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Prevalence Of Female Genital Mutilation And Its Relation To Menstrual Disorders Among Preparatory School Students; Cross-Sectional Study

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Abstract

Objective: The current study aims to evaluate the prevalence of female genital mutilation/cutting (FGM/C) among preparatory school students and its relation to menstrual disorders in Beni-Suef, Upper Egypt.

Methodology: A cross-sectional study had been conducted on 860 preparatory school female students attending two public schools in the rural area in Beni-Suef city at the beginning of the second term of the academic year 2016/2017. They were interviewed and asked to fill out a questionnaire included socio-demographic characteristics, questions about FGM/C, beliefs of girls about the justifications used for FGM/C, and the sources of information girls used to get knowledge about FGM/C. Also, the gynecological symptoms, mainly dysmenorrhea, and other menstrual disorders during the past 12 months, and the pain relief methods used by girls throughout the same period were reported.

Results: Out of the 860 participating girls, 78.8% were circumcised. No difference between circumcised and the uncircumcised girls regarding the socio-demographic characteristics or gynecological data ($p>0.05$). Family and friends were the primary sources of knowledge about FGM/C. Around half of the circumcised girls had justifications for FGM/C; mainly religious and traditional ($p=0.000$). Dysmenorrhea, backaches and generalized aching were highly incident amongst the girls with no association between these symptoms and FGM/C ($p>0.05$).

Conclusions: FGM/C is highly prevalent among school girls in rural areas. Religious and social issues are among the most potential risk factors for FGM/C. Further research should focus on changing attitudes of all family members, renewing the religious speech, and empowering young girls to stand against FGM/C.

Keywords: Female genital mutilation; Circumcision; dysmenorrheal ; menstrual disorders

Summary

Female genital mutilation/cutting (FGM/C) also referred to as female circumcision (FC) is defined by the World Health Organization (WHO) as removal of any part of the female external genitalia for non-medical reasons [1]. Worldwide, up to 140 million women have undergone F GM/C with 3.3 million incidence annually [2]. Excision of the clitoris and the labia minora constitutes almost 85% of cases. However, excision of all the external genitalia, known as infibulation, accounts for 15% of cases [3].

In Egypt, the practice of FGM/C is deeply rooted, and previous literature showed that apart from small portions of educated families, FGM/C is almost universal [4,5]. Egypt Demographic and Health Survey (EDHS) 2014 reported that the prevalence of FGM/C in married women aged 15-49 years is 92% [6]. The negative gynecological and psychological consequences of FGM/C have been heavily studied, however sociocultural, religious, sexual and hygienic reasons are among the most widely reported justifications for the high prevalence rate of the practice in Egypt [4,5].

FGM/C is always traumatic with no identifiable health benefits. Many studies reported several long-term consequences of FGM/C, as increased risks of urinary tract infections, vaginitis, sexual dysfunction, menstrual and obstetric complications [7-9].

Painful menstruation affects half of the menstruating women and is the leading cause of lost time from school and work among school students and women of childbearing age [10]. Dysmenorrhea refers to menstrual pain severe enough to limit normal activities and requires medication [11]. A previous study suggested that there is a correlation between dysmenorrhea and FGM/C among young age girls claiming that blood clots could be retained during menstruation in girls who have undergone FGM/C [12].

Therefore, the current study aims to evaluate the prevalence of FGM/C among preparatory school students and its relation to menstrual disorders in Upper Egypt.

Materials and Methods

This cross-sectional study had been conducted on a total of 860 preparatory school female students attending two public schools in the rural area in Beni-Suef city at the beginning of the second term of the academic year 2016/2017. The study locale, Beni-Suef City, is the capital of Beni-Suef Governorate in Upper Egypt and situated 110 km south to Cairo.

First, ethical approval was obtained from the Research Ethics Committee at the Faculty of Medicine, Beni-Suef University, followed by institutional approvals. The heads of the selected schools were briefed on the purpose of the study, and they signed informed consent in addition to the interviewed school girls after verbal permission of the students before they were interviewed.

