

## Prevalence of Female Genital Cutting among University Students in Egypt

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**Abstract:** Female genital cutting (FGC) is a traditional harmful practice that has been outlawed in Egypt. The objectives of this descriptive study are to investigate the prevalence and the socio-demographic determinants of FGC among female university students and its relation to their sexual history. A total of 308 never married undergraduate female students in a public university in Egypt were surveyed using self-administered, structured questionnaires. Total respondents were 281 students (91.2% response rate). The prevalence of FGC is 50.9%, predominantly performed by a physician / nurse (89.8%). Females submitted to FGC described this procedure as painful and shocking (41.3%), ordinary (32.2%) or unremembered (26.6%). Factors associated with FGC included residence in rural areas ( $P= 0.001$ ). Lower educational level (less than university) of the mother ( $P= 0.000$ ) as well as, the father ( $P= 0.000$ ). There were no statistically significant differences between females submitted to FGC versus those who were not as regards correctly defining orgasm (21.7% versus 21% respectively,  $P > 0.05$ ), ever experiencing orgasm (26.3% versus 17.7% respectively,  $P > 0.05$ ) or age of initiation of orgasm ( $P > 0.05$ ). It is concluded that FGC is prevalent among female university students in Egypt, particularly those from rural areas and with a lower parental educational level with no differences between females submitted to FGC versus those who are not as regards sexual history.

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**Key words:** Female genital cutting, mutilation, sexuality.

### 1. Introduction

Female genital cutting FGC is 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<sup>(1)</sup>. The origin of female circumcision is lost in antiquity. It was already being practiced in Greece and Egypt by the second century BC and the widespread distribution of this practice makes it unlikely to have had a single-point origin<sup>(2)</sup>. FGC is traditionally practiced in more than 28 African countries as well as in some countries in the Middle East and Asia<sup>(3)</sup>. Moreover, it has extended to several Western countries due to immigration, and it is a concern for these developed countries<sup>(2,4)</sup>. This practice has been classified into four types: Type I describes the partial or total removal of the clitoris, and Type II describes partial or total removal of the clitoris and the labia minora. The placement of the labia minora and or the labia majora so that they come into contact is described by Type III, and Type IV is the category for other harmful procedures to the female genitalia such as elongation of the labia majora, piercing or pricking the clitoris, and scraping the inner walls of the vaginal passage<sup>(3)</sup>. It is estimated that between 100 and 140 million women around the world have been victims of some form of FGC and that each year 3 million girls are at risk of being submitted to these practices<sup>(5)</sup>. In Egypt, FGC is deeply rooted culturally as it is believed necessary to moderate female sexuality and guarantee virginity at

marriage and marital faithfulness<sup>(6)</sup>. The 2008 Egyptian Demographic and Health Survey (EDHS) reported that 91% of women of reproductive age have undergone FGC/M<sup>(7)</sup> down from 97% in 2000<sup>(8)</sup>. This practice is even falling more among the younger generation<sup>(9-10)</sup>. EDHS, 2008 reported a prevalence of 74% among girls aged 15-17<sup>(7)</sup>. FGC is commonly performed prior to or around puberty and the most common forms in Egypt are type I and type II, while other forms as type III are much less commonly found<sup>(11)</sup>.

There is extensive literature covering the different physical<sup>(12-14)</sup> and psychosexual<sup>(15-16)</sup> health complications of FGC. Reproductive complications are reported as well<sup>(17-18)</sup>. This practice is recognized as a grave violation of human rights because it puts the health and well-being of children and women at risk and involves no medical justification<sup>(19-20)</sup>. From a children's rights perspective, girls who undergo FGC do not have adequate information about the potential health consequences, nor are they of sufficient age or maturity to provide informed consent for the procedure<sup>(21)</sup>. Over the past 30 years, grassroots, national and international organizations have actively worked on eradicating this practice and FGC has been outlawed in most countries, but because governments rarely enforce these laws they are essentially ineffective<sup>(22)</sup>. In 2007, after the death of an adolescent girl in Upper Egypt following a FGC procedure<sup>(23)</sup>, the Egyptian parliament criminalized

this practice and any person performing it is subjected to arrest and punishment<sup>(24)</sup>. As regards religion, Prominent Muslim religious Scholars have spoken out against FGC defining it as a socio-cultural belief rather than a religious mandatory requirement and the Egyptian Orthodox church has also spoken against this practice<sup>(16)</sup>. Despite this, FGM is still practiced covertly in Egypt<sup>(25)</sup>.

