



# Exploring the Association Between Female Genital Mutilation/Cutting and Fistula

Policymakers and advocates often cite fistula—a hole between the vagina and rectum or bladder that leaves a woman leaking urine or excrement or both—among the many adverse health conditions thought to be related to female genital mutilation/cutting (FGM/C). But high-quality research supporting a connection between the two conditions is limited. Health workers, programme managers, and health advocates need a clear understanding of the evidence linking FGM/C and fistula and more accurate information on the dynamics between them.

To fill this gap, the Evidence to End FGM/C programme examined the association between FGM/C and fistula by conducting:

- A rigorous review of existing research literature.<sup>1</sup>
- An analysis of data from recent Demographic and Health Surveys (DHS) from 10 sub-Saharan African countries.<sup>2</sup>

This research summary highlights the programme's findings on the relationship between the two conditions, focusing on what we know and what we still need to investigate.

## Evidence Based on a Review of Existing Research

The literature review involved a thorough search of the English-language peer-reviewed academic research and the grey literature (that is, unpublished studies or those published by an agency or organisation). The review used criteria established by the United Kingdom's Department for International Development (DFID) to identify studies that met minimum quality standards.<sup>3</sup>

The review identified 30 studies for the final analysis. Eleven studies formally assessed the link between FGM/C and the occurrence of fistula—eight describe the two conditions as positively related (women with FGM/C face an increased risk of fistula compared with uncut women) and three found no association.

Based on evidence from the 30 studies, the review mapped the suggested relationship between FGM/C and fistula within broader social, political, and health systems contexts. The figure on page 3 demonstrates the complex dynamics influencing both conditions. While most of the connections between the two conditions are indirect, some evidence suggests that the cutting procedures related to FGM/C Types III and IV may lead directly to fistula (see Box 1, page 2).

The review's main findings indicate:

- The risk of developing fistula appears to rise with the severity of the FGM/C cut, particularly Type III. The three studies that found no association between the two conditions were conducted in areas where FGM/C Types I and II are most common. The studies that found that FGM/C increased the likelihood

**The Evidence to End FGM/C programme consortium generates evidence to inform and influence investments, policies, and programmes for ending female genital mutilation/cutting in different contexts.**

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of fistula either included women with all forms of FGM/C or focused mainly on areas practising Types III and IV.

- An indirect relationship may exist between FGM/C and fistula because of childbirth—scarring from FGM/C may lead to fistula as a result of a tightened vaginal wall, prolonged labour, perineal tears during delivery, or deinfibulation (cutting a woman who has been infibulated to facilitate childbirth) (suggested by 19 studies).
- The quality of care and the capacity of the health care system to prevent, detect, and treat consequences of FGM/C affects the chances of a woman developing fistula, particularly among women with the most severe form of FGM/C, Type III.
- Both conditions have long-term health consequences, related to injury during delivery for mothers and newborns; gynaecological functioning, particularly of the urinary tract; and mental health.
- Both conditions share a social context: Poverty, unemployment, limited access to health services, and malnutrition increase the likelihood of women undergoing FGM/C and developing fistula. Education levels, gender dynamics, and social and cultural norms contribute to sustaining FGM/C and developing fistula.
- Parents' level of education influences their choice to continue or abandon FGM/C and influences their awareness of the importance of antenatal care (ANC) and delivery in a medical facility to prevent fistula.

## Evidence Based on an Analysis of National Survey Data

The quantitative analysis used recent DHS data from 10 sub-Saharan African countries for which data are available on both conditions. It explored the nature of the association of FGM/C and fistula in nationally representative samples of women ages 15 to 49 (see Box 2, page 3). FGM/C prevalence ranged from a low of 21.7 percent in Kenya to a high of 97 percent in Guinea, while fistula prevalence ranged from a low of 0.1 percent in Burkina Faso and Senegal to a high of 3.6 percent in Côte d'Ivoire.

The first part of the quantitative analysis examined the prevalence of fistula among women who had experienced FGM/C compared to those who had not. The analysis found no statistically significant differences in the prevalence of fistula among cut

### Box 1

## FGM/C Classifications

**Type I.** Partial or total removal of the clitoris and/or the prepuce (clitoridectomy).

**Type II.** Partial or total removal of the clitoris and the labia minora, with or without excision of the labia majora (excision).

