Evaluation of Psychological and Sexual Effects of Female Genital Mutilation (Circumcision)

Zakaria Mahran Obaid¹, Ahmed Wahhed-Allah Amer¹, Mohammed Abdel Fatah El Mahdy², Amira Elmaadawy Barakat Mohammed^{1*}

Departments of ¹Dermatology, Venereology & Andrology and ²Psychiatry, Faculty of Medicine, Al-Azhar University, Damietta, Egypt

*Corresponding author: Amira Elmaadawy Barakat Mohammed, E-Mail: dr_miro89@yahoo.com, Mobile: 01009601432

ABSTRACT

Background: female genital mutilation (FGM), also known as female circumcision (FC), but more recently as female genital mutilation/cutting (FGM/C) according to the World Health Organization (WHO), has occurred in many forms in all societies. The psychosocial consequences include post-traumatic stress disorder (PTSD), anxiety disorders, panic disorders, depression and suppression of feeling and thinking, and sometimes attempted suicide.

Objective: To evaluate sexual and psychological effects of female genital mutilation.

Patients and Methods: The two groups were compared as regard many demographic data such as age, level of education, associated chronic diseases and previous gynecological history. The results revealed no significant difference between the two groups in the educational level. The females in the two groups also showed significant difference in their agreement with the process and subsequently in their future decision in performing circumcision for their daughters. Other demographic data included in this study revealed no difference between the studied groups.

Results: The study used different questionnaires and scores to compare the sexual satisfaction and psychological effects of the females in the study. For assessment of sexual satisfaction, Female Sexual Function Index (FSFI) questionnaire translated into Arabic was used and showed no significant difference between the two groups except for only a single domain" lubrication".

Conclusion: Concerning the psychiatric analysis of the two groups, Anxiety Hamilton score and Depression Beck score were used and showed no statistically significant difference between the two groups in the two scores. Also 19% of the females in the group of FGM showed positive symptoms for post-traumatic stress disorder (PTSD).

Keywords: Post-traumatic stress disorder, female genital mutilation, female circumcision

INTRODUCTION

According to a 2013 UNICEF report covering 29 countries in Africa and the Middle East, Egypt has the highest total number of women that have undergone female genital mutilation (FGM) (27.2 million) in the region, while the highest percentage (prevalence) of FGM was in Somalia (98%)⁽¹⁾. FGM harms women's physical health throughout their lives ⁽²⁾. Circumcised women have reported several sexual problems including a reduction in all her sexual cycle as sexual desire, arousal, excitement, orgasm, and dyspareunia at varying levels ⁽³⁾. The psychosocial consequences of FGM include post-traumatic stress disorder (PTSD), anxiety disorders, panic disorders, depression and suppression of feeling and thinking, and sometimes attempted suicide $^{(4)}$.

These effects are due to psychological trauma of the painful procedure, sense of humiliation and being cheated by parents, use of physical force by those performing the procedure, negative genital image, lack of sense of

Received: 03/10/2018 Accepted: 24/10/2018 ownership of their bodies, destructive sexual life, and infertility ^(4,5).

AIM OF THE WORK

The aim of the present work is to evaluate sexual and psychological effects of female genital mutilation.

PATIENTS AND METHODS Study population

Between January 2018 and September 2018, a total of 200 women: 100 sexually active who were subjected to FGM/C while, 100 sexually active weren't subjected to FGM/C. All women were married and below the age of 50 and were collected from the outpatient clinics of Damietta Al-Azhar University Hospital, informed consent was obtained from the participants. The study was approved by Ethics Board Al-Azhar the of University.

All patients were subjected to: *History taking:*

Demographic characteristics, including age, age of marriage, educational level (primary, prep, secondary school or university degree) were assessed in all women.

Our study also included data pertaining to the age at time of FGM/C, who performed the FGM/C (physicians or not), their agreement with FGM/C (agree/disagree) their decision about doing FGM/C for their daughter.

Clinical examination:

Clinical examination was done to exclude any systemic or debilitating disease, and exclude any psychological illness.