#### **Nomenclature**

The term “female circumcision” is the translation in English for the practice from many of the African languages but was seen as problematic, as it might cause female and male circumcision to be seen as anatomically similar. The term “female genital mutilation” is dominantly used in order to recognize this act as a form of violence against girls and women and its potentially severe harmful effects. As the term “female genital mutilation” has been found to be offensive or shocking to women and communities who do not consider the practice a mutilation, many organizations working with communities refer to the act as “female genital cutting” as a more value-neutral, nonjudgmental, sensitive, and respectful term<sup>(17-18)</sup>.

#### **Aim of work:**

To study the prevalence and some socio-demographic determinants of FGC among students in a public university in Egypt and its relation to the sexual history of the respondents.

#### **Rationale:**

The vast majority of existing research concerning FGC addresses ever married women in the reproductive age and female children at school age. As to our knowledge, little is known about the prevalence of FGC among university students and its impact on their sexual health. Such information would be useful to plan appropriate interventions and advocacy activities aiming to eradicate FGC.

#### **2. Materials and Method:**

This cross sectional study was conducted at 10 randomly selected faculties representing 50% of the faculties affiliated to this public university, during a period from September 2011 till March 2012. Inclusion criteria were; undergraduate, never married female student at this public university.

#### **Sampling:**

Sample size calculation was performed online using Open Epi Sample Size Calculations for a proportion for cluster surveys, Version 04.06.08<sup>(26)</sup>, estimating 80% prevalence of FGC at 95% confidence level and 5% confidence width. A total sample of 246 students was calculated and after adjustment to an expected response rate of 80%, the calculated sample reached 308 students. A total of 308 never married female students were recruited from various grades in each faculty. However the number of respondents was 281 (response rate=91.2%) representing those who

answered the key question (Have you ever been submitted to female circumcision?)

#### **Data collection:**

Data were collected using a self-administered, structured questionnaire developed by the researchers based on review of pertinent data to obtain information concerning the following: faculty and academic year of enrollment, age, residence, educational level of both parents, ever been submitted to FGC, who performed the procedure, subjective description of the procedure as remembered, sexuality data as defining orgasm and ever experiencing it and age of first time of experiencing orgasm. As there is lack of a satisfactory definition of orgasm because it relies on the subjective or self-report aspects of the experience<sup>(27)</sup>, The definition of orgasm used in the present study is that adopted by the American Psychiatric Association as “...a peaking of sexual pleasure, with release of sexual tension and rhythmic contraction of the perineal muscles and reproductive organs”<sup>(28)</sup>. Data collectors explained to the participants the items of the questionnaire and how to fill it. The participants were then handed the questionnaires to be answered and collected at the same day.

#### **Administrative considerations:**

An official permission was sought from the university administration authority before conducting the study.

#### **Ethical considerations:**

The questionnaires were anonymous. An informed consent was included. The surveyors' identity, objectives and benefits of the study were explained and confidentiality and autonomy were written in the consent and assured to the subjects as well before obtaining their approval to participate in the study.

#### **Statistical analysis:**

Statistical analysis was performed using the SPSS version 17. Numeric values were expressed as mean  $\pm$  SD and categorical values were expressed as percentages. The ‘chi squared test’ was used to compare percentages of categorical variables. Statistical significance was set at a *P* value  $\leq$  0.05.

