

# Knowledge, attitudes, and practices of female health care service providers on female genital mutilation in Somalia: A cross-sectional study

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## Abstract

**Background:** Despite a strong international standpoint against female genital mutilation, the prevalence of female genital mutilation in Somalia is extremely high.

**Objectives:** This study assessed the knowledge, attitude, and practice of female genital mutilation among female health care service providers in order to formulate appropriate policies and programs to eliminate this harmful practice.

**Design:** Facility-based cross-sectional survey conducted in 2019 among female doctors and nurses working in Banadir Hospital, Mogadishu, Somalia.

**Methods:** A total of 144 female health care service providers were randomly selected, and data were collected through a pre-tested, semi-structured questionnaire. Quantitative data were analyzed by using the statistical software SPSS (Version 21), and qualitative data were analyzed thematically in accordance with the objectives of the study.

**Results:** The study found that about three-fifths of the respondents had undergone some forms of female genital mutilation during their life. An overwhelming majority believed that female genital mutilation practices were medically harmful, and a majority of them expressed their opinion against the medicalization of the practice of female genital mutilation. The study also observed a significant association between participants' age and their negative attitudes regarding the legalization of female genital mutilation.

**Conclusion:** Health care service providers' effort is critical to eliminating this harmful practice from the Somalian society. Strong policy commitment and a comprehensive health-promotion effort targeting the parents and community leaders are essential to avert the negative impact of female genital mutilation.

## Keywords

attitude and practice, female genital mutilation, health care professionals, health care service providers, knowledge, Somalia

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## Introduction

Female genital mutilation (FGM) refers to all procedures that require partial or total removal of the external female genitalia or other injuries to the female genital organs for non-medical reasons.<sup>1–3</sup> It is widely practiced in at least 30 African, Asian, and Middle-East countries but mostly concentrated in African countries.<sup>4</sup> It is estimated that more than 200 million girls and women have undergone some forms of FGM with the majority of these procedures on girls before they turn 15 years of age. There are another 3 million girls who are at risk of undergoing FGM every year.<sup>2,4</sup>

There are different forms of FGM, and these vary from country to country and are linked to cultural traditions and ethnicity. Variations also exist between different regions of the same country. According to the World Health Organization (WHO), FGM can be classified into four broad categories or types: Type I refers to partial or total removal of the clitoris and/or the prepuce (also known as “Sunna”/clitoridectomy). Type II is the partial or total removal (excision) of the clitoris and the labia minora, with or without excision of the labia majora. Type III, commonly known as infibulation, is the narrowing of the vaginal orifice with a creation of a covering seal by cutting and repositioning the labia minora and/or the labia majora, with or without excision of the clitoris. Type IV (“nicking” without flesh removed) encompasses all other harmful procedures to the female genitalia such as pricking, piercing, incising, scraping, and electrocautery. Recent surveys among women > 15 years old indicate that around 90% of FGMs were either Types I, II, or IV. However, more than 8 million women from the northeastern region of Africa have undergone infibulation (i.e., Type III), which is the most severe form of FGM.

FGM is a global concern and widely recognized as a cultural practice that violates the human rights of girls and women.<sup>4,5</sup> The practice of FGM is deeply rooted in ethnic, societal, and religious norms and customs. In some African countries including Somalia, it is linked to traditions and notions about purity, virginity, and control of unwanted sexuality. These procedures are carried out mostly by the so-called traditional circumcisers or village doctors, resulting in various forms of physical damage to the female genitalia. Often these damages are long-lasting, sometimes irreversible, causing lifelong suffering to women having FGM, especially those conducted by unskilled traditional circumcisers. All types of FGMs can cause some immediate health consequences such as severe pain, excessive bleeding, swelling of genitalia, infection, fever, and occasionally shock and death, depending on the type of FGM performed and the maintenance of hygienic practices while conducting the procedure.<sup>4</sup> In addition, women may suffer from urinary problems, menstrual difficulties, painful sex, and an increased risk of complications during childbirth. Other

long-term health complications include dysmenorrhea, depression, and other post-traumatic psychological problems. A multi-country study in Africa showed that women who underwent Type III FGM were more likely to have a cesarean section with extended hospital stays, postpartum hemorrhage, and perinatal death.<sup>6</sup>

