

# Prevalence and Factors Associated with Female Genital Mutilation in Erbil, Iraq

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## ABSTRACT

**Background:** Globally, between 100 and 140 million girls and women are affected by female genital mutilation, according to the World Health Organization, which estimates that 3 million girls are subjected to it each year. It is a common practice in the Kurdistan area of Iraq. This study's objective is to ascertain the prevalence of female genital mutilation and its contributing factors in Erbil, Iraq.

**Methods:** From September 1 to December 15, 2022, a convenience sample of 700 women attending primary health care facilities in and around Erbil, Iraq, were the subjects of a questionnaire-based cross-sectional study. The data collected included socioeconomic and demographic information, the participants' and their mothers' mutilation status, their educational attainment, and their opinions and justifications for genital mutilation.

**Results:** Female genital mutilation was more common outside of Erbil city (56.8%) than inside the city (50.3%), and it was more common among married women (57.3%) than single women (38%) in Erbil city. There was a statistically significant association between female mutilation and women's job level. The largest prevalence of mutilation was found among women with low monthly income (65.6%), compared to middle and high monthly income (54.5%) and (37%) correspondingly, and the association between monthly income status and mutilation was statistically significant.

**Conclusion:** More than half of individuals continue to have genital cutting. It is closely correlated with factors such as age, marital status, place of residence, educational level, job status, mothers' mutilation status, and parents' educational level. Custom is the primary justification for practice that warrants more research.

**Keywords:** Genital mutilation, Customs, Erbil

## INTRODUCTION

According to the World Health Organization, 3 million girls undergo female genital mutilation each year, and between 100 and 140 million girls and women worldwide are affected. Globally, female genital mutilation has been practiced<sup>1</sup>. For cultural or other non-therapeutic reasons, female genital mutilation is the partial or complete removal of female peripheral genitalia or other damages to female genital organs<sup>2</sup>. Female genital mutilation is a traditional practice that has serious health repercussions for girls and women. Because it supports the argument that this practice violates the human rights of girls and women, it encourages national and international support for its abolition. Usually, traditional practitioners, elderly women specifically chosen for this task, or traditional birth attendants carry out female genital mutilation. The surgery not only poses serious health hazards to women but also offers no health benefits for them<sup>3</sup>. As an immediate health consequence, this surgery may cause discomfort, bleeding, infection, and urinary tract issues. Long-term effects include birth complications, cysts, sexual and mental issues, and chronic infections<sup>4,5</sup>. Female genital mutilation is being increasingly medicalized, supposedly as part of a harm reduction approach to lessen its detrimental effects on health<sup>6</sup>. However, this medicalization has no benefit and will not diminish the long-term impacts of female genital mutilation. Female genital mutilation performed by medical experts is against the law. It might have a negative impact on attempts to end female genital mutilation<sup>7</sup>. In the Iraqi Kurdistan Region, female genital mutilation is a widespread

practice with a frequency of about 40%<sup>3,8,9</sup>. Regardless of the underlying causes, young girls are the first to experience female genital mutilation, and the health issues they face have an indirect impact on the social, psychological, and emotional well-being of families. Examining the viewpoints and experiences of the women who have undergone female genital mutilation will assist to clarify the effects of this practice, develop practical solutions for ending it, and update the information from earlier research on female genital mutilation in Erbil. Finding the frequency and contributing factors of female genital mutilation in Erbil, Iraq, is the goal of this study.

## METHODS

From September 1<sup>st</sup> to December 15<sup>th</sup>, 2022, a convenience sample of 700 women attending the primary health care centers in and around Erbil city, Iraq, was gathered. Direct face-to-face interviews were used to gather data, which included socioeconomic and demographic details, the mutilation status of the participants and their mothers, the educational attainment of the participants and their parents, and their opinions and justifications for female genital mutilation. The study's actual sample size was 688 women since 12 women who did not hear the genital mutilation during data collection were omitted from the study. Before the study began, each subject gave their verbal, informed consent. Prior to the study, official approval was obtained from the Erbil General Directorate of Health and the study was authorized by the research ethics committee of the Kurdistan Higher Council of Medical

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Specialists. To assess the validity, simplicity, and understandability of the questionnaire, a pilot study with 30 women was carried out using direct face-to-face interviews. For the final questionnaire changes, the pilot study's findings were considered. Data entry and analysis were carried out using the statistical package for social science (IBM SPSS version 26), and the Chi-square ( $\chi^2$ ) test was utilized to compare between the proportions.  $P \leq 0.05$  was considered statistically significant<sup>10-15</sup>.

## RESULTS

Participants' ages ranged from 18 to 76 years, with a mean (SD) age of 35.77 (11.41) years. Table 1 reveals that 54.5% of people had FGM, and there was a significant correlation between age and FGM status. Women between the ages of 46 and 55 were found to have a high (70%) prevalence of FGM.

