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Factors Affecting Female Genital Mutilation / Cutting Practice in Rural and Urban Areas among Women in Khartoum State Sudan 2020

Abstract

Background: Female genital mutilation (cutting) is a form of violence against the girls and women which involves the partial or total removal of external female genitalia, it is a major health problem in Sudan and causes many health problems and complications.

Objective: This study aims to identify deeply the sociocultural and demographic factors leading to female genital mutilation practice in rural and urban areas of Khartoum State.

Methods: It is a cross-sectional study with 588 women who agreed to participate in the study. Data were collected through direct questionnaire. Descriptive and statistical tests were analyzed by logistic regression, t-test, and chi-square test by the Statistical Package for the Social Sciences) SPSS).

Results: The average age of participants is 34.7 ± 10.4, and the overall prevalence of female circumcision among women studied over 15 years is 93.2 per cent. The overall prevalence of female circumcision among girls 0-14 years of age is 61.2%.

Prevalence of circumcision among girls in rural areas was 81.0 percent and 41.5 percent among girls in urban areas. There are no statistically significant differences in social and socio - demographic factors between rural and urban areas. The main social and cultural factors that support the practice of FGM in rural areas are historical traditions, the protection of virginity, and the reduction of promiscuity and family pressure. In urban areas, the main social and cultural factors that maintain FGM practice are traditional beliefs, family and peer pressure.

Conclusion: FGM is a social norm more than a health problem.

Recommendations: Combating FGM requires a social change process that leads to new concepts regarding circumcision and other harmful practices. There is a need for more social interventions rather than healthy measures.

Keywords: Female genital mutilation, Women, socio-demographic and socio-cultural factors, Sudan

Research Article

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Introduction

Female genital mutilation / cutting is (FGM/C) comprises all procedures that involve partial or total removal of the external female genitalia, or other injury to the female genital organs for non-therapeutic reasons1. The practice is mostly carried out by traditional circumcisers, who often play other central roles in communities, such as attending childbirths. In many settings, health care providers perform FGM due to the belief that the procedure is safer when medicalized. WHO strongly urges health care providers not to perform FGM [1].

Although FGM/C is a worldwide practice, it is more common in Africa where it is prevalent in 28 countries. The worldwide prevalence is estimated by world health organization (WHO) to be - between 100-140 million women and girls. In Africa, about 90 million girls and women are living with the consequences of FGM/C and three million are at risk of being mutilated yearly. The Prevalence varies widely between and within countries however, over half of the 200,000,000 girls/women with FGM/C live in Indonesia, Egypt, Sudan and Ethiopia, 44 million of them are girls below age of 15 years [2].

Women practice FGM/C due to different factors; Social

pressure to conform to what others do, considered proper sexual behavior, linking procedures to premarital virginity, FGM/C believed to reduce a woman's libido, the notion that girls are clean and Cultural Centralism (the superiority of the native ethnic culture) [3, 4].

FGM/C was banned in Sudan since 1944, [5] but is still practiced widely. And, since then, health personnel in Sudan do a lot of efforts to control this harmful practice. But still it is widely practiced. Sudan ranks as seventh among countries practicing FGM/C worldwide. Recent data from multi –cluster indicators survey (MICS) found that 86.6 percent of all women in the reproductive age (15-49 years) are circumcised [6, 7]. This shows that FGM/C is deeply rooted in the culture of the Sudanese.

Despite five decades of anti-FGM/C campaigns, Sudan still has one of the highest prevalence rates in the world, with a national FGM/C prevalence in Khartoum 87.5 percent among women aged 15-49 years and 79 percent in Algdarf, 83.4 in White Nile where 31 percent among girls younger than 15 years, the number of girls circumcised each year will grow to 6.6 million by 2050 [7].

In spite of the efforts done to control FGM/C in Sudan, it is practiced widely in rural and urban areas. There is a need for deep investigation about the social, cultural factors among those who are practicing the FGM/C. It is expected from this research to highlight those factors. The identification of the specific factors that influences the occurrence of the practice is real issues in planning and designing health promotion activity or any public health response.

