Impact of genital mutilation on sexual function in a cohort of women from upper Egypt

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Received 27 March 2016
Accepted 7 June 2016

Evidence Based Women's Health Journal 2016, Volume 6- issue 3- p 110-114

Objective

To investigate the impact of genital mutilation on the prevalence of sexual dysfunction in a cohort of Upper Egyptian women.

Study design

This was a case–control hospital based descriptive study

Patients and methods

A questionnaire was used for data collection from 320 participants with genital mutilation (cases) and 320 participants without genital mutilation (controls) from March to June 2015. Assessment of participant's sexual function was performed using an Arabic version of the female sexual function index (FSFI).

Results

Only about 15 and 40% of the participants in the case group and the control group, respectively, had no sexual dysfunction. The mean total FSFI score was 22.39±3.15 and 32.78±4.11 and the mean number of domains denoting a particular sexual dysfunction was 5.22±0.74 and 3.17±0.52 for the case and control groups, respectively ($P<0.05$). The number of participants with three or more domains denoting the presence of a particular sexual dysfunction was significantly higher in the case group than that in the control group. The means of all domains of the FSFI were significantly higher in the control group, except for the domains of lubrication and pain.

Conclusion

The prevalence of sexual dysfunction is higher in women with genital mutilation. There is a need to raise awareness and competence of physicians in the identification and management of sexual problems in women with genital mutilation, which is prevalent in this locality.

Keywords:
genital mutilation, sexual dysfunction, Upper Egypt

Evidence Based Women's Health Journal 2016
Volume 6 - Issue 3 - p 110–114

Introduction

Increasing attention is being focused on female genital mutilation (FGM) worldwide because of its enormous impact on women's life both physically and psychologically. The practice of FGM is a deep-seated tradition that has strong roots in the Egyptian culture and has probably been practiced for more than 5000 years [1]. Egypt is among 28 African countries that have the highest prevalence of FGM in the world [2]. Despite governmental efforts, FGM is still practiced with a high prevalence among Egyptian women, ranging from 85 to 95% [3]. FGM is harmful to women in many aspects, with no recognized beneficial health effects. FGM may poorly affect the sexual function in women [4], to the extent that many women with FGM who have problems with sexual intercourse tend to avoid sexual contact [5,6].

Sexuality affects behavior, defines sex roles both physically and psychologically, and becomes part of the lifestyle of the individual [7]. The sexual function in women is a complex issue that is incompletely understood [8] and the sexual dysfunction in women can considerably affects the quality of life and self esteem, and may cause psychopathological disturbances that lead to an increase in anger, frustration, and depression, which place a burden on the marital life [9,10].

The subject of female sexual dysfunction (FSD) remains a taboo in many countries [11] because many women find it difficult to discuss sexual issues with their physicians because of many factors such as feelings of embarrassment, inadequate sex education, religious and cultural values, and also, many physicians feel uncomfortable discussing sexual issues with their patients [12]; hence, FSD has remained an under reported condition for decades and is often overlooked. The issue of sexuality in women with FGM is not well investigated and often neglected by gynecologists and sexologists [13].

The prevalence of FSD in women with FGM is not defined to a large extent [14]. Although some studies from Africa have denied the negative effect of genital mutilation on sexual function, many other studies have indicated that the sexual function of women with genital mutilation is adversely altered [15].

Unfortunately, there is a paucity of information on the impact of FGM on the sexual function of women in this part of Upper Egypt. It is important to keep in mind that the results of research carried out in other countries are not necessarily generalizable to the Egyptian population because of different social and cultural factors.

The aim of this study was to investigate the impact of genital mutilation on the prevalence of sexual dysfunc-tion in a cohort of women from Upper Egypt.

Patients and methods

After the approval of the study protocol by Sohag University Hospital Research and Ethics Committee, a case–control hospital based descriptive study was carried out at the Obstetrics and Gynecology Department on two groups each of 320 participants of sexually active nonpregnant women between 15 and 55 years of age attending the outpatient gynecological clinic of Sohag University Hospital in the period from March 2015 to June 2015. The case group included participants who had been exposed to FGM procedures, whereas the control group included participants who had not been exposed to FGM procedures. Women with chronic medical diseases or psychiatric diseases, women who had given birth in the past 2 months, and women who had surgical premature menopause were not included in the study.