Assessment of female sexual function

Female sexuality was assessed in our study by:

Arabic translated version of FSFI questionnaire ⁽⁶⁾ which is a brief. multidimensional, validated tool for assessment of FSF during sexual activity, consists of a 19-item regarding sexual function domains consisted of: sexual desire. arousal, lubrication, orgasm, satisfaction and pain during sexual activity/intercourse.

For each of the 19 questions there were 5 possible answers with score (0-5) that was calculated and the significance of each of them in comparison to the control group is determined.

Assessment of psychological function

Anxiety was assessed by using Hamilton Anxiety Rating Scale HAM-A (7):

The HAM-A was developed to measure the severity of anxiety symptoms, the scale consists of 14 items that measure both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety).

each item is scored on a scale of 0 (not present) to 4 (severe), with a total score range of 0-56, where y, where <17 indicates mild severity, 18–24 mild to moderate severity and 25–30 moderate to severe.

DepressionwasassessedbyBeck'sDepressionInventory(8)fordepression:

It is 21-item self-report multiplechoice developed to measure the intensity, severity, and depth of depression.

Items are rated on a 4-point scale ranging from 0 to 3 based on severity of each item. The maximum total score is 63. Where 0:13 indicate minimum depression, 14:19 indicates mild depression, 20:28 indicates moderate depression and 29:63 indicates severe depression.

Post-Traumatic Stress Disorder was assessed by Davidson Trauma Scale-DSM-IV ⁽⁹⁾:

DSM is self-rating scale for assessing the frequency of post-traumatic stress disorder symptoms, It is consists of 17 items that are classified into 3 clusters. Which are Intrusive, Avoidance/Numbing, and Hyper arousal that can be scored separately?

Diagnosis of PTSD is made by: One item from Intrusion, three items from avoidance, one item from Hyperarousal **Statistical analysis of the data**

Data were fed to the computer and analyzed using IBM SPSS software package version 22.0. Qualitative data were described using number (frequency) and Percent.

Quantitative data were described using mean and standard deviation or median and range after testing normality using Kolmogorov-Smirnov test. Significance of the obtained results was judged at the 5% level. All tests were 2tailed. Categorical variables were compared using Chi square (\Box^2) test, and continuous variables were compared using independent sample t-test (with normally distributed data) or Mann-Whitney U test [expressed as Z] (if the data is not normally distributed).

All tests were considered significant if P value < 0.05

RESULTS

| Age of circumcision (in years) | | | | | | |
|----------------------------------|-----------------------------------|--------|--|--|--|--|
| Median (min-max) | Aedian (min-max) 10 (at birth-18) | | | | | |
| Who performed circumcision | | | | | | |
| | Number Percentag | | | | | |
| Not medical staff | 42 | 21 % | | | | |
| Medical staff | 58 | 29 % | | | | |
| Total | 100 | 50 % | | | | |
| Satisfaction with circumcision | | | | | | |
| No | 144 | 72 % | | | | |
| Yes | 56 | 28 % | | | | |
| Total | 200 | 100 % | | | | |
| Doing circumcision for daughters | | | | | | |
| No | 136 | 68 % | | | | |
| Yes | 19 | 9.5 % | | | | |
| May be | 45 | 22.5 % | | | | |
| Total | 200 | 100 % | | | | |

| Table (| 1) | : Ana | alysi | s of | circu | mcision | in | the | females | inc | luded | in | the | study: |
|---------|----|-------|-------|-------|-------|---------|----|-----|---------|-----|-------|----|-----|--------|
| (| | | | ~ ~ ~ | | | | | | | | | | |