**Table 1:** Age distribution of mutilated and not mutilated participants

Age (years)	Mutilated No. (%)	Not Mutilated No. (%)	Total No. (%)	P-value
< 26	46 (30.7)	104 (69.3)	150 (100)	< 0.001
26-35	119 (55.6)	95 (44.4)	214 (100)	
36-45	119 (62.3)	72 (37.7)	191 (100)	
46-55	68 (70.1)	29 (29.9)	97 (100)	
> 55	23 (63.9)	13 (36.1)	36 (100)	
Total	375 (54.5)	313 (45.5)	688 (100)	

**Table 2:** Association of risk factors and mutilation

Risk factors	Mutilated No. (%)	Not Mutilated No. (%)	Total No. (%)	P-value
<b>Residence</b>				
Inside Erbil	174 (50.4)	171 (49.6)	345 (100)	0.032
Outside Erbil	201 (58.6)	142 (41.4)	313 (100)	
<b>Marital status</b>				
Single*	38 (38)	62 (62)	100 (100)	< 0.001
Married	337 (57.3)	251 (42.7)	588 (100)	
<b>Occupation</b>				
Housewife	328 (60.2)	217 (39.8)	545 (100)	< 0.001
Employee	37 (37)	63 (63)	100 (100)	
Student	10 (23.3)	33 (76.7)	43 (100)	
<b>Monthly income (IQD)</b>				
< 500,000	103 (65.6)	54 (34.4)	157 (100)	< 0.001
500,000-1000,000	235 (54.5)	196 (45.5)	431 (100)	
> 1000,000	37 (37)	63 (63)	100 (100)	
<b>Mother mutilation</b>				
Mutilated	367 (77.8)	105 (22.2)	472 (100)	< 0.001
Not mutilated	8 (3.7)	208 (96.3)	216 (100)	

\*Single, divorced and widow

The findings showed that the prevalence of FGM outside of Erbil City was (56.8%) higher than inside the city (50.3%), and it was more common among married women (57.3%) than single women (38%). The results also showed that the association between women's employment status and FGM was statistically significant, with higher rates of FGM among housewives (60%) than among employees (37%) ( $P < 0.001$ ). The largest prevalence of FGM was among women with low monthly income (65.6%), compared to middle and high monthly income (54.5%) and (37%) respectively ( $P < 0.001$ ). Additionally, the association between monthly income status and FGM was statistically

significant. The results demonstrated a statistically significant association between the mutilation status of participant mothers and FGM, as FGM rates were greater in women whose mothers had undergone mutilation (77.8%) than in those whose mothers had not undergone mutilation (3.7%); these findings are presented in Table 2.

**Table 3:** Association of educational levels and mutilation

Risk factors	Mutilated No. (%)	Not Mutilated No. (%)	Total No. (%)	P-value
<b>Education of the participants</b>				
Illiterate	100 (69.9)	43 (30.1)	143 (100)	< 0.001
Primary	130 (65.3)	69 (34.7)	199 (100)	
Secondary	85 (50.3)	84 (49.7)	169 (100)	
University	60 (33.9)	117 (66.1)	177 (100)	
<b>Education of the father</b>				
Illiterate	190 (67.9)	90 (32.1)	280 (100)	< 0.001
Primary	104 (55)	85 (45)	189 (100)	
Secondary	61 (43.6)	79 (56.4)	140 (100)	
University	20 (25.3)	59 (74.7)	79 (100)	
<b>Education of the mother</b>				
Illiterate	282 (60.9)	181 (39.1)	463 (100)	< 0.001
Primary	80 (51.9)	74 (48.1)	154 (100)	
Secondary	10 (27.8)	26 (72.2)	36 (100)	
University	3 (8.6)	22 (91.4)	35 (100)	

The prevalence of FGM significantly reduced with participant education level, with those with no formal education having the greatest rate of FGM (69.9%), followed by those with primary, secondary, and university education (65.3%, 50.3%, and 33.9%, respectively). The frequency of FGM was significantly correlated with the educational attainment of the participant's fathers; the practice was more prevalent among participants whose fathers had no formal education (67.9%), followed by those whose fathers had some college training (55%, 43.6%, and 25.3%, respectively). The highest prevalence of FGM was discovered among participants whose mothers were illiterate (60.9%), followed by those whose mothers had primary, secondary, and university education (51.9%, 27.8%, and 8.6%, respectively), these findings are shown in Table 3.

