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Launched by the World Health Organization in 1972, the UNDP/UNFPA/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction is a global programme of technical cooperation. It promotes, coordinates, supports, conducts, and evaluates research on sexual and reproductive health, with particular reference to the needs of developing countries.

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Female genital mutilation—new knowledge spurs optimism

Despite more than 25 years of efforts to curtail its practice, female genital mutilation (FGM)—defined by WHO, UNICEF and the United Nations Population Fund (UNFPA) as "the partial or total removal of the female external genitalia or other injury to the female genital organs for cultural or other non-therapeutic reasons"—is still a deeply rooted tradition in more than 28 countries in Africa and in some countries in Asia and the Middle East. In the world today there are an estimated 100 million to 140 million girls and women who have been subjected to the operation. Currently, about 3 million girls, the majority under 15 years of age, undergo the procedure every year.

This issue of Progress reviews current information (pages 2–6), based on recent survey data, about the extent of FGM and explores some of the factors that account for its persistence, despite growing awareness of its dangers to health and its infringement of human rights, particularly the rights of women. It also summarizes some of the outcomes from different approaches to eradicating the practice and identifies topics for research on ways of making anti-FGM efforts more effective than they have been up to now.

On page 7 is a summary report of a landmark study carried out by HRP in six African countries. This study provides some clear answers to a long-debated question: Does FGM have a negative impact on obstetric outcomes? The study which was the first ever large-scale prospective study of the effects of FGM on maternal and neonatal outcomes demonstrated that women with FGM are significantly more likely than those without FGM to have adverse obstetric outcomes. Moreover, the risk of an adverse outcome increases with more extensive FGM (see FGM types on page 3). This information is important for health-care providers looking after women with FGM during childbirth. FGM remains a pressing human rights and a public health issue. It is expected that reliable evidence about its harmful effects, especially on reproductive outcomes, will help to persuade people to abandon the practice.

Nevertheless, many questions raised by FGM remain unanswered. Why, for example, do so many women who say the practice should be stopped still make sure that their own daughters are subjected to it? This question hones in on the complex interplay of sociocultural factors that exert pressure on mothers not to break the chain of transmission of a tradition handed down from generation to generation. It is a question that HRP believes social science could help to answer. To this end, the Programme has invited researchers (see page 8) to submit proposals to explore how sociocultural beliefs about female sexuality, sexual morality and femininity affect women's support of FGM. The results of this research should, it is hoped, help countries to design interventions capable of convincing women to withdraw their support for the practice. This research is a part of a larger project of the Programme designed to study various aspects of FGM practice, including how decisions regarding FGM are made and who makes them, and which specific interventions can help stop the practice.

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A factual overview of female genital mutilation

WHO, UNICEF and the United Nations Population Fund (UNFPA) define female genital mutilation (FGM) as "the partial or total removal of the female external genitalia or other injury to the female genital organs for cultural or other non-therapeutic reasons".[1] (See box on facing page for a description of the different types of FGM.)

