ABSTRACT

Introduction: The consequences of female genital mutilation/cutting (FGM/C) on female genital self-image are not known.

Aim: To assess whether women with and without FGM/C differed with regard to female genital self-image.

Methods: A survey was administered to a group of women attending the King Abdulaziz University Hospital obstetrics and gynecology clinic from December 2016 to August 2017. 963 consecutive adult women seen at the clinic completed the survey.

Main outcome measures: The main outcome measure of this study was female genital self-image being assessed with the female genital self-image scale (FGSIS).

Results: One-fifth (18.2%) of the women self-reported having undergone FGM/C as young girls. Women with FGM/C had a similar FGSIS score as women with no FGM/C (21.3 ± 4.6, n = 175 vs 21.6 ± 4.8, n = 756, analysis of variance, P = .37). In multivariate regression analysis, only level of education remained independently associated with the FGSIS score. Women with some university education had a greater mean FGSIS score than women with no university education (22.1 ± 4.49, n = 564 vs 20.8 ± 5.03, n = 399, P < .0001).

Conclusions: Women with and without FGM/C in a Saudi Arabian clinic generally had a similarly positive genital self-image. Only level of education was independently associated with the FGSIS score.

Rouzi AA, Berg RC, Alamoudi R, et al. Female Genital Self-Image in Women With and Without Female Genital Mutilation/Cutting in Jeddah, Saudi Arabia. Sex Med 2020;8:752–756.

Copyright © 2020, The Authors. Published by Elsevier Inc. on behalf of the International Society for Sexual Medicine. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

Key Words: Circumcision; Female Genital Mutilation/Cutting; Female Genital Self-Image Scale; Saudi Arabia

INTRODUCTION

Rituals involving the female external genitalia have been performed for cultural and religious reasons for thousands of years. These practices range widely, from genital rubbing to a tiny pin prick to excision of the clitoris to infibulation. The morbidity associated with some of these practices has led the World Health Organization to classify all such procedures as female genital mutilation/cutting (FGM/C) and issue an international call to end the practices. In spite of this effort, as many as 200 million women living today have undergone one of these procedures, and 3 million continue to be subjected to FGM/C every year.

In brief, FGM/C type I consists of excision of the clitoral hood with or without excision of any portion of the clitoris, type II consists of excision of any portion of the labia minora with or without excision of the clitoris and/or labia majora, type III consists of various procedures that narrow the vaginal orifice (infibulation), and type IV consists of various procedures including pricking, piercing, incising, scraping, and cauterizing the genital area. FGM/C is performed largely in Africa, the Middle East, and Asia and among populations of immigrants from the about 30 countries where FGM/C is commonly

Received January 11, 2020. Accepted June 15, 2020.

1Department of Obstetrics and Gynecology, King Abdulaziz University, Jeddah, Saudi Arabia;
2Department of Community Medicine, Tromso University, Tromsø, Norway;
3Norwegian Institute of Public Health, Oslo, Norway;
4Department of Psychiatry, King Abdulaziz University, Oslo, Norway;
5Department of Psychiatry, Zagazig University, Zagazig, Egypt

Copyright © 2020, The Authors. Published by Elsevier Inc. on behalf of the International Society for Sexual Medicine. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

https://doi.org/10.1016/j.esxm.2020.06.010
Female Genital Self-Image in Women

The concept of genital self-image is the person’s feelings and thoughts about her/his genital organs and was first introduced by Waltner more than 30 years ago. In women, genital self-image it is routinely measured by the female genital self-image scale (FGSIS), an easy-to-administer 7-question scale. Research shows FGSIS scores correlate with Female Sexual Function Index (FSFI) domain scores related to arousal, lubrication, orgasm, satisfaction, and pain domains and total score. The FGSIS has been found to reflect not only female sexual function but also sexual behavior and sexual and genital healthcare behaviors. Cross-cultural comparisons support the validity of the FGSIS, although correlation with the desire domain of the FSFI has varied by cultural setting.

To expand research on the consequences of FGM/C in general and better understand the possible consequences of FGM/C on female genital self-image specifically, we assessed whether women with and without FGM/C differed with regard to female genital self-image, using the FGSIS.