Somalia is among the top-ranking countries with the highest prevalence of FGM practices in the world. Despite international condemnation against FGM, it is still widely practiced in Somalia, where 98% of women aged 15–49 have undergone some forms of FGM.<sup>2</sup> Women, who live in rural areas, are only slightly more likely to undergo FGM than those who live in urban areas. In Somalia, FGM has been associated with the social recognition of women to become eligible for marriage<sup>7</sup> For that reason, almost all girls undergo FGM with very few exceptions.<sup>8</sup> Like other African countries, FGMs were widely conducted by traditional practitioners using local instruments such as a knife or razor blade on very young girls.<sup>9</sup> The most common form of FGM practiced in Somalia is infibulation or Type III (“Pharaonic circumcision” in Somali language), which is the most harmful form.<sup>8</sup> It is commonly believed within Somalian society that FGM is indispensable to “cleanse” a girl and to retain the family’s honor. On the other hand, a woman who has not undergone this procedure is thought to be of a loose character and therefore may result in less bride wealth for her family.<sup>7</sup>

There have been many awareness programs supported by the United Nations and other international donors. In 2008, WHO and other UN partners issued a statement to advocate for the abandonment of FGM. The statement highlighted the human rights and legal dimensions of the problem and provided data on the frequency and scope of FGM. It also summarized research on why FGM should be discontinued and its detrimental effects on the health of women, girls, and newborns. Regrettably, it also showed that the knowledge and attitude toward FGM have not shifted much despite the introduction of a clinical handbook on FGM to improve the knowledge, attitudes, and skills of health care providers in preventing and managing the complications of FGM by WHO in 2018.<sup>1</sup>

In recent years, there has been an increasing trend of FGM being conducted in Somalia in health care settings by medical practitioners—popularly known as “medicalization of FGM.” The term “Medicalization of FGM” refers to a process where health care professionals (doctors, nurses, midwives, or other health professionals) perform FGM which may happen either in the house of the patient or at a health facility. Studies suggest that this medicalization of FGM is perceived as a “safe” option and therefore gaining much popularity, especially among the educated middle-class society. However, other studies suggest that FGM should not be medicalized; otherwise, the practice will linger in the community and continue to cause lasting damage to women’s life and rights.<sup>10–12</sup>

It is widely acknowledged that the knowledge, attitude, and practices of health care service providers (HSPs) toward FGM in African countries are crucial in eliminating this harmful practice. Moreover, in Sub Sahara Africa, a large number of health care workers are either themselves engaged in the practice as cutters, or they support it. Studies have shown that the HSPs do not have adequate expertise and support to prevent FGM and address its complications. There are also knowledge gaps for both the prevention of FGM and evidence-based care to optimize health outcomes for girls and women who undergo this procedure, hence the decision to conduct this study.

## Methods

### Study design and setting

This is a cross-sectional study, conducted in 2019 among 144 female physicians and nurses working at the 700-bed Banadir Hospital, a teaching hospital located in the capital city of Mogadishu. Banadir region is the most populous region of Somalia. It is mainly urban with a population of 1.6 million people, and it has the highest number of internally displaced persons in the country. Banadir Hospital, established in the 1970s, has been considered the largest hospital in Mogadishu, Somalia, working as the epicenter for health care delivery in Mogadishu. The hospital comprises both maternity and pediatric departments along with general medical departments which offers routine health care services.

### Study participants' sampling and sampling approach

The study participants were female physicians and nurses (including interns) of Banadir Hospital, aged 18–50 years, who were on the full-time working staff list of the hospital. Any part-time and locum staff were excluded. Considering the nature and sensitivity of the topic, we only interviewed the female participants.

The minimum study sample was determined as follows

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

where  $n$ =sample size,  $z=1.96$  (at 95% confidence interval), and  $p$ =prevalence of female genital mutilation in Somalia=98%=0.98,  $q$ =complementary probability ( $1-p$ )=1-0.98=0.02, and  $d$ =precision level=5% (0.05).

$$\text{Thus, } n = \frac{(1.96)^2(0.98)(0.02)}{(0.05)^2} = 30.12$$

According to the formula, the minimum sample size was calculated to be 30.12. However, in order to get a wider

perspective and representation of the targeted population, the sample size was deliberately amplified. A total of 144 female physicians and nurses were randomly selected as study participants. Figure 1 shows the systematic sampling process of approaching the sample participants. In the first phase, with the help of the hospital authority, a list of all full-time working HSPs was collected. A total of 248 HSPs (including full-time interns were on the list (61 doctors and 187 nurses). Among them, after following some exclusion criteria, 144 participants (25 doctors and 119 nurses) were selected using simple random sampling.