**Type III.** Narrowing of the vaginal orifice with creation of a covering seal by cutting and appositioning the labia minora and/or the labia majora, with or without excision of the clitoris (infibulation).

**Type IV.** All other harmful procedures to the female genitalia for nonmedical purposes, for example, pricking, piercing, incising, scraping, and cauterization.

**Sources:** UNAIDS, UNDP, UNECA, UNESCO, UNFPA, UNHCHR, UNHCR, UNICEF, UNIFEM, and WHO, *Eliminating Female Genital Mutilation: Interagency Statement* (Geneva: WHO, 2008).

and uncut women in eight countries. However, in Senegal it showed that the prevalence of fistula is higher among cut women than uncut women, while in Chad the opposite was true—fistula prevalence was significantly higher among uncut women. These contradictory findings may reflect the difficulty in comparing a country with a very low fistula prevalence (Senegal, 0.1 percent) to a country with a higher fistula prevalence (Chad, 2.1 percent) rather than an actual or true difference.

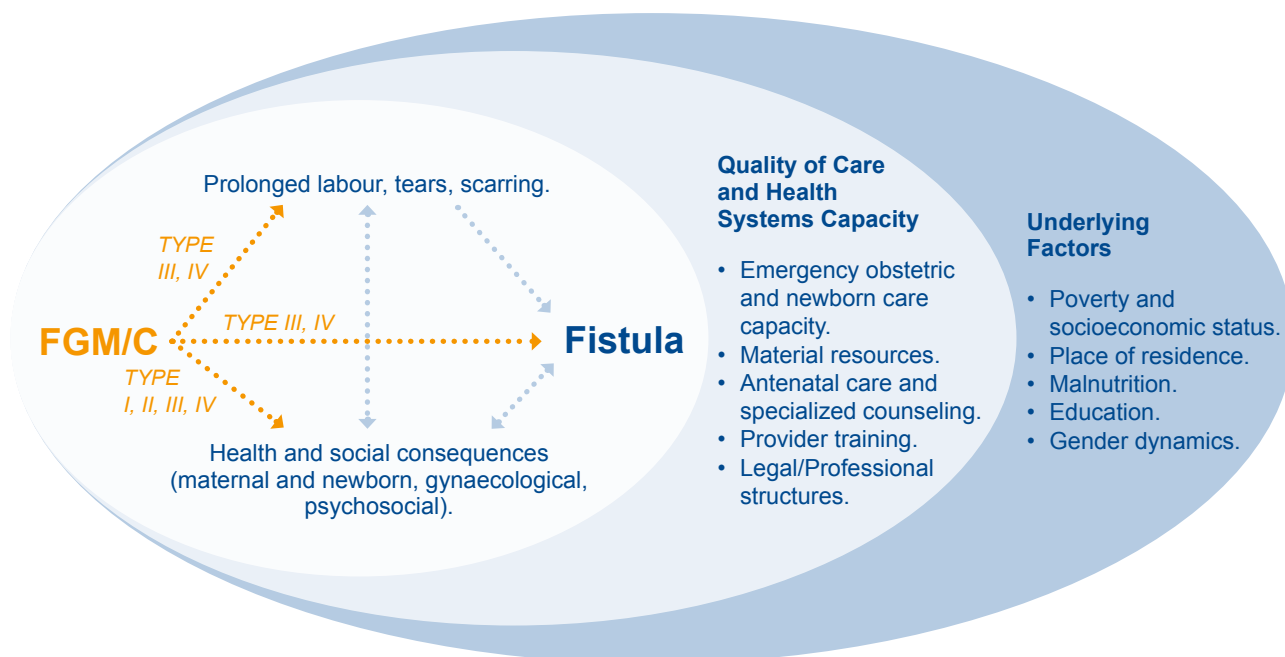
The review also examined differences in fistula experience among different subgroups of cut and uncut women by country. It found statistically significant differences in some countries within certain age groups, between rural and urban women, and by region, religious group, socioeconomic level, and educational attainment. However, such differences were not found in other countries. These inconsistent findings may reflect the difficulty of uncovering patterns given the diverse contexts among the countries studied, fistula's relatively rare occurrence, and different prevalence rates for both conditions.