MATERIALS AND METHODS

The study was approved by the King Abdulaziz University Hospital (KAUH) Institutional Review Board and performed in accordance with relevant guidelines and regulations in Saudi Arabia. All women seen at the King Abdulaziz University Hospital obstetrics and gynecology clinic from December 2016 to August 2017 were invited to participate in a survey. Eligibility criteria included being 18–75 years of age and able to read and speak Arabic. Trained clinic staff provided an oral and written

Table 1. Sociodemographic characteristics of the study participants, by FGM/C status and total

| Marital status   | Women with FGM/C n = 175 | Women with no FGM/C n = 756 | Total sample N = 963 | Test for difference |
|------------------|---------------------------|-----------------------------|----------------------|---------------------|
| Single           | 42 (24-0)                 | 403 (53-3)                  | 463 (48-1)           | P < .001*           |
| Married          | 122 (69-7)                | 330 (43-7)                  | 465 (48-3)           |                     |
| Divorced         | 8 (4-6)                   | 18 (2-4)                    | 27 (2-8)             |                     |
| Widowed          | 3 (1-7)                   | 5 (0-6)                     | 8 (0-8)              |                     |
| Education        |                           |                             |                      |                     |
| No university education | 80 (45-7)            | 307 (40-6)                  | 399 (41-4)           | ns                  |
| Some or completed university | 95 (54-3)         | 449 (59-4)                  | 564 (58-6)           |                     |
| Occupation       |                           |                             |                      |                     |
| Student          | 30 (17-1)                 | 356 (47-1)                  | 404 (42-0)           | ns                  |
| Part-time employed | 11 (6-3)                | 23 (3-0)                    | 36 (3-7)             |                     |
| Full-time employed | 49 (28-0)               | 185 (24-5)                  | 239 (24-8)           |                     |
| Retired          | 10 (5-7)                  | 6 (0-8)                     | 16 (1-7)             |                     |
| Stay-at-home housewife | 75 (42-9)            | 186 (24-6)                  | 268 (27-8)           |                     |
| Monthly income   |                           |                             |                      |                     |
| <5,000 Saudi Riyal (<≈1,330 US$)   | 74 (42-3)             | 158 (20-9)                  | 240 (24-9)           | P < .001*           |
| 5,000–10,000 (≈1,331–2,665 US$) | 57 (32-6)             | 263 (34-8)                  | 330 (34-3)           |                     |
| >10,000 (≈2,665 US$)  | 44 (25-1)             | 335 (44-3)                  | 393 (40-8)           |                     |

FGM/C = female genital mutilation/cutting; ns = not statistically significant.

*Statistically significant differences between women with FGM/C and women with no FGM/C were found for age, Saudi nationality vs not, married vs not, income <5,000 Saudi Riyal versus >5,000.
A value greater than 0.7 is considered acceptable, 0.8–0.9 good, and ≥0.9 excellent. We performed one-way analysis of variance (ANOVA) to compare FGSIS scores between the 2 groups of women. Pearson correlation was used to test the correlation between age and FGSIS score. We used multivariate regression analysis to identify whether FGM/C was an independent predictor of the FGSIS score, with age, nationality, marital status, level of education, employment status, and level of income as covariates. P < .05 was considered statistically significant.

**RESULTS**

Of the 1,000 consecutive women invited to participate, 963 (96.3%) consented to complete the survey. These patients have been characterized in a previous report.6 None of the women were pregnant. In brief, the mean age was 28.9 ± 9.1 years, all were Muslim, and 79.1% were Saudi (Table 1). Half of the women (51.9%) were married, divorced, or widowed; 58.6% had some university education; and 28.5% had part-time or full-time employment, whereas the remaining women (71.5%) were students, retired, or stay-at-home housewives. Finally, 3 quarters of the participants (75.1%) had a monthly income of more than 5,000 Saudi Riyal. With regard to FGM/C status, 18.2% self-reported having FGM/C (type I or II n = 37, type III n = 11, type IV n = 46, unsure n = 81), 78.5% reported they did not have FGM, and 3.3% did not know. The majority of the women reported no complications related to their FGM/C procedure (88.6%) and thought the ritual practice of FGM should not be continued (68.7%). The procedure was performed within 1 week after birth in 57.7%, at an age of 6.9 ± 0.1 years in 24% and was unknown in 18.3%.