Khartoum State is a multi-cultural state. It contains a diversity of populations coming from several states as well as different cultural, religious and ethnic backgrounds. The diversity and density of Khartoum population (when study the effects of different factors; culture, and education) will represent information about the FGM/C practice within different Sudanese society. Therefore, to determine those factors; Khartoum state is a superior study area attributable to such variety of population living in one state [8].

This research is trying to go deeply explaining the socio-cultural aspects of the practice of female genital mutilation among rural and urban women in Khartoum State.

Methodology

Research Design: Cross sectional comparative, community-based study design

Study setting: Khartoum state which comprises of 7 localities: Each of the localities is divided into administrative unit and each administrative unit is divided into sections (urban and rural areas) [8].

Study population: The study population was composed of women who are resident in rural and urban areas in Khartoum state and had at least one daughter.

Inclusion criteria:

Women age over 15 years

Women who have at least one daughter under 14 years

Actively to be interviewed

Study period: August 2019 - January 2020

Sample size and sampling technique:

ırough the following for-

$$n = \frac{z^2 pq}{(d^2)} deff$$

Where:

- n= Sample size
- z2 = equal to 1.96 for 95% confidence level
- p = Anticipated population proportion which is chosen from previous studies.
- q = 1-p
- d = Desired Margin of error as 5%

Design effect that used for adjust sample size from simple to cluster, often taken as 2. From previous Multiple Indicator Cluster survey 2014 conducted it is found that Percent distribution of women who believe the practice of FGM/C should be continued in Khartoum State was 24% (MICS). From above equation the sample size = 560 women. The total sample size with 5% for none response rate = 588 respondent. The sample size divided equally between rural areas and urban areas of Khartoum state.

Sampling technique:

The sample was drawn in stages

- The units were distributed as urban and rural
- The administrative units were selected randomly
- The sample size was calculated from the total number of the population in urban and rural areas

Step 1: Stratification

Divide the population into two stratums based on their mode of living, and divide the sample size equally between them as follow:

Step 2: Two stage cluster sampling

Stage one: Cluster sampling

First: Determine the sample of cluster to be selected in each stratum randomly from total Administrative unites which was 38 so urban area (7) and from rural (3) administrative unites

Second: Choosing clusters randomly from each stratum and determine the sample within each selected cluster - To choose Admin units randomly from each strata the Probability proportionate to size sampling (PPS) was used, to apply the Probability proportionate to size sampling we need

Stage two: Sample size of Households was determined by using proportional allocation for the selected cluster.

Then the household selected by systematic random sampling until the desired sample size was achieved.

k = N/n where, k = the interval size, N = number of households, n = sample size allocated.

Data collection methods and tools:

The researcher generated information from respondent through interview using self-administered questionnaire.

Study variables:

- **Dependent variables:** practice of female genital mutilation
- **Independent variables:** socio-cultural and demographic factors of the women
- **Background variable:** age, sex, economic status, education, marital status

Tool of data collection:

The data was collected by structured questionnaire adapted from (Onodu, Winifred Uzoamaka, socio- cultural factors associated with female genital mutilation, University of Nigeria 2014(54) which is contain a list of questions. The tool consists of two part (A) and (B).

Part A: Socio demographic data (age, religion, level of education, family income, occupation, marital status …. etc.)

Part B: Socio-cultural factors consist of (17) point weighing by Likert scale from (1 –5) strongly agree, agree, neutral, disagree and strongly disagree respectively total score 85.

The questionnaire was filled on the first of November 2025 and was completed within six weeks. The interviewers selected suitable time for the respondent from 9 am to 1 pm daily for the whole week and the time to fill the questionnaire range from 20 – 30 minutes. With the house listing conducted and identification of the households where the eligible respondents reside, a random start was done by tossing a coin up, the head was up and we started by the right and worked clockwise, in every household, the instrument was administered to all eligible respondents. Literate respondents filled the questionnaire while the illiterate ones were assisted after clarification. This process was continued until sample size was reached from all the 10 selected communities. All copies of the instrument were retrieved on the spot.

