

## Review Article

# Socioeconomic and Reproductive Health Outcomes of Female Genital Mutilation

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## Abstract

**Background:** Female genital mutilation (FGM) is one of the important aspects of reproductive health. The economic, social and health consequences of FGM threaten the achievement of sustainable development goals. The purpose of this study was to assess the economic, social and reproductive health consequences of FGM from the perspective of individual, family, community and health system.

**Methods:** In this study, we reviewed 1536 articles from 1979 to 2015. Fifty-one studies were directly related to our goal. Research papers, review articles, case studies and books on the research topic were used.

**Results:** The results of this review showed that most studies on FGM, have investigated health complications of FGM, and few studies have addressed its socioeconomic aspects. The complications from the FGM can impose a significant economic burden on individuals, society and health system. Social consequences of FGM are more irritating than health consequences, so to tackle this practice; its social aspects should be more emphasized. Significant short and long term consequences of FGM threaten women's reproductive health; Reproductive health is one of the essential prerequisites of sustainable development. Sustainable development will be achieved if women are healthy. This practice can threaten achieving sustainable development. In Iran, FGM is performed in some areas, but there are no official statistics about it and there has yet been no plan to deal with FGM.

**Conclusion:** FGM is a form of social injustice which women suffer. Ending FGM requires a deep and long-term commitment. Knowing its consequences and its effects on individual, families, the health system and community will help supporters to continue fighting this practice. Any money spent on eliminating this harmful practice, compared with the costs of complications, would not be wasteful. It seems that further studies are needed to assess socioeconomic effects of FGM and the relationship between type of FGM and induced complications. Such studies will help policymakers to tackle this practice.

**Keywords:** Economic consequence, female genital mutilation, reproductive health, social consequence

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## Introduction

All procedures that involve partial or total removal of the external female genitalia define as female genital mutilation; this definition also covers any injury to the female genital organs for non-medical purposes; About 140 million girls and women worldwide suffer the consequences of FGM and it is estimated that annually more than 3 million girls are at risk for FGM.<sup>1</sup> The prevalence of FGM in women aged 15 – 49 years has been estimated to range from 0.6% in Uganda to 97.9% in Somalia.<sup>2</sup> FGM is most prevalence in Africa, some countries in Asia and the Middle East.<sup>3</sup> FGM is practiced in Asian countries including India, Indonesia, Malaysia, as well as in Iraq, Jordan, Saudi Arabia and Yemen.<sup>4</sup>

In Iran, this practice is done in some provinces including Bushehr, Hormozgan, Kurdistan, Khuzestan and Lorestan.<sup>5</sup> A study in 1993 in the town of Minab estimated the prevalence of FGM to be 70%

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that 87.4% of FGM cases were type 1 and 12.6% were type 2.<sup>6</sup> Another study in one of the cities of Kurdistan reported that the prevalence of FGM was 55.7%, all cases were type 1.<sup>7</sup> In Iran, this practice is done in secret in families and there is not any formal statistics about it.<sup>8</sup> Some authors argue that FGM has decreased in Iran, but there is not enough research about it.<sup>9</sup> The cause of FGM is a combination of social, religious and cultural factors.<sup>10</sup> In most communities, FGM is done by nonprofessional people, without anesthesia, where sanitary conditions are not suitable, without giving antibiotics and with crude instruments such as razor blades, knives and broken glass.<sup>16</sup> It has no known health benefits.<sup>3</sup> This practice result in negative impacts on physical, psychological and sexual health of many women and girls and it is one of the aspects of violence against women and girls that violate their human rights.<sup>4</sup> FGM imposes the significant burden of social disability not only on women but also on the community.<sup>11</sup> Most studies on FGM have focused on its historical, health, anthropological, legal and cultural aspects but few studies have addressed its socio-economic and reproductive health consequences. The aim of this narrative review article was to assess socio-economic and reproductive health outcomes of FGM.

