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FEMALE GENITAL CUTTING: THE INTERPRETATION OF RECENT DHS DATA

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MEASURE DHS assists countries worldwide in the collection and use of data to monitor and evaluate population, health, and nutrition programs. Additional information about the MEASURE DHS project can be obtained by contacting MEASURE DHS, ICF International, 11785 Beltsville Drive, Suite 300, Calverton, MD 20705 (telephone: 301-572-0200; fax: 301-572-0999; e-mail: reports@measuredhs.com; Internet: www.measuredhs.com).

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- to provide decisionmakers in survey countries with information useful for informed policy choices;
- to expand the international population and health database;
- to advance survey methodology; and
- to develop in participating countries the skills and resources necessary to conduct high-quality demographic and health surveys.

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Female Genital Cutting: The Interpretation of Recent DHS Data

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Preface

One of the most significant contributions of the MEASURE DHS program is the creation of an internationally comparable body of data on the demographic and health characteristics of populations in developing countries.

The DHS *Comparative Reports* series examines these data across countries in a comparative framework. The DHS *Analytical Studies* series focuses on specific topics. The principal objectives of both series are to provide information for policy formulation at the international level and to examine individual country results in an international context. Whereas *Comparative Reports* are primarily descriptive, *Analytical Studies* have a more analytical approach.

The *Comparative Reports* series covers a variable number of countries, depending on the availability of data sets. Where possible, data from previous DHS surveys are used to evaluate trends over time. Each report provides detailed tables and graphs organized by region. Survey-related issues such as questionnaire comparability, survey procedures, data quality, and methodological approaches are addressed as needed.

It is anticipated that the availability of comparable information for a large number of developing countries will enhance the understanding of important issues in the fields of international population and health by analysts and policymakers.

Sunita Kishor
Project Director

Acronyms

AIDOS	Associazione Italiana Donne per le Sviluppo
DHS	Demographic and Health Surveys
FGC	Female genital cutting
FGM	Female genital mutilation
GAMS	Groupes femmes pour l'abolition des mutilations sexuelles
MICS	Multiple Indicator Cluster Surveys
TBA	Traditional birth attendant
UNICEF	United Nations Children's Fund
WHO	World Health Organization

Executive Summary

This report presents data on female genital cutting collected by the Demographic and Health Surveys (DHS), an international survey program funded primarily by the United States Agency for International Development (USAID). The report provides readers with an overview of the nature of DHS data on Female Genital Cutting (FGC), a summary of current FGC prevalence statistics, trends in prevalence, and guidelines on the appropriate ways to interpret DHS data on FGC. The report updates and expands on the 2004 DHS publication entitled *Female Genital Cutting in the Demographic and Health Surveys: A Critical and Comparative Analysis* that appeared as No. 7 in the DHS Comparative Reports series. The 2004 report described the origin and evolution of questions on FGC in some detail within the DHS surveys from 1989 to 2002. This report provides all DHS data on FGC since 2002, as well as guidance on disaggregating and interpreting these data for a better understanding of patterns and trends observed in DHS data on FGC.

The report seeks to facilitate the use of DHS data on FGC by guiding the reader through the various ways that FGC data are collected, processed, and presented. The more specific objectives the document seeks to meet are:

- Provide readers with up-to-date information on the DHS data available on FGC in ways that complement earlier reports;
- Document trends over time in FGC prevalence within individual countries and provide guidelines for how such trends should be interpreted;
- Present the new FGC module used by DHS and UNICEF since 2010 that provides data on all living daughters of respondents and suggest guidelines for how such data can best be used and interpreted.

After the introduction, this report includes five chapters and an appendix. The chapters address the following issues:

- The collection of data to estimate the prevalence of FGC
- The nature of the FGC data collected by DHS and the current FGC module
- National prevalence data on FGC for women age 15-49 in African countries
- The practice of FGC as an event
- Issues of interpretation

The chapter on estimating FGC prevalence country by country focuses on countries in west and northeastern Africa in the household surveys conducted by DHS, since that is where FGC is most often practiced. The next chapter describes the nature of data on FGC collected in DHS surveys and the ways in which the data are analyzed and reported in DHS country reports. The way that a respondent's daughter was selected varied over time (oldest, youngest, most recently circumcised). The chapter on national prevalence presents tables that show FGC prevalence rates for all countries in Africa plus Yemen for which statistics on FGC are available. The chapter on the practice of FGC reports on how FGC has been practiced according to respondents interviewed. The final chapter briefly discusses issues that remain relevant for interpreting the significance of FGC within each country involved.

The practice of female circumcision in African countries did not attract the attention of many trained scholars until the 1980s, and reliable estimates of FGC prevalence were not available before the inclusion of questions about FGC in the DHS population-based surveys. A series of questions about FGC

was standardized for use in DHS surveys in certain countries by 1995 (Yoder et al. 2004). UNICEF began using an FGC module in selected countries in 2005 in their Multiple Cluster Indicator Surveys (MICS3). National level prevalence data on FGC from population-based surveys are now available for 27 countries in Africa as well as Yemen and Iraq. In addition, because female immigrants to Europe from countries in Africa where FGC is practiced may also have been circumcised, organizations have sought ways to estimate the numbers of girls and women so affected. Estimates of FGC prevalence among immigrants usually rely on statistics from the country of origin of the female immigrants in question, and on the number of immigrants and their daughters in country. Such methods provide numbers that remain somewhat approximate.

Nearly all DHS surveys after 2002 that used the FGC module began with an introductory question asking if the respondent had ever heard of FGC or something close to that phrasing. Researchers and analysts have generally assumed that women know whether or not they have been circumcised, and that they will accurately report that knowledge in the context of a survey. Questions have been raised about both assumptions, but the assumptions have not been often examined. Questions have also been raised about the possible impact of laws passed against the practice of FGC. One way to check for an effect of a law against the practice of FGC is to compare the prevalence rates of age cohorts over time. If the law has discouraged women from admitting that they have been circumcised, then we should see a decrease in the FGC prevalence reported for the same age cohort from one DHS survey to the next. Evidence of the possible impact of such laws was found for three countries.