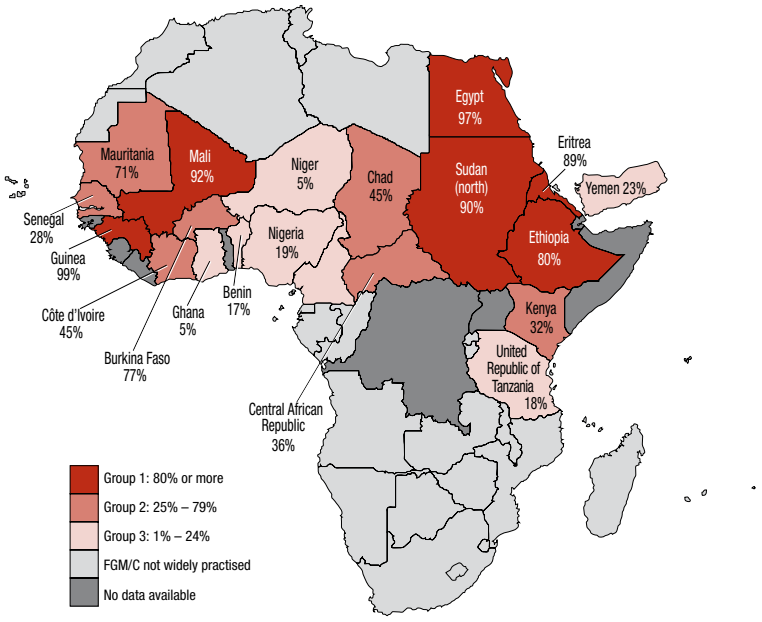
Prevalence

Estimates based on survey data suggest that worldwide between 100 million and 140 million girls and women alive today have undergone some form of FGM and that about 3 million do so every year. The procedure is generally carried out on girls under the age of 15 years, although obtaining data on FGM prevalence in that age group poses several methodological challenges, not least of which is ascertaining if and how the procedure was carried out.[2] Recent surveys have found that in Egypt 90% of girls who had undergone FGM were between five and 14 years of age when subjected to the procedure, 50% of those in Ethiopia, Mali and Mauritania were under five years of age, and 76% of those in the Yemen were not more than two weeks old. In some communities, women who are about to be married or are pregnant with their first child or who have just given birth also undergo the practice.

Most women who have experienced FGM live in one of the 28 countries in Africa or the Middle East where FGM is practised—nearly half of them in just two countries, Egypt and Ethiopia. The 28 countries span the continent in a belt running from Senegal on the west coast of Africa to Ethiopia and Somalia in the east, where Egypt juts to the north and Kenya and United Republic of Tanzania extend to the south. Recent survey data, available for 18 of these countries, show the prevalence of FGM to range from 5% to 97% of the female population (Fig. 1).[2,3]

Some communities on the Red Sea coast of Yemen are also known to practise FGM and reportedly, though to a limited extent, FGM is also practised in Jordan, Oman, the Palestinian Ter-

Figure 1: FGM prevalence among women aged 15–49



Note: This map does not reflect a position by UNICEF on the legal status of any country or territory or the delimitation of any frontiers.
Sources: DHS and MICS.

Source : Female genital mutilation/cutting : a statistical exploration. New York, NY, UNICEF; 2005.

ritories (Gaza) and in certain Kurdish communities in Iraq. The practice has also been reported among population groups in India, Indonesia and Malaysia.

FGM is also practised among immigrant communities throughout the world. Families from Benin, Chad, Guinea, Mali, Niger and Senegal tend to migrate to France, where they continue the practice, whereas those from Kenya, Nigeria and Uganda generally settle in the United Kingdom. In the 1970s, refugees fleeing war and civil unrest in Eritrea, Ethiopia and Somalia brought FGM to several countries of Western Europe, including Norway, Sweden and Switzerland. Canada and the USA in North America, and Australia and New Zealand in Australasia also host women and children who have been subjected to FGM.

Historical perspective

Where and when FGM was first practised is not known. Evidence from Egyptian mummies, suggests that a form of female circumcision was routinely practised there some 5000 years ago.[4] In ancient Rome, metal rings were passed through the labia minora of women slaves to prevent them from procreating. And in the United Kingdom of the 19th century surgical removal of the clitoris was an accepted technique for the management of epilepsy, sterility and masturbation[5] (it is not known why an equivalent procedure was not applied in men having these ills). In Africa and the Middle East, FGM is thought to have taken root untold centuries ago. Yet, even in that part of the world there are some countries where the practice began relatively recently: the Yemen, for example, adopted FGM in the 20th century as a result of contacts with communities in the Horn of Africa, where the practice had long been ingrained in the local culture.

Impact on health

Whatever the origins of the practice, there is a growing awareness that FGM exacts a heavy toll in damage to health. In most countries FGM is performed mainly by traditional practitioners, including traditional midwives and barbers, who may use scissors, razor blades or knives. In recent times FGM is increasingly being performed by health personnel: for example, in Egypt up to 90% of FGM procedures are performed by a health-care provider. The specific impact of FGM on the health of a girl or woman depends, among other factors, on the extent and type of the mutilation (see box below), the skill of the operator, the cleanliness of the tools and setting used, and the physical condition of the girl or woman.