For data collection, an Arabic questionnaire was prepared by the authors. The questionnaire had three sections: section I included some socio-demographic characteristics, gynecological age (Calender age minus age at menarche), in addition to questions about the regularity of the menstrual cycle. Section II questioned if the girl was circumcised, beliefs of girls about the justifications used for FGM/C, and the sources of information girls used to get knowledge about FGM/C. Section III investigated the gynecological symptoms, mainly dysmenorrhea and other symptoms of menstrual disorders during the past 12 months, and the pain relief methods used by girls throughout the same period.

The Cronbach's alpha for the reliability of the questionnaire was 0.72 while content validity was judged by a professor of public health and a professor of gynecology and obstetrics. A trained team of medical students with a supervisor from the Public Health Department, Beni-Suef University visited the selected schools and interviewed the students. All girls attending the selected rural schools participated in the study. Only school girls enrolled for evening classes and those who were absent during the interview days were not included.

Data were analyzed using the software, Statistical Package for Social Science (SPSS Inc. Released 2009, PASW Statistics for Windows, version 21.0: SPSS Inc., Chicago, Illinois, USA). Frequency distribution as a percentage and descriptive statistics in the form of mean and standard deviation were calculated. Chi-square, t-test, and correlations were done whenever needed. P-values of < 0.05 were considered significant.

Results

The study shows that out of the 860 interviewed school girls, 677 (78.7%) were circumcised. Then, based on their exposure to FGM/C, girls were classified to circumcised and uncircumcised categories. The mean age of the schoolgirls was 15.45±0.86 (12-16) years for the circumcised and 15.58±0.38 (13-16) years for the uncircumcised. Almost 26% of girls in both groups had illiterate fathers, and 42.2% of the circumcised girls had illiterate mothers compared to 43.2% of the uncircumcised group. No statistically significant differences between both groups regarding any of the studied socio-demographic or gynecological characteristics (p>0.05) (Table 1).

Table 1: Comparison between circumcised and uncircumcised school girls regarding their socio-demographic and gynaecological data.

Socio-demographic and Gynaecological Data		Circumcised (n= 677)	Uncircumcised (n= 183)	p-value
Age (years)*		15.45±0.86	15.58±0.38	0.077
Father's Education #	Illiterate	176 (26.0)	48 (26.2)	0.473
	Literate	501 (74.0)	135 (73.8)	
Mother's Education #	Illiterate	286 (42.2)	79 (43.2)	0.536
	Literate	391 (57.8)	104 (56.8)	
Gynaecological Age *		2.89±1.73	2.86±1.93	0.869
Menstrual Cycle Duration (days) *		28.96±7.50	28.24±6.33	0.230
Menstrual Flow (days) *		5.01±1.23	4.97±1.26	0.698

* Data are presented as mean ± Standard deviation
\# Data are presented as number (%)

When the girls were asked about the primary sources of information regarding FGM/C, 75.6% of the circumcised girls and 77% of the uncircumcised girls selected family members, followed by friends 24.4% and 30.6%, school teachers 14.2% and 10.9%, TV and social media 3.4% and 3.8%, while only 5.6% of the circumcised girls and 3.8% of the uncircumcised girls resorted to doctors or nurses (Table 2).

Most of the uncircumcised girls believe that FGM/C cannot be justified while almost half of the circumcised girls think that FGM/C is justified. Girls attributed FGM/C mainly to religious and social issues (p=0.000) (Table 3).

Among the participating girls, the circumcised group reported slightly higher rates of dysmenorrhea during the past 12 months compared to the uncircumcised; 89.7% and 88%, respectively (p=0.297). Backaches, generalized aching, and nervousness were the most common reported menstrual disorders in both groups, however no statistically significant differences between the circumcised and the uncircumcised girls regarding any of the studied symptoms (p>0.05) (Table 4). Girls from both groups reported taking medications, absence from school and drinking hot herbal fluids for dysmenorrhea and other disorders associating with menstruation with no differences between both groups (p>0.05) (Table 5).