Women who had heard of FGC, and who had a living daughter less than 15 years old, were asked questions about one or more daughters and their FGC status. Earlier DHS surveys had asked only about the eldest daughter, as was done in Kenya 2003. With the exception of Kenya, all DHS surveys that used the FGC module after 2001 asked respondents about the FGC status of a living daughter. If they had no daughters that had been circumcised, they were asked if they intended to circumcise any of their daughters.

Since DHS data on FGC prevalence has always reported on samples of women age 15 to 49, any changes in prevalence rates over time reflects changes that occurred at least 10 years ago and longer. That is, because FGC frequently takes place about the ages of five or six, the age cohort at age 15-19 was likely to have been at risk for FGC five to ten years earlier. Thus, prevalence data for women 15-49, in most cases, is not suitable for use in the evaluation of recent interventions that promote the abandonment of FGC. However, data on prevalence rates of girls 0-14 years of age may be useful for the evaluation of more recent interventions, particularly if the age at circumcision is very young. Therefore, DHS and UNICEF revised their FGC module in 2010 to ask respondents about the circumcision status about each of their living daughters less than 15 years of age.

The revised FGC module formulated in 2010 and used since then by DHS also revised the FGC questions for men. The module now includes only three questions: 1) Have you ever heard of female circumcision? 2) Do you think that the practice of FGC is required by your religion? 3) Should this practice of FGC continue or be stopped?

Chapter 4 presents the prevalence rates by country in the form of tables and graphs for the most recent as well as for all DHS surveys for easy reference. Countries are grouped by geographic region to make visible regional patterns. The table showing data for all DHS surveys (Table 4) facilitates the examination of trends over time, trends that are also portrayed in Figure 1. One can detect three patterns of trends over time in the data from the countries in Table 4: 1) there was little or no change over time from 10-40 years before the survey in some countries, as seen in Sudan, Chad, and Uganda; 2) there is a slight decline in a few countries in the prevalence of FGC from the oldest cohort to the youngest cohort, with the decline being greater among the younger cohorts. Eritrea, Ethiopia, Burkina Faso, Benin, and

Senegal fit this model; and 3) a few countries show a small but steady, nearly linear, decline in prevalence by age cohort, as seen in Egypt, Mauritania, Cote d'Ivoire, Nigeria, and Kenya. In Senegal the age cohort data show that the prevalence changed very little between about 1970 and 2000, but that there was a slight decrease in the 1990s.

The national prevalence disaggregated by age cohort for all DHS surveys with FGC data from two or more points in time is presented in tabular form (Table 6) and in a graph for selected countries. The table allows us to verify if the trend over time from older to younger cohorts seen in the most recent survey was also evident in earlier surveys. Figure 3 shows that FGC prevalence was much lower in the younger age cohorts for four countries.

The presentation of FGC prevalence by urban/rural residence and by region shows evidence of the distribution of FGC within a country. In the majority of countries, FGC prevalence is higher in rural than in urban areas. In countries with a national prevalence of less than 80 percent, marked differences by region are often found. Regional differences in prevalence are often a reflection of ethnic composition of the population. Ethnicity underlies FGC distribution by urban/rural residence and by region, since ethnic groups are unevenly distributed within and between regions, and FGC status so often varies with ethnicity. Countries with a high national prevalence have relatively small differences by ethnic group, whereas countries with lower overall prevalence show a wide range of FGC prevalence by ethnicity. FGC prevalence by ethnicity in one country may range from a low of 1% to a high of 98%. Figure 5 shows both the range of prevalence and trends over time in three DHS surveys in Kenya.

The details of how, when, and where FGC occurs vary tremendously from one society and one country to the next. Such details may determine whether or not a girl sustains damage to her health from the procedure. Therefore, it is useful to consider the details of how the circumcision was conducted: at what age, by what type of practitioner, and what was actually done at the time. The age at cutting varies from a few weeks or months in some countries to 12 to 14 year olds, but in the majority of countries, girls are cut before the age of five.

FGC is most often performed by elderly women who are known for playing the role of circumciser. In a few countries, health care professionals also perform FGC. In three countries, a substantial proportion of girls had been cut by health care professionals in the most recent DHS survey (Egypt, Sudan, Kenya). Regarding the type of circumcision, infibulation is of greatest concern because of the harm it may do to the health of the girl. Only in northeastern Africa do we find large proportions of circumcised women with infibulation. Data on the type of circumcision are presented in a table and graph for each country for which data are available. In several countries the survey did not include questions about the type of circumcision.

The issues that remain most critical to an understanding of the practice of FGC within a country are the prominence of FGC nationally and the number of women cut, the regional distribution of the practice, any trends over time in national prevalence and age cohorts, and the use of daughter data for program evaluation. The proper use of data on the FGC status of daughters of respondents presents an enduring challenge.

The calculation of the total number of women affected in each country involves several assumptions, but one can arrive at a figure with some confidence with the use of prevalence numbers and figures for the total female population by age. The FGC prevalence for women age 45 to 49 can be used as a proxy and lower limit for the prevalence of women older than 49 years of age; similarly, the prevalence of women 15 to 19 years of age can be used as a proxy and upper limit for girls less than 15 years old (Yoder et al. 2013).

Taking note of the regional distribution and any urban/rural contrast are key elements for any assessment of the national practice of FGC. If a national survey finds that FGC prevalence is far higher in rural than in urban areas, as in most countries, that fact invites us to reflect on how and why families in urban areas act differently toward their daughters. Whether prevalence differs markedly by region depends to some extent on the overall prevalence, and on the importance of the practice of FGC as a marker for ethnicity. The distribution of the practice may be explained in terms of either the impact of urbanization, the ethnic composition of the population, historical trends, or some other variable. FGC prevalence shows more variation by ethnicity than any other demographic variable. Programs that promote the abandonment of the practice will find such considerations useful for policy formulation and program planning.