Data management and analysis:

After Data collection and coding, all statistical analyses performed used the Statistical Package for Social Science (SPSS) version. Descriptive analysis - univariate the frequency and percentage, correlation analysis to compare differences between two groups express by mean and SD, T test also was used, multiple Logistic regression and odd Ratio with Confidence Interval 95% and p value <0.0001. A chi- square and was used to test statistical significance with p value < .05. The results were presented using tables and Figures.

Ethical consideration: The study protocol received ethical approval from each locality and from each administrative unit for data collection. Also, a legal permission taken from the popular committees. Women voluntarily participated in the study after being fully informed about the aim of the study and methodology, and only after providing informed consent. Additionally, participant may easily withdraw from the study survey prior to its completion for whatever reason, without warming or penalty. The questionnaire form remained anonymous and data treated confidentially by the research team.

Results

Variable	Rural		Urban		Total (F) %
	F	%	F	%	
Age					
15 – 24 years	72	24.5%	55	18.7%	(127) 21.6%
25 – 34	92	31.3%	102	34.6%	(194) 33%
35 – 44	72	24.5%	91	31.0%	(163) 27.7%

45 – 54	47	16.0%	29	9.9%	(76) 12.9%
> = 55	11	3.7%	17	5.8%	(28) 4.8%
Mean	34.4 ±10.6	34.9 ±10.2	34.7 ± 10.4		
Religion					
Muslim	286	97.3%	282	96%	(568) 96.6%
Christian	8	2.7%	12	4%	(20) 3.4%
Marital status					
Married	248	84.4%	244	83.0%	(492) 83.7%
Divorce	22	7.5%	35	11.9%	(57) 9.7%
Widow	24	8.1%	15	5.1%	(39) 6.6%
Education					
Illiterate	76	25.8%	26	8.8%	(102) 17.3
Basic/Elementary	40	13.6%	32	10.9%	(72) 12.2
Intermediate	29	9.9%	24	8.2%	(53) 9
Secondary	69	23.5%	89	30.3%	(158) 27
University	80	27.2%	123	41.8%	(203) 34.5
Occupation					
House wife	198	67.3%	176	59.9%	(374) 63.6%
Employee	60	20.4%	106	36%	(166) 28.2%
Student	36	12.3%	12	4.1%	(48) 8.2%
Family income					
Sufficient	149	50.7%	99	33.7%	(248) 42.2%
Insufficient	145	49.3%	195	66.3%	(340) 57.8%

Table 1: Demographic Characteristic of Study Population by Urban-Rural areas Among Mothers in Khartoum State-2020 (n= 588)

The mean age of women was 34,7 ± 10.4. Mostly of respondents 83.7% were married, approximately of circumcised women 17.3% were illiterate, whereas 34.5% were university graduates. 96.6 percent of those surveyed were Muslim, most of respondents 63,6% were housewives. Nearly more than half of respondents 57.8% had insufficient income.

Have women been circumcised?					
Variable	Circumcised mothers		Not circumcised mothers		Total (F) %
	F	%	F	%	
	548	93.2	40	6.8	588(100)
Age					
15 – 24 years	109	85.8	18	14.2	127 (21.6)
25 – 34	176	90.7	18	9.3	194 (33)
35 – 44	161	98.8	2	1.2	163 (27.7)
45 – 54	74	97.4	2	2.6	76 (12.9)
> = 55	28	100	0	0	28 (4.8)
Religion					
Muslim	538	94.7	30	5.3	568(96.6)
Christian	10	50	10	50	20(3.4)
Residence (P = 0.190)					
Rural	278	94.6	16	5.4	294(50)
Urban	270	91.8	24	8,2	294(50)
Education					
Illiterate	95	93.1	7	6.9	102(17.3)
Basic/Elementary	68	94.4	4	5.6	72(12.2)
Intermediate	49	92.5	4	7.5	53(9.0)
Secondary	151	95.6	7	4.4	158(27)
University	185	91.1	18	8.9	203(34.5)
Occupation					
House wife	351	93.9	23	6.1	374(63.6)
Employee	153	92.2	13	7.8	166(28.2)
Student	44	91.7	4	8.3	48 (8.2)
Family income					
Sufficient	235	94.8	13	5.2	248(42.2)
Insufficient	313	92.0	27	7.9	340(57.8)

