

Effect of Female Genital Cutting on the Sexual Function among Egyptian Women: A Cross-Sectional Study

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Abstract

Objective: The existing literature on female genital cutting (FGC) is conflicting regarding its effects on sexual functions. The study aims to evaluate the effects of FGC on the female sexual function.

Methods: A cross-sectional study was carried out between April 2018 and January 2019. We included married women, aged 18-45 years old and sexually active during the last six months. All women were asked to complete the Arabic Female Sexual Function Index (ArFSFI) independently. The cut-off score to define sexual dysfunction on the total FSFI score is 28.1. Then, the gynecologist conducted a thorough clinical examination and a detailed assessment of the type and extent of FGC. Continuous data was expressed in the form of mean±SD while nominal data was expressed in the form of frequency and percentage.

Results: The study included 200 women divided into two groups; group (I) FGC, n=127 women and group (II) no FGC, n=73 women. There was no statistically significant difference in sexual function between both groups [91 women (71.7%) in group I vs. 53 women (72.6%) in group II, p=0.511]. The mean total ArFSFI score in group I was 25.8±3.05 vs. 25.4±3.64 in group II (p=0.598). No statistically significant difference in the sexual function between women with type I and type II FGC (p=0.555).

Conclusions: FGC is not associated with reduced scores of ArFSFI either in all domain scores or the total score. Moreover, no difference in the scores of the ArFSFI between women with type I or type II FGC.

Key words: Female genital cutting; sexual function; FSFI.

Introduction

Female genital cutting (FGC), also known as female genital mutilation (FGM), comprises all procedures that involve the partial or total removal of external genitalia or other injury to the female genital organs for non-medical reasons [1]. Although it is internationally recognized as a violation of human rights and legislation to prohibit the procedure has been put in place in many countries, to date the practice is still being reported in 30 countries in Africa and in a few countries in Asia and the Middle East [1, 2].

The most recent Egypt Demographic and Health Survey (EDHS), conducted in 2014, found that 92% of ever-married women age 15-49 have been circumcised. Urban women are less likely to be circumcised than rural women (86% and 95%, respectively) [3].

In 2007, the World Health Organization (WHO) and other United Nations organizations have issued a joint statement that has broadened the FGC classification [4]. Type I, also known as clitoridectomy, involves removing part or

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all of the clitoris and/or the prepuce. Type II, also known as excision, involves removing part or all of the clitoris and labia minora, with or without excision of the labia majora. Type III, the most severe form, is also called infibulation or pharaonic genital cutting. It entails removing part or all of the external genitalia and narrowing the vaginal orifice by re-approximating the labia minora and/or labia majora. The infibulated scar covers the urethra and most of the introitus, leaving a small hole for urination and menses. Type IV is the mildest form and includes any form of other harm done to the genitalia by pricking, piercing, cutting, scraping, or burning.

The most common short-term adverse events of FGC include severe pain, shock caused by pain and/or excessive hemorrhage, difficulty in passing urine and stools because of swelling, edema and pain, as well as infections [5]. The most common long-term health hazards of female circumcision are dermoid cysts and abscesses, chronic pelvic infections that can cause chronic back and pelvic pain, as well as repeated urinary tract infections [6]. FGC may also lead to negative psychological consequences. Documented effects include posttraumatic stress disorder, anxiety, depression, and psychosexual problems [7].

The existing literature on FGC and sexuality is conflicting regarding its effects on sexual functions [8]. Several socio-anthropological studies from Africa stated that FGC has no effect on sexual function [9-11]. Other studies indicated that sexual function of women with FGC is adversely altered [12-14]. This conflict of sexual consequences of FGC may stem from the way of assessment of sexual function itself, where validated tools to assess sexual function were not used, or from linking sexual function to the extent of cutting, where cutting status was dependent on self-reporting and not genital examination [11].

Female Sexual Function Index (FSFI), which was developed by Rosen et al. in 2000, is a 19-item multidimensional self-reporting measure, which quantifies six domains of female sexual function, including desire, arousal, lubrication, orgasm, satisfaction, and sexual pain [15]. It has been shown in several validation

studies that FSFI is highly reliable and valid [16]. FSFI has been translated into more than 20 languages, and it has become the gold standard in the assessment of female sexual function [17]. An Arabic Female Sexual Function Index (ArFSFI) has been recently validated using a large sample of Egyptian women, 62% of which have undergone FGC [18].