Because the FGC module used by both DHS and MICS since 2010 asks respondents about the circumcision status of each of their daughters, data on daughters are now becoming available. The survey respondent reports on whether or not each of her daughters was circumcised, what was done, at what age, and the type of person (traditional or medical personnel) who performed the procedure. The new module makes it possible to report on the FGC status of girls at all ages from 0-14. These data show the *current* FGC status of these daughters of respondents.

However, some of these girls will be circumcised after the date of the survey. Therefore we must consider the difference between *current* FGM/C status and *final* FGM/C status of daughters. Since relatively few women are circumcised after the age of 15, when women age 15-49 are asked whether they have been circumcised, it is assumed that those who report that they have not been circumcised will not be cut in the future. Thus our FGC data on women 15-49 years of age reports on their *final* (FGC) status. We do not make that assumption for daughters less than 15 years of age, since a certain proportion will be later circumcised. The question is what is the size of that proportion?

This distinction between *current* and *final* FGC status is critical for interpreting data on daughters 0-14 years old. We must keep in mind two limitations important for a valid interpretation of data on daughters: first, that the FGC prevalence of girls age 0-14 years to women age 15-49 is not valid since many of the 0-14 age group may not have reached the age at which circumcision takes place in that community/country. Second, interpretation of the prevalence of FGC among girls 0-14 should be done in the context of the median age of circumcision for that society. This will allow for an assessment of what proportion of the girls 0-14 are likely to be circumcised as they age through the cohort.

One of the reasons for asking about the FGC status of the daughters of respondents is to obtain data that could be used to evaluate the impact of recent programs that promote FGC abandonment. In countries where most circumcision occurs in the first few years of life, such data may indeed be used for the evaluation of the impact of recent interventions. In countries where FGC occurs largely at the ages of 10 and above, the *current* FGC status of girls will be much lower than their *final* FGC status, and thus daughter data will be less useful for recent program evaluation. Nevertheless, with proper caution, data on daughters can add a great amount to our understanding of how circumcision has been practiced in the last ten years or so.

1 Introduction

1.1 Purpose

This report presents data on female genital cutting collected by the Demographic and Health Surveys (DHS), an international survey program funded primarily by the United States Agency for International Development (USAID). The report provides readers with an overview of the nature of DHS data on Female Genital Cutting (FGC), a summary of current FGC prevalence statistics, trends in prevalence, and guidelines on the appropriate ways to interpret DHS data on FGC. The report updates and expands on the 2004 DHS publication entitled *Female Genital Cutting in the Demographic and Health Surveys: A Critical and Comparative Analysis* that appeared as No. 7 in the DHS Comparative Reports series. That report had provided a history of how questions on FGC were developed and how they have evolved over time, as well as prevalence rates for FGC in 15 countries in Africa plus Yemen for the period 1989 to 2002. This report provides all DHS data on FGC since 2002, as well as guidance on disaggregating and interpreting these data for a better understanding of patterns and trends observed in DHS data on FGC.

Since its initiation in 1984, the DHS project has collected high quality and nationally representative data on an increasing number of demographic and health indicators through more than 300 surveys in over 90 countries. The DHS program includes both household-based and facility-based surveys. The standard DHS household survey includes three questionnaires—the household, woman, and man questionnaire. In addition, optional modules of questions on topics such as domestic violence, maternal mortality, and FGC have been standardized for integration into the DHS questionnaires as requested. Survey results are widely disseminated in the countries of origin, and all reports are available in hardcopy as well as on the DHS website. Survey data are also available for download from the website or from statcompiler.com.

In most cases, countries seek to conduct DHS surveys every five years. Host-country institutions and other partners can request the inclusion of the FGC module to the woman questionnaire if FGC is practiced in the country. To date, FGC prevalence rates are available for more than 20 countries in five-year intervals. A few countries (Cameroon, Ghana, Uganda) with a very low prevalence of FGC have opted for asking only one or two questions rather than including the entire FGC module with about 20 questions. The 2004 report cited above (Yoder et al. 2004) described the origin and evolution of questions on FGC in some detail within the DHS surveys from 1989 to 2002.

1.2 Specific Objectives

This report seeks to facilitate the use of DHS data on FGC by guiding the reader through the various ways that FGC data are collected, processed, and presented. The more specific objectives the document seeks to meet are:

- Provide readers with up-to-date information on the DHS data available on FGC in ways that complement earlier reports;
- Document trends over time in FGC prevalence within individual countries and provide guidelines for how such trends should be interpreted;
- Present the new FGC module used by DHS and UNICEF since 2010 that provides data on all living daughters of respondents and suggest guidelines for how such data can best be used and interpreted.

1.3 Terminology

The practice of nicking or cutting or modifying female genitalia in any way was known for decades as ‘female circumcision’ in English, in part because researchers found that it translated fairly well the local terms used for the practice, and because many societies held initiation camps for boys and for girls that included circumcision. The practice has long been known in French as ‘*excision*.’ In many West African societies, the practice was once an integral part of a series of ceremonies performed during a period of seclusion for girls reaching puberty and beyond (Gessain 1960; Jackson 1977). The collection of papers edited by Shell-Duncan and Hernlund on female circumcision includes an extensive discussion of the origins of the terms (Shell-Duncan and Hernlund 2000). Numerous anthropologists have used the term ‘female circumcision’ over the years (Droz 2000; Shell-Duncan and Hernlund 2000; 2007; Gruenbaum 2001).

The interagency statement about female genital mutilation (FGM) involving all agencies associated with the United Nations that was published in 2008 included a very brief history of terms used to describe FGC (World Health Organization (WHO) 2008). The authors indicate that when the practice was first discussed by outside observers, the term ‘female circumcision’ was used. They go further to say that since the term draws a parallel with male circumcision, it “creates confusion between these two distinct practices” (ibid: 22). The authors state that the term “female genital mutilation” began to be used in the late 1990s and has advantages over “female circumcision.” One, it is clearly distinguished from male circumcision. Two, the term ‘mutilation’ emphasizes the severity of the act. And three, it refers to the fact that the practice is a violation of girls’ human rights, and thus would facilitate the organization of actions against the practice. The WHO recommended that the term ‘female genital mutilation’ be generally adopted by United Nations agencies in 1991. That term has been used since then by the WHO.