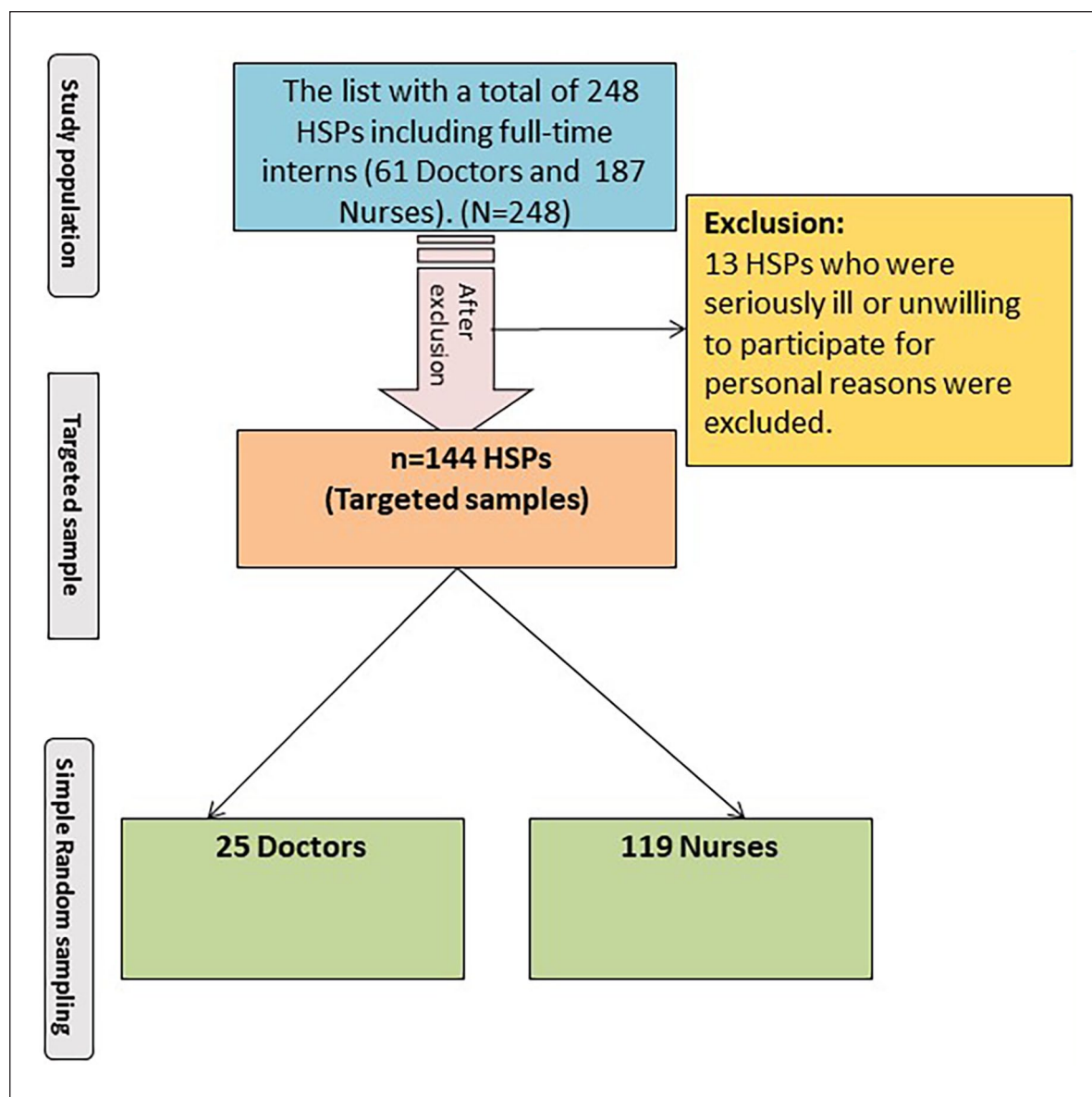
### Data collection

The study used a self-administered, pre-tested, semi-structured questionnaire. After the invitation letter was sent to all the departments' heads, the sealed questionnaires were sent to the participants via the hospital authority. All participants responded within a stipulated time ( $n=144$ ; response rate 100%). The questionnaires were collected by the hospital director who sent them to the research team via a confidential pack. The questions were focused on exploring the knowledge, attitude, and practices of female physicians and nurses of Banadir Hospital about FGM. In addition, data on the socio-demographic variables such as age, sex, marital status, occupation, and educational status of participants were collected. The respondents were asked about knowledge of the different types of FGM and their harmful effects were explored. Participants were also asked about whether they currently practice FGM or have performed FGM in the past. They were questioned if they would continue conducting FGM in the future. Those who had practiced FGM were asked about their motivation and experiences of performing FGM procedures. The general attitude of all respondents toward FGM was also investigated. Information about the recent trend of "medicalization" of FGM was sought through an open-ended question so that the respondents could express their opinion about this sensitive issue in depth (Figure 2).