Table (2): Comparison and analysis of different factors between the two groups included in the study:

| | Gro With | oup FGM | Gro Withou | oup 1t FGM | □2 | Р | |
|-----------------------------|-------------|------------|---------------|---------------|--------|-----------|--|
| | Count | Percent | Count | Percent | | | |
| Education Level | | | | | | | |
| Secondary | 8 | 4% | 6 | 3% | | | |
| University | 92 | 46% | 94 | 47% | 1.021 | 0.784 | |
| Condom | 4 | 3.4% | 6 | 5.1% | | | |
| Agreement with circumcision | | | | | | | |
| No | 55 | 27.5% | 89 | 44.5% | 29 (71 | < 0.0001* | |
| Yes | 45 | 22.5% | 11 | 5.5% | 28.0/1 | < 0.0001* | |

| | Group | Mean \pm SD | t-test | Р | |
|--------------|-------------|------------------|--------|--------|--|
| Dogiro | with FGM | 4.29 ± 1.14 | 0.261 | 0.794 | |
| Desire | Without FGM | 4.25 ± 1.24 | 0.201 | | |
| Arousal | with FGM | 4.49 ± 1.12 | 0.255 | 0.799 | |
| Alousai | Without FGM | 4.53 ± 1.11 | 0.233 | | |
| Lubrication | with FGM | 4.68 ± 0.98 | 2 100 | 0.037* | |
| Luoncation | Without FGM | 4.96 ± 0.89 | 2.100 | | |
| Orgasm | with FGM | 4.54 ± 1.19 | 1 279 | 0.203 | |
| | Without FGM | 4.75 ± 1.09 | 1.278 | | |
| Satisfaction | with FGM | 4.98 ± 1.17 | 0.386 | 0.700 | |
| Satisfaction | Without FGM | 5.04 ± 1.18 | 0.380 | | |
| Pain | with FGM | 4.58 ± 1.05 | 0.057 | 0.240 | |
| | Without FGM | 4.43 ± 1.12 | 0.937 | 0.340 | |
| TT (1 | with FGM | 27.33 ± 5.61 | 0.050 | 0.205 | |
| Total score | Without FGM | 27.95 ± 4.88 | 0.852 | 0.395 | |

Table (3): Comparison and analysis of the items of Female Sexual Function Index between the two groups included in the study

* The star means ecstatically significance differences between the tow groups

Table (4): Comparison and analysis of the items of Anxiety Hamilton Score and Depression Beck Score between the two groups included in the study

| | Group | Mean Rank | Z score | Р |
|------------------|-------------|-----------|---------|-------|
| Anxiety Hamilton | with FGM | 103.63 | 0.886 | 0.376 |
| score | Without FGM | 96.41 | 0.880 | 0.370 |
| Depression Beck | with FGM | 101.5 | 0.266 | 0.715 |
| Score | Without FGM | 98.52 | 0.300 | 0.715 |

Table (5): Number and percentage of females with positive response at post traumatic stress disorders (PTSD) score in group I (with FGM).

| | Number | Percentage |
|---------------------------------------------------------------------|--------|------------|
| Females with positive response for PTSD in group I (with FGM) | 19 | 19% |

DISCUSSION

The World Health Organization (WHO) defines FGM as "all procedures that involve partial or total removal of the external female genitalia or other injury to the female genital organs for non-medical reasons" ⁽¹⁰⁾.

Female sexual dysfunction is defined as a disorder of sexual desire, orgasm, arousal, and sexual pain that results in significant personal distress ⁽¹¹⁾. Sexual dysfunction after FGM is a very important issue ⁽¹²⁾.

In our study, the mean age of the participants in the study was 22.5 years with nearly 75% of them are within the age of twenties. Also, in our study, the median age of circumcision was 10 years with minimum age at birth and maximum age for performing circumcision was 18 years. It has been known that FGM is typically performed on young girls between 4 and 12 years old; however, the procedure may be carried out shortly after birth right up until just before a girl is married ⁽¹³⁾.

Traditionally, FGM was done by non-medical stuff as midwives, but the practice is increasingly medicalized and more health-care providers are performing the procedure trying to decrease the incidence of complications (Mahmoud et al., 2014) ^{(14).} The results of our study supported this point of view where about 58% of the females with FGM were performed by physicians while 42% of them weren't.

This was also supported by the results reported by Ismail *et al.* ⁽¹⁵⁾ as nearly half of FGM cases in their study (49.7%) were performed by physicians. This also came in accordance with the results reported by El-nashar and Abdelhady ⁽¹⁶⁾ and El-Zanaty & Way ^{(17).}

The results of our study showed no significant difference between the educational level of females within the two groups with a greater number of university level of education females who didn't undergo FGM (p=0.784).