In the mid-1990s, some researchers examining the practice found that some African colleagues objected to the term “mutilation” since it implied deliberate harm (Eliah 1996; Shell-Duncan and Hernlund 2000; Gruenbaum 2001). In their review of terms used for the practice, Shell-Duncan and Hernlund credit a reproductive health program in Uganda (Reproductive, Educative and Community Health programme: REACH) with suggesting the use of the term “female genital cutting” as more neutral and thus more appropriate (ibid: 6). That term (FGC) was adopted by USAID in the late 1990s and has been used since then for the most part. The introduction by Shell-Duncan and Hernlund to their book on female circumcision in Africa remains the clearest and most comprehensive discussion of both the variety of terms used to label the practice and a cogent critique of numerous stereotypes and false assumptions that have appeared in the literature (Shell-Duncan and Hernlund 2000).

Some years ago, UNICEF began using yet another term: female genital mutilation/cutting, a composite of FGM and FGC (UNICEF 2005). The position of UNICEF is significant because of its great investment in promoting the abandonment of the practice. Some donors have followed suite, while others have not. The programs of USAID have most often used the term FGC, but sometimes one also sees FGM/C. This report uses mainly FGC, but also may refer sometimes to female circumcision. The English questionnaire of the FGC module used by DHS asks: “Are you circumcised?” We understand the problematic nature of the use of each of the terms mentioned above, but we consider that the neutrality of “female genital cutting” recommends its general use, while the term “female circumcision” also has a certain utility.

1.4 Organization of Report

After the introduction, this report includes five chapters and an appendix. The chapters address the following issues:

- The collection of data to estimate the prevalence of FGC
- The nature of the FGC data collected by DHS and the current FGC module
- National prevalence data on FGC for women age 15-49 in African countries
- The practice of FGC as an event
- Issues of interpretation

The chapter on estimating FGC prevalence country by country focuses on countries in west and northeastern Africa in the household surveys conducted by DHS, since that is where FGC is most often practiced. However, reports on FGC in several Asian countries and the Middle East have also been published. The text includes a brief discussion of the challenges presented in assessing prevalence rates in European and American countries where some African immigrant groups may continue the practice.

The next chapter describes the nature of data on FGC collected in DHS surveys and the ways in which the data are analyzed and reported in DHS country reports. The FGC module has been used to collect data on four topics over time: 1) the circumcision status of the respondent herself; 2) information about the event for those respondents who were circumcised; 3) information about the circumcision status of one daughter and details about the event in cases where a respondent's daughter was circumcised; and 4) women's and men's opinions of the practice. Respondents who had at least one living daughter less than 15 years of age were asked questions about whether and how a daughter was circumcised. The way that a respondent's daughter was selected varied over time (oldest, youngest, most recently circumcised). However, the FGC module currently used by differs from earlier modules in two respects: respondents are asked about the circumcision status of all living daughters less than 15 years old rather than about just one daughter, and fewer questions are asked about respondents' opinions related to FGC.

The chapter on national prevalence presents tables that show FGC prevalence rates for all countries in Africa plus Yemen for which statistics on FGC are available. The text compares the FGC prevalence of different regions of Africa: the northeast, East Africa, northern West Africa, and southern West Africa. Grouping country data in this manner makes it possible to discern regional patterns in FGC prevalence. Most countries have had more than one DHS survey, so trends over time are shown. FGC prevalence is shown disaggregated by demographic variables for the most recent survey in each country. A table also shows FGC prevalence for each country by age cohort to see to what extent prevalence rates have changed over time. Finally, several tables show the distribution of FGC prevalence by ethnicity.

The chapter on the practice of FGC reports on how FGC has been practiced according to respondents interviewed. The FGC module asks several questions about how FGC was done: the age of the girl circumcised, the type of cutting done, and the type of practitioner who did the cutting. The tables of the chapter show data on these topics for the most recent DHS survey and for all DHS surveys with the FGC module. In countries for which several rounds of DHS data are available, it is possible to identify changes in how FGC has been practiced over time.

The final chapter briefly discusses issues that remain relevant for interpreting the significance of FGC within each country involved. Issues addressed include the relative importance of FGC nationally, the distribution of FGC within countries, trends over time in national prevalence data, trends over time in data from age cohorts, and the interpretation of daughter data for program evaluation. With the relatively

new (2010) FGC module, DHS collects information about whether or not each living daughter less than 15 years old has been circumcised or not. This new set of questions creates a distinction between *current FGC* status and *ultimate FGC* status: a young girl may not have been circumcised at the time of the survey because she had not yet reached the proper age for the event, and thus remains at risk for FGC. This distinction creates challenges for the interpretation of these data on girls.

2 Estimates of FGC Prevalence

The practice of female circumcision in African countries did not attract the attention of many trained scholars until the 1980s. To be sure, European colonialists sought to eradicate the practice in parts of Kenya and Sudan in the 1920s and 1930s, as well as later, but these efforts proved isolated and ineffective. In the late 1920s, Protestant missionaries in Kenya sought to ban FGC for medical reasons; clitoridectomy (the partial or total removal of the clitoris) was banned in Meru district for medical reasons from 1956 to 1959 during the Mau Mau rebellion and the British State of Emergency (Robertson 1996). British authorities banned infibulation (narrowing or nearly closing the vaginal opening) but not clitoridectomy in Sudan in 1946, but very few arrests were made. Mention of FGC can be found in a few ethnographic or sociological accounts of the 1950s and 1960s, but very few paid serious attention to the practice, and no one sought to estimate the size and scope of the practice in African societies.

The study of the size and scope of FGC deserves attention for many reasons. First, we need to know prevalence rates to calculate the numbers of girls and women affected each year. Second, we need data on the distribution of the practice to be able to focus medical care and/or interventions effectively. Third, we need to understand how FGC is performed to better promote abandonment: on whom, by whom, at what age, in what manner, and organized by which groups. And finally, this information is crucial to assess the health consequences of the practice on girls and women soon after the cutting takes place, as well as later in life.