## Methods

We started our search with this question: What are the social, economic and reproductive health consequences of female

genital mutilation? In this study economic outcome was defined as any money that is spent in doing FGM or treatment of its complications. Social outcome was defined as any effect of FGM on the status of the individual in society and her social relations and reproductive health outcome was defined as any effect of FGM on physical and mental health related to the reproductive system. We searched PubMed, Scopus, CINAHL, Cochrane, ISI Web of Science, Google scholar and Iranian databases (scientific information database (SID), Magiran, IranMedex and Iran-doc). The research strategy involved general and specific terms in relation to female genital mutilation and its socio-economic and reproductive health outcomes; both Persian and English records have been studied. In search of Persian article we used the same word in Persian. Our search formula was as follows: ("female circumcision" OR "Female Genital Mutilation" OR "clitoridectomy" OR "infibulations") AND ("consequence" OR "outcome" OR "impact" OR "complication" OR "cost" OR "reproductive health"). We search in English and Persian languages. For search in Iranian databases, we used the Persian translation of terms (Figure 1). We also reviewed the conference databases for unpublished data:

- International Conference on Female Genital Mutilation/Cutting, Rome, Italia October 21 – 25, 2013; Available from: URL: <http://www.unfpa.org>
- Sub-Regional Conference on Female Genital Mutilation, "Towards a political and religious consensus against FGM". Djibouti, Africa, February 2 – 3, 2005; Available from: URL: <http://www.npwj.org/>
- International Conference on Female Genital Mutilation, Nairobi, Africa September 16 – 18, 2004; Available from: URL: [www.npwj.org](http://www.npwj.org)

We also reviewed the references of related studies. Eligible

studies for inclusion were systematic reviews, descriptive reviews, cohort studies, case control studies, cross-sectional studies, case series, case reports, relevant books and quantitative studies which were consistent with the aim of our study. All articles that were related to socio economic and reproductive health consequences of female genital mutilation were included in this study and articles related to other aspects of FGM, such as: historical and legal aspects, attitude, care, management and strategies were excluded. The target population was girls and women who have been subjected to any type of FGM and the comparison was no or an alternative type of FGM in any age group and community.

We found a total of 1536 records from 1979 to May 2015. After the above search strategy, 51 relevant records were included in the study.

Studies were screened separately for inclusion criteria by two authors. If there was disagreement, they were resolved by discussion between the two authors. The quality of the articles was assessed using checklists such as the CARE checklist for case reports,<sup>12</sup> the STROBE checklist for cross sectional and cohort studies,<sup>13</sup> as well as a checklist for qualitative studies.<sup>14</sup> According to the results of each checklist, the articles classified as low quality, moderate quality and high quality. If 33% or less of the criteria were addressed, the article was scored as low quality; if 34% to 66% of the criteria were addressed, the article was scored as moderate; if 67% to 100% of the criteria were addressed, the article was scored as high quality. According to the evaluation, 35% of articles was low quality, 44% had moderate quality and 20% had high quality.

