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Using the Female Sexual Function Index (FSFI) to evaluate sexual function in women with genital mutilation undergoing surgical reconstruction: a pilot prospective study

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ABSTRACT

Objectives: Few prospective studies have evaluated sexual function in women with female genital mutilation by cutting (FGM/C) before and after clitoral reconstructive surgery, and none used a validated questionnaire. A validated questionnaire, the Female Sexual Function Index (FSFI) was used for the first time, to assess the impact of reconstructive surgery on sexual function in women with female genital mutilation/cutting (FGM/C) before and after clitoral reconstructive surgery.

Study design: Women with FGM/C consulting at the Nantes University Hospital for clitoral reconstruction between 2013 and 2014 were prospectively included. All patients completed a questionnaire at inclusion, describing their social, demographic, and FGM/C characteristics. They were also asked to complete the FSFI as well as a questionnaire about clitoral sensations, symptoms of depression or anxiety, and self-esteem before and 3 and 6 months after the surgery. Paired Wilcoxon and McNemar tests were used to compare data.

Results: Of the 12 women included, 9 (75%) had type II mutilations. Results showed a global sexual dysfunction (median FSFI summary score = 17) before surgery. Clitoral sensations were absent in 8 women (67%). Six months after surgery, all FSFI dimensions except lubrication had improved significantly (median FSFI summary score = 29, $P = 0.009$). Ten women had clitoral sensations, and 11 (92%) were satisfied with their surgery.

Conclusion: This study shows that 6 months after clitoral reconstructive surgery, women reported a multidimensional positive improvement in their sexual function. The FSFI is a promising tool for routine standardized assessment of the sexual function of women with FGM/C for determining appropriate management and assessing it. Larger studies with validated questionnaires assessing self-esteem, depression, and body image are also needed to develop an integrative approach and to provide evidence-based recommendations about management of these women.

Introduction

Female genital mutilation/cutting (FGM/C) is defined as all procedures involving partial or total removal of the external female genitalia or other injury to the female genital organs for non-medical reasons [1]. The World Health Organization (WHO) reports that more than 125 million girls and women currently alive have been subjected to FGM/C worldwide [1]. This procedure has substantial long-term effects on their physical and psychological health [2]. The number of women with FGM/C in France is estimated around 55,000 [3]. All women in France with FGM/C characterized by partial or total excision of the clitoris are eligible for clitoral reconstructive surgery, free of charge since 2004. The surgery, initially described by Foldès and his team [4], is relatively easy to perform and relatively safe, although potential short- and long-term complications have been described [5]. Women report that their main motivation for this surgery is improved sexuality, reduced pain, and/or restoration of their female identity.

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Prospective studies of the impact of this surgery on the sexual function of women with FGM/C are scarce [4,6,7]. Only 3 publications have evaluated the sexual function of patients with FGM/C before and after surgery. Foldès et al. studied the sexual function of 840 patients before and one year after the surgery [4] and found a significant improvement in sexual function. This improvement was assessed with a non-validated score constructed from 5 items. Madzou et al. used the same score in a study of 94 patients with FGM [7] and similarly showed improved sexual function for 89% of women. Similar improvement was observed by Thabet and his team but only in women with type II mutilations [6]. As pointed out elsewhere [5], none of these studies used a standardized questionnaire to evaluate sexual function. The absence of such a questionnaire strongly limits the interpretation of results, comparisons with data from the literature, and the identification of the specific sexual dimensions affected by the surgery.

The aim of this pilot prospective study was thus to use a validated questionnaire, the Female Sexual Function Index (FSFI), to assess the impact of clitoral reconstructive surgery on the sexual function of women with FGM/C.

Materials and methods

This observational, prospective, single-center pilot study was approved by an ethics committee. It includes all women with FGM/C consulting at the Nantes French University hospital for clitoral surgical reconstruction from December 2013 through December 2014 who provided signed informed consent to study participation. The study did not enroll minors or women unable to read or write French, or with a psychiatric or neurological disease, or who refused to participate.

All patients completed a questionnaire at inclusion about their social, demographic, and FGM/C characteristics and their reasons for surgery. Mutilations were categorized according to the WHO classification. Medical data concerning the surgical reconstruction were extracted from the medical files. The surgical reconstructions were performed under general anesthesia on an outpatient basis. After the surgery, wound healing was monitored weekly until complete wound healing.