Short-term consequences

Severe pain and bleeding are the most common immediate consequences of all forms of FGM. Since in most cases the procedure is carried out without anaesthesia, the resulting pain and trauma can produce a state of clinical shock. In some cases, bleeding can be protracted and result in long-term anaemia.

Infections are also common, particularly if the procedure is carried out in unhygienic conditions or with unsteri-

In Egypt 90% of girls who had undergone FGM were between five and 14 years of age when subjected to the procedure, 50% of those in Ethiopia, Mali and Mauritania were under five years of age, and 76% of those in the Yemen were not more than two weeks old.

Terminology and the main types of female genital mutilation (**Revised in 2008** - Eliminating female genital mutilation An interagency statement, www.who.int/reproductive-health/fgm/)

International consensus about the classification of the different forms of female genital mutilation has, at this writing, not been reached. Even the terms, such as "mutilation" and "cutting", used to designate the practice are still the subject of debate. Some sociologists fear that parents may resent the implication that they are "mutilating" their daughters. "Cutting", they maintain, is less judgmental and corresponds more to the term used in many local languages. UNICEF and other organizations wishing to retain "mutilation" for its presumed dissuasive connotation propose a compromise: "female genital mutilation/cutting (FGM/C)".

Four types of FGM are recognized[1] at the present time:

- **Type I** — excision of the prepuce, with or without excision of part or the entire clitoris.
- **Type II** — excision of the clitoris with partial or total excision of the labia minora.
- **Type III** — excision of part or all of the external genitalia and stitching/narrowing of the vaginal opening (infibulation)
- **Type IV** — pricking, piercing or incising of the clitoris and/or labia; stretching of the clitoris and/or labia; cauterization by burning of the clitoris and surrounding tissue; scraping of tissue surrounding the vaginal orifice (angurya cuts) or cutting of the vagina (gishiri cuts); introduction of corrosive substances or herbs into the vagina to cause bleeding or for the purpose of tightening or narrowing it; and any other procedure that falls under the definition given above.

[1] *Female genital mutilation: a joint WHO/UNICEF/UNFPA statement*. Geneva, World Health Organization, 1997.

A wide range of psychological and psychosomatic disorders have been attributed to FGM, for example, disordered eating and sleeping habits, changes in mood and symptoms of impaired cognition.

lized instruments, and in severe cases can include potentially fatal septicaemia and tetanus. Urinary retention is also a frequent complication, especially when skin is stitched over the urethra.

Long-term consequences

Long-term adverse effects include abscesses, painful cysts and thick, raised scars called keloids, which can, in turn, cause problems during subsequent pregnancy and childbirth. Deinfibulation, for the purpose of reopening the vaginal orifice after it has been stitched or narrowed, and reinfibulation, to reduce the vaginal opening after deinfibulation, are sometimes performed at each birth, with potentially dire health consequences. Other long-term complications include infertility and haematocolpos (the accumulation of menstrual fluid in the vagina).

Up to now, attempts to determine scientifically the incidence, prevalence and risk of specific health consequences of FGM have been hampered by the lack of well designed large-scale studies on the subject, as well as the reluctance and/or inability of many women and girls who have undergone the procedure to provide accurate details about the circumstances of their experience and the medical consequences that might, or might not be, attributable to it. What is believed to be the first large-scale study to break through the silence and confusion enshrouding the subject is described on page 7 of this issue. Based on direct observation of more than 28 000 women in six African countries, the prospective study, conducted by an HRP study group, shows clearly that FGM is associated with an increased risk of obstetric complications, including caesarean section, postpartum haemorrhage, extended hospital stays, the need for infant resuscitation, stillbirth, early neonatal death and low birth weight.[6]

Physical consequences are only part of the damage that a girl or woman may suffer as a result of FGM. A wide range of psychological and psychosomatic disorders have been attributed to the practice, among them disordered eating and sleeping habits, changes in mood and symptoms of impaired cognition that include sleeplessness, recurring nightmares, loss of appetite, weight loss or excessive weight gain, as well as panic attacks, and difficulties in concentrating and learning.[7,8]