### Statistical analysis

The data were analyzed using the statistical software SPSS (Version-21). The focus of this study lies in the descriptive statistics. The responses were coded with one or more categories relevant to the objectives of the study. We analyzed the differences in categorical variables by using some statistical tests such as Pearson's chi-square test, likelihood ratio test, and Cramer's V test. All the results with  $P < 0.05$  were considered statistically significant.

The qualitative (open-ended) questions were analyzed thematically in relation to knowledge, attitude, and practices on FGM. We applied methodological triangulation for analyzing the variables about knowledge, attitude, and practices of FGM in order to acquire insights into various issues of FGM among health care workers.



**Figure 1.** Sampling process and samples.

## Results

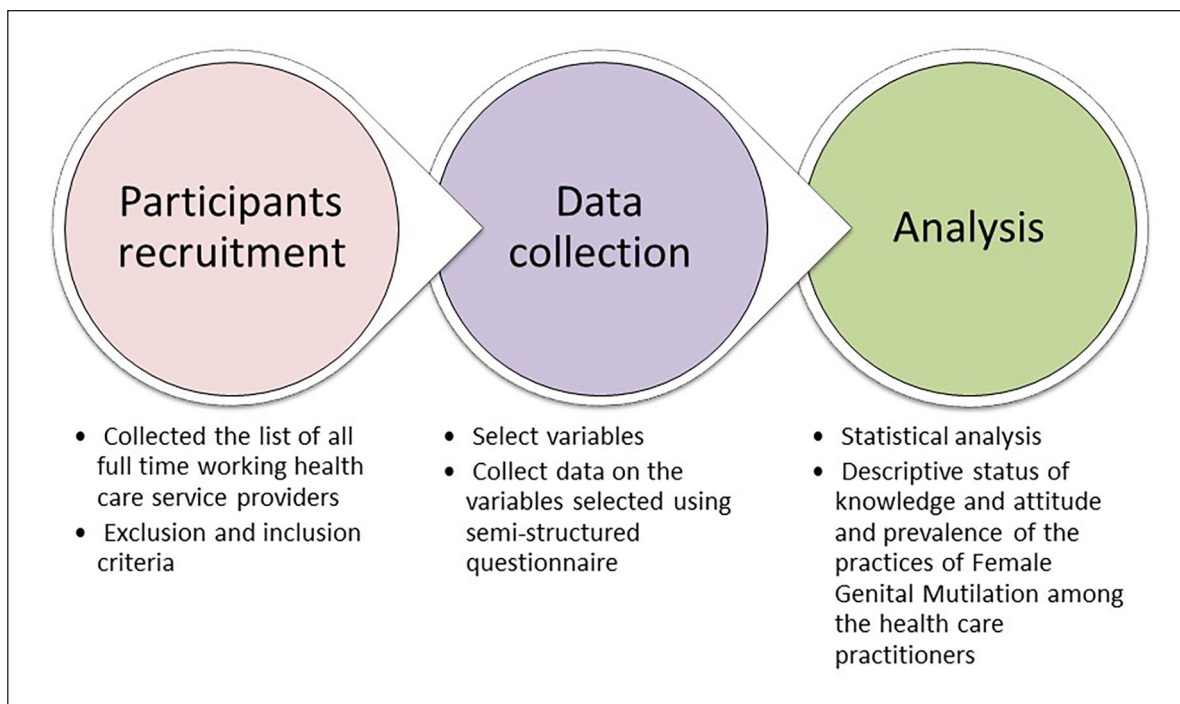
### *Socio-demographic characteristics of the participants*

All the study participants were female within the age group of 18–50 years. Among them, around one-third of participants (31.9%) were in the 32–38 years age group, followed by 27.8% who were aged 39 years and over (Figure 3). More than half of the study participants (54.2%) were married. Majority of the study participants (82.6%) were nurses, and the rest were doctors (17.4%). Nearly a third (30.6%) of the participants' fathers had masters and above level of education, whereas only 10.4% of their mothers had masters or above degrees (Table 1).