Table 2: Demographic Characteristic of Study Population by women had been circumcised or not circumcised in Khartoum State-2020 (n=588)

Table (2) illustrates in sum, FGC rate among women was very high, 93.2% had been circumcised. whether residing in rural or urban areas, had experienced fairly similar female genital mutilation\cutting, 94.6% and 91.8% respectively, indicating that residence was insignificantly related to women circumcision (P = 0.190). FGM/C practice was

predominance among women currently over 55 years of age 100% and this trend dropped to 85.8 percent when turned under 25 years of age. 94.4percent of Muslims were circumcised, compared with 50.0 percent for Christian women.

Do you practice genital mutilation for your daughter?	Circumcised daughter		Un circumcised daughter		Total
	F	%	F	%	F (%)
	360	61.2	228	38.8	588 (100)
Age (p<.0001)					
15- 24 years	75	59.0%	52	41.0%	127 (21.6)
25 – 34	102	52.6%	92	47.4%	194 (33)
35 – 44	99	60.7%	64	39.3%	163(27.7)
45 – 54	58	76.3%	18	23.7%	76 (12.9)
> = 55	25	89.3%	3	10.7%	28 (4.8)
Religion (P=0.043)					
Muslim	352	62 %	216	38%	568(96.6)
Christian	8	40%	12	60 %	20(3.4)
Residence (P=0.000)					
Rural	238	81%	56	19%	294(50)
Urban	122	41.5%	172	58.5%	294(50)
Marital status (p=0.008)					
Married	299	60.8 %	193	39.2%	492(83,7)
Divorce	29	50.9%	28	49.1%	57(9,7)
Widow	32	82.1%	7	17.9 %	39(6,6)
Education (P=0.000)					
Illiterate	86	84.3%	16	15.7 %	102(17.3)
Basic	58	80.6%	14	19.4%	72(11.9)
Intermediate	38	71.7%	15	28.3%	53(9.0)
Secondary	95	60 %	63	40%	158(27)
University	83	40.9	120	59.1%	203(34.5)
Occupation (P=0.000)					
House wife	256	68.4%	118	31.6%	374(63.6)
Employee	71	42.8%	95	57.2%	166(28.2)
Student	33	68.8%	15	31.2%	48 (8,2)
Family income (P = 0.116)					
Sufficient	162	65.3%	86		248(42,2)
insufficient	198	58.2%	142		340(57,8)

Table 3: Cross tabulation between FGM/C practice and socio-demographic factors of women in Khartoum stat- (n=588)

Table (3) demonstrates the cross tabulation between FGM/C practice and sociodemographic factors of women in Khartoum state, over all young daughters under 14 years old had been mutilated in Khartoum state were 61.2%, The circumcision of young daughters among women more than 55 years of age was 89.3 which is high rate compared to other age groups with p value (<.0001). The relationship between religion and practice of FGC was statistically significant (P=0.04) the practice among Muslim women was 62% compared to 40% among Christian one. Daughters in urban areas had a lower rate circumcision (41.5%) compared to their counterpart in rural areas (81%) at highly significant statistically relationship (P=0.000). The widowed women had a higher rate of daughter's circumcision (82.1%) compared to married and divorce women with (p=0.008). Employee mothers had a lower rate of daughter's circumcision (42.8%) compared to housewives and student mothers (68.4%, 68.8%) respectively hence, occupation is extremely statistically significant (P=0.000). the relationship between education and practice of FGC was extremely statistically significant (P=0.000), illiterate women had the highest level of the practice 84.3 % compared to university graduates' women 40.9 %. The relation between family income and FGM/C practice was not statistically significant (P = 0.116), approximately 65.3% of sufficient family income had been circumcised compare to 58.2% from insufficient family income had been practice FGM.