## Results

### Economic Outcomes of Female Genital Mutilation

#### Health system costs

FGM imposes high financial costs on individuals, health system

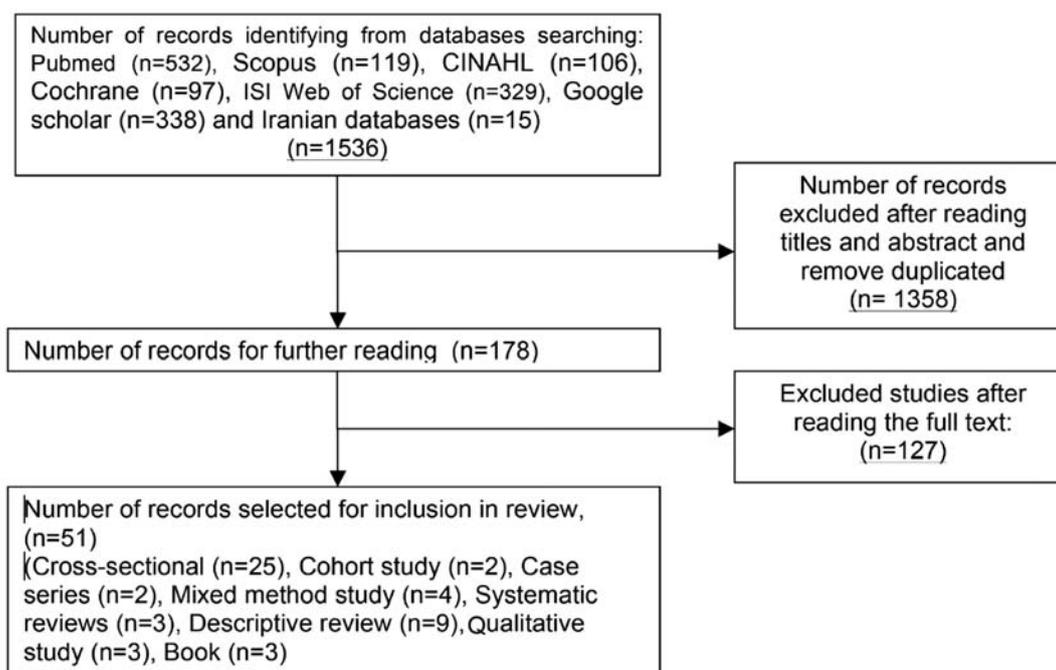


Figure 1. Search strategy

and government generally due to its side effects.<sup>3,15</sup> A study from Nigeria has estimated the cost of treating FGM complications in a pediatric clinic to be about \$120 for each girl.<sup>16</sup> It is estimated, a 15-year-old girl with FGM type 3 imposes a cost of \$5.82 on health system throughout her life and also she will lose around one-quarter of a year of life. Type 1 and 2 of FGM also imposed economic costs on individuals and government and also reduced survival, but to a lesser extent than type 3.<sup>17</sup> A study in Somalia showed that during one year, 118 women were hospitalized due to complications of FGM, such as dermoid cyst, abscess and vaginal stenosis; they occupied the hospital beds for 1967 days and created a significant limitation in providing health services of the hospital.<sup>18</sup> A study in Gambia found that due to FGM, one out of every three circumcised women requires a medical gynecological examination.<sup>19</sup> Women with FGM are more likely to experience short-term complications during childbirth and they should give birth at a hospital or an intensive unit.<sup>20</sup> The annual cost of obstetric complications related to FGM is \$3.7 million and ranges from 0.1% to 1% of government health spending on women who are 15 – 49 years old. Considering the current population of 15-year-old women in the six African countries is 2.8 million, 130000 years of life lost (YLL) is expected due to FGM related obstetric hemorrhage, which is equivalent to losing half a month during the whole life.<sup>17</sup>

#### Individual and family costs

In general, there is a two-way relationship between health status and economic activity that indicates healthier people are more productive.<sup>21</sup> FGM can lead to various types of infection. Treatment of these infections and other complications can be a great economic burden on families, especially in low-income countries.<sup>22</sup> Some complications of FGM such as dysmenorrhea can lead to disability; a person with disability may remain dependent to her father or husband. Even if she is educated and employed, she is less likely to go to work regularly because of FGM-related complications.<sup>11</sup> Female genital mutilation can lead to a decrease in household income and limit girls' potential for education. It can reduce household savings and investment, and can increase the cost of medical cares, as a result it can lead to accumulation of debts which deepen household poverty.<sup>4</sup> Costs imposed by the FGM on families is not well known.<sup>16</sup> Apart from the costs of doing FGM and postoperative costs, some money are spent for celebrating, giving gifts to the girl, her mother and guests, feeding people of village, as well as the person who performs FGM is paid or given gifts.<sup>23</sup>

#### Social outcomes of FGM

There are not enough studies on the social consequences of FGM.<sup>24</sup> But what is certain is that both doing FGM and refusing to do it (where the practice is a social norm), could have social impacts on individuals and also for their families.<sup>25</sup>

In some societies, this practice is considered necessary for girls to increase their competence, become an adult and a responsible member of the society. FGM is an important part of the cultural identity of girls and gives them a sense of pride, coming of age and feeling of community membership.<sup>3</sup> FGM is a message to other circumcised women that a girl has been trained to respect the authority of older circumcised women and is worthy to include in their social network. So, FGM is a way to increase social capital for young women and brings power and prestige for

older women.<sup>26</sup> Sometimes, girls tend to be circumcised because this action gives them a certain social prestige and status.<sup>27,28</sup> FGM is a premarital investment for the marriage market. This practice preserves the virginity of women and causes man to make sure that children were born by his wife belong to him.<sup>29,30,31</sup>