This was also coming in accordance with the results of Mahmoud ⁽¹⁸⁾ who revealed that 39.3% of cases included in their study got university education and more versus 43.3% of their control group.

This also came in contrast to the results of many studies that revealed higher significant difference in the educational level between the females who and who didn't undergo FGM. Anderson *et al.* ⁽¹⁹⁾, Raheem *et al.* ⁽²⁰⁾, Ismail *et al.* ⁽¹⁵⁾ and many other authors reported the negative association between the educational level and the act of FGM.

Establishing a relationship between a woman's FGM status and her educational level can often be misleading, as FGM usually takes place before education is completed. It is more important to comment on the educational level of the parents or the care providers of the daughters. Unfortunately, there was no available data about the educational level of the parents in this study. This point has been demonstrated by Raheem *et al.* ⁽²⁰⁾ who revealed a significant difference in the educational level of the parents between the cases and the controls.

There was a highly significant difference between the participants within the two groups in their agreement with the process of FGM/C (p= < 0.0001), This might be the cause that affected their decisions in performing FGM/C to their daughters in the future that also revealed highly significant difference between the two groups (p = 0.003).

The results of our work came in opposite to those reported by Mahmoud ⁽¹⁸⁾ who showed that 52.6% of cases of females with FGM were convinced with this practice. Moreover, 46 % actually redid it or plan to do it for their daughters. In addition to that, the study conducted in Switzerland on the African immigrants revealed that 75% of female who had FGM were satisfied with the process without further illustration of the aspects of these satisfaction ^{(21).}

Also, in our study, there was no statistically significant difference in sexual quality of life scores between women who have undergone FGM and those who have not with the FGM women as illustrated by the total FSFI score. When the individual items of the FSFI were compared between the two groups, no significant difference were detected between them in desire, arousal, orgasm, satisfaction and pain during the sexual intercourse. The only item that showed significant difference between the two groups was the lubrication during the sexual act.

The absence of significant difference in this study could be due to the low number of females recruited within each group in the study. Most of studies recruited larger number. Another reason for absence of significant difference is shame among females and inability to express their opinions about sexual life freely.

In agreement with the results of our study, it has been revealed that there is no difference in the total FSFI score between the cases and control groups in the results of a study performed by **Abdulcadir** *et al.*⁽²²⁾. They have assumed that it happened because a smaller clitoris could be associated with an improved perception of the genitals and gender identity in some women, resulting in better sexual function.

Moreover, **Catania** *et al.* ⁽²³⁾ showed in their results that 57 women with type III FGM/C reported higher scores than controls in several FSFI domains, but this study was confounded by the unmatched control group consisting mainly of western women.

In the study of **Alsibiani and Rouzi** ⁽²⁴⁾ on 260 women in **Saudi Arabia**, no difference in the mean desire or pain score was observed. While, there were statistically significant differences in the arousal, lubrication, orgasm, and satisfaction, as well as the overall sexual function score between circumcised and control women.

On the contrary of the results of this current study, the results of a study conducted by Mahmoud ⁽¹⁸⁾ showed a significant association between FGM and female sexual function, where reduction of all individual FSFI domain scores (namely desire, arousal, lubrication, orgasm, satisfaction and pain). The total score of female sexual function for cases was significantly lower than their control (14.3 \pm 5.93 for cases versus 25.9 \pm 3.44 for control) (P = 0.000).

Biglu *et al.* ⁽²⁵⁾ also proved that the total scores for circumcised women was significantly lower than control women (17.9 \pm 5.39 versus 25.3 \pm 4.34 respectively, p = 0.001). Also, Anis *et al.* ⁽²⁶⁾ found that women with FGM/C had significantly lower scores on all domains except pain.