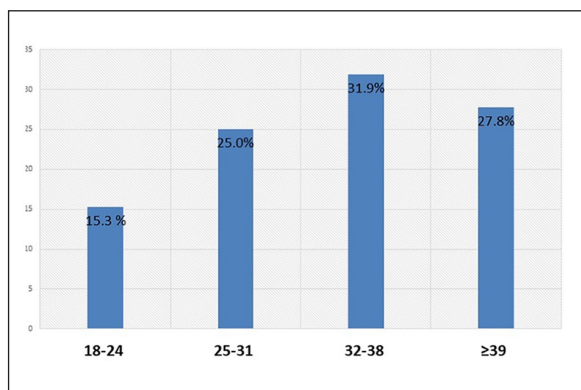
### *Participants' knowledge, attitude, and practice of FGM*

The vast majority of the study participants (88.2%) believed that FGM can transmit infectious diseases. In response to the question of whether FGM can cause infertility, around half (47.2%) of the participants believed that FGM can cause infertility, and more than three-fourths (77.8%) of them believed that FGM decreases sexual pleasure among women. Also, more than three-fourths (77.1%) of the participants expressed that FGM causes sexual dysfunction. The overwhelming majority of the participants (96.5%) reported that FGM was harmful. However, three-fourths (75.7%) of the participants thought that FGM protects against adultery. About the legalization





**Figure 2.** Study flow chart—participants recruitment, data collection, and analysis.



**Figure 3.** Distribution of age group (years) of the participants.

of FGM, the majority of the participants (88.2%) opined against the legalization the FGM. In response to a question about their own status of “circumcision,” nearly four-fifths (77.8%) of the respondents reported that they were circumcised (Table 2).

**Associations between age and FGM legalization and protection against adultery**

The study further explored the legalization of FGM and whether FGM was used to protect against adultery among different age groups of participants. The analysis revealed that there was a significant association between the age of

**Table 1.** Socio-demographic characteristics of the respondents (n = 144).

Variables	Number	Percentage (%)
<b>Marital status</b>		
Unmarried	66	45.8
Married	78	54.2
<b>Occupation</b>		
Nurses	119	82.6
Doctors	25	17.4
<b>Father’s level of education</b>		
No formal education	31	21.5
Primary/secondary education	27	18.8
Higher secondary/vocational	29	20.1
Bachelor’s degree	13	9.0
Master’s degree and above	44	30.6
<b>Mother’s level of education</b>		
No formal education	40	27.8
Primary/secondary education	33	22.9
Higher secondary/vocational	34	23.6
Bachelor’s degree	22	15.3
Master’s degree and above	15	10.4

the participants and their attitude about the legalization of FGM (likelihood ratio test=28.712,  $P < 0.05$ ). Moreover, the result of Cramer’s V test showed that the strength of the association between these two variables was strong (Cramer’s  $V=0.340$ ) and was statistically significant ( $P < 0.05$ ) (Table 3).

**Table 2.** Knowledge, attitude, perception, and practice of female genital mutilation (FGM) among respondents.

Knowledge of FGM among respondents	Number (n = 144)	Percentage (%)
FGM can transmit infectious diseases		
Yes	127	88.2
No	14	9.7
Don't know	3	2.1
FGM causes infertility		
Yes	68	47.2
No	50	34.7
Don't know	26	18.1
FGM decreases sexual pleasure		
Yes	112	77.8
No	10	6.9
Don't know	22	15.3
FGM causes sexual dysfunction		
Yes	111	77.1
No	8	5.6
Don't know	25	17.4
Attitude of FGM among respondents	Number (n = 144)	Percentage (%)
FGM is medically harmful		
Yes	139	96.5
No	4	2.8
Don't know	1	0.7
FGM protects against adultery		
Yes	109	75.7
No	10	6.9
Don't know	25	17.4
FGM should be legalized		
Yes	2	1.4
No	127	88.2
Don't know	15	10.4
Practice of FGM among respondents	Number (n = 144)	Percentage (%)
Are you circumcised?		
Yes	112	77.8
No	32	22.2