FGM is an important marker of identity to distinguish the insider from the outsider.<sup>32</sup> Children are taught from an early age that they must do this practice to look good.<sup>33</sup> In fact, it is one of the norms of society and people think that this is what society expects them to do. Do not conforming to this can lead to social consequences, such as harassment, ridicule, social stigma, harassing the identity of circumcised adults, exclusion from adults community, communal events and social support, discrimination by peers, social rejection, losing social status, increasing isolation due to the lack of marriage ability and family embarrassment as well as these families are excluded from social acceptance and welfare system (the identity related costs of FGM).<sup>1,11,24,33</sup> So, because the social effects, families consider the social risks more important than the health risks of FGM and do the practice.<sup>24</sup>

FGM imposes the significant burden of social disability not only on women but also on the community. Many people think that FGM facilitates childbirth, while conversely pelvic infections resulting from FGM can lead to infertility threatening women's marital life; also menstrual problems and urinary incontinence are two additional burdens of FGM that impose social costs on girls. Continuous leakage of urine or retained menstrual blood, making unpleasant odor can lead to imprisonment of person in the house and it has a negative impact on social participation of women.<sup>11</sup>

#### FGM and reproductive health

Female genital mutilation has immediate, long term and sometimes deadly health consequences;<sup>3</sup> Complications of FGM depend on its degree, higher degrees of FGM present more severe complications.<sup>34</sup> Studies have reported multiple physical complications for the circumcised women. Possible complications include bleeding, urine retention, urinary infection, genital swelling, bacterial vaginosis, dyspareunia, prolonged labor, cesarean section, dystocia,<sup>35</sup> severe pain, shock, sepsis, death,<sup>24</sup> unwanted welding of the labia,<sup>24,36</sup> surgical interventions for reopening the vagina,<sup>3,37,38</sup> chronic anemia due to repeated surgeries for the opening of the vagina,<sup>39</sup> formation of keloid tissue that can lead to severe pain, dermoid cyst and abscess, painful menstruation due to the retention of menstrual blood,<sup>24,38,39</sup> dysuria, urinary incontinence, weak urine stream, hematocolpos,<sup>40</sup> genital ulcers, chronic pelvic and low back pain due to chronic infections,<sup>3,24,41</sup> urinary and genital tract infection, abscess formation, septicemia,<sup>11</sup> hepatitis C<sup>42</sup> and HIV infection.<sup>18,43</sup> Factors such as bleeding during repair surgery, trauma during intercourse, anal intercourse because of inability for vaginal intercourse<sup>19</sup> and opening the birth canal by non-sterile equipment can put women at risk of HIV infection. Uterine and ovarian infections may cause infertility. Fractures of the clavicle, femur or humerus can occur when the girl tries to defend herself. Pain, swelling, infection, injury, damage to the urethra and dysuria cause urinary problems in many girls and urinary retention leads to chronic urinary tract infection.<sup>39</sup> A study in Sudan on 225 circumcised girls aged 4 – 9 years revealed that the girls with the narrowed vulvar opening were more likely to have urinary tract infection, especially those who were under the age of 7 years, but only 7% of girls who had infection reported urinary symptoms, 73% of circumcised girls

stated that they had been hospitalized after circumcision for 1 week.<sup>44</sup>

Apart from the urinary tract, uterine and ovarian infection, infections such as tetanus, gangrene and sepsis can lead to death.<sup>39</sup> Epidermal cyst is one of the complications of female genital mutilation<sup>45-49</sup> that can lead to infection, surgery to drain and in rare cases malignancy.<sup>50</sup>

#### Obstetric complications

World Health Organization's (WHO) study on 28000 circumcised women in six African countries showed that obstetric complications, post-partum hemorrhage and cesarean rates were higher in women undergone genital mutilation, also death rates among babies during and immediately after birth were higher for those born to mothers who had undergone genital mutilation compared to those who had not: 15% higher for those whose mothers had type I, 32% higher for those with type II and 55% higher for those with type III genital mutilation. Certainly, these complications will be higher in women giving birth outside health centers.<sup>51</sup> Also, birth canal lacerations,<sup>52,53</sup> episiotomy, fetal distress,<sup>54</sup> fistula due to prolonged labor, lower Apgar score,<sup>3</sup> Caput succedaneum<sup>55</sup> and neonatal resuscitation are more likely to be seen in circumcised women.<sup>19</sup>