Predictors	B	S.E.	Wald	df	Sig.	Exp (B)	95% C.I. for EXP(B)	
							Lower	Upper
Age			11.293	4	.023			
15-24 years (ref)								
25 – 34	.130	.298	.190	1	.663	1.139	.635	2.042
35 – 44	-.389	.315	1.521	1	.217	.678	.365	1.258
45 – 54	-.675	.414	2.662	1	.103	.509	.226	1.146
> = 55	-1.607	.710	5.122	1	.024	.201	.050	.806
Religious (Muslim)	1.194	.550	4.712	1	.030	3.300	1.123	9.697
Residence (Rural)	1.752	.219	63.985	1	.000	5.764	3.753	8.854

Table 4: Logistic regression estimates of Female Genital Mutilation Practice among women who mutilated their daughters in Khartoum Sate –Sudan, (n=588)

Table (4) The estimated odds ratio 0.201(P=0.024), of women over the age 25 years, women are 80% less likely to circumcised their daughters compared to women over 55 age years, On the same fashion, the risk of circumcision of young daughters reduced by 80 % among women over the age of 25 years. This result indicates that at the age of women increases, over 55 age years the possibility of FGM/C practice arises., the estimated odds ratio 3.3(P=0, 03) indicates that Muslim women are 3.3times more likely to perform FGM/C to their daughters compared to Christian women. Regarding residence women in a rural area had the highest odds ratio of 5.76 (p value = 0.000), it indicates that rural women to circumcise their daughters were 5.76 times more likely than the women in urban areas.

Socio-Cultural Factors Statement	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD
	F	%	F	%	F	%	F	%	F	%		
Uncircumcised women are not acceptable among peers in social meetings/functions in my community	48	16.4%	114	39.0%	23	7.9%	68	23.3%	41	13.9%	2.78	1.332
Circumcised women earn community respect	46	15.9%	105	36.2%	35	12.1%	70	24.1%	36	12.2%	2.8	1.293
Female genital mutilation is practiced due to family pressure	39	13.3%	46	15.6%	48	16.3%	104	35.4%	59	20.0%	3.7	1.318
Female genital mutilation is practiced due to peer pressure	45	15.9%	45	15.9%	65	23.0%	88	31.1%	42	14.1%	3.62	1.296
Female genital cutting practice to avoid stigma and ridicule	40	14.2%	79	28.1%	29	10.3%	82	29.2%	53	18.1%	2.35	1.147
Female circumcision raises the social status of the family	67	24.4%	117	42.5%	29	10.5%	52	18.9%	12	3.6%	3.09	1.366
Uncircumcised women are not allowed to associate with opposite sex in various activities	80	27.7%	130	45.0%	20	6.9%	37	12.8%	24	7.6%	2.28	1.213
Circumcision of women promotes and encourages social integration and maintenance of social cohesion	62	22.1%	93	33.2%	33	11.8%	69	24.6%	25	8.2%	2.64	1.291
Religious beliefs	54	18.9%	58	20.3%	32	11.2%	115	40.2%	29	9.4%	3.01	1.362
Due to traditional belief in community	13	4.6%	24	8.5%	14	4.9%	153	54.1%	81	27.9%	4.42	1.039
FGM/C is practiced to maintain cleanliness and good health and beauty	45	16.2%	90	32.5%	30	10.8%	68	24.5%	46	15.9%	2.91	1.362
Circumcision prerequisite for marriage	46	16.0%	87	30.2%	17	5.9%	78	27.1%	62	20.8%	3.07	1.431
Circumcision of women promotes faithfulness in marriage	58	20.8%	98	35.1%	25	9.0%	51	18.3%	49	16.8%	2.75	1.409
Prevent pre-marital sex	76	26.6%	67	23.4%	23	8.0%	68	23.8%	54	18.2%	2.84	1.498
Female circumcision helps women to preserve their virginity& reduce promiscuity	48	16.3%	52	17.7%	11	3.9%	78	26.5%	95	32.3%	3.9	1.032
Weight Mean											3.09	0.416

Table 5: Socio – Cultural Factors Affecting Female Genital Mutilation\Cutting for Rural women in Khartoum state – Sudan

Table (5) demonstrates the social and cultural factors that still preserving the practice of FGM/C in Khartoum state among 294 women residing in rural area , the strongest social factors that preserves the practice according to the weight mean (3.09) were due to traditional belief in community , all women beliefs that young girls to preserve their virginity and control sexual desires and promiscuity ,Family and peer pressure played, prerequisite for marriage, raises the social status of the family, religious beliefs played role in persistence of practice.