Cronbach’s alpha for the FGSIS of all women tested was 0.871 (0.880 based on standardized items). The mean FGSIS score of all women was 21.5 ± 4.76 (n = 963). Women who were unsure of their cutting status (3.3%) were excluded from further analyses. Women who self-identified having undergone FGM/C had a mean score of 21.3 ± 4.6 (n = 175), whereas those without FGM/C had a mean score of 21.6 ± 4.8 (n = 756) (ANOVA F = 0.80, P = .371). Furthermore, the univariate analyses showed that there was no statistically significant correlation between FGSIS score and patient age (Pearson correlation coefficient r = 0.013, P = .682), marriage status (mean score 21.6 ± 5.0, n = 465 married vs 21.4 ± 4.6, n = 498 not married, ANOVA F = 0.22, P = .641), and employment (21.9 ± 5.0, n = 275 part-time or full-time employed vs 21.4 ± 4.7, n = 688 retired, student, and housewife, ANOVA F = 1.71, P = .192). Similarly, there was no statistically significant difference in FGSIS score between Saudi women and non-Saudi women (21.6 ±, the mean FGSIS scores were Sudanese 21.6 ± 4.9 (n = 17), Egyptian 23.0 ± 3.35 (n = 11), Yemeni 21.4 ± 4.06 (n = 89), and Somali 19.4 ± 5.11 (n = 12). However, there was a statistically significant correlation between FGSIS and education (22.1 ± 4.49, n = 564 some university education vs 20.8 ± 5.03, n = 399 no university education, ANOVA F = 18.43, P < .0001) and income (21.8 ± 4.6, n = 723 income greater than 5,000 Saudi Riyal vs 20.9 ± 5.2, n = 240 less than 5,000 Saudi Riyal.
ANOVA F = 6.23, P = .012). As seen in Table 2, in the multivariate regression analysis, only level of education remained independently associated with the FGSIS score (P < .0001).

**DISCUSSION**

The perception of personal genital appearance is a basic self-view that reflects on one’s ability to have meaningful sexual experiences. A significant relationship between positive genital self-image and positive sexual function has been reported. We evaluated the FGSIS score among an unselected group of women attending our obstetrics and gynecology clinic, some of whom had undergone FGM/C as a child. To fill an important research gap, our main aim was to assess whether women with and without FGM/C differed with regard to female genital self-image. We found that women with and without FGM/C had similar mean FGSIS scores (21.3 and 21.6), which were neither statistically nor clinically different. To our knowledge, this is one of the first studies to assess the possible relationship between FGM/C and genital self-image. However, it is an important concern, as women with FGM/C have increased risk of sexual complications and female sexual function is found to be significantly related to female genital self-image. Research suggests that women with greater genital satisfaction are more sexually active and have greater frequency of sexual activity than women with a lower level of satisfaction. Furthermore, a recent case report on a woman with FGM/C type II found a worsening in genital self-image after clitoral reconstruction. Although our results provide preliminary evidence of no meaningful relationship between FGM/C and genital self-image, more research is needed about this possible link. The effect of FGM/C on sexual function and opinion of genital appearance is not well studied. On the other hand, our results strengthen previous research concerning genital self-image and sociodemographic characteristics, as we found FGSIS score was associated with higher education. In previous research, female genital self-image satisfaction has been reported to be correlated with increasing age, race, and higher education.

There are some limitations to this study. It was an exploratory cross-sectional study, thus no conclusions about causation can be drawn. We did not assess sexual function, and data are self-reported, including FGM/C type, and may be subject to both recall and reporting bias. The reliability of self-reported type of FGM/C is thought to be low, with a bias to underreporting. On the other hand, we used a validated, reliability-tested scale, trained clinic staff, multivariate analyses, and recruited a large sample.

**CONCLUSIONS**

Women with and without FGM/C in a Saudi Arabian clinic had a similarly positive genital self-image. Only level of education was independently associated with FGSIS score.

ACKNOWLEDGMENTS

This work was supported by the Deanship of Scientific research (DSR), King Abdulaziz University, Jeddah under grant number 140-241-D1439. The authors, therefore, gratefully acknowledge the DSR technical and financial support.

**Corresponding Author:** Abdulrahim Rouzi, MB, ChB, PO Box 80215, Jeddah, 21589 Saudi Arabia. Tel: +966 50 5602587; E-mail: aarouzi@gmail.com

**Conflict of Interest:** The authors report no conflicts of interest.

**Funding:** None.

**STATEMENT OF AUTHORSHIP**

Abdulrahim A. Rouzi: Conceptualization, Methodology, Supervision, Writing - Original Draft; Rigmor C. Berg: Conceptualization, Methodology, Writing - Original Draft; Rana Alamoudi: Data curation, Writing - Original Draft; Faten Alzaban: Data curation, Writing - Original Draft; Mohammad Sehlo: Data curation, Writing - Original Draft.