The second part of the quantitative analysis used data from the five countries that had a minimum of 100 fistula cases, adjusting for social and demographic characteristics related to each condition (multivariate analysis). This method found no statistically significant differences in the prevalence of fistula between cut and uncut women in those five countries. But in some places, the analysis showed that specific factors are significantly associated with the likelihood of a woman reporting fistula (whether or not she

## Figure

# Female genital mutilation/cutting and fistula share a common context and are mainly indirectly related.

A conceptual mapping of associations between FGM/C and fistula based on the literature review



experienced FGM/C). These factors include region of residence, urban or rural residence, and household wealth, underscoring the importance of the local context.

The analysis's main findings show:

- Women living in certain regions were more likely to report experiencing fistula in all five countries—Chad, Côte d'Ivoire, Ethiopia, Kenya, and Sierra Leone.
- Women's urban or rural residence and household wealth were significantly associated with the likelihood of fistula experience in Ethiopia.

related to pregnancy or other conditions that may indirectly lead to fistula. Some evidence also suggests that the cutting procedures related to FGM/C Types III and IV may lead directly to fistula.

- The literature review suggests that access to comprehensive ANC and the quality and capacity of the health care system can lower the chances that a woman with FGM/C develops fistula; however, the quantitative analysis did not find a statistically significant association between ANC and reporting fistula.

## What We Know

- Evidence from both the literature review and quantitative analysis shows an indirect association between FGM/C and fistula related to the interaction of: the health and social consequence of FGM/C; the woman's socioeconomic characteristics and her local context; and the local health care system's ability to prevent fistula.
- The literature review presented mixed evidence, reflecting both indirect and direct associations between the two conditions. Many studies suggest that the more severe the cut, the more likely a woman is to develop complications

### Box 2

## Country Surveys

The quantitative analysis used recently collected data from Demographic and Health Surveys (DHS) in 10 sub-Saharan African countries:

Burkina Faso (2010)	Chad (2014-2015)
Côte d'Ivoire (2011-2012)	Guinea (2012)
Kenya (2014)	Ethiopia (2005)
Mali (2012-2013)	Nigeria (2008)
Senegal (2010-2011)	Sierra Leone (2013)

- Both sets of analyses show that underlying factors related to a woman's socioeconomic characteristics and her local setting—other than FGM/C—may increase her risk of experiencing fistula.

## What We Still Need to Understand

The literature review and analysis of DHS data demonstrate that an indirect association between FGM/C and fistula exists: Poverty, lack of education, and limited ANC appear to increase the risk of both FGM/C and fistula. However, the characteristics of women most at risk are not consistent across settings.

**Targeted research on key populations** could lead to better understanding of the contextual factors—such as health care access and the role of quality ANC services—and socioeconomic characteristics linked to both FGM/C and fistula. Such research could contribute to the design of interventions for local settings.

**Longitudinal study designs** (that follow a group of women over a relatively long period of time) are needed to further quantitatively assess the factors that raise or lower the risk of both conditions across FGM/C types, socioeconomic groups, and different settings.

- Case control studies that retrospectively follow fistula patients in high and low FGM/C prevalence areas can assess distributions and patterns of those who have or have not experienced FGM/C.
- Prospective cohort studies in which a group of girls with and without FGM/C are followed in a high fistula prevalence area could clarify factors influencing fistula risk.

**Comparative studies** of high and low prevalence FGM/C settings can help clarify what works to reduce both FGM/C and fistula in different situations. Studies in countries like Chad and Côte d'Ivoire, where the patterns tend to deviate from those in other countries, can help build a deeper understanding of the FGM/C and fistula relationship and provide evidence on limiting both conditions.

**Implementation research** as part of programme implementation and service provision could measure programme effectiveness and inform programme design on a range of interventions, including psychosocial initiatives for depression and anxiety, and the sociocultural challenges of both conditions.

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- Dennis Matanda, Pooja Sripad, and Charity Ndwiga, "Associations Between Female Genital Mutilation/Cutting and Fistula: A Multi-Country Statistical Analysis," *Evidence to End FGM/C: Research to Help Women Thrive* (New York: Population Council, forthcoming).

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