Table 2 Comparison between circumcised and uncircumcised school girls regarding the sources of information about FGM/C

Sources of Information #	Circumcised (n= 677)	Uncircumcised (n= 183)	p-value	Odds ratio (OR)
Family	512 (75.6)	141 (77.0)	0.385	0.98
Friends	165 (24.4)	56 (30.6)	0.054	0.80
School	96 (14.2)	20 (10.9)	0.153	1.30
TV / Internet	23 (3.4)	7 (3.8)	0.463	0.89
Doctor / Nurse	38 (5.6)	7 (3.8)	0.223	1.47

All data are presented as number (%)
Girls reported more than one source, so the sum of values not equal to the total number of the study participants.

Table 3 Comparison between circumcised and uncircumcised school girls regarding their beliefs about the reasons used to justify FGM/C

Reasons #	Circumcised (n= 677)	Uncircumcised (n= 183)	p-value	Odds ratio (OR)
Unjustified	325 (48.0)	156 (85.2)	0.000*	0.56
Justified	352 (52.0)	27 (14.8)		
Religious	344 (97.7)	20 (74.1)	0.000*	1.31
Social	288 (81.8)	7 (25.9)	0.000*	3.16
Hygienic	70 (19.9)	3 (11.1)	0.000*	1.79
Reproductive	62 (17.6)	0	0.000*	---
Sexual	49 (13.9)	0	0.000*	---

All data are presented as number (%), (*) statistical significant difference
Girls reported more than one reason, so the sum of values not equal to the total number of the study participants.

Table 4 Comparison between circumcised and uncircumcised school girls regarding the menstrual disorders throughout the past 12 months

Menstrual disorders #	Circumcised (n= 677)	Uncircumcised (n= 183)	p-value	Odds ratio (OR)
Dysmenorrhea	607 (89.7)	161 (88.0)	0.297	1.02
Backaches	420 (62.0)	114 (62.3)	0.511	0.99
Generalized Aching	423 (62.5)	105 (57.4)	0.121	1.09
Nervousness/Irritation	206 (30.4)	53 (29.0)	0.387	1.05
Acne/Flushing	220 (32.5)	56 (30.6)	0.347	1.06
Headache	187 (27.6)	58 (31.7)	0.236	0.87

Breast Tenderness	126 (18.6)	30 (16.4)	0.468	1.13
Anorexia/Vomiting	113 (16.7)	30 (16.4)	0.821	1.02
Insomnia	102 (15.1)	21 (11.5)	0.132	1.31
Abdominal Distension	72 (10.6)	13 (7.1)	0.097	1.49
Dysuria	87 (12.9)	16 (8.7)	0.079	1.48

All data are presented as number (%)
[#] Girls complained from more than one symptom, so the sum of values not equal to the total number of the study participants.

Table 5 Comparison between circumcised and uncircumcised school girls regarding the pain relief methods used to alleviate symptoms of dysmenorrhea throughout the past 12 months

Pain Relief Methods [#]	Circumcised (n= 677)	Uncircumcised (n= 183)	p-value	Odds ratio (OR)
Drugs	298 (49.1)	76 (47.2)	0.368	1.04
Absence from School	287 (42.4)	89 (48.6)	0.077	0.87
Herbal Fluids	178 (29.3)	57 (35.4)	0.083	0.83
Heating Pads	93 (15.3)	17 (10.6)	0.077	1.44
Exercise	70 (11.5)	13 (8.1)	0.131	1.42
Others	46 (7.6)	12 (7.5)	0.556	1.01

All data are presented as number (%)
[#] Girls used more than one method, so the sum of values not equal to the total number of the study participants.

Discussion

In the current study, the prevalence of FGM/C among preparatory school students was 78.7%. Religious and social factors were the most widely accepted justifications for FGM/C. Family members and friends were the primary sources of information about this subject. Dysmenorrhea and other menstrual related symptoms were nearly similar among circumcised and uncircumcised girls.

FGM/C is considered a mutilating intervention that carries debilitating health and psychological consequences [9]. In some Muslim countries, including Egypt where FGM/C is prevalent, it is often wrongly quoted that religious instructions are the basis for performing FGM/C [13].

In the current study, 78.8% of the schoolgirls in two selected rural areas in Beni-Suef were circumcised. Tag-Eldin et al. investigated five geographical regions in Egypt and reported that FGM/C was performed among 61.7% of girls in rural public schools, 46.2% in public urban schools and only 9.2% in private urban schools. Additionally, in their study, the prevalence of FGM/C in Beni-Suef was 73.9% [5].