This study aims to evaluate the influence of FGC on the sexual function using a valid and reliable tool among Egyptian women.

Patients and Methods

Study Population

A cross-sectional study was performed in Woman Health Hospital, Assiut University and between April 2018 and May 2019. Women attending for family planning were interviewed; those who fulfilled the inclusion criteria were given an explanation about the study to participate.

Inclusion Criteria

- Age 18 – 45 years old.
- Married
- Sexually active during the last 6 months.
- Able to give consent.

Exclusion Criteria

- Pregnant women.
- Those who have medical disease (DM, Renal failure, etc) affecting the sexual function.
- Women taking any medications affecting the sexual function.
- Women refuse to participate in the study or to sign the written consent.

Questionnaire Development

One questionnaire which was tested and validated in many studies was introduced in this study. The questionnaire consists of two main questions types: Personal and demographic variables, which included Name (optional), Age (years), Residence (Urban or Rural), Religion (Muslim or Christian), in addition to Employment status, Education standard, etc. Then, the Arabic Female Sexual Function Index (ArFSFI) was completed.

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Questionnaire Interviews

Terms used in the ArFSFI were carefully explained and written consents for vulval examination were obtained. Participants were assured of the anonymity and confidentiality of the data obtained. The socio-demographic form and the ArFSFI were filled out in a room with full privacy. Upon completion of the ArFSFI by the participants, obstetric and gynecological history was obtained. Women were also asked about whether they had been cut, at what age, and about place and practitioner of the procedure. The gynecologist then conducted a thorough clinical examination and a detailed assessment of the type and extent of FGC was made. The cut-off score to define sexual dysfunction on the total FSFI score is 28.1 [18].

Ethical Considerations

In addition to the written consent that was obtained from each woman accepted sharing in the study, approval was taken from the Faculty of Medicine Ethical Committee. The study was explained to the women giving them a clear idea about and assured that confidentiality would be maintained and ethical principles would be followed. Before distribution of the questionnaires, a background about the survey and its reason was explained, and the targeted population encouraged participating without any undue pressure.

Sample Size Estimation

Sample size was calculated by Open Epi Info with two sided confidence interval 95%, power 80%, controls exposure 55%, cases exposure 75% and odds ratio 2.45.

The calculated sample size by Fleiss with continuity correction (CC) is 198.

Statistical Analysis

Data was collected in pre-formed questionnaires and then entered in spread sheets of Statistical package for social Sciences (SPSS) software (SPSS Inc., Chicago, IL, USA) version 25 for Windows 10 (Microsoft Corp., Redmond, WA) to be analyzed. Continuous data was expressed in form of mean \pm SD while nominal data was expressed in form of frequency (percentage). For statistical analysis, we tested the different scores for normality by Shapiro-Wilkes test, and they were not normally distributed, so differences between groups were assessed using Chi-square test, Mann-Whitney test and kruskal-Wallis as appropriate. A probability (P) value of <0.05 was considered to indicate statistical significance.

Results

We interviewed 356 women to be evaluated for study enrollment, 116 of them were excluded according to the exclusion criteria. Forty patients didn't accept to participate in the study. Only 200 patients fulfilled the inclusion criteria and accepted to participate.

Regarding the socio-demographic characteristics, we found a statistically significant difference among the study participants as regard residence, religion, education, occupation, mode of delivery and the duration of marriage. On the other hand, there was no statistically significant difference among them regarding age and contraception use as shown in table (1).

Table 1: Baseline socio-demographic characteristics of women in both groups.

Variables	FGC (n=127)	No FGC (n=73)	P-value
Age (years)			
Range	18 – 43	22 – 43	
Mean \pm SD	29.62 \pm 6.195	29.53 \pm 3.794	
Age groups			0.944
< 20	9 (7.1%)	0 (0%)	
20 – 30	69 (54.3%)	54 (74%)	
30 – 40	42 (33.1%)	17 (23.3%)	
> 40	7 (5.5%)	2 (2.7%)	
Residence			0.000*
Rural	55 (43.3%)	12 (16.4%)	
Urban	72 (56.7%)	61 (83.6%)	
Religion			0.007*
Muslim	122 (96.1%)	62 (84.9%)	
Christian	5 (3.9%)	11 (15.1%)	