**Table 3.** Associations between age and legalization of female genital mutilation (FGM) and adultery.

FGM should be legalized	18–24 Age group f (%)	25–31 Age group f (%)	32–38 Age group f (%)	≥39 Age group f (%)	Likelihood ratio	Cramer's V
Yes	2 (9.1)	0 (0)	0 (0)	0 (0)	28.712 ( $P < 0.05$ )	0.340 ( $P < 0.05$ )
No	12 (54.5)	33 (91.7)	42 (91.3)	40 (100)		
Don't know	8 (36.4)	3 (8.3)	4 (8.7)	0 (0)		
FGM protects against adultery	18–24 Age group f (%)	25–31 Age group f (%)	32–38 Age group f (%)	≥39 Age group f (%)	Likelihood ratio	Cramer's V
Yes	15 (68.2)	22 (61.1)	41 (89.1)	31 (77.5)	22.998 ( $P < 0.05$ )	0.261 ( $P < 0.05$ )
No	4 (18.2)	6 (16.7)	0 (0)	0 (0)		
Don't know	3 (13.6)	8 (22.2)	5 (10.9)	9 (22.5)		

**Table 4.** Knowledge about the health effects of female genital mutilation (FGM) among married participants.

FGM transmits infectious diseases	Unmarried f (%)	Married f (%)	Likelihood ratio	Cramer's V
Yes	52 (78.8)	75 (96.2)	12.206 ( $P < 0.05$ )	0.274 ( $P < 0.05$ )
No	11 (16.7)	3 (3.8)		
Don't know	3 (4.5)	0 (0)		
FGM can cause infertility	Unmarried f (%)	Married f (%)	Pearson chi-square	Cramer's V
Yes	22 (33.3)	46 (59.0)	10.324 ( $P < 0.05$ )	0.268 ( $P < 0.05$ )
No	27 (40.9)	23 (29.5)		
Don't know	17 (25.8)	9 (11.5)		
FGM decreases sexual pleasure	Unmarried f (%)	Married f (%)	Pearson chi-square	Cramer's V
Yes	39 (59.1)	73 (93.6)	24.803 ( $P < 0.05$ )	0.415 ( $P < 0.05$ )
No	9 (13.6)	1 (1.3)		
Don't know	18 (27.3)	4 (5.1)		
FGM causes sexual dysfunction	Unmarried f (%)	Married f (%)	Likelihood ratio	Cramer's V
Yes	42 (63.6)	69 (88.5)	14.009 ( $P < 0.05$ )	0.305 ( $P < 0.05$ )
No	7 (10.6)	1 (1.3)		
Don't know	17 (25.8)	8 (10.3)		

### Association between marital status and knowledge about the health effects of FGM

Table 4 demonstrates that there was a significant association between the marital status of the participants and their knowledge about the health effects of FGM (likelihood ratio test = 12.206,  $P < 0.05$ ). It was reported that the association between the marital status of the participants and the knowledge that "FGM can cause infertility" was statistically significant (Pearson's chi-square test = 10.324,  $P < 0.05$ ). However, from the result of Cramer's V, it can be indicated that the strength of the association between these two variables was moderately strong (Cramer's V = 0.268) and the strength was statistically significant ( $P < 0.05$ ). It was reported that there was a significant association between the marital status of the participants and their knowledge that "FGM decreases sexual pleasure" (Pearson chi-square test = 24.803,  $P < 0.05$ ). In addition, the result of Cramer's V concluded that the strength of the association between these two variables was very strong (Cramer's V = 0.415), and the strength was statistically significant ( $P < 0.05$ ). The study also observed that there was a significant association between the marital status of the participants and their knowledge regarding "FGM causes sexual dysfunction" (likelihood ratio test = 14.009,  $P < 0.05$ ).

### Discussion

The highest prevalence of FGM (alias female circumcision) is mostly concentrated in the countries of the African region. Especially the countries which are located in Horn Africa (e.g., Sudan, Somalia, Eritrea, Ethiopia, and Djibouti) and the countries of West Africa (e.g., Niger, Nigeria, Togo, Benin, Ghana, Mali, Senegal, Cote d'Ivoire (Ivory Coast), Cameroon, Burkina Faso, Mauritania, Liberia, Sierra Leone, Guinea-Bissau, and Equatorial Guinea) have the highest percentage of female circumcision around the world.<sup>13</sup> As a result, FGM remains a public health threat in many societies in Africa including Somalia. This study attempted to determine the knowledge, attitudes, and practice of FGM among female HSPs in Somalia, particularly from the perspectives of the harmful impact on the life of every woman in Somalian society.

FGM has been recognized as a form of gender discrimination and violation of human rights.<sup>14-16</sup> It represents an age-old cultural tradition that is often used as an instrument for the control of women's promiscuity/sexuality and girls' marriage ability.<sup>16,17</sup> It reflects the deep-seated gender inequalities in the society which prevents women from the enjoyment of their human rights. It is also a form of violence against girls and women which has a serious impact on their bodies and infringes on their autonomy and

control over their lives. However, women in many African countries have no power in deciding either for or against this procedure. International law stipulates that freedom to manifest one's religion or beliefs might be subject to limitations necessary to protect the fundamental rights and freedoms of individuals.<sup>18</sup> Therefore, social and cultural claims cannot be evoked to justify female genital mutilation.