**Table 4:** Participants' opinions and reasons of mutilation

Factors	Mutilated No. (%)	Not Mutilated No. (%)	Total No. (%)	P-value
<b>Opinion</b>				
Support	40 (93)	3 (7)	43 (100)	< 0.001
Against	335 (51.9)	310 (48.1)	645 (100)	
<b>Reasons of mutilation</b>				
Religious	104 (76.5)	32 (23.5)	136 (100)	< 0.001
Custom	197 (54.6)	164 (45.4)	361 (100)	
Don't know	74 (38.7)	117 (61.3)	191 (100)	

Table 4 demonstrates that 51.9% of participants who are opposed to mutilation are mutilated while 48.1% of them are not, and that 93% of participants who support FGM are mutilated while only 7% of participants who support the practice are not. Regarding the cause of the mutilation; 27.8% of the participants who had it, said that it was

religious, 52.5% said that it was customary, and 19.7% did not know the cause.

## DISCUSSION

The prevalence of FGM was 54.5% in this study, which was conducted to determine the prevalence and factors related to FGM in Erbil, Iraq. This prevalence is lower than that reported by another research, which found (70.3%) (3), (68.5%) (16) and (89.3%) (14) in Erbil, Iran, and Egypt, respectively. It was higher than in previous studies conducted in Erbil (50.1%) (9), United Arab Emirates (41.4%) (15). In this study, FGM was substantially connected with age; young ages are less likely to be mutilated than older ages. This conclusion is consistent with studies conducted in the Kurdistan region of Iraq<sup>8</sup>, Iran<sup>17</sup>, and Burkina Faso<sup>18</sup>. This finding may be related to advancements in the health knowledge of younger generations. FGM rates were higher in rural Erbil, Iraq, and comparable findings were made in Egypt and Burkina Faso<sup>19,20</sup>. This issue suggests that rural areas have deeply held cultural and religious views that are difficult for health education to change. FGM was more common in married people than in single people, according to two research conducted in Iran<sup>16,17</sup>. The highest prevalence of FGM was found in housewives, which is consistent with a study done in the Iraqi Kurdistan region. The same result was found in a study done in the United Arab Emirates<sup>3,21</sup>, and it is necessary to consider female education in plans to eradicate FGM based on this finding. This study revealed that the prevalence of FGM was higher among women with low monthly income; a similar finding was discovered in a study conducted in Burkina Faso<sup>22</sup>. It was discovered that FGM was significantly correlated with the mother's mutilation status; this finding may suggest that FGM is a tradition that is passed down through the family line from mothers to daughters. This finding was consistent with research from the Iraqi Kurdistan region, Iran, and Egypt<sup>3,16,20</sup>. The results of this study confirmed previous research conducted in the Iraqi Kurdistan region, Iran, the United Arab Emirates, and African nations<sup>9,16,20,22-24</sup>, which found a significant correlation between women's lower educational levels and higher prevalence of FGM. This study also found a correlation between women's higher educational levels and a decrease in the proportion of women who had FGM. According to the study's findings, FGM was inversely associated with the education of the female parents, which is in line with research from Iran and Egypt<sup>2,18,25</sup>. This finding suggests that parents who are educated have a significant impact on their children by passing on knowledge and attitudes through social learning. Further research is needed on this issue before prevention programs can be developed. It is important to note that FGM and support for FGM are strongly correlated. The two main justifications for FGM given by participants were religious and cultural, and there was a strong association between FGM and the females who gave religious justifications. The primary reason for FGM in the Iraqi Kurdistan region is custom or cultural practice, which is more important than a religious obligation<sup>26,27</sup>. In conclusion, more than half of participants in FGM are still mutilated in Erbil, indicating a significant prevalence of the practice there. Age, marital status, place of residence, educational attainment, employment standing, mothers' FGM status, and parents' educational attainment are all strongly associated with FGM. The fundamental reason for the practice, which merits further investigation, is custom. To further reduce the occurrence of FGM, more initiatives and a national educational approach are required.

## CONCLUSION

**More than half of individuals continue to have genital cutting. It is closely correlated with factors such as age, marital status, place of residence, educational level, job status, mothers' mutilation status,**

**and parents' educational level. Custom is the primary justification for practice that warrants more research.**

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**Competing Interest:** None