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Education			
Not educated	23 (18.1%)	2 (2.7%)	0.000*
Primary	11 (8.7%)	0 (0%)	
Secondary	54 (42.5%)	9 (12.3%)	
University	23 (18.1%)	48 (65.8%)	
Post graduate	16 (12.6%)	14 (19.2%)	
Occupation			
Employee	30 (23.6%)	41 (56.2%)	0.000*
Student	0 (0%)	2 (2.7%)	
Housewife	78 (61.4%)	22 (30.1%)	
Other	19 (15%)	8 (11%)	
Delivery			
No previous delivery	12 (9.4%)	6 (8.2%)	0.008*
Normal	56 (44.1%)	17 (23.3%)	
CS	59 (46.5%)	50 (68.5%)	
Contraception			
Yes	99 (78%)	54 (74%)	0.318
No	28 (22%)	19 (26%)	
Duration of marriage			
Range	1-27	1-14	0.001*
Mean \pm SD	8.61 \pm 6.117	5.34 \pm 2.689	

* Statistical significant difference ($P < 0.05$)

According to the type of FGC, there was a statistically significant difference between type I and type II as regard the performer of FGC ($P=0.000$), and the place of performance ($P=0.037$) (Table 2).

Table 2: Characters of female genital cutting

	Type I	Type II	P-value
Number of FGC cases	43(33.9%)	84(66.1%)	
Age at FGC (mean \pmSD)	9.40 \pm 1.80	8.92 \pm 1.85	0.169
Performer of FGC			
Doctor	18 (41.9%)	19 (22.6%)	0.000*
Nurse	12 (27.9%)	9 (10.7%)	
Daya	13 (30.2%)	56 (66.7%)	
Place of FGC			
Home	31 (72.1%)	73 (86.9%)	0.037*
Medical Place	12 (27.9%)	11 (13.1%)	

* Statistical significant difference ($P < 0.05$)

There was no statistically significant difference in the percentage of sexual dysfunction between both groups; 91 (71.7%) in FGC group vs. 53 (72.6%) in no FGC group ($P=0.510$). Moreover, there was no statistically significant difference in the six domains of FSFI and total score between both groups (Table 3).

Table 3: Female sexual function index total and domain scores in the study groups.

Variables	FGC (n=127)	No FGC (n=73)	P-value
Desire	4.03 \pm 0.78	3.87 \pm 0.79	0.158
Arousal	4.22 \pm 0.74	4.29 \pm 0.88	0.647
Lubrication	4.75 \pm 0.79	4.72 \pm 1.01	0.943
Orgasm	4.61 \pm 0.91	4.71 \pm 0.98	0.321
Satisfaction	5.12 \pm 0.92	5.03 \pm 1.17	0.969
Pain	3.10 \pm 1.08	2.79 \pm 0.84	0.088
Total score	25.8 \pm 3.05	25.4 \pm 3.64	0.598

Additionally, there was no statistically significant difference in the percentage of sexual dysfunction between type I FGC [31(72.1%)] and type II FGC [91(71.4%)] ($P=0.555$).

There was only statistically significant difference between type I and type II FGC in the arousal domain ($p=0.005$) (Table 4).

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Table 4: Comparison between type I and type II FGC as regard the total and domains scores of FSFI.

Variable	Type I (n=43)	Type II (n=84)	P Value
Desire	4.12±.759	3.99±.800	0.583
Arousal	4.48±.656	4.09±.757	0.005*
Lubrication	4.74±.820	4.75±.789	0.973
Orgasm	4.72±.884	4.55±.935	0.229
Satisfaction	5.28±.701	5.03±1.01	0.276
Pain	3.22±1.09	3.04±1.08	0.356
Total score	26.6±2.61	25.4±3.64	0.071

P value was significant if <0.05

Discussion

FGC is recognized worldwide as a violation of the girls' and women's human rights and constitutes an intense form of discrimination against them due to the severe medical risks and health consequences. In Egypt, 92% of women aged 15–49 years have been circumcised despite banning of this practice by the government, rural women are more likely to be circumcised than urban one [3]. This was not concomitant with the results of the present study where 56.7% of cases were of urban origin.

Egyptian demographic health survey (EDHS), 2008 illustrated that the possibility of FGC also declined with educational level. This was proved by the current work (18.1% of women exposed to FGC got university education and versus 65.8% of non-exposed. EDHS, 2008 stated that all women exposed to FGC before the age of 15 years. Our results are matched with them, where the mean age of FGC was 9.8 ± 1.84 years.

Traditionally, FGC was done by midwives, but the practice is increasingly medicalized and more health-care providers are performing the procedure [19]. This is supported by our results as (41.86%) of FGC cases especially type I were performed by physicians. These finding also are consistent with Ismail et al., 2017 as nearly half of FGC cases were performed by physicians (49.7%) [20].