The main outcome measures in this study were the FSFI scores. The FSFI was originally developed by Raymond Rosen to assess female sexual dysfunction (FSD) [8]. FSFI is adapted for both sexually active and non-active women. Compared to others existing validated questionnaires, the FSFI questions have the advantage to not be too invasive concerning sexuality practices. It evaluates six dimensions of female sexual function (desire, arousal, lubrication, orgasm, satisfaction, and pain), based on responses covering the previous 4 weeks. The FSFI includes 19 items optimally illustrating the 6 dimensions. The summary score ranges from 2 to 36, with low scores indicating more severe FSD. The choice of a pertinent threshold to define FSD is debated in the literature, but a consensus appears to exist for values less than 23 [9–11]. Our team recently validated a French version [12].

Before surgery and 3 and 6 months afterwards, patients were asked to complete the FSFI as well as a locally-designed questionnaire asking about clitoral sensations (not covered in the FSFI), symptoms of depression or anxiety, and self-esteem. Women reported their satisfaction with the surgery 6 months after the surgery. Patient characteristics are described here with medians and interquartile ranges (IQR) for quantitative variables and numbers and percentages for qualitative ones. Because of the small sample size, data collected before and after the surgery were compared with paired Wilcoxon tests for quantitative variables and McNemar tests for qualitative ones. A P value <0.05 defined statistical significance. R software was used for the statistical analyses [13].

Results

Twelve of the 14 eligible women with FGM/C consulting for clitoral reconstructive surgery during the study period participated. Their median age was 31 years (IQR: 27–36 years). Six (50%) women were married or living with a partner, 4 (33%) had a full time job, and 9 (75%) had attended secondary school (Table 1). Nine women (75%) came from Guinea. Similarly, nine (75%) had initially a type II mutilation, with a median age at excision of 6 years (IQR: 5–9 years). Eleven (92%) women expected that the surgery would improve their sexual function. The median FSFI summary score of 17 (IQR: 13–21) before surgery suggests that sexual dysfunction was initially present in this population, affecting especially the dimensions of desire, arousal, orgasm, and pain (Fig. 1). Eight (67%) women had no clitoral sensation before the surgery.

Before the surgery, only one woman (8%) was satisfied with the appearance of her genitalia. Seven (58%) had a sense of femininity and 5 (42%) described persistent symptoms of depression, such as sadness or discouragement.

One (8%) woman was readmitted for hematomas after surgery. Three months after the surgery, the median FSFI summary score was 25 (IQR: 7–28) and did not differ significantly ($P = 0.620$) from that observed before surgery. Six months after surgery, however, the median FSFI summary score was 29 (IQR: 24–34), significantly higher ($P = 0.009$) than that before surgery. This significant improvement was observed on all FSFI subscores except for lubrication.

Clitoral sensation had also improved significantly by 6 months after surgery ($P = 0.014$). At the same point, 11 (92%) of the women reported that they were satisfied with their surgery, and significant improvements were observed in terms of the women's satisfaction with the appearance of their genitalia (11, 92%, $P = 0.005$) and sense of femininity (11, 92%, $P = 0.046$). Symptoms of depression also decreased, although not quite significantly (2, 17%, $P = 0.083$).

Table 1
Descriptive data of women with FGM/C consulting at the Nantes French University hospital for clitoral surgical reconstruction from December 2013 through December 2014 ($N = 12$).

Variable		Patients with FMG/C, n (%) ($N = 12$)
Age (year)	Median (IQR)	31 (27–36)
Marital status	Single/widowed/separated	6 (50%)
	In couple/married	6 (50%)
Type of occupation	Employed	4 (33%)
	Unemployed/retired/student	8 (67%)
Education level	No education	2 (17%)
	Primary school	1 (8%)
	Secondary school or higher	9 (75%)
Birth country	Burkina Faso	1 (8%)
	Guinea	9 (75%)
	Senegal	1 (8%)
	Sierra Leone	1 (8%)
Years in France	Median (IQR)	6.5 (3.8–12.3)
Gravidity	Nulligravida	1 (8%)
	Primigravida	3 (25%)
	Multigravida	8 (67%)
Parity	Nulliparous	3 (25%)
	Primiparous	2 (17%)
	Multiparous	7 (58%)
Age at excision (year)	Median (IQR)	6 (5–9)
Type of mutilation	Type I mutilation	3 (25%)
	Type II mutilation	9 (75%)
	Type III mutilation	0 (0%)
Expectation in the surgery	Sexuality improvement	11 (92%)
	Pain reduction	7 (58%)
	Identity restoration	6 (50%)