Before national-level survey data on FGC were available, other authors proposed estimates of FGC prevalence for various countries in Africa. The report published in 1979 by Francis Hosken (*The Hosken Report*) is often cited as the first major effort to provide an estimate for the national prevalence of FGC in many African countries (Hosken 1979; Yoder et al. 2004). That report, quickly reprinted, was important more for the role it played in getting the attention of international agencies rather than for the actual numbers suggested, for researchers recognized that the estimates were often based on anecdotes rather than observations or surveys (Abusharaf 2000). The report gave estimates of FGC prevalence for 28 countries. Nahid Toubia, a Sudanese surgeon and anti-FGM activist, published a report in 1993 that also provided prevalence estimates for FGC in African countries (Toubia 1993).

Reliable estimates of FGC prevalence were not available before the inclusion of questions about FGC in the DHS population-based surveys. DHS surveys began asking female respondents questions about FGC first in the 1989-90 survey in northern Sudan; a series of questions about FGC was standardized for use in DHS surveys in certain countries by 1995 (Yoder et al. 2004). In 1997, the first document that provided national figures for FGC prevalence from the DHS in multiple countries was published (Carr 1997). The report included data on national-level FGC prevalence for six countries in Africa plus Yemen from surveys conducted from 1989 through 1996. UNICEF began using an FGC module in selected countries in 2005 in their Multiple Cluster Indicator Surveys (MICS3). Both DHS and MICS surveys rely on asking respondents if they themselves have been circumcised for making prevalence estimates. By the year 2000, statistics on the prevalence of FGC from population-based surveys were available for 14 African countries. National level prevalence data on FGC from population-based surveys are now available for 27 countries in Africa as well as Yemen and Iraq.

To date, the DHS team has provided technical assistance for national surveys that have included questions about FGC in 22 countries in Africa plus Yemen. DHS final reports for these countries typically include a separate chapter with tables and descriptive text that summarizes the survey results related to FGC. The chapter tables show FGC prevalence by residence, by region, by ethnicity (usually), and by a variety of other variables that may be associated with the practice. In addition, researchers can obtain access to DHS data sets to conduct their own research on FGC.

Several reports on the practice of FGC in the Middle East and South Asian countries have also been recently published, specifically in Indonesia, Kuwait, Malaysia, Oman, Saudi Arabia, and Iraq (Isa et al. 1999; Population Council 2003; Wadi 2010). Without national surveys with a representative samples, it is not possible to obtain valid statistics on FGC prevalence for these countries. However, a MICS survey was conducted in Iraq in 2011 and found an FGC prevalence of 43% in Kurdistan (MICS 2012).

Because female immigrants to Europe from countries in Africa where FGC is practiced may also have been circumcised, organizations have sought ways to estimate the numbers of girls and women so affected. Estimates of FGC prevalence among immigrants usually rely on statistics from the country of origin of the female immigrants in question, and on the number of immigrants and their daughters in country. One example is a study from Belgium in which the authors first used several state databases to estimate the numbers of immigrants in Belgium from countries where FGC is practiced, and then used the FGC prevalence from DHS or MICS surveys to estimate the number of women from each of these countries that were likely to have undergone FGC (Dubourg et al. 2011). Another example is a study funded by the Department of Health in England that estimated the total number of girls and women with FGC in England and Wales ((Forward 2007). However, such estimates are not able to take into account the factors of ethnicity and the fact that immigrant women are not necessarily representative of all women in their country of origin. Indeed, the authors noted that their inability to consider ethnicity was a limitation for their study. Since FGC prevalence varies by ethnicity in most countries, the ethnic origins of immigrants should be considered in estimating FGC prevalence.

The branches of GAMS (*Groupes femmes pour l'abolition des mutilations sexuelles*) in France and Belgium have been active in seeking to estimate the numbers of girls at risk for FGC and support immigrants from West Africa (Andro and Lesclingand 2007; Dieleman 2010). Similar efforts in Italy have been led by AIDOS (Associazione Italiana Donne per lo Sviluppo), and have led to the publishing of a major report on FGC in Italy (AIDOS 2000). A European Parliament Resolution of March 2009 estimated that about 500,000 girls and women with FGC live in European Union countries, but no sources are given for that estimate. Finally, a Dutch agency called Pharos has recently published the results of their extensive study on the number of girls and women with FGC in the Netherlands (Exterkate 2013).

3 The Nature of DHS Data Collected

This chapter describes the nature of the data on FGC collected by DHS surveys from 2003 to 2010 when a modified FGC module was adopted for use in the DHS. An earlier comparative report described the questions on FGC used in early DHS surveys and the adoption of a standard series of questions that became the FGC module by 1996 (Yoder et al. 2004). As in the earlier module, the FGC module used from 2003 to 2010 asked questions mainly about four topics: 1) the circumcision status of the respondent herself; 2) information about the event for those respondents who were circumcised; 3) information about the circumcision status of one daughter and details about the event in cases where a respondent's daughter was circumcised; 4) women's and men's opinions of the practice.

3.1 Specific Questions Asked in the FGC Module

Nearly all DHS surveys after 2002 that used the FGC module began with an introductory question asking if the respondent had ever heard of FGC or something close to that phrasing. The modules used in Egypt, Liberia, and Ghana used a slightly different approach. The surveys of 2005 and 2008 in Egypt asked simply: "*Now I would like to talk about the practice of female circumcision. Have you yourself been circumcised?*" The 2007 Liberia DHS asked about membership in a secret society (Sande) rather than about circumcision, and did not use many questions from the FGC module. The 2003 Ghana DHS asked only if FGC was practiced in the area, and if the respondent was circumcised. After the introductory question, respondents who said they had heard of FGC are asked: "Have you (yourself) been circumcised?" The answer to this question forms the basis of the calculations of FGC prevalence in each survey. Researchers have generally assumed that women know whether or not they have been circumcised, and that they will be truthful in the context of answering survey questions.