In this study, most of FGC cases (81.9%) were carried out at home that comes in agreement with the study of Ismail et al., 2017 which demonstrate that (68.5%) of cases were carried out at home [20]. This

may raise the possibilities of infection and scar formation that may affect the future sexual functions of those girls.

The current study revealed no significant association between FGC and the female sexual function with no significant difference between cases and control in the total and domain score of FSFI ($p=0.510$). These findings are consistent with previous studies evaluating the relation between FGC and female sexual function as Catania and colleagues, 2007 compared the FSFI scores of 57 infibulated women and a control group of 57 uncut women reveal that FGC has no negative impact on sexual life [13]. Also, our study comes in agreement with the study of Alsibiani and Rouzi, 2010 on 260 women in Saudi Arabia, as there was no difference in the mean desire or pain score observed between circumcised and non circumcised women [12].

On the contrary, Ismail et al., 2017 revealed a significant association between FGC and decline in the female sexual function with significant difference between cases and control in the total score ($P=0.000$) [20]. Additionally, Mahmoud, 2019 in Egypt revealed a decline in the female sexual function in circumcised women rather than non circumcised ($P = 0.000$) [21]. Similarly, Biglu et al., 2016 stated that the total scores for circumcised women was significantly lower than that of the non circumcised women ($P= 0.000$) [22].

Human sexuality depends on many factors (biological, psychosexual, and social/contextual dependence) which act in a way that one factor can improve or inhibits the other and vice versa [23]. It is really important to remember that FGC

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women, has some fundamental structures for the orgasm have not been excised. These women achieve orgasm by stimulating the vagina and consider the clitoris as something extra. In reality they refer to the visible (external) part of the clitoris which is the “top of the iceberg” of the whole structure, strictly connected to the vagina [13].

The present study demonstrated that there is a statistically significant difference in arousal domain between type I and type II FGC ($P=0.005$). This agrees with Thabet and Thabet, 2003 that studied 147 Egyptian women and found that women with type I FGC had no reduction in sexual function, whereas those who had undergone type II had several sexual problems [24]. Nour et al., 2006 reported that intact clitoris buried beneath the scar in 40% of FGC women type I may explain the maintained high arousal domain in type I FGC reported in our study [25].

Many mechanisms were proposed for dyspareunia after FGC including injury of clitoral nerves and related receptors leading to neuropathic pain in the incision scars. Additionally, healing from any type of cutting inevitably involves adhesions and scar formation with reduced flexibility and sensitivity of genital tissue that becomes more liable to tearing during intercourse. Pain may be also caused by friction during intercourse because of the scarring of nervous tissues (traumatic neuroma) at the site of the excision [26].

In our study there is no statistically significant difference between type FGC and non circumcised women ($P=0.852$) that may be explained by cultural influence which can change the perception of pleasure, as well as social acceptance. Also age, marital status, degree of acculturation, educational level, degree and extent of FGC, all may play a role in a woman's views on sexuality.

Most women bring shame on taking about their sexual life which may affect her answers of FSFI. As the subject of FGC is very sensitive and debatable in our conservative community, especially when it

comes to its effect on sexual function. Some women may be reluctant to complain about the discomforts they have or to convey their FGC in negative terms as it might mean having negative feelings about their parents being responsible for the FGC. We tried to decrease this problem by assuring participants about confidentiality of the data obtained and filling out the questionnaire in a room with some privacy.

The main strength of the current study is confirming the type of FGC by meticulous genital examination, as self reporting of FGC and its different forms. Other strength points include the use of a standardized questionnaire that has been validated for the Egyptian population [18], and inclusion of adequate number of study participants based on the sample size estimation

In conclusion, FGC is not associated with reduced scores of FSFI on all domain scores. All cases of FGC either type I or type II has no difference in the total or individual domain scores except the arousal domain. Further researches are needed to study the full range of FGC effects on physical, mental and psychosocial life of women.

Contribution to Authorship

RMA and MMS have made substantial contributions to conception, design and planning of the study; AMA, EEK and MMS made substantial contributions to drafting the first version of the manuscript and revising the manuscript critically for important intellectual content; RMA and AMA made substantial contributions to data management, statistical analysis and interpretation of data; EEK and AMA made their contribution in drafting and revising the manuscript. All authors read and approved the final manuscript.

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