FGM is a harmful practice that has a lasting effect on their physical and mental health. Several studies found that infections, infertility, decreased sexual pleasure, sexual dysfunction, and hemorrhage were the most common complications of FGM. Moreover, the transmission of infections was a serious threat to the FGM victims, which was confirmed by the vast majority of the respondents.<sup>19–22</sup>

The HSPs were found to be knowledgeable about the harmful consequences of FGM, but still, they themselves had been practicing various forms of FGM. This finding is similar to a study done by Kaplan-Marcusán et al. where in spite of having a certain degree of knowledge on the negative impact of FGM, a quarter of health care workers (24.4%) still wanted their own daughters to undergo FGM.<sup>22</sup> However, in many other occasions, the HSPs were able to reduce the practice of FGM when they had proper knowledge and positive attitude on adverse health consequences of FGM.<sup>23–27</sup> Almost all participants in this study (96.5%) recognized FGM as a medically harmful practice and had a strong standpoint against it. A similar attitude among the HSPs was observed in Nigeria, where the overwhelming majority was in favor of discouraging this practice or even criminalizing it.<sup>21</sup>

Around half of the participants believed that FGM can cause infertility. However, in Somalia, it is traditionally perceived that uncircumcised women have lower fertility as compared with circumcised women and are unable to control their sexual desires.<sup>13</sup> About the issue of decreased sexual pleasure, more than two-thirds (77.8%) of the respondents mentioned that FGM decreases sexual pleasure, compared with 50.8% in Nigeria.<sup>21</sup> More than two-thirds (77.1%) of the participants believed that FGM causes sexual dysfunction and this is in agreement with other studies.<sup>5,9,28</sup> The study further revealed that a vast majority (75.7%) of participants believed that some forms of FGM were performed as a deterrent against adultery. However, other studies have shown that circumcised girls could be more promiscuous since they believe they could have sex without losing their virginity. There is also a perception among circumscribed girls that they are more mature, desirable, and superior than those uncircumcised girls.<sup>19,29</sup>

FGM had traditionally remained in the domain of traditional birth attendants or among the members of the community known for this trade. There is, however, a recent phenomenon in regard to FGM practice where it is increasingly done by medical professionals because it

is thought to be safe. This phenomenon is commonly known as “medicalization” of FGM.<sup>30</sup> Evidence shows that medicalization of FGM is done for many reasons such as lowering the risk of immediate complications, conforming to social norms, monetary gains, and social recognition for the health practitioners. Moreover, health care providers think that medicalization is acceptable, allows fast recovery, and could help escape the enforcement of law. Although medicalization has gained popularity in some African societies, it actually faces many challenges as it does not prevent long-term medical, psychological, or sexual complications associated with the practice.<sup>31–33</sup>

In recent years, WHO and other UN organizations have voiced strongly against medicalization and have advised that neither FGM be institutionalized nor should any form of FGM be performed by any health professional in any setting.<sup>30</sup> Though, in some cases, the HSPs perform FGM because of financial gain, the study revealed that the majority of respondents were against the medicalization of the FGM practice. They even suggested not to approve medicalization or any other strategy that may perpetuate the practice. These findings have been corroborated by other studies from the African region.<sup>25,34–38</sup> However, a study among midwives in Sudan reported that 74.5% of the interviewed midwives considered it a legal practice and nearly two-thirds of the respondents stated that they would practice FGM in the future. The reasons given by the respondents for practicing FGM were cultural, religious, and economic.<sup>39</sup>

Concerning the legalization of FGM, 88.2% of the study participants were found to be strongly against the legalization of FGM. The converse attitude was observed in a qualitative study, which shows that both ordinary people and opinion leaders in Somalia are against the total abandonment of FGM, rather opined in favor of its continuation.<sup>9</sup> Evidence from across the globe suggests that there is increasing support for FGM elimination campaigns among HSPs irrespective of their gender or professional categories.