#### **3. Results:**

The mean age of the respondents is  $19.94 \pm 1.6$  years (Table 1). The majority is from urban areas (81%) (Table 1). Regarding parental educational level, 44.3% of the studied group had a father's educational level less than university education and 52.3 % have their mother's educational level less than university education (Table 1). The prevalence of FGC is 50.9% (Table 1) significantly higher among students of rural origin (71.2%) compared to urban students (45.9%), *P*=0.001 (Table 2). The procedure is predominantly performed by a physician or a nurse (89.8%) (Table

1). Females submitted to FGC described this procedure as painful and traumatic (41.3%), ordinary (32.2%) or not remembered (26.5%) (Table 1). Besides residence in a rural area, factors associated with FGC included the educational level of both parents as parents with lower education level are the most likely to have submitted their daughters to FGC with prevalence rates of 71.2% for less than university educated mothers versus 27.8% for university graduates ( $P= 0.000$ ) and 71.7% for less than university educated fathers versus 34.4% for university graduates ( $P= 0.000$ ) (Table 2). Those who

reported ever experiencing orgasm (at least once) represented only 22% of the students, mostly  $\geq 15$  years of age (83.3%) while those who correctly defined female orgasm represented only 21.3% of the participants (Table 3). There were no statistically significant differences between females submitted to FGC versus those who are not as regards correctly defining orgasm (21.7% versus 21% respectively,  $P > 0.05$ ), ever experiencing orgasm (26.3% versus 17.7% respectively,  $P > 0.05$ ) or age at initiation of orgasm  $< 15$  years (23.8% versus 18.8% respectively,  $P > 0.05$ ) among those reporting experiencing orgasm (Table 3).

**Table (1): Description of the studied group and prevalence of FGC**

Variable		N	%
Residence	Urban	222	81
	Rural	52	19
	Total	274	100
Mother's educational level	Less than university	138	52.3
	University	126	47.7
	Total	264	100
Father's educational level	Less than university	120	44.3
	University	151	55.7
	Total	271	100
FGC	Submitted to FGC	143	50.9
	Not submitted to FGC	138	49.1
	Total	281	100
The operator	Healthcare provider	123	89.8
	others	20	10.2
	Total	143	100
FGC procedure as remembered	Painful and traumatic	59	41.3
	Ordinary	46	32.2
	Unremembered	38	26.5
	Total	143	100
Age of the respondents (years)	Mean $\pm$ SD	Minimum	Maximum
	19.941 $\pm$ 1.693	17	30

**Table (2): Relation of FGC to the residence and parental educational level of the respondents**

Variable		Submitted to FGC	Not submitted to FGC	Total	X <sup>2</sup> =	P=
<sup>1</sup> Residence	Rural	37 (71.2%)	15 (28.8 %)	52(100%)	10.711	0.001*
	Urban	102 (45.9%)	120 (54.1%)	222(100%)		
<sup>2</sup> Mother's education	Less than university	98 (71%)	40 (29 %)	138 (100%)	49.253	0.000*
	University	35 (27.8%)	91 (72.2%)	126 (100%)		
<sup>3</sup> Father's education	Less than university	86 (71.7%)	34 (28.3%)	120 (100%)	37.083	0.000*
	University	52 (34.4%)	99 (65.6%)	151 (100%)		

<sup>1</sup>N<sub>o</sub> of submitted to FGC = 139, N<sub>o</sub> of not submitted to FGC = 135, Total respondents = 274 out of 281.

<sup>2</sup>N<sub>o</sub> of submitted to FGC = 133, N<sub>o</sub> of not submitted to FGC = 131, Total respondents = 264 out of 281.

<sup>3</sup>N<sub>o</sub> of submitted to FGC = 138, N<sub>o</sub> of not submitted to FGC = 133, Total respondents = 271 out of 281.

$P \leq 0.05$  is statistically significant.