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## REFERENCES

1. World Health Organization. Eliminating female genital mutilation: An interagency statement-OHCHR, UNAIDS, UNPADA, UNECA, UNESCO, UNFPA, UNHCR, UNICEF, WHO. Geneva, Switzerland: WHO; 2008.
2. Pashaie T, Rahimi A, Ardalan A, et al. Related factors of female genital mutilation (FGM) in Ravansar (Iran). *J Women's Health Care* 2012;1(2):108.
3. Yasin BA, AL-Tawil NG, Shabila NP, et al. Female genital mutilation among Iraqi Kurdistan Women: A cross-sectional study from Erbil city. *BMC Public Health* 2013;13:809.
4. Klein E, Helzner E, Shayowitz M, et al. Female genital mutilation: health consequences and complications: a short literature review. *Int Gynecol Obstet* 2018;2018:7365715.
5. Berg RC, Underland V, Odgaard-Jensen J, et al. Effects of female genital cutting on physical health outcomes: a systematic review and meta-analysis. *BMJ Open* 2014;4(11):e006316.
6. Leye E, Van Eekert N, Shamu S, et al. Debating medicalization of Female Genital Mutilation/Cutting (FGM/C): Learning from (policy) experiences across countries. *Reprod Health* 2019;16(1):158.
7. Serour GI. Medicalization of female genital mutilation/cutting. *Afr J Urol* 2013;19(3):145-9.
8. Shabila N. Geographical variation in the prevalence of female genital mutilation in the Kurdistan region of Iraq. *East Mediterr Health J* 2019;25(9):630-6.
9. Shabila NP. Changes in the prevalence and trends of female genital mutilation In Iraqi Kurdistan region between 2011 and 2018. *BMC Women's Health* 2021;21(1):137.
10. Younis NM. Evaluation the health lifestyle of kindergarten students at Mosul city/Iraq. *Int J Med Toxicol Legal Med* 2023;26(1-2):148-52.
11. Ahmed MM, Younis NM, Abdulsalam RR. Assessment of changes in sleep habits in elementary students during covid\_19 lockdown. *Int J Med Toxicol Legal Med* 2022;25(1-2):76-80.
12. Ahmed MM, Naji AB, Younis NM. Efficacy of an Educational Program Based on Health Belief Model to Enhancing Weight Control Behaviors among Employees in University of Mosul: A Randomized Controlled Trail. *Revis Bionatura* 2023;8(2).
13. Younis NM. Prevalence of Electronic Hookah and Risk Factors among University Students in Mosul City/Iraq. *Int J Membr Sci Technol* 2023;10(2):1422-7.
14. Bura'a LN, Younis NM. An Interventional Program on Nurses Knowledge and Practice towards Phototherapy in Neonatal Care Units. *Int J Membr Sci Technol* 2023;10(2):1428-32.
15. Younis NM, Taher AK. Efficacy of Trans Theoretical Model Intervention for Improving Behaviors related to Electronic

- Hookah Smoking among Healthcare Workers in Mosul Hospital: A Randomized Control Trial. *Int J Membr Sci Technol* 2023;10(2):1433-9.
16. Dehghankhalili M, Fallahi S, Mahmudi F, et al. Epidemiology, regional characteristics, knowledge, and attitude toward female genital mutilation/cutting in southern Iran. *J Sex Med* 2015;12(7):1577-83.
  17. Bahrami M, Ghaderi E, Farazi E, et al. The prevalence of female genital mutilation and related factors among women in Kamyaran. *Chronic Dis J* 2018;6(3):113-9.
  18. Karmaker B, Kandala NB, Chung D, et al. Factors associated with female genital mutilation in Burkina Faso and its policy implications. *Int J Equity Health* 2011;10(1):1-9.
  19. Tag-Eldin MA, Gadalla MA, Altayeb MN. Prevalence of female genital mutilation among Egyptian girls. *Bull World Health Organ* 2008;86(4):241-320.
  20. Rasheed SM, Abd-Ellah AH, Yousef FM. Female genital mutilation in upper Egypt in the new millennium. *Int Gynecol Obstet* 2011;114(1):47-50.
  21. Al Awar S, Al-Jefout M, Osman N, et al. Prevalence, knowledge, attitude and practices of female genital mutilation and cutting (FGM/C) Among United Arab Emirates population. *BMC Women's Health* 2020;20(1):1-2.
  22. Inungu J, Tou Y. Factors associated with female genital mutilation in Burkina Faso. *J Public Health Epidemiol* 2013;5(1):20-8.
  23. Bogale D, Markos D, Kaso M. Prevalence of female genital mutilation and its effect on women's health in Bale zone, Ethiopia: A cross-sectional study. *BMC Public Health* 2014;14:1076.
  24. Krause E, Brandner S, Mueller MD, et al. Out of Eastern Africa: defibulation and sexual function in woman with female genital mutilation. *J Sex Med* 2011;8(5):1420-5.
  25. Younis NM. Epidemiology of Hepatitis B-virus in Nineveh province: Retrospective Study. *Int J Membr Sci Technol* 2023;10(2):1440-4.
  26. Mohammed GF, Hassan MM, Eyada MM. Female genital mutilation/cutting: will it continue? *J Sex Med* 2014;11(11):2756-63.
  27. Ahmed HM, Shabu SA, Shabila NP. A qualitative assessment of women's perspectives and experience of female genital mutilation in Iraqi Kurdistan region. *BMC Women's Health* 2019;19(1):66.