Previous studies about the prevalence of FGM/C in Egypt reported conflicting results. This returns to the difference in the criteria of included participants, different sample sizes and variable places of the studies. Ibrahim et al. conducted their study on never-married girls in Egypt aged 13-19 years and reported a prevalence rate of FGM/C of 86% [14]. In Sharkia, 97.2% of girls between 14 and 16 years in rural areas and 81.9% of girls at the same age in urban areas were circumcised [15]. A study by Al-Hussaini, 2003 reported that all women who came to the labor ward in Assiut University Hospital were circumcised [16]. Elnashar and Abdelhady, 2007 reported the prevalence of FGM/C amongst the newly married women at 75.8% (61% in urban areas and 100% in rural areas) [4].

Although our sample involved only girls from rural areas in Beni-Suef, the prevalence rate of FGM/C in our study was considerably lower than the previous national reports. The rural residence has always been described as the main risk factor influencing the continuation of FGM/C [4, 15]. However, this relative decline can be attributed to many factors.

Since the early nineties, many legal changes have criminalized the practice of FGM/C, and various civil groups and coalitions launched many educational campaigns and programs to raise the awareness of people about the health and emotional impacts of this practice. Several prominent religious and community leaders interacted with these campaigns and provided substantial support to the anti-FGM/C policy [17]. In addition to these factors, the improved educational levels in Egypt throughout the last decades could explain the modification in traditional views and behavior alteration concerning FGM/C. Such modifications can diffuse from family to another to create a new collective awareness refusing FGM/C [18].

Our study showed that family members and friends were the primary sources of information girls sought for knowledge about FGM/C. In previous studies, parents were the decision takers of FGM/C [5, 18]. What is worth pointing out was that less

than 5% of girls resorted to doctors or nurses to get information about FGM/C. However, the conservative nature of the rural communities in Beni-Suef side by side with the sensitivity of this issue may explain why girls preferred asking their families rather than healthcare givers.

In our study, half of the circumcised girls had justifications for this practice. Previous literature showed that most of the circumcised women were in favor of performing FGM/C to their daughters, while the uncircumcised women did not tend to circumcise their daughters [19]. Religious issues were among the main justifications of FGM/C. These findings agree with previous national reports [5, 19] while contradicting others [16].

In this regards, it is important to say that although most prominent religious leaders, who are given spaces on TV, stand against FGM/C, local religious leaders, who are in direct contact with people on the ground, do not usually follow the formal religious constitution. Also, socio-cultural potentials were reported by girls in our study as a factor supporting FGM/C. In a previous study, half of the women attributed FGM/C to customs and traditions [16]. Some families in certain communities do not accept women who have not undergone FGM/C as marriage partners [5].

Our results also showed a high prevalence of dysmenorrhea, backaches, generalized aching and nervousness among young girls during menstruation. These high rates coincide with previous national and international studies conducted on adolescent girls [20-24]. Compared to the uncircumcised girls; the circumcised girls in our study did not show statistically significant differences regarding these manifestations ($p>0.05$). Also, menarche age, menstrual cycle and flow days were almost the same in both groups ($p>0.05$). Unlike our findings, Elnashar and Abdelhady reported more dysmenorrhea amongst the circumcised women, but the age of menarche and duration of menses did not show difference [4]. The painful scars from FGM/C and the emotional stress resulting from this practice are thought to be risk factors for dysmenorrhea [24].

For relieving the symptoms of dysmenorrhea and associating menstrual disorders, girls reported taking analgesics and drinking hot herbal fluids. Previous studies also reached the same findings [18].

In conclusion, FGM/C is highly prevalent among school girls in rural areas in Beni-Suef; however, in comparison to previous national literature, the rate of FGM/C has declined. Religious and social factors were the most widely accepted justifications for FGM/C. Family members and friends were the primary sources of information about FGM/C. Further research should focus on changing attitudes of all family members, renewing the religious speech, and empowering young girls to stand against circumcision.

Disclosure of interest

All authors believe FGM/C to be harmful and believe its practice should be eradicated.

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