The maternal mortality rate is high in Somalia and Djibouti where female genital mutilation is more prevalent.<sup>56</sup> In these women, vaginal examination and using vaginal drugs during pregnancy and labor are difficult and they are at risk for wound infection, urinary infection and sepsis.<sup>57,58</sup> Complications during labor in type 3 of FGM are higher than type 1 and 2.<sup>49</sup>

#### FGM and sexual disorders

Removal of sensitive tissues such as clitoris, pain, scar tissue formation and the traumatic memories associated with genital mutilation can lead to sexual dysfunction.<sup>3</sup> Women who had undergone genital mutilation compared to other women will experience sexual disorders including: less sexual satisfaction, 1.5 times more dyspareunia, 2 times more lack of sexual desire,<sup>25,54</sup> 1.5 times more sleep disorders, 1.5 times more problem in daily life, and 1.7 times more sexual disorders,<sup>53</sup> vaginal dryness during intercourse, less initiative in sex, less pleasure from sex,<sup>59</sup> and also marital problems such as difficulty in penetrating the vagina,<sup>39</sup> less marital satisfaction, sexual satisfaction and mental health.<sup>60</sup> Some sexual disorders such as decreased libido caused due to dyspareunia and reduced ability to orgasm.<sup>61</sup>

Many men and women believe that clitoris is important for libido rather than sexual pleasure, FGM is practiced to reduce women's sexual appetite and increase women's chastity but is not believed to decrease sexual pleasure. However, sexual problems such as lack of sexual pleasure and sexual dissatisfaction are common.<sup>62</sup> Complications such as wounds or infections of the penis, difficulty in penetration and psychological problems were reported by a majority of the husbands of circumcised women.<sup>63</sup>

#### FGM and intimate partner violence

Domestic violence in circumcised women is 2.7 times more than other women (physical violence 2.8 times, sexual violence 3.2 times, emotional violence 2.2 times). The more severe the type of FGM, the more violence experienced.<sup>64</sup> In his study, Ivory Coast showed that sexual violence in circumcised women is 2 times more than uncircumcised women.<sup>65</sup> Women who have been circumcised are more likely to agree that the continuation of this

practice and support of doing this practice on their daughters, and also accept the right of husbands to beat his wife.<sup>66</sup>

#### Psychological disorders

Although, the psychological aspects of FGM have not been systematically reviewed, but in the girls who are familiar with this practice, the feeling of anxiety and panic is common before FGM.<sup>67</sup> Eating, sleep, mood and cognitive disorders, have been reported shortly after circumcision. Many girls and women experience fear, inhibition, suppressed feelings of anger, bitterness and infidelity.<sup>68</sup>

Circumcised women compared to other women are more likely to suffer from post-traumatic stress disorder and other psychological disorders<sup>69,70</sup> such as fear of intercourse, anxiety, depression,<sup>24</sup> remembering the memories of circumcision,<sup>42</sup> phobia, somatization,<sup>54</sup> fear and anxiety, long term complications and severe pain during labor.<sup>70</sup> Although, circumcised women consider this practice to be rational and legitimate it, they had problems in mother-daughter relationship and lack of confidence,<sup>71</sup> feeling of incompleteness, fear, inferiority and oppression, affected over the course of her lifetime, irritability, chronic nightmares, increased risk of psychiatric disorders such as depression, psychosis, neurosis, and psychosomatic diseases.<sup>72</sup> A study in Africa showed that one out of six circumcised women suffer from post-traumatic stress disorder.<sup>69</sup> Another study in Senegal showed that 90% of circumcised women described the practice as a traumatic experience, and 80% of them experienced intense fear or emotional disorders after FGM.<sup>73</sup>