This study also found the lower education level of the mother was associated with higher practice of FGM since most of the decisions of circumcision were made by mothers. This study exposed the fact that a vast majority of the participants had undergone circumcision themselves, although 96.5% of them did not support FGM. In contrast, the rate of being circumcised was reported to be much lower (27.1%) among the female HSPs in Nigeria.<sup>21</sup>

The circumcision of both girls is perceived as a “normal” among Somalians.<sup>40</sup> It is widely believed in Somalia that if any girl rejected this practice, she would automatically reduce the chance of her getting married and would bring immense shame to her family.<sup>41,42</sup> In addition, there is a strong belief among Somalians that FGM is a religious requirement<sup>43</sup> although there is no scholarly evi-



dence or reference in any of the major religious books or scriptures.<sup>44</sup> Rather, there are a number of socio-cultural factors that have an impact on the practice of FGM, particularly traditional beliefs, behavioral norms, social or familial customs, and inherent religious norms.

Study participants expressed their concerns about multiple consequences of FGM especially when the procedure was conducted by an untrained provider using traditional tools. Both physical deformities and psychological trauma are well documented. Some complications are tragic, life-changing, and long-lasting. Still, FGM is being practiced as part of love and social joy in many African countries including Somalia.<sup>16</sup> Strong and appropriate awareness campaigns among the general population are therefore critical to transform the societal attitude and practice toward this harmful practice. The HSPs can play an important role in the prevention of FGM by imparting health education to patients and parents during consultations. The message given by the HSPs would be more effective due to their education status as well as their respect in the society. Considering the extent of the caregiving duties of the HSPs, extensive training and support should be provided to empower the HSPs to perform an active role in the prevention of FGM. Such awareness and training of HSPs can also reduce the practices of medicalization among HSPs.<sup>45</sup>

This study was conducted among HSPs of the largest hospital in the capital city of Mogadishu. Therefore, the study findings may not be representative of rural Somalia, because the perception and practices could be fundamentally different among the nurses and doctors in rural settings. It is worth noting that the analysis was based on self-reported data on the knowledge and attitude, and there was no scope for probing. Although self-report data are a reliable and efficient way of gathering someone's expressiveness and perception, this may be subject to inherent biases and requires careful interpretation. Nevertheless, the researchers of this study have compared the findings with other study findings of the African region as well as around the world to establish the reliability of findings and discard any outliers. The researchers believe that the findings of this study reflect the real picture of Somalian society in regard to FGM practice. Therefore, this study would provide evidence to Somali policymakers, researchers, and international organizations in setting up national campaigns and work plans regarding the issue of FGM in Somalia.

## Conclusion

While tradition and culture play a central role in the practice of FGM, it is nevertheless a breach of women's and girls' human rights internationally. It reflects deep-seated socio-cultural norms and obvious inequality between the

sexes and constitutes an extreme form of discrimination against women. The study clearly showed that female HSPs had good knowledge about the negative impacts of FGM and had strong viewpoints against this harmful practice. However, the practice of FGM is rampant in Somalia. Considering the serious health implications of FGM, the HSPs should be engaged to address the situation. In countries like Somalia where FGM is extensively practiced, there should be effective and innovative educational and sensitization programs including training of the HSPs. Advocacy against FGM should not be left solely in the hands of the government; rather, it should include all health care providers to work together with other influencers of the society if the desired goals of combating FGM are to be achieved.

## Declarations

### *Ethics approval and informed consent*

All the ethical issues of the study were reviewed by the Research Ethics Committee (REC) of Daffodil International University (DIU), Bangladesh. After a successful review, the REC approved the study protocol vide reference number FAHS-REC/DIU/2017/1011. In addition, administrative approval was received from Banadir Hospital. A written informed consent was acquired from each interviewee after carefully explaining the purpose of the study. Confidentiality of personal information was strictly maintained throughout the study.

### *Consent for publication*

Not applicable.

### *Author contribution(s)*

**Nadira Mehriban:** Conceptualization; Investigation; Methodology; Writing—review & editing.

**Abu Naser Zafar Ullah:** Conceptualization; Formal analysis; Methodology; Validation; Writing—original draft; Writing—review & editing.

**Md Imdadul Haque:** Formal analysis; Investigation; Methodology; Writing—review & editing.

**Md Golam Dostogir Harun:** Data curation; Investigation; Methodology; Writing—review & editing.

**Deka Mohamed Isse:** Conceptualization; Investigation; Methodology; Project administration; Writing—review & editing.

**Faisal Muhammad:** Data curation; Software; Validation; Writing—review & editing.

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**Thomas Dessoffy:** Validation; Visualization; Writing—review & editing.

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### Availability of data and materials

All data generated and analyzed for this study are included in this article. No additional data and/or materials are available.

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### Supplemental material

Supplemental material for this article is available online.

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