The extent of psychological damage produced by FGM is difficult to ascertain. As Sudanese physician and surgeon Nahid Toubia, who is also associate professor at Columbia University School of Public Health in New York, USA, notes, “the psychological effects are often subtle and are buried in layers of denial”.[9] She believes that there may be additional psychological implications for the immigrant women who live in western societies in which FGM is not traditionally practiced. These women have to deal with the conflicting attitudes of their traditional culture and of western culture towards FGM, sexuality and women’s rights. Evidence of the psychological effects of FGM is beginning to appear among immigrant communities in Europe, America and Australasia.[10]

One often neglected aspect of the medical and psychological problems ascribed to FGM is their impact on a girl’s education: absenteeism, poor concentration, low academic performance and loss of interest have been associated with FGM.[11]

Ending the practice

Since the middle of the last century many international and national organizations and agencies, both governmental and nongovernmental, have set up programmes to halt or reduce the prevalence of FGM. Thanks largely to their efforts, clauses prohibiting the practice have been incorporated into a large number of international legal instruments and into the legislation of a growing number of countries. Half of the 28 countries where the practice is “endemic” have introduced legislation forbidding it. A further seven countries have incorporated anti-FGM legislation into their constitutions or crimi-

nal laws. Applying the law, however, is another matter: a study published in 2000 found that prosecutions had been brought in only four of the 28 countries of Africa and the Middle East where FGM is practised.[12] Laws prohibiting FGM have also been introduced in several countries with immigrant communities continuing the practice: these countries include Australia, Canada, New Zealand, USA and at least 13 countries in Western Europe. Again, the annual rate of prosecutions varies widely.

Armed with arguments based on its danger to health and on its violation of human rights, opponents of FGM have, over the past half-century or so, tried various strategies—ranging from public education campaigns to offering alternative sources of income to FGM practitioners—aimed at stopping the practice. Some of the more successful strategies include:

- promotion of alternative "rites of passage" that preserve the ritual or symbolic component of FGM marking the admission of young girls into the community or into adulthood but without unduly harming their bodies;
- group discussions and media campaigns aimed at raising awareness among parliamentarians, religious and civic community leaders, traditional and modern health-care providers, and other decision-makers, as well as among the public, of the dangers to health and of the transgression of human rights that FGM involves;
- promotion, at all levels of society, of the abandonment of FGM as part of a "development package" that includes a reduction of poverty and of inequities and inequalities between the sexes, and an increase in access to education and health services.

A practice resistant to change

In countries where FGM is unknown, people often react with incredulity that in this day and age FGM is still practised despite its negative impact on health, its disregard of human rights and its illegality in many countries. Most surprisingly, the practice often persists even among families who agree that it should be abandoned. Social scientists say FGM persists for the following reasons.

- It endows a girl with cultural identity as a woman: in many ethnic groups the clitoris is associated with masculinity and is excised to maintain differentiation between males and females.
- It imparts on a girl a sense of pride, a coming of age and admission to the community: in many communities, girls are rewarded with gifts, celebrations and public recognition after the operation.
- Not undergoing the operation brands a girl as a social outcast and reduces her prospects of finding a husband.
- It is part of a mother's duties in raising a girl "properly" and preparing her for adulthood and marriage.
- It is believed to preserve a girl's virginity, widely regarded as a prerequisite for marriage, and helps to preserve her morality and fidelity: in some ethnic groups, virginity is associated with an infibulated vulva, not with an intact hymen.
- It is believed to enhance a husband's pleasure during the sex act.
- It is believed to confer bodily cleanliness and beauty on a girl: in some communities, the female genitalia are considered unclean.
- It is believed to be prescribed by religion and thus to make a girl spiritually pure.

Trends

Although prevalence data obtained over the last decade have shown little change in the frequency of FGM, they do reveal several trends.

Possibly as a result of an emphasis on the negative health implications of FGM, there has been a dramatic increase in the proportion of FGM operations carried out by trained health-care personnel. Today, 94% of women in Egypt arrange for their daughters to undergo this "medicalized" form of FGM, 76% in Yemen, 65% in Mauritania, 48% in Côte d'Ivoire, and 46% in Kenya. This approach may reduce some of the immediate consequences of the procedure (such as pain and bleeding) but, as WHO and UNICEF point out, it also tends to obscure its human rights aspect and could hinder the development of long-term solutions for ending the practice.