After a brief explanation of the study was provided, an informed written consent to participate in the study was obtained from all participants before inclusion.

Data were collected using a structured interview questionnaire that consisted of two parts. The first part included questions about the participants' personal data of age, age of the husband, years of schooling, duration of marriage, parity, use of any hormonal method of contraception, employment status, frequency of sexual intercourse per week, and whether the participant was premenopausal or postmenopausal. The second part was designed for assessment of the participant's sexual function using an Arabic version of the female sexual function index (FSFI) that was developed by Anis et al. [16], a 19-item questionnaire that measures aspects of FSD; questions are grouped into six domains (desire, arousal, lubrication, orgasm satisfaction, and pain). Answers to each question were scored from 0 to 5. The sum of each domain is multiplied by the domain factor provided in the FSFI for each domain. By adding the six domain scores, the full scale score is obtained. The minimal score possible is 2 and the maximum is 36. The higher the score obtained, the better the sexual function. Participants obtaining a total score of less than or equal to 26.55 were considered to have sexual dysfunction. Scores were less than 4.28, 5.08, 5.45, 5.05, 5.04, and 5.51 on desire, arousal, and lubrication, orgasm, satisfaction, and pain domains, respectively, and were used to classify participants with such dysfunction reliably [17].

A training course of 1 day for nurses including role play and demonstrations on how to administer the questionnaire was provided to clarify the points of the study objectives, the importance of privacy, and the wording of the questions on sexual dysfunction. The feedback and data collection forms of the first 40 women attending the outpatient clinic were examined. No difficulty with the understanding of or response to questions was reported. After completion of the questionnaire, general, abdominal, and pelvic examinations were performed by physicians. Pelvic examination was performed to confirm the presence of and the degree of circumcision, as well as to investigate organic causes of dyspareunia.

The Epi Info version 5.01 (CDC, Atlanta, GA, USA) was used in calculation of the required sample size, where the minimum number of participants required was represented as N, the proportion of women who had FSD and had not FSD was represented as P and Q respectively, the sample error was represented as D, while Z represented a constant value of 1.96

Considering the prevalence of FSD in Upper Egypt that was previously estimated to be 76.9% [18], and the acceptable sample error "D" to be 0.04; then the minimal accepted sample size was calculated according to the equation "$N=Z^2$ PQ/D^2" to be 631.84 participants. Thus, a sample size of at least 632 individuals to be divided into two groups was needed to achieve the aim of the study.

Statistical analyses were carried out using the statistical package for social sciences for Windows, version 15. The Pearson w^2-test was used to determine the significance of associations between variables. P value less than 0.05 was considered to be significant.

Results

The majority of the participants aged between 20 and 40 years had received education up to primary or preparatory school level and had given birth to one to five children. More than half of the participants had been married for more than 10 years and reported intercourse frequency of more than three times per week. Statistically, no significant differences were found between participants with or without FGM in their sociodemographic and marital characteristics. Overall, 54 (16.88%) participants with FGM were of type I, the remaining 266 (83.12%) participants with FGM were of type II, and none were of types III or IV. The sociodemographic and marital characteristics of the study participants are shown in Table 1.

The total FSFI score was significantly higher in the control group than the case group. In about 15 and 40% of the participants in the case group and the control group, respectively, all six domains of FSFI denoted no sexual dysfunction, with a total scale score of more than 26.55. The scores for all the domains of FSFI were significantly higher in the control group, except for the domains of lubrication and

