

# Effect of women's education on reducing Female Genital mutilation (FGM) in Sudan 2019

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## Abstract-

**OBJECTIVE:** To determine the effect of women's education and their socio-cultural factors affecting abolishing of FGM in eight states in Sudan during year 2019

**METHODOLOGY:** A descriptive study, conducted in nine maternity hospitals in eight states in Sudan, for primigravidae delivered vaginally during 2019. After an informed consent; women with FGM delivered vaginally, were included for the study and those without FGM were the control. Data was collected by trained data collectors and resident registrars in obstetrics and gynecology using a structured format, and analyzed using SPSS version 22.0

**RESULTS:** A total of 10651 primigravidae, delivered vaginally during 2019 in eight states in Sudan were studied. Of them, 7715 (72.4%) had FGM and 2936 (27.6%) had no FGM, with different variation between states, the highest in West Kurdofan 84.2%, and the lowest in Kassala 40.5%. Sisters of participants have a lower rate of FGM; 4890 (57.8%). Rural residents have a higher rates of FGM; 5255 (68.1%) compared to urban or camps. Women with FGM; 4407 (57.1%) have type II, 2787 (36.1%) type III (infibulation), 521 (06.8%) type I, and 3493 (45.3%) of them had reinfibulation. Type II and III FGM; 2628 (34.4%) and 2186 (28.3%) are higher in rural than urban or camps, however; Khartoum has the highest type II. Mothers of all participants have literacy rate of 40.9%, those of participants with FGM at 38.7%, and of those without FGM at 47.3% (PV= 0.001). Participants with FGM have literacy rate of 75.6% and those without FGM at 88.7%. Participants with type II FGM have a rate of 88.3% and those of type I and III have rates of 62.2% and 69.1% respectively (PV= 0.001)

**CONCLUSION:** Urbanization and improving the level of education of women and girls have significant potentials in reducing and modifying FGM and reducing reinfibulation of affected individuals.

**Key words:** Female Genital Mutilation (FGM), women's education, Sudan.

## INTRODUCTION:

Female genital mutilation (FGM) includes procedure involving partial or total removal of the female external genitalia for cultural, social and non-therapeutic reasons (1). According to WHO classification; type I is partial or total removal of the clitoris or clitoral hood (clitoridectomy), type II is removal of the clitoris with partial or total excision of labia minora with or without labia majora and type III, infibulation, is removal of the external genitalia, stitching and narrowing of the vaginal opening. Type IV includes all other harmful procedures to female external genitalia (1)

FGM is carried on young girls, associated with many immediate and late organic, psychological, and psychosexual complications affecting women's reproductive health, based on the type and the person who performs the procedure. Globally over 200 million girls and women were subjected to FGM, and at least three millions girls are

exposed to risks of FGM each year (2, 3). It is practiced in Africa, mainly in sub-Saharan region including Sudan, parts of Asia, Middle East, Arab countries and among immigrants in North America and Europe (4 -6).

In Sudan, FGM exist with different variations between the states, and prevalence is mainly based on self-report of respondents to surveys. It is reported between 89- 98% in demographic health survey (DHS), and safe motherhood survey (SMS), while in Sudan house hold surveys (SHHS) 2006 and 2010 about 69 % and 66% respectively (7,8). Sudan is the first African country to outlaw FGM since 1924, and recently in 2019 a decree was passed by the parliament criminalizing the performance of FGM (9). During the last five decades; many efforts started by many governmental, non-governmental, educational and civil societies to raise community awareness and abolish FGM. This study targeted middle aged primigravidae, who had better chances of education, during labour to determine the status and the type of FGM by resident registrars after an informed consent.

## **MATERIAL & METHODS:-**

This is a descriptive cross-sectional hospital based study, for determining the effect of women's education and their socio-demographic characteristics in reducing FGM for primigravidae who delivered at nine hospitals in eight states in Sudan, after an informed consent. One maternity hospital was selected from each state, except two were selected from Khartoum state. Ethical approval was obtained from ethical review committee (ERC) at Sudan medical specialization board (SMSB). On admission to labour ward, vaginal examination was done after an informed consent for all women under study during first stage of labour. Each woman was examined by a trained resident registrar, to determine the status and the type of FGM, according to WHO classification. Participants were interviewed after delivery by trained interviewers for socio-cultural characteristics and were examined by resident registrars for confirmation or exclusion of reinfibulation and followed until discharged from hospital. Studied variables included: socio-demographic characteristics, FGM among sisters, attitude towards abolition of FGM, status and type of FGM after examination. Data editing was done by a trained person and checked regularly by authors for completeness and analyzed using SPSS program, version 22.