The practice of female genital cutting takes many different forms in many countries, and discovering just what was done to a survey respondent many years earlier has been a challenge. DHS survey specialists have long recognized the ambiguities involved in finding out what was actually done at circumcision. Circumcised girls can get just a nick to draw blood; experience cutting away of a little flesh; have major cutting of the labia; have the vaginal opening sewn nearly shut; or experience other manipulation of the female genitalia.

The greatest concern of FGC specialists are the cases of somehow sewing nearly shut or sealing shut the vaginal opening (known as infibulation), for this form of FGC has such great potential for harming the health of the girl or woman right after the operation as well as later (Obermeyer 2005). Therefore, DHS surveys ask directly if the area was sewn shut. In several surveys in French speaking countries, the FGC module also included a question about the effect of the circumcision on the health of the girl (Cameroon, Chad, Guinea, Mali, and Niger). Tables 1A, 1B and 1C identify the questions asked in the FGC module of each DHS survey from 2002 to 2012, including the questions on the effects of FGC on the health of the girl.

Factors that may affect how the operation was done and is reported include: 1) the way the practice is described by elders who know what should be done; 2) the particular preferences, skill, and actions of the person doing the cutting; 3) the observations and memory of the respondent; and 4) the respondent's understanding of the survey questions asked. DHS surveys from 2002 to 2010 asked women three separate questions to obtain an approximation of what was done. Women were asked if they were just nicked. If the answer was no, then they were asked if flesh was cut away and/or if the vaginal area was nearly sewn shut.

Finally, women were asked their age at the time of circumcision and the identity of the person who performed the cutting. Age is important for the calculation of FGC prevalence at certain ages, and

for identifying changes over time. In some countries, for instance, recent surveys have shown that the median age at circumcision was decreasing in the 1980s and 1990s. The comparison of subsequent surveys offers an opportunity to identify such changes over time. DHS surveys in a few countries failed to ask about age at circumcision (Ethiopia 2005, Liberia 2007, Ghana 2003, Kenya 2003, and Uganda in 2006 and 2011).

The question about who conducted the procedure is asked to learn the proportion of girls circumcised by a traditional specialist or by a medical professional (doctor, nurse, midwife). The answer categories include circumciser, traditional birth attendant (TBA), and “other” as possible traditional providers, and doctor, nurse/midwife, and “other” as possible non-traditional providers. Data from several countries (Egypt, Mali, Guinea) have shown an increase in the proportion of girls cut by a health professional in recent years.

Table 1A shows the topics of questions that were asked of respondents about their own circumcision in DHS surveys from 2002 to 2012. The table shows that most surveys began the FGC module with an introductory question about FGC, but a few did not (Egypt, Ghana, Liberia). The table also shows which surveys did not ask about type of circumcision (Egypt 2005 and 2008; Ethiopia 2005; Liberia 2007; Ghana 2003; Kenya 2003; Uganda 2006 and 2011).

Table 1A. Check list of questions asked about the experience of FGC by respondents

Country	Year	Introduction	Yes/no FGC	Age at cutting	Type of circumcision			Performer
					Nicked only	Cut flesh	Infibulation	
Egypt*	2005		X	X				
Egypt	2008		X	X				X
Ethiopia	2005	X	X					
Guinea	2005	X	X	X	X	X	X	X
Mali	2001	X	X	X	X	X	X	X
Mali	2006	X	X	X	X	X	X	X
Burkina Faso	1999	X	X	X	X	X	X	X
Burkina Faso	2003	X	X	X	X	X	X	X
Burkina Faso	2010	X	X	X	X	X	X	X
Senegal	2005	X	X	X	X	X	X	X
Senegal	2010	X	X	X	X	X	X	X
Sierra Leone	2008	X	X	X	X	X	X	X
Liberia	2007		X	X	X	X	X	X
Chad	2004	X	X	X	X	X	X	X
Cote d'Ivoire	2012	X	X	X			X	X
Nigeria	2003	X	X	X	X	X	X	X
Nigeria	2008	X	X	X	X	X	X	X
Benin	2006	X	X	X	X	X	X	X
Ghana	2003		X					
Niger	2006	X	X	X	X	X	X	X
Cameroon	2004	X	X	X	X	X	X	X

(Continued...)

Table 1A. – Continued

Country	Year	Introduction	Yes/no FGC	Age at cutting	Type of circumcision			Performer
					Nicked only	Cut flesh	Infibulation	
Kenya	2003	X	X					
Kenya	2008	X	X	X	X	X	X	X
Tanzania	2005	X	X	X	X	X	X	X
Tanzania	2010	X	X	X	X	X	X	X
Uganda	2006	X	X					
Uganda	2011	X	X					

*Sample of ever-married women age 15-49

3.2 The Reliability of Responses: Women’s Own Experience with FGC

As indicated above, researchers and analysts have assumed that women know whether or not they have been circumcised, and that they will accurately report that knowledge in the context of a survey. Questions have been raised about both assumptions, but the assumptions have not been often examined. One study on northern Ghana provides information on changes in the reported FGC status of respondents in two surveys. Survey research teams attached to the Navrongo Health Research Centre in northern Ghana conducted a longitudinal survey among women in the Kassena-Nankana district in 1995 and 2000 that included a question about whether they had been circumcised. The same 2,391 women participated in both surveys, which provided an opportunity for assessing the consistency of responses about their own circumcision status. The results showed that about 15% of respondents (women 15-49 years old) gave different answers to the question on circumcision (Jackson et al. 2003). Four percent of women reported that they were circumcised when they had earlier stated they had not been circumcised; 11% of women reported they were not circumcised while they had earlier said they were circumcised. The authors suggest that a small number of women may not have known whether they had been circumcised or not, but that some of those who denied having been circumcised in the second survey may have done so because of the law passed in Ghana in 1994 that made it illegal to circumcise females (Jackson et al. 2003).