Socio-Cultural Factors Statement	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean	SD
	F	%	F	%	F	%	F	%	F	%		
Uncircumcised women are not acceptable among peers in social meetings/functions in my community	81	26.8%	127	43.6%	30	10.3%	31	10.7%	25	8.6%	2.31	1.217
Circumcised women earn community respect	60	19.6%	116	39.9%	35	12.0%	45	15.5%	38	13.1%	2.63	1.313
Female genital mutilation is practiced due to family pressure	27	9.3%	62	21.5%	25	8.7%	114	39.4%	61	21.1%	3.42	1.289
Female genital mutilation is practiced due to peer pressure	47	12.8%	83	28.7%	35	12.1%	95	32.9%	39	13.5%	3.06	1.292

Female genital cutting practice to avoid stigma and ridicule	47	15.4%	102	34.9%	29	9.9%	67	22.9%	49	16.8%	2.91	1.365
Female circumcision raises the social status of the family	74	20.6%	144	52.0%	27	9.7%	23	8.3%	26	9.4%	2.34	1.170
Uncircumcised women are not allowed to associate with opposite sex in various activities	76	24.8%	157	54.1%	25	8.6%	10	3.4%	26	9.0%	2.18	1.119
Circumcision of women promotes and encourages social integration and maintenance of social cohesion	64	21.5%	133	45.4%	30	10.2%	30	10.2%	37	12.6%	2.47	1.283
Religious beliefs	59	17.3%	109	38.4%	42	14.8%	48	16.9%	36	12.7%	2.69	1.289
Due to traditional belief in community	36	10.7%	36	12.5%	14	4.8%	102	35.3%	106	36.7%	3.75	1.350
FGM/C is practiced to maintain cleanliness and good health and beauty	54	17.2%	95	32.8%	19	6.6%	68	23.4%	58	20.0%	2.96	1.434
Circumcision prerequisite for marriage	55	16.4%	103	36.0%	22	7.7%	56	19.6%	58	20.3%	2.91	1.423
Circumcision of women promotes faithfulness in marriage	70	21.7%	131	45.8%	23	8.0%	36	12.6%	34	11.9%	2.47	1.286
Prevent pre-marital sex	67	20.4%	107	37.5%	19	6.7%	56	19.6%	45	15.8%	2.73	1.397
Female circumcision helps women to preserve their virginity	69	20.2%	120	42.6%	16	5.7%	45	16.0%	44	15.6%	2.64	1.377
Husband pleasure	65	20.8%	112	38.8%	22	7.6%	53	18.3%	42	14.5%	2.67	1.372
Female circumcision increases fertility rate	94	31.5%	143	49.0%	29	9.9%	18	6.2%	10	3.4%	2.01	0.986
Weight Mean											2.72	0.436

Table 6: Socio – cultural factors affecting female genital mutilation\cutting for Urban women in Khartoum state – Sudan

Table (6) shows that the social and cultural factors that still maintain the practice of in Khartoum state amongst 294 women living in urban areas, with weight mean (2.72) the most social cultural factors that keep the practice is due to traditional belief , Family pressure played a major role peer pressure was great social factors for the continuation of FGM/C prerequisite for marriage , Some women consider that FGM/C could prevent pre-marital sex and preserve virginity and maintain cleanliness and good health of their daughters.