## **Results:**

In this study, 10651 primigravidae were included for studying the effect of women's education and their socio-demographic characteristics on reducing FGM. Their age was between 19-30 years, most of them were Muslims, 10221 (96.0%), Christians were 410 (03.8%) and 20 (0.2%) from other religious groups. Rural residents were 7442 (69.9%), urban were 2981 (28.0%) and 228 (2.1%) living in camps. Women had FGM were 7715 (72.4%), and 2936 (27.6%) had no FGM, with different variation between states (table 1). The highest rate was found in West Kurdofan 84.2%, followed by Red Sea, 83.5% and Southern Darfur 82.1%, whereas lowest rate was found in Kassala 40.5%. Sisters of participants who had FGM were; 4890 (57.8%), and 3563 (42.2%) had no FGM. Women with FGM, 4407 (57.1%) have type II, 2787 (36.1%) type III (infibulation), 521 (06.8%) type I, and 3493 (45.3%) of them had reinfibulation. Khartoum state has the highest type II FGM (table 2). All participants have literacy rate of 74.1%, 73.7%, for their husbands and 40.9% for their mothers (PV=0.001). Participants at rural residence with FGM were; 5255 (68.1%) compared to urban or camps; 2252 (29.2%) and 208 (02.7%) respectively. They have higher rates of type II and III FGM; 2628 (34.4%) and 2186 (28.3%) respectively than in urban or camps; 1605 (20.1%) and 174 (2.3%) respectively (PV= 0.001).

Participants with FGM, their mothers have literacy rate of 38.7% and those without FGM their mother's literacy was 47.3%. Participants with FGM have literacy rate of 75.6% while those without FGM have a rate of 88.7% (PV= 0.001). Even among those with FGM, literacy rate differ with the type of FGM; it was 62.2% with type I, 88.3% with type II and 69.2% with type III (PV= 0.001). Of participants with FGM; 4621 (59.9%) declared that they will not perform FGM on their daughters or advise for that while 3094 (40.1%) would prefer to conduct FGM on their daughters and can advise others for doing it. However, all participants without FGM declared that they will neither mutilate their daughters nor advise others for doing it.

## **Discussion:**

FGM is a public, social & health problem, considered a fundamental violence against women and violation of women and girls rights. It is a phenomenon that cannot be understood without looking at the social, cultural, educational and economic injustice affecting women and girls. In Sudan, it gained momentum long time ago; among political, social, religious, community leaders, health care providers, families, and media since 1970. Reproductive health program (RHP) at federal ministry of health (FMOH) has developed early strategies to reduce the practice. Many of the medical schools in the country included FGM and management of its complications in their curricula. Many studies and reports have been generated or published on FGM based on self-reports of respondents to surveys which may not reflect the exact situation in Sudan (9-11). To our knowledge no available published data on effects of women's education on reducing FGM.

In this study the rate of FGM is 77.4%, which is mainly type II and III, is relatively low compared to reports of previous surveys; DHS, SMS, SHHS 2006, and 2010; (89%, 98%, 69%, and 66% respectively) where it was mainly infibulation (7, 8, 12). These surveys included old and illiterate women, where many of them were usually infibulated. However, this rate is consistent with that found among medical students in Khartoum 2003; 75.3% and 48.1% among their sisters. It was mainly type I and II, and only 21.1% were infibulated (13). A similar study at Omdurman maternity hospital (OMH) in Khartoum 2015 for primigravida during labour, reported only 32.5% with FGM, 72.1% of them were type II and only 3.9% were infibulated (type III) and 26.4% among their younger sisters less than 10 years (14). In that study population; 86% were urban, women literacy was 98%, and 94.3% for their husbands. Esra et. Al found a rate of 30.3% of FGM among school girls in Khartoum 2019 (15). A study done in Kilimangaro in Tanzania, among young educated women, reported FGM of only 17% and it was mainly clitoridectomy (16). These studies demonstrated the importance of young age of participants, women and girls education in reducing and modifying FGM.

The low level of FGM and shifting from infibulation to simple types of FGM, mainly type II, in this study is due to efforts of many partners acting for abolition of FGM. It may also be influenced by the younger age, higher education of the study group and the more reliable information collected by trained resident registrars compared to surveys. Literacy may have influence in reducing FGM among study population and shifting from severe type (infibulation) to milder forms particularly type II, as seen in Khartoum state. Type I FGM is relatively low because it is considered by some women as not having mutilation in toto. Type II FGM is associated with the highest level of literacy 88.3%, and participants with high literacy have the least reinfibulation. This is quite different from that reported by the previous surveys, where FGM rate is high and mostly infibulation (12). In this study population and their husbands literacy is high, (74.1%, 73.7%), which may increase knowledge and community awareness on impact of FGM and the need for abolition. High level of women's education will influence economic, social, environmental, traditions and attitude for utilization of health education messages and improving reproductive health and reduce FGM. Literacy usually aims for a long term change in rates and types of FGM, but this might be affected by its cost-effectiveness and benefits particularly in rural and poor communities.