A recent study conducted in Assiut University hospitals in Egypt in 2017 that had two groups of females with and without FGM; each group of 197 has also shown the highly significant difference in the sexual function between the both groups. The control group had higher score in all domains of FSFI and the total score as well than the cases ^{(15).}

The psychological consequences of FGM may be explained by many factors, such as the lateness of the procedure (during adolescence or early adulthood) as a sort of punishment or a weakness on the part of the parents, or worry over the state of the genitals and future marital life, as well as fear of infertility (27)(28). FGM girls are often aware that their status is not generally accepted in society ⁽²⁹⁾. Furthermore, in schools and other public forums, people are increasingly taught about the negative effects of FGM, creating a continuous pressure on FGM girls (30).

In our study we used anxiety Hamilton score and Beck's depression analysis to assess the difference between the two groups in presence of anxiety and depression. However, the current results revealed no statistically significant difference between the females within the case and control group (P value is 0.376 and 0.715). Also, about 19% of the participants within group 1 showed positive response in PTSD.

In contrast to our results, Ahmed et al. (13) performed a study to assess the effects of FGM on the long term psychological consequences of the participant females. Psychological health data analysis revealed that FGM girls had significantly higher scores for somatisation $(33.5 \pm 3.7 \text{ vs. } 20.6 \pm 4.2),$ depression $(31.7 \pm 3.3 \text{ vs. } 26.3 \pm 4.9)$, anxiety $(32.1 \pm 3.1 \text{ vs. } 21.2 \pm 3.8)$, phobic anxiety $(20.4 \pm 5.6 \text{ vs. } 14.6 \pm 1.4)$ and hostility $(19.6 \pm 5.4 \text{ vs. } 16.4 \pm 2.8)$ than those in the non-FGM group.

These results in previous study came in agreement with those of Kizilhan ^{(29),} who found a significantly higher prevalence of depression disorder (33.6%), anxiety disorder (45.6%) among Kurdish girls in northern Iraq who had undergone FGM compared with a non-FGM group.

Chibber *et al.* ⁽³¹⁾ found that the most prevalent psychological disturbances among FGM girls were affective disorders, including anxiety and depression (58%). In addition to that,

Vloeberghs *et al.* ⁽³²⁾ found that 33% of FGM women from five different African countries met the criteria for affective or anxiety disorders and 16% had PTSD.

On the contrary, FGM/C provides a psychological relief to a child who is made to believe and celebrate the cultural act in the community where female genitals are seen as dirty or a source of enthralling temptation. The female child feels satisfied despite the pain, of being made clean and marriageable like every other female in the community rather than becoming despised and made the target of ridicule with no one in the community to marry her ^{(33).}

An Egyptian study conducted in Benha University Hospital by Elnashar and Abdelhady ⁽¹⁶⁾, assessing the impact of FGM on the health of newly married women, demonstrated that FGM women had significant mental problems regarding somatization, anxiety and phobic anxiety; however, FGM had no significant effect on depression and hostility. Their study population was generally older than our study population, which may explain the differences.

Another study performed in 2015 on the African immigrants in Netherlands revealed that about a sixth reporting scores above the threshold for PTSD and a third reporting severe levels of depression or anxiety from a total number of 66 with FGM included in the study (34). Those African immigrants can give a good indicator for PTSD associated with circumcision because they transferred to more developed countries where can express their sexual and psychological needs freely. This usually not happen here in Egypt because of the problems of daily life and the society tradition which make expression of sexual needs as a kind of welfare or even a kind of shame.

The strength points in this study include the use of a standardized questionnaire that has been validated for the Egyptian population, including equal numbers of females within the two groups and using multiple psychological scores to assess the psychological effects of FGM on the long run.

limitations in this work do exist including low number of participants in the study. Although other studies utilized less number, but large number may cause change in the outcomes of both physical and psychological outcomes. Also, difficulty to obtain information from many females because of traditions and shyness made the study to take more prolonged time.

CONCLUSION

FGM is more frequent in females in families who previously performed FGM to older females. number of females with FGM who agreed with the FGM is less than who didn't agree. However, this ratio is still higher than the group without FGM and this could explain the difference of the future decision for performing circumcision for their daughters between the two groups. As regards the sexual and psychological effects in this study difference the only was lubrication.

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