Socio – cultural factors Statement	Rural		Urban		P-Value	95% CI	t	SE
	Mean	SD	Mean	SD				
Uncircumcised women are not acceptable among peers in social meetings/functions in my community	2.78	1.332	2.31	1.217	P < 0.0001	-0.677 to -0.263	4.467	0.105
Circumcised women earn community respect	2.8	1.293	2.63	1.313	P = 0.1142	-0.381 to 0.041	1.582	0.107
Female genital mutilation is practiced due to family pressure	3.7	1.318	3.42	1.289	P = 0.0094	-0.491 to -0.069	2.604	0.108
Female genital mutilation is practiced due to peer pressure	3.62	1.296	3.06	1.292	P < 0.0001	-0.826 to -0.294	5.247	0.107
Female genital cutting practice to avoid stigma and ridicule	2.35	1.147	2.91	1.365	P < 0.0001	0.356 to 0.764	5.386	0.104
Female circumcision raises the social status of the family	3.09	1.366	2.34	1.170	P < 0.0001	-0.9260to -0.514	7.150	0.105
Uncircumcised women are not allowed to associate with opposite sex in various activities	2.28	1.213	2.18	1.119	P = 0.2992	-0.289 to 0.089	1.039	0.096
Circumcision of women promotes and encourages social integration and maintenance of social cohesion	2.64	1.291	2.47	1.283	P = 0.1098	-0.379 to 0.039	1.598	0.106

Religious beliefs	3.01	1.362	2.69	1.289	P = 0.0036	-0.535 to -0.105	2.926	0.109
Due to traditional belief in community	4.42	1.039	3.75	1.350	P < 0.0001	-0.865 to -0.475	6.744	0.099
FGM/C is practiced to maintain cleanliness and good health and beauty	2.91	1.362	2.96	1.434	P = 0.6648	-0.177 to 0.277	0.433	0.115
Circumcision prerequisite for marriage	3.07	1.431	2.91	1.423	P = 0.1745	-0.391 to 0.071	1.359	0.118
Circumcision of women promotes faithfulness in marriage	2.75	1.409	2.47	1.286	P = 0.0121	-0.499 to -0.062	2.517	0.111
Prevent pre-marital sex	2.84	1.498	2.73	1.397	P = 0.3575	-0.345 to 0.125	0.921	0.119
Female circumcision helps women to preserve their virginity &reduce promiscuity	3.9	1.032	2.64	1.377	P < 0.0001	-1.457 to -1.063	12.555	0.100
Husband pleasure	2.57	1.548	2.67	1.372	P = 0.4075	-0.137 to 0.337	0.829	0.121
Female circumcision increases fertility rate	2.14	1.116	2.01	0.986	P = 0.1350	-0.301 to 0.041	1.497	0.087
Weight Mean	3.09	0.416	2.72	0.436	P < 0.0001	-0.439 to -0.301	10.528	0.035
Female circumcision increases fertility rate	2.14	1.116	2.01	0.986	P = 0.1350	-0.301 to 0.041	1.497	0.087
Weight Mean	3.09	0.416	2.72	0.436	P < 0.0001	-0.439 to -0.301	10.528	0.035

Table 7: Comparison of Socio – Cultural Factors Mean affecting Female Genital Mutilation\Cutting between Urban and Rural women in Khartoum state

Table (7) this table show that the T-tests analysis shows that there was extremely significant statistical difference in women socio-cultural factors between rural and urban areas (t = -10.53, SE = 0.035(-0.4390 to -0.3010), p < .0001). Rural women had a more positive perception than urban women.

Highly statistically significant of women to preserve according to virginity and control their sexual desires, promiscuity, social status of the family, traditional belief those cultural factors play a crucial role in persistence and continuation of FGM/C\C practice which was more frequent in rural than urban areas.

Discussion

The researcher undertook the present study by using existing cross-sectional comparative data from women with at least one daughter residing in Khartoum state including rural and urban areas to ascertain reasons why FGM/C still persists [9]. In this study, the overall prevalence of FGM/C among studied women over 15 years of age is 93.2 %, the rate in rural and urban areas of Khartoum state is slightly similar 94.6 % and 91.8 %respectively. In Sudan the overall prevalence of the state of Khartoum (2014) were 87.5 %, in 2018 the rate slightly increases by 89, 5 %. The results show increase in practicing FGM/C [10].