Table 1 Sociodemographic and marital characteristics of the study population

Characteristics	Case group (N = 320) n	(%)	Control group (N = 320) n	(%)	P value
Age (mean ± SD) (years)	26.48 ± 4.22		27.55 ± 3.84		> 0.05
< 20	58	(18.13)	53	(16.56)	> 0.05
20–40	188	(58.75)	185	(57.81)	> 0.05
> 40	74	(23.13)	82	(25.63)	> 0.05
Education level					
Illiterate	48	(15.00)	55	(17.19)	> 0.05
≤ 9 years of schooling	191	(59.69)	187	(58.44)	> 0.05
> 9 years of schooling	81	(25.31)	78	(24.38)	> 0.05
Use of hormonal methods of contraception					
Yes	65	(20.31)	59	(18.44)	> 0.05
No	255	(79.69)	261	(81.56)	> 0.05
Work status					
Employed	111	(34.69)	118	(36.88)	> 0.05
Unemployed	209	(65.31)	202	(63.13)	> 0.05
Number of deliveries					
Nullipara	44	(13.75)	50	(15.63)	> 0.05
Multipara	197	(61.56)	184	(57.50)	> 0.05
Grand multipara	79	(24.69	86	(26.88)	> 0.05
Frequency of sexual intercourse (mean ± SD)	4.86 ± 1.25		4.44 ± 1.36		> 0.05
≤ 3 times per week	153	(47.81)	141	(44.06)	> 0.05
>3 times per week	167	(52.19)	179	(55.94)	> 0.05
Menopausal state					
Yes	38	(11.88)	40	(12.50)	> 0.05
No	282	(88.13)	280	(87.50)	> 0.05
Duration of marriage (mean ± SD) (years)	12.84 ± 3.22		13.57 ± 2.86		> 0.05
<10	151	(47.19)	158	(49.38)	> 0.05
>10	169	(52.81)	162	(50.63)	> 0.05
Age of the husband (mean ± SD) (years)	37.49 ± 6.65		39.72 ± 5.21		> 0.05
< 20	25	(7.81)	31	(9.69)	> 0.05
20–40	195	(60.94)	182	(56.88)	> 0.05
> 40	100	(31.25)	107	(33.44)	> 0.05

Table 2 Female sexual function index domain scores

Domain	Case group (N = 320) n	(%)	Control group (N = 320) n	(%)	P value
Desire domain score					
Dysfunction	176	(55.00)	110	(34.38)	< 0.05
No dysfunction	144	(45.00)	220	(68.75)	< 0.05
Mean ± SD	2.95 ± 1.04		4.13 ± 0.85		< 0.05
Arousal domain score					
Dysfunction	189	(59.06)	122	(38.13)	< 0.05
No dysfunction	131	(40.94)	198	(61.88)	< 0.05
Mean ± SD	3.27 ± 1.36		4.62 ± 1.21		< 0.05
Lubrication domain score					
Dysfunction	75	(23.44)	83	(25.94)	> 0.05
No dysfunction	245	(76.56)	237	(74.06)	> 0.05
Mean ± SD	4.51 ± 0.77		4.73 ± 1.08		> 0.05
Orgasm domain score					
Dysfunction	198	(61.88)	91	(28.44)	< 0.05
No dysfunction	122	(38.13)	229	(71.56)	< 0.05
Mean ± SD	1.99 ± 0.97		4.12 ± 1.10		< 0.05
Satisfaction domain score					
Dysfunction	216	(67.50)	99	(30.94)	< 0.05
No dysfunction	104	(32.50)	221	(69.06)	< 0.05
Mean ± SD	2.22 ± 1.25		4.94 ± 0.91		< 0.05
Pain domain score					
Dysfunction	106	(33.92)	96	(30.00)	> 0.05
No dysfunction	214	(66.88)	224	(70.00)	> 0.05
Mean ± SD	4.95 ± 1.33		5.05 ± 1.40		>0.05
Total scale score					
Dysfunction	271	(84.69)	194	(60.63)	< 0.05
No dysfunction	49	(15.31)	126	(39.38)	< 0.05
Mean ± SD	22.39 ± 3.15		32.78 ± 4.11		< 0.05

Participants may have more than one domain of female sexual function index denoting sexual dysfunction.

pain. Table 2 shows the scores of the six domains of FSFI as well as the total scale score in both groups.

