches are needed to eliminate this. Legislation backed up with political will for implementation, campaigns, community based anti-FGC interventions as well as continued dialogue with religious leaders and community members are needed in-order to discourage and finally eradicate the widespread practice of FGC.

The identified predictors of age of initiation to sex from this study were region, residence, educational level, religion and wealth index. Living in urban area increases chances of exposure to social media and accompanying peer influences. A person may not be directly exposed to negative influences of social media like the ones with sex content but the peers or friends may be exposed and over time may influence the person. This is supported by previous studies which confirmed the influence of social media on sexual exploits. Girls who watched Television for 2 hours/day or more were about 2 times and those who used the computer 2 hours/day or more about 4 times significantly more likely to have engaged in early sex [28]. Adolescent girls who were members of a sports club were about 2 times significantly more likely to have had sex earlier than their counterparts [29]. Another study had it that according to the classic ecological model, many other environmental factors like leisure time activities may also affect sexual development including early sexual intercourse initiation.24 Adolescents at higher risk for internet addiction were more likely to have had early sexual intercourse [30].

The finding that education and wealth index were significant predictors of age of sex exposure is in line with other previous studies. This can be attributed to higher social security that is associated with increasing education and wealth. Such persons can afford their basic needs and be able to decide on what they want earlier in life. This concurs with Billy et al.'s theory that young people who can identify pathways to future success will make less risky sexual decisions like early exposure because their appreciation of the consequences are greater [31]. Results from other studies support the association between early sexual debut and individual demographic and economic factors among adolescent like the protective effects of education [32,33] and wealth16 against early sex just like this current study. Adolescents living in wealthier households are less likely to initiate sex early compared to adolescents living in poorer households [16]. Another similar study even went further to report that higher community levels of wealth were found to be protective of early age at first sex [17]. There is therefore every need to empower women educationally and families financially to reduce chances of early sex debut.

Religion was also predictor of risk of early exposure to sex from this study. However, previous studies had divergent findings. Some studies documented that the proportion of students reporting sexual activity did not differ between Christian and Muslim students [22,23]. Another study reported that Christians initiate sexual intercourse at an earlier age than the Moslems just like this study but the difference in the mean ages for the two categories was not statistically significant in that study while this recent study showed a significant association [34]. Equally, a study further submitted that adolescents who express more religiosity are more likely to delay sexual intercourse [35,36].

Conclusion

Female Genital Cutting does not predict risk of age of onset of sex. Socio-cultural reasons advocated as well as its influence on protection of virginity that were propagated are largely unfounded. Variations in sexual behavior were unrelated to FGC, but reflected differences in the social characteristics of the participants. The argument of sexual chastity is insufficient to sustain the perpetuation of female circumcision implying that the practice should be discarded. The identified predictors from this study were region, residence, educational level, religion and wealth index. Multidimensional approaches including legislation backed up with political will for implementation, campaigns, community based anti-FGC interventions as well as continued dialogue with religious leaders and community members are needed in-order to discourage and finally eliminate the widespread harmful practice of FGC.

Limitation: One of the drawbacks of this study is dearth of information on age of marriage, frequency of sex debut following exposure and number of partners since exposure. These could have been controlled for to get a more varied conclusion.

Declarations: Ethics approval and consent to participate Permission to use the data was obtained from ORC Macro International, the agency responsible for the worldwide Demographic and Health Surveys. The NDHS 2013 was approved by the Nigerian National Health Research Ethics.

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Authors' Contributions

Authors ECA, UND and OCC came up with the conception. All authors participated in the design of the work as well as literature search. ECA did the data analysis and reporting. All authors were involved in the discussion as well as in proof reading and approval of the manuscript before submission.

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