**Table (3): Relation of FGC to the sexual history of the respondents**

Variable		Submitted to FGC	Not submitted to FGC	Total	X <sup>2</sup> =	P=
<sup>1</sup> Defining orgasm	Correctly	31 (21.7%)	29 (21%)	60(21.4%)	0.018	0.892
	Incorrectly	112 (78.3%)	109 (79%)	221 (78.6%)		
<sup>2</sup> Orgasm experience	Ever experienced	25 (26.3%)	17 (17.7%)	42 (22%)	2.062	0.151
	Never experienced	70 (73.7%)	79 (82.3%)	149 (78%)		
<sup>3</sup> Age of initiation of orgasm	<15 years	5 (23.8%)	3 (18.8%)	8 (21.6%)	0.137	0.711
	≥ 15 years	16 (76.2%)	13 (81.3%)	29 (78.4%)		

<sup>1</sup> No of submitted to FGC = 143, No of not submitted to FGC = 138, Total respondents = 281 out of 281.

<sup>2</sup> No of submitted to FGC = 95, No of not submitted to FGC = 96, Total respondents = 191 out of 281.

<sup>3</sup> No of submitted to FGC = 21, No of not submitted to FGC = 16, Total respondents = 37 out of 42 respondents who reported ever experiencing orgasm.

#### 4. Discussion:

The prevalence of FGC in Egypt is virtually declining. Estimates of FGC obtained from the past Egyptian Demographic and Health Surveys (EDHS) in 2000, 2003, 2005 and 2008 were 97%, 97%, 96% and 91.1% respectively among women in the reproductive age<sup>(8, 29, 30, 7)</sup>, showing decline. A recent study of the prevalence of FGC among females aged 5-30 years in Giza governorate showed 63.9% prevalence, classified according to age groups to a FGC prevalence of 33.3% among those aged <10 years, 55% among those aged 10-20 years and 71.1% among those aged >20<sup>(11)</sup>. In Upper Egypt, prevalence of FGC is even higher as reported among girls aged 10-14 years to be 84.9%, higher in rural areas (92.5%)<sup>(31)</sup>. Rural residence, was found to be independently associated with FGC in the current study (Table 2), in agreement with several Egyptian studies on FGC. A nationwide survey of the prevalence of FGC among a representative sample of Egyptian school girls showed 50% prevalence, significantly higher among rural school girls (61.7%) than urban government school girls (46.2%)<sup>(10)</sup>. These figures are close to the findings of the present study of 50.9% FGC prevalence among university students (Table 1), significantly higher among rural students (71.2 %) compared to urban ones (45.9%) (Table 2). However, this prevalence is higher than that reported in some African countries where FGC is practiced such as Nigeria where it is estimated to be 12.1% among university students (n=359)<sup>(32)</sup> probably explained by studies reporting that FGC is not widely practiced in Nigeria as in Egypt, showing 31.3% prevalence among Nigerian women in the reproductive age<sup>(33)</sup>, much lesser than that reported in Egypt (91.1%)<sup>(7)</sup>.

Female's parents' education and the practice of FGC are associated. Parents with less than university education in this study are the most likely to have submitted their daughters to FGC with prevalence rates of 71.2% for less than university education for mothers and 71.7% for fathers (Table 2). Other studies in Egypt are in agreement with this finding with prevalence rates ranging between 59.5% and 65.1%, in daughters of lower level educated parents<sup>(10)</sup>. In other countries as well discontinuation of FGC was independently associated with urban residency and post-secondary education of the parents<sup>(34)</sup>, emphasizing the role of education in such deeply rooted cultural practices.

About the psychological outcomes of FGC, posttraumatic stress disorder, anxiety, depression, somatization, phobia and low self-esteem have been reported<sup>(35)</sup>. Nearly 41% of the subjects submitted to FGC in this study remembered the procedure as "traumatic and shocking" (Table 1). In an interview with 47 Senegalese women, over 90% described FGC as a traumatic experience and recount feelings of helplessness, fear, horror, and severe pain<sup>(36)</sup> documenting the psychological traumatic impact of the practice. In the present study, 32.2% described the procedure as "ordinary" or "not remembered" (26.5%) (Table 1), likely because majority of FGC procedures were performed by healthcare workers (Table 1) implying fewer complications, thus less pain to remember and may be use of anesthesia during FGC operations.