Mother's literacy in this study is low 40.9%, particularly in rural residence where there is early withdrawal from schools for child marriage and child work. Participants without FGM have high literacy rate and their sisters have low FGM, which may be influenced by their mothers' education and their elder sisters. As seen in this study, urbanization is an important factor for reducing the rate of FGM and modification from severe to milder forms. This is consistent with that found in South West Nigeria 2008 (17). Due to inaccurate and destroying beliefs by some lay males that uncut girls have uncontrollable sex drive affecting their virginity and the tight vaginal orifice may enhance male sexual pleasure, demand for reinfibulation persist. This is similar to many African countries where 6.5-10.4 million women request reinfibulation every year (5). It is most prevalent where type III is prevailing; as in Somalia, Sudan, Djibouti and Eritria (98%, 82%, 50%, and 34% respectively) (5). Reinfibulation is physically invasive, emotionally damaging with many complications affecting women reproductive health particularly during coitus and childbirth (14). It is falsely justified to increase male sexual pleasure, particularly among illiterate women and their mothers, where decision is taken by old female relatives and not the client herself (18). Awareness raising and education of girls and women can facilitate change in social attitude which may reduce FGM and reinfibulation.

#### **Acknowledgement:**

We would like to thank all women, registrars, medical staff, nurses & midwives in labour ward in the involved states and hospitals for their co-operation and participation in conducting this study.

#### **Conflict of interest:**

Here we declare that we have no financial or non-financial competing interest and we guarantee that: This article has not been published or considered for publication elsewhere.

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Table 1:  
Distribution of women with or without FGM by states in Sudan during 2019

State	N- 10651	With FGM		Without FGM	
Khartoum	3209	2460	66.7%	749	23.3%
Gadarif	1049	0722	68.8%	327	31.2%
Kassala	1055	<b>0427</b>	<b>40.5%</b>	<b>628</b>	<b>59.5%</b>
Red Sea	<b>1000</b>	<b>0835</b>	<b>83.5%</b>	<b>165</b>	<b>16.6%</b>
White Nile	1164	0754	64.8%	410	35.2%
Southern Darfur	<b>0705</b>	<b>0579</b>	<b>82.1%</b>	<b>126</b>	<b>17.9%</b>
Western Darfur	1069	0759	71.0%	310	29.0%
Western Kurdofan	<b>1400</b>	<b>1179</b>	<b>84.2%</b>	<b>221</b>	<b>15.8%</b>
Total	10651	7715	72.4%	2936	27.6%

Table 2:  
Distribution of women with FGM by states in Sudan during 2019 according to type of FGM

State	Type I	Type II	Type III	Total	PV
Khartoum	080	<b>1779 23.1%</b>	601 07.8%	2460	
Gadarif	030	404 05.2%	288 03.7%	0722	
Kassala	001	089 01.2%	337 04.4%	427	
Red Sea	041	192 02.5%	602 07.8%	835	
White Nile	127	420 05.4%	207 02.7%	754	
S. Darfur	041	412 05.3%	126 01.6%	579	

W. Darfur	057	463 06.0%	239 3.1%	759	
W. Kurdofan	144	848 08.4%	387 05.0%	1179	
Total	521 06.8%	4407 57.1%	2787 36.1%	7715 100.0%	

Table 3:

Distribution of women under study for FGM, their husband and mothers' education in eight states in Sudan 2019

Variable	Clients	Husband	Mother	PV
Illiterate	2754 25.9%	2806 26.3%	<b>6298 59.1%</b>	
Primary school	3123 29.3%	2410 22.6%	2571 24.2%	
Secondary school	3020 28.4%	2806 26.3%	1223 11.5%	
University	1754 16.4%	2629 24.7%	0559 05.2%	
Total	10651 100%	10651 100%	10651 100%	

Chi-square is 4322.3102. PV &lt; 0.001

Table 4:

Association of women's education and the status of FGM

Variable	With FGM	Without FGM	Total	PV
Illiterate	1879 (17.6%)	0875 (08.3%)	2754 (25.9%)	
Primary school	2458 (23.1%)	0665 (06.2%)	3123 (29.3%)	
Secondary school	2275 (21.3%)	0745 (07.0%)	3020 (28.3%)	
University	1103 (10.4%)	0651 (06.1%)	1754 (16.5%)	
Total	7715 (72.4%)	2936 (27.6%)	10651 (100.0)	

Chi-square is 178.733. PV &lt; 0.001

Table 5:

Association of women's education and type of FGM

Variable	Type I	Type II	Type III	Total	PV
Illiterate	0197 (02.6%)	0515 (06.7%)	1167 (15.0%)	1879 (24.3%)	
Primary	0184 (02.4%)	1484 (19.2%)	0790 (10.3%)	2458 (31.9%)	
Secondary	0088 (01.1%)	1603 (20.8%)	0584 (07.6%)	2275 (29.5%)	
University	0052 (00.7%)	0805 (10.4%)	0246 (03.2%)	1103 (14.3%)	
Total	0521 (06.8%)	4407 (57.1%)	3787 (36.1%)	7715 (100.0%)	

Chi-square is 979.0604. PV &lt; 0.001