No statistically significant differences were found between both groups in the number of participants with one or two domains denoting a sexual dysfunction, whereas the number of the participants with three or more domains denoting the presence of particular sexual dysfunction was significantly higher in the case group than that in the control group. Table 3 shows the number

Table 3 Number of domains denoting a particular sexual dysfunction in both groups

Number of domains denoting a particular sexual dysfunction		Case group (N = 320) n	(%)	Control group (N = 320) n	(%)	P value
0	0	49	(15.31)	126	(39.38)	< 0.01
1	1	40	(12.50)	48	(15.00)	> 0.05
2	2	24	(7.50)	23	(7.19)	> 0.05
3	3	58	(18.13)	34	(10.62)	< 0.05
4	4	75	(23.44)	44	(13.75)	< 0.05
5	5	53	(16.56)	36	(11.25)	< 0.05
6	6	21	(6.56)	9	(2.81)	< 0.05
Mean number of domains denoting a particular sexual dysfunction (mean ± SD)		5.22 ± 0.74		3.17 ± 0.52		< 0.05

of domains denoting a particular sexual dysfunction in both groups and the mean ± SD of the number of these domains in both groups.

Discussion

FSD is a major public health problem that has received considerable attention worldwide probably because the epidemiological data showed its high prevalence [18,19] and because of its adverse effects on women's quality of life. It is largely an undiscussed problem probably because of shyness and embarrassment of women, which is reflected in the inadequate identification and management of this problem.

The issue of the impact of FGM on the sexuality of women has not been investigated well in women of Upper Egypt, who have a high prevalence of FGM [18]. To the best of the author's knowledge, there are no published studies in the literature addressing the issue of sexual function in Upper Egyptian women who have been subjected to FGM.

Because of their conservative culture, women of Upper Egypt are shy and reluctant to report sexual problems that they may be facing; hence, a structured interview for data collection was used in this study to ensure that all questions of the questionnaire were answered completely and full data were obtained from the entire study population. An Arabic version of the FSFI was used to assess the sexual function of the participants because it has been validated in several populations and has been proven to be highly precise in the diagnosis of FSD [16].

In agreement with the findings of this study, Abd El-Hady and El-Nashar [20] found, in a study of a sample of women from Lower Egypt, that FGM women were more likely to have marital problems such as loss of sexual desire, dyspareunia, and a lower satisfaction rate, in addition to psychological problems. Also, the findings of this study are in agreement with a similar study carried out on women attending the outpatient clinic of Cairo University Hospitals by using the Arabic version of FSFI [15]. In that study, participants without FGM had a significantly higher FSFI total score compared with participants with FGM and the scores on all of the domains of FSFI, except for sexual pain, were significantly higher in those without FGM. In this study as well as the study of Anis et al. [15], all the participants with FGM had types I and II FGM. It can be concluded from the findings of both studies that FGM, even in its milder forms, has a deleterious effect on FSD in all of its domains, but the domain of sexual pain could an exception.

In the study of Hassanin et al. [18], who assessed the prevalence of FSD in a sample of women in the same locality, 23.1% of the participants in their series did not report any form of sexual dysfunction and the mean number of domains denoting a particular sexual dysfunction was 4.37±1.47. In this study, among participants with FGM, the prevalence of women with no sexual dysfunction was lower and the mean number of domains denoting a particular sexual dysfunction was higher than those reported by Hassanin et al. [18]. This could probably be attributed to the fact that in the study of Hassanin et al. [18], the study population was a non homogeneous sample of women with and without FGM.

Despite dealing with the impact of genital mutilation on sexual function among women in Upper Egypt, which represents an important health issue that has not been well studied in this locality, the main limitation of this study is that it is a hospital based cross-sectional study and its results cannot be generalized to the entire Upper Egyptian community; therefore, further community-based studies addressing this issue are recommended. Another possible limitation is the subjective nature of the answers to the questions of the questionnaire and the possibility of under-reporting bias of sex related problems because of shame and embarrassment. Even with these limitations, the present study provides preliminary data on the effect of genital mutilation on the sexual function of women in Upper Egypt.

Conclusion

The prevalence of sexual dysfunction is higher in women with genital mutilation. With the exception of pain and lubrication domains, they had significantly lower means ± SD on domains of FSFI. Clearly, there is a need to raise awareness and competence of physicians in the identification and management of sexual problems in women with genital mutilation, which is prevalent in this locality.

Conflicts of interest
There are no conflicts of interest.

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