Possibly as a result of an emphasis on the negative health implications of FGM, there has been a dramatic increase in the proportion of FGM operations carried out by trained health personnel.

One encouraging trend seen consistently in countries for which data from at least two surveys are available is that women aged 15–19 years are less likely to have been submitted to FGM than are women in older age groups.

There has also been a lowering in some countries of the average age at which a girl is subjected to the procedure.[13] This could be to some extent the result of anti-FGM legislation: the younger the girl, the easier it is to elude legal scrutiny. Another possible adverse effect of legislation is, as often occurs with abortion, its tendency to drive FGM underground or encourage a cross-border movement of women from a country where the practice is illegal to a neighbouring country where it is allowed.

One encouraging trend seen consistently in countries for which data from at least two surveys are available is that women aged 15–19 years are less likely to have been submitted to FGM than are women in older age groups. In almost all of these countries, support for the discontinuation of the practice is particularly high among younger women.

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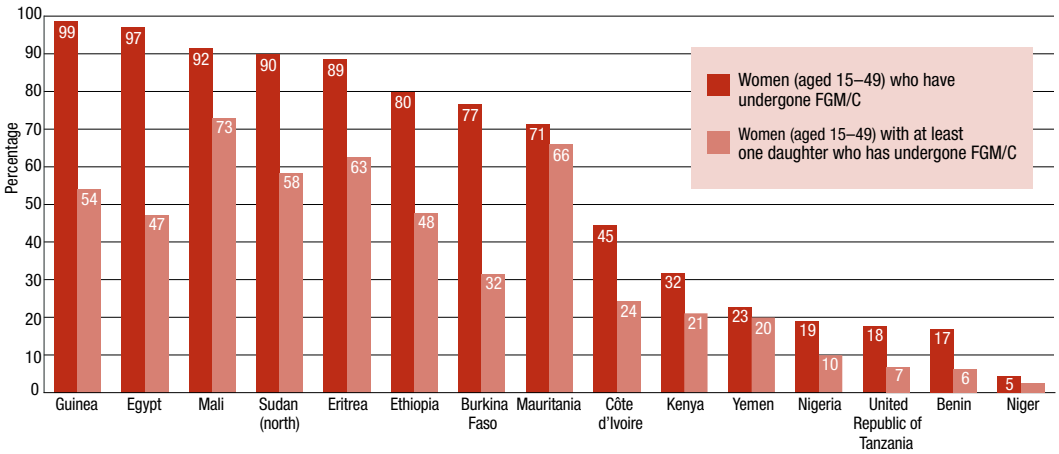
Figure 2: Prevalence of FGM in women and daughters



Notes: Countries are listed from higher to lower levels of FGM/C among women.

Source : Female genital mutilation/cutting: a statistical exploration. New York, NY: UNICEF; 2005.

New, solid evidence of obstetric problems after female genital mutilation

A woman who has undergone female genital mutilation (FGM) is more likely to suffer complications when she gives birth to a baby than a woman who has not been subjected to genital mutilation, according to a new study conducted in six African countries by a WHO collaborative group.

The study, which was funded and coordinated by HRP, involved 28 393 women attending 28 obstetric centres in rural and urban areas of Burkina Faso, Ghana, Kenya, Nigeria and Sudan. Each study participant was examined on admission for delivery by a trained midwife, who determined whether the woman had undergone genital mutilation and, if so, how extensive the operation had been. All the women were followed up after delivery until they were discharged from the centre.

The study, which was published in the June 3 issue of the British journal, *The Lancet*[1], found that, compared with women who had not undergone genital mutilation, those who had undergone FGM ran a significantly greater risk of requiring a caesarean section, an episiotomy and an extended stay in hospital, and also of suffering postpartum haemorrhage. In addition, the infants of mothers who had undergone the more extensive forms of FGM (Types II and III, see Box on FGM classification on page 3) were at an increased risk of dying at birth, compared with the infants of mothers without FGM. Generally speaking, the more extensive the genital mutilation, the higher the risk of obstetric complications.