In a study conducted in northern Tanzania in a rural village south of Moshi in the Kilimanjaro region where more than half of women are circumcised, a total of 798 women age 15-44 were eligible to be interviewed (Klouman et al. 2005). Of that total, 636 (80%) were interviewed and gave a blood sample, and 399 (50%) of this group also agreed to a pelvic exam. The exam was done to determine if they had been circumcised, and what had been done. The study found that 66% of those interviewed (n=636) reported that they had been circumcised, while the medical exam found that 73% (n=399) had been circumcised. The authors suggest that some women may have been cut only minimally and at an early age, and thus did not realize they had been circumcised.

It does seem important to consider the possible effect of laws passed making FGC illegal in countries on women's responses to the question about whether they had been circumcised. By 2012, 23 countries in Africa had passed laws outlawing FGC, including Zambia and South Africa, where no group is known to practice FGC. Only seven countries where FGC is practiced in Africa do not have national laws that criminalize FGC: Cameroon, the Gambia, Guinea-Bissau, Liberia, Nigeria, Sierra Leone and Sudan. Several states within both Nigeria and Sudan have made FGC illegal, but neither country has passed a national law to criminalize FGC. It remains unclear, however, if these laws have been widely publicized or if the state has prosecuted persons who violated the law. The circumstances of each country

will be different with regard to when the law was passed, how widely the law has been advertised, the willingness of the state to prosecute those who violate the law, and the expectations of men and women regarding possible enforcement. Each of these factors may affect women's responses.

One way to check for an effect of a law against the practice of FGC is to compare the prevalence rates of age cohorts over time. If the law has discouraged women from admitting that they have been circumcised, then we should see a decrease in the FGC prevalence reported for the same age cohort from one DHS survey to the next. The FGC prevalence for the 15-19 age cohort in one nationally representative survey should be about the same as the FGC prevalence for the 20-24 age cohort in a similarly representative survey five years later. This issue is discussed in some detail in the next chapter.

3.3 Daughters' Experiences with FGC

Table 1B identifies the topics that were covered with questions about the circumcision of a daughter of the respondent. All respondents who had heard of FGC, and who had a living daughter less than 15 years old, were asked questions about one or more daughters and their FGC status. Earlier DHS surveys had asked only about the eldest daughter, as was done in Kenya 2003. With the exception of Kenya, all DHS surveys that used the FGC module after 2001 asked respondents about the FGC status of a living daughter. Respondents were first asked if any of the daughters had been circumcised, and if the answer was **Yes**, they were asked about the circumcision of the most recently cut daughter. If the answer was **No**, respondents were asked if they intended to circumcise any of their daughters.

Table 1B. Check list of questions asked about the experience of FGC for daughters of respondents

Country	Year	Eldest daughter	Any daughter	Age	Nicked only	Cut flesh	Infibulation	Performer
Egypt*	2005	All daughters		X				X
Egypt	2008	All daughters		X				X
Ethiopia	2005		X	X			X	X
Guinea	2005		X	X	X	X	X	X
Mali	2006		X	X	X	X	X	X
Burkina Faso	2003		X	X	X	X	X	X
Burkina Faso	2010	All daughters		X			X	X
Senegal	2005		X	X	X	X	X	X
Senegal	2010	All daughters		X			X	X
Sierra Leone	2008		X	X	X	X	X	X
Liberia	2007							
Chad	2004		X	X	X	X	X	X
Cote d'Ivoire	2012		X	X	X	X	X	X
Nigeria	2003		X	X	X	X	X	X
Nigeria	2008		X	X	X		X	X
Benin	2006		X	X	X	X	X	X
Ghana	2003							
Niger	2006		X	X	X	X	X	X

(Continued...)

Table 1B. – Continued

Country	Year	Eldest daughter	Any daughter	Age	Nicked only	Cut flesh	Infibulation	Performer
Cameroon	2004		X	X	X	X	X	X
Kenya	2003	X						
Kenya	2008		X	X	X	X	X	X
Tanzania	2005		X	X	X	X	X	X
Tanzania	2010		X	X	X	X	X	X
Uganda	2006							
Uganda	2011							

*Sample of ever-married women age 15-49

The DHS surveys in Egypt in 2005 and 2008 were unique in that respondents were not asked what type of circumcision had been performed, but they were asked about the circumcision status of each of their living daughters 0-14 years of age. As will be seen in chapter four, the FGC module was modified in 2010 to ask fewer questions about personal opinions, and to ask about the circumcision status of each living daughter, one by one. The DHS surveys in Burkina Faso (2010) and Senegal (2010) were the first to use the new module.

3.4 Perceptions and Opinions about FGC

Table 1C shows which questions about personal perceptions and opinions have been asked in DHS surveys since 2002. DHS surveys from 2004 to 2006 in Francophone countries asked a question with five items about the effects of circumcision on the health of a daughter, with a Yes or No answer to each item. “When (daughter’s name) was circumcised, was there: a) excessive bleeding; b) difficulty in urination; c) swelling in the vaginal area; 4) infection of the vaginal area; 5) the wound did not heal properly.” The answers relied on mothers’ observations at the time of the circumcision and her memory of that time period. The question was dropped from the FGC module after 2006. In addition, the majority of FGC modules from 2004 to 2008 asked respondents: “What are the benefits to a girl in getting circumcised?” Six items of possible benefits were pre-coded as possible answers, with multiple answers possible. Social acceptance was the benefit most often cited in nearly all surveys.

Table 1C. Check list of questions asked about the opinions of respondents on the practice of FGC

Country	Year	Intention	Health impact	Advantages or benefits	Religion	+/- stop
Egypt*	2005	X			X	X
Egypt	2008	X			X	X
Ethiopia	2005					X
Guinea	2005	X	X	X	X	X
Mali	2006	X	X	X	X	X
Burkina Faso	2003	X		X	X	X
Burkina Faso	2010				X	X
Senegal	2005	X		X	X	X

(Continued...)