The study confirms that FGM is declining in Khartoum state among daughters' generation, the overall Prevalence of FGM/C among girls aged 0-14 is 61.2 %t, 81.0 %of rural girls, compared to 41.5 % in urban areas. These findings are consistent with 2014 MICS survey, 70.9 percent of rural girls will be circumcised, compared to 56.2 % in urban areas, with overall prevalence of Khartoum state 60.6 % The study showed that, the drop-in prevalence of FGM/C\C in urban area from 56.2 % in 2014 to 41.5 % in 2019. [6,10].

On other hand, 38.8 percent of young girls had not undergone any form of FGM/C compared to study conducted by Ashimi AO, Amole TG and Iliyasu Z in urban areas of northern Nigeria where, girls had not undergone FGM/C 52.2 percent [11].

Older mothers had higher prevalence of FGM/C, among their daughters, ranging from 59 % women are (15-24) years of age to 89.3 % for women over 55 years of age, this finding indicates that, when the age of women increases, the possibility of FGM/C practice arises which is consistent with other studies [12].

The current study showed that, Muslim women are more likely to have their daughter circumcised 62%, in contrast to Özer Birge and Aliye Nigar Serin, they believe that the practice of female genital circumcision has no religious basis, this indicates the practice does not result from a universally applicable religious belief [13].

The prevalence of FGM/C is more than twice higher among daughters of women have no education 84.3 % than among those have a higher level of education 40.9 % By contrast, Shabila, N. P finds no statistically significant association between the practice of FGM/C among young daughters and the educational status of their mothers [14].

In contrast with Mohammed, E.S., Sidhom, A.E and et al, the study showed that marital status of women where widowed have the highest circumcision rate of daughters 82.1% compared to married and divorced women. [15] but a significant association was observed between circumcised women and their marital status [10].

The findings in this study regarding sociocultural factors that preserve the FGM/C practice are similar finding by Andro A, Lesclingand that FGM was largely practiced in communities for conformity to cultural and traditional beliefs, and norms including FGM being perceived as rite of passage for girls to womanhood and that it enhances chastity and purity making girls more marriageable [16].

This study confirms that there is a high significant differences between socio-cultural factors that support the continuation the practice of FGM/C more in rural areas compared to urban areas .the main differences are to preserve their virginity factor followed by raises the social status of the family areas, traditional belief , control their sexual desires and promiscuity this result is line with gbuji Nwanneka that it is a significant difference according to cultural belief and tradition that in the rural communities this significant difference mainly to preserve premarital virginity and marital fidelity , protect girls from excessive sexual emotions, which helps to control their sexuality . Indicate that FGM/C practice helps to maintain family and to initiate girls into womanhood [17].

Limitation

- The reliability of self-reporting by mothers regarding their daughters' circumcision. There is a risk that a woman did not report honestly whether her daughter was cut, particularly in countries where the practice is illegal, out of a desire to keep the cutting concealed.
- This study missed data about types of FGM/C and age of circumcision which should be taken in next research.

Conclusion

- No significant statistical differences in socio-demographic factors between rural and urban areas that preserve the FGM/C practice. (0.4390 to -0.3010), $p < .0001$)
- The study figures out, traditional believe, family and peer pressure preserve the practice in rural community more than urban community. (mean 3.09)
- FGM is a social norm more than a health problem. (mean 2.72)

Recommendations

Based on the finding of the present study the following recommendations were suggested:

- The finding of this study should be used to better tailor the sensitization campaigns to provide educational program about FGM/C to communities, particularly young men coupled, secondary schools with keeping girls in school appeared to be some of the most effective ways of fighting FGM/C.
- The law enforcement bodies need to take strong action in those who perform FGM, and teach the community about legal prohibition of FGM.
- Further researches needed to know the sociocultural factors that persistence women's practice FGM.
- Develop strategies to counsel individuals, families, and communities against the practice.

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