Previous studies have suggested a link between FGM and several obstetric complications, but they were all relatively small and many had one or more serious shortcomings—inconsistent findings, failure to account for potential confounding factors, failure to investigate the possible impact of different types of genital mutilation, and self-reported, rather than third-party observed, obstetric complications. The HRP study was designed to avoid such flaws and has produced, for what is believed to be the first time, solid evidence confirming unequivocally the danger to health that FGM incurs.

Since maternal and infant mortality and morbidity rates are high in all six countries participating in the study, any increased obstetric risks, such as those observed in this study, are, according to the study investigators, "likely to lead to substantial additional cases of adverse obstetric outcome in many countries."

Commenting on the study in the same issue of *The Lancet*[2], two Nigerian physicians note that "with [its] two-pronged search into maternal and infant outcomes, […] this study is a landmark." It could, they believe, "recruit sympathisers and campaigners from the ranks of paediatricians who attend to neonates [suffering from] collateral damage from assaults on their mothers."

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[1] WHO study group on female genital mutilation and obstetric outcome. Female genital mutilation and obstetric outcome: WHO collaborative prospective study in six African countries. *Lancet* 2006; 367:1835–41 (doi:10.1016/S0140-6736(06)68805-3).

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Women in Baidoa, Somalia, being educated about the adverse consequences of female genital mutilation. WHO Photo/Liba Taylor

HRP pinpoints research needed to halt female genital mutilation

Expert observers, including sociologists and ethnologists, believe that a better understanding of the sociocultural underpinnings of female genital mutilation could make efforts to halt the practice more effective.

After nearly three decades of efforts by countries and by the international health and development community to eradicate female genital mutilation (FGM), the practice continues virtually unabated in all but a handful of countries where it has long been an accepted tradition. Outlawing it by passing anti-FGM legislation can drive the practice underground. Emphasizing its dangers to health can lead to its "medicalization", i.e. ensuring that it is practised only by medically trained practitioners, thereby reducing some of its immediate consequences but doing nothing to halt the violation of human rights and the mutilation of a woman's body that the practice entails.

Many expert observers, including sociologists and ethnologists, believe that a better understanding of the sociocultural underpinnings of FGM could make efforts to halt the practice more effective. Research, they believe, has paid too little attention to the role of women in perpetuating the tradition. In most countries where FGM is prevalent, more women than men support the practice. Women's attitudes to FGM are complex: in countries where the practice is almost universal, many women say it should be stopped and a large proportion of the women who say it should be stopped still ensure that their own daughters undergo the procedure.

HRP experts believe that research is needed specifically to probe the complex mechanisms underlying women's attitudes and actions related to FGM. In the first half of 2006, therefore, the Programme issued a call for proposals for research on "the role of female sexuality in women's continued support of FGM". Specifically, the research should examine how sociocultural beliefs about, among other factors, female sexuality, sexual morality and femininity affect women's support of FGM and also how interventions should best be designed to induce women to withdraw their support for the practice. HRP received 28 research proposals, of which four have been shortlisted for further development and review.

This research is a part of a larger project of the Programme designed to study various aspects of FGM practice, including how decisions regarding FGM are made and who makes them, and which specific interventions can help stop the practice.

New Publications

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Accelerating Progress Towards the Attainment of International Reproductive Health Goals

A Framework for Implementing the WHO Global Reproductive Health Strategy

Geneva, WHO, 2006,
21 pages, WHO/RHR/06.3

Aimed at policy-makers and programme managers, this document provides a comprehensive framework for implementing the WHO Global Reproductive Health Strategy, which was adopted by the World Health Assembly in 2005.

The Interagency List of Essential Medicines for Reproductive Health

Geneva, WHO, 2006,
28 pages, WHO/RHR/2006.1

This document presents the current international consensus on rational selection of essential sexual and reproductive health medicines. The list is intended to support decisions regarding the production, quality assurance, national procurement and reimbursement schemes for the included medicines.