**REFERENCES**

1. Mathews B. Female genital mutilation: Australian law, policy and practical challenges for doctors. Med J Aust 2011; 194:139-141.
2. World Health Organization. Types of female genital mutilation. Available at: https://www.who.int/sexual-and-reproductive-health/types-of-female-genital-mutilation. Accessed February 1, 2020.
3. World Health Organization. Female genital mutilation. Available at: https://www.who.int/news-room/fact-sheets/detail/female-genital-mutilation. Accessed February 1, 2020.
4. U.S. Department of State. Bureau of Democracy. Human Rights and labor Country reports on Human Rights practices for 2016. Saudi Arabia. Available at: https://www.state.gov/j/drl/rls/hrrpt/2016humanrightsreport/index.htm?year=2016&dlid=265518#wrapper. Accessed December 1, 2018.
5. Central Intelligence Agency, The World Factbook. Saudi Arabia. Available at: https://www.cia.gov/library/publications/the-world-factbook/geos/sa.html. Accessed December 1, 2018.
6. Rouzi AA, Berg RC, Alamoudi R, et al. A survey on female genital mutilation/cutting in Jeddah, Saudi Arabia. BMJ Open 2019;9:e024684.
7. Berg RC, Underland V, Odgaard-Jensen J, et al. Effects of female genital cutting on physical health outcomes: a systematic review and meta-analysis. BMJ Open 2014; 4:e006316.
8. Berg RC, Denison E. Does female genital mutilation/cutting (FGM/C) affect women’s sexual functioning? A systematic review of the sexual consequences of FGM/C. Sex Res Soc Pol 2012;9:41-56.
9. Waltner R. Genital identity: a core component of sexual-and self-identity. J Sex Res 1986;22:399-402.
10. Herbenick D, Reece M. Development and validation of the female genital self-image scale. J Sex Med 2010;7:1822-1830.
11. Mohammed GF, Hassan H. Validity and reliability of the Arabic version of the female genital self-image scale. J Sex Med 2014;11:1193-1200.
12. Felix G de AA, Nahas FX, Marcondes GB, et al. Brazilian Portuguese version of the female genital self-image Scale (FGSIS) for women seeking abdominoplasty. J Plast Reconstr Aesthet Surg 2017;70:1786-1787.
13. National Committee of BioEthics (NCBE). Implementing regulations of the law of ethics of research on living creatures. Available at: https://prod.kau.edu.sa/Med/ali/files/Publications/Guide/National_Committee_of_BioEthics-Regulations_of_the_Law_of_Ethics_of_Research_on_Living_Creatures.pdf. Accessed February 1, 2020.
14. Ministry of Public Health and Population (MOPHP). Central statistical Organization (CSO) [Yemen], Pan Arab Program for Family Health (PAPFAM) and ICF International. Yemen national Health and demographic survey 2013. Rockville, Maryland, USA: MOPHP, CSO, PAPFAM, and ICF International; 2015.
15. Amos N, McCabe M. Positive perceptions of genital appearance and feeling sexually attractive: is it a matter of sexual esteem? Arch Sex Behav 2016;45:1249-1258.
16. Berman L, Windecker MA. The relationship between women’s genital self-image and female sexual function: a national survey. Curr Sex Health Rep 2008;5:199-207.
17. Berman L, Berman J, Miles M, et al. Genital self-image as a component of sexual health: relationship between genital self-image, female sexual function, and quality of life measures. J Sex Marital Ther 2003;29(Suppl 1):11-21.
18. Rowen TS, Gaither TW, Shindel AW, et al. Characteristics of genital dissatisfaction among a nationally representative sample of U.S. Women. J Sex Med 2018;15:698-704.
19. Mestre-Bach G, Tolosa-Sola I, Barri-Soldevila P, et al. Clinical, sexual and psychopathological changes after clitoral reconstruction in a type II female genital mutilation/cutting: a case report. Afri J Reprod Health 2019;23:154-162.
20. Makhlouf Obermeyer C. The consequences of female circumcision for health and sexuality: an update on the evidence. Cult Health Sex 2005;7:443-461.
21. Andro A, Lesclingand M. Female genital mutilation. Overview and current knowledge. Population 2016;71:217-256.
22. Elmusharaf S, Elhadi N, Almroth L. Reliability of self-reported form of female genital mutilation and WHO classification: cross sectional study. BMJ 2006;333:124.