Although Survey reports show FGC decline in Egypt, yet the proportion of operations performed by medical personnel increased in response to concerns about the health complications of this act<sup>(9)</sup>. In the present study, 89.9% of FGC procedures were

reported to be performed by a healthcare provider (physician or nurse) (Table1), other studies in Egypt report 67.7%<sup>(10)</sup> down to 50% (11), in contrast to Upper Egypt where FGC is mostly performed by non-medical personnel (64.15%)<sup>(31)</sup>. this “medicalization” of FGC has led to a misconception that it is a more “benign” form of the practice<sup>(37-38)</sup>. Some physicians counseling the parents consider that certain girls “need” FGC<sup>(35)</sup>. The increasing role of healthcare providers in FGC despite criminalization of the act in Egypt has questioned their attitudes towards FGC. In one study 88.2%, 34.3% and 14.9% of nurses, young physicians, and senior physicians, respectively, approved the practice<sup>(25)</sup>. Another study revealed that 18% approved it mostly as a religious observation (82%) and 19% practiced it, mostly due to conviction (51%) or for profit (30%)<sup>(39)</sup>. Reasons also include supporting the patient's (and/or family's) decisions, or for harm reduction<sup>(3)</sup>. Even young generations of students may have negative attitudes towards discontinuation FGC as 52% of medical students in Alexandria, Egypt supported the continuation of the practice and 73.2% approved its "medicalization"<sup>(40)</sup>. Furthermore, while some argue that a medically performed FGC can be a first step to abandonment, there is no evidence supporting such an expectation and medicalization of FGC is condemned by the World Health Organization<sup>(3)</sup>.

Concern about women's sexuality is a key issue for the continuation of FGC. In qualitative studies done by the WHO in Egypt, it was found that the desire to control women's sexuality was a strong motivation for the practice of FGC<sup>(6)</sup>. FGC has been reported to be associated with psychosexual dysfunctions. Zayed et al. revealed that psychosexual dysfunction was exclusively reported in 72.7% of FGC subjects<sup>(11)</sup>. El-Defrawi et al, described Egyptian females submitted to FGC as less orgasmic (39%), less frequency of orgasm (25%), and having difficulty reaching orgasm (60.5%) statistically significantly higher than those who were not, suggesting a negative impact on a woman's psychosexual life<sup>(41)</sup>. In fact, the current study reveals statistically insignificant differences between genitally cut females versus those who were not as regards correctly defining orgasm (21.7% versus 21% respectively) (Table 3), rejecting differences in the awareness regarding this issue. Only 22% of the studied group reported ever experiencing orgasm (Table3), insignificantly higher among females submitted to FGC(26.3%) compared to those who are not (17.7%) (Table 3), thus arguing that FGC would restrict sexual feelings and experiencing orgasm is not proved by this study. The results of this study have implications for targeted interventions and advocacy groups working to stop FGC in Egypt, contradicting the cultural belief that FGC is needed to

ensure modest female sexuality which is a reason for continuation of this practice in Egypt<sup>(6)</sup>. The results of the present study are in agreement with a study done in Nigeria where there was no significant difference between females submitted to FGC and those who were not, in the frequency of reports of regular attainment of orgasm during sexual intercourse. In Nigeria, type 1 and 2 are most prevalent<sup>(42)</sup> same dominant types in Egypt as well. Variability in results between the current study and that of El Defrawi et al.<sup>(41)</sup> must be interpreted in the context of the differences in age, marital status, and sexual experiences of the subjects of both studies. It is to be said that many of the conditions cited to be caused by FGC are not the single and inevitable result of all of FGC for all females, but usually a worst-case scenario and depend much on the type of the procedure<sup>(43)</sup>. Further studies, especially of a qualitative nature are required to elucidate the psychosexual impact of FGC by type of the procedure.

#### Conclusion:

FGC is prevalent among university students in Egypt, mostly among those of rural residence and of lower parental education level with no differences between those submitted to FGC and those who are not as regards their sexual history, contradicting the cultural belief that FGC is mandatory to lower sexuality of females which is a key issue for continuation of this practice in Egypt.

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