#### Discussion

In this study, a comprehensive overview was done on studies examined socio-economic and reproductive health outcomes of FGM. The results of this review showed that most studies on FGM, have investigated health complications of FGM, and few studies have addressed its socioeconomic aspects. FGM imposes very financial costs to individuals, health system and government that is generally due to its complications.<sup>3,15</sup> Assessing the costs of FGM is important for supportive actions and policy making. Calculating the direct costs associated with the individual payments and treatment of complications are relatively simple, but the costs of pain and suffering, as well as social costs associated with FGM are difficult to determine.<sup>4</sup> In the terms of social outcomes, health complications of FGM can negatively influence women's social participation.<sup>11</sup> Despite the economic and social consequences of FGM on individuals or society, this practice is performed in some communities. Many studies have pointed to the importance of the role of culture, religion and tradition in the performance of the practice. However, there is no credible evidence that represents religious support of this action. The role of religious in FGM is not clear because it is interwoven with socio-cultural dimensions of FGM.<sup>74-77</sup> Many women have a positive attitude to it because the practice connects them to the community and makes them to consider themselves more beautiful and gives them the opportunity to marry.<sup>78</sup> In societies that FGM is known as a norm, if people do not conform to that, they will be stigmatized, marginalized and lost their status.<sup>1,24</sup> So that the non-compliance of this practice can create embarrassment for the whole family.<sup>78</sup> Even in societies with legal restrictions against FGM, these restrictions may be less important than social

constrains resulting from non-compliance of this tradition.<sup>79</sup> As studies show people consider social consequences of FGM more irritating than its health consequences, so it seems to struggle this practice, we should be more focus on its social aspects.<sup>24</sup>

Significant short and long term consequences of FGM, such as physical, psychological, sexual, obstetric consequences and partner violence, threaten women's reproductive health. Gender inequality and lack of empowerment lead to reduce access to reproductive health information and services, and to adverse reproductive health outcomes.<sup>80</sup> Reproductive health is one of the essential prerequisites of sustainable development.<sup>81</sup> Healthy woman is central to a healthy family and community. Sustainable development will be achieved if women are healthy.<sup>82</sup> Indeed, all development goals influence health and health influences on development goals.<sup>83</sup> Female genital mutilation is a human rights violation. It is one of the indicators of gender inequality in societies, and is considered as one of the forms of discrimination against women.<sup>84</sup> Women's rights, women empowerment and gender equality play important roles in achieving sustainable development.<sup>85</sup> Investments in health can have a significant impact on economic development.<sup>86</sup> So, fighting female genital mutilation is a step towards the global goal of sustainable development. Many countries have outlawed FGM practice.<sup>5</sup> However, in Somalia, a country where 98 percent of women have been circumcised, or in the Ivory Coast, transforming the law into action is challenging.<sup>2</sup> In Iran, there has yet been no plan to deal with FGM.<sup>87</sup> According to the Convention on the Rights of Persons with Disabilities, which have been accepted by Iran, FGM is considered as a disability and pursuant to Articles 664, 706, 707 and 708 of the Islamic Penal Code the practice of female genital mutilation can be stopped.<sup>9</sup> In Iran, a few studies have been done on FGM, most of which have assessed knowledge, attitude, prevalence, types, legal and judicial aspects. While no studies have investigated the socioeconomic and reproductive health consequences of FGM and there is not any comprehensive studies to show the exact prevalence of FGM in Iran. So, for correct policy making to tackle this practice, we need to do more research on the prevalence and consequences of FGM in Iran. It seems that further studies are needed to assess socioeconomic effects of FGM and the relationship between the type of FGM and induced complications. Such studies will help policymakers to tackle this practice.

In conclusion, FGM is a form of social injustice, which suffer women. This practice has several dimensions and is related to tradition, spirituality, sexuality, myths, misconceptions and socio-economic factors. Experiences from two-three decades ago have shown that there is no quick and easy solution to end this violent practice. The results of this article indicate that FGM have significant health, sexual, psychosocial, and socio-economic costs and especially adverse effects on women's reproductive health. So, this practice can threaten achieving sustainable development. Knowing these consequences and their effects on individuals, families, the health system and community will help supporters to continue fighting this practice. Allocated funds for the eliminating this harmful practice, compared with the costs of complications, will be affordable.

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