Table 1C. – Continued

Country	Year	Intention	Health impact	Advantages or benefits	Religion	+/- stop
Senegal	2010				X	X
Sierra Leone	2008	X		X	X	X
Liberia	2007					
Chad	2004	X	X	X	X	X
Cote d'Ivoire	2012				X	X
Nigeria	2003	X		X	X	X
Nigeria	2008	X		X	X	X
Benin	2006	X		X	X	X
Ghana	2003					
Niger	2006	X	X	X	X	X
Cameroon	2004	X	X	X	X	X
Kenya	2003	X				
Kenya	2008	X		X	X	X
Tanzania	2005	X				X
Tanzania	2010	X				X
Uganda	2006					
Uganda	2011					X

*Sample of ever-married women age 15-49

In nearly all surveys, respondents were asked if FGC was required by their religion to obtain a measure of the importance of religion as an explanation for performing FGC. All DHS surveys with the FGC module (Ghana, Liberia, and Uganda did not use the module) asked if the respondents thought FGC should stop or be continued. The 2007 survey in Liberia asked about membership in a women's secret society (Sande) that conducts FGC as part of an initiation. The 2003 survey in Ghana and the 2006 survey in Uganda asked only two questions about FGC.

3.5 Questions Asked of Men about FGC

In most West African surveys, the FGC module also included a limited number of questions for men. Most commonly, men age 15 to 59 were interviewed with the DHS man's questionnaire in one-third of households selected for the sample.

The standard FGC questions asked of men in the West African surveys were:

- 1) Have you ever heard of female circumcision?
- 2) What are the benefits for a girl of being circumcised?
- 3) What are the benefits for a girl of not being circumcised?
- 4) Do you think that the practice of FGC helps girls conserve their virginity?
- 5) Do you think that the practice of FGC is required by your religion?
- 6) Should this practice of FGC continue or be stopped?

The only country in West Africa that used the FGC module for women but did not ask such questions of men as part of the DHS was Senegal in 2010. In East Africa, the three surveys in Kenya and the 2010 survey in Tanzania did not include FGC questions for men. In Northeast Africa the DHS surveys in Egypt and Ethiopia 2005 did not ask FGC questions of men. The 2003 Kenya DHS asked men if the practice of FGC was common in their community, and if their eldest daughter had been circumcised. Table 2 shows which surveys from 2003 through 2012 included FGC questions for male respondents.

Table 2. Check list of questions asked of male respondents about the practice of FGC in West and East African countries in which the FGC module for women was used

Country	Year	Heard of FGC	Benefits of being cut	Benefits of not being cut	Helps to keep virginity	Religion	+/- stop
Guinea	2005	X	X	X	X	X	X
Mali	2006	X	X	X	X	X	X
Burkina Faso	2003	X	X	X	X	X	X
Burkina Faso	2010	X				X	X
Senegal	2005	X	X	X	X	X	X
Sierra Leone	2008	X	X			X	X
Chad	2004	X	X	X	X	X	X
Cote d'Ivoire	2012	X				X	X
Nigeria	2003	X	X	X	X	X	X
Nigeria	2008	X	X			X	X
Benin	2006	X	X	X	X	X	X
Niger	2006	X	X	X	X	X	X
Cameroon	2004	X	X	X	X	X	X
Tanzania	2005	X					X

If men reported that they have not heard of FGC, the interviewer described the practice and then asked the question again. Men who said they had never heard of FGC were not asked any further questions about the practice. Men who had heard of FGC were then asked about the benefits for a girl being circumcised, and were then asked to list benefits for a girl if she was not circumcised. Part of the rationale for asking men about whether FGC was required by religion is the impression held by many that Islam does require that girls be circumcised, and some imams have spoken in favor of the practice while others have urged that it be abandoned. Finally, the question about the continuation of FGC serves as a measure of support for FGC among men.

3.6 Current FGC Module (2010 to Present)

Since DHS data on FGC prevalence has always reported on samples of women age 15 to 49, any changes in prevalence rates over time reflects changes that occurred at least 10 years ago or longer. That is, because FGC frequently takes place about the ages of five or six, the age cohort at age 15-19 was likely to have been at risk for FGC five to ten years earlier. Thus, prevalence data for women 15-49, in most cases, is not suitable for use in the evaluation of recent interventions that promote the abandonment of FGC. However, data on prevalence rates of girls 0-14 years of age may be useful for the evaluation of more recent interventions, particularly if the age at circumcision is very young. Therefore, UNICEF

wanted to begin asking respondents about the circumcision status of each living daughter less than 15 years of age. In late 2009 UNICEF contacted survey specialists at DHS to discuss ideas for a revised FGC module that would ask about the FGC status of all daughters.

After a series of meetings to discuss possible revisions, DHS agreed to coordinate FGC-module revisions with UNICEF. Consequently, the current FGC module is essentially the same as the module used in the UNICEF's MICS survey. The DHS module maintains the same questions on how circumcision occurred for the respondent and for her daughter(s). The module differs from the one used from 2001 through 2009 in several respects: a) no questions remain on the benefits or effects of the circumcision for daughters; b) the question on intention to circumcise a daughter has been dropped; c) the module asks each respondent who has at least one living daughter about the current circumcision status of each living daughter less than 15 years of age; d) fewer questions are asked on opinions about FGC. The DHS FGC module retains a question on whether the practice of FGC is required by their religion, a question that was never a part of the UNICEF module.

The revised FGC module formulated in 2010 also revised the FGC questions for men. The module now includes only three questions:

- 1) Have you ever heard of female circumcision?
- 2) Do you think that the practice of FGC is required by your religion?
- 3) Should this practice of FGC continue or be stopped?

The answers to these three questions provide researchers with evidence about the general knowledge of FGC, about the use of religion as rationale for doing FGC, and about whether men might be ready to support abandonment of the practice. The answers to questions related to judgments about the benefits of doing FGC or not doing it, as well as the question about the effect of FGC on virginity, have been dropped. This was done both to save space and time, and because the answers to those questions are difficult to interpret.

3.7 Current Tabulation Plan

A new tabulation plan for reporting data on FGC was also formulated (see Appendix C). The list of tables and figures that is recommended for production for each country report is found below.

Table FGC.1 Knowledge of female circumcision

Table FGC.2 Prevalence of female circumcision

Figure FGC.1 Percentage of women age 15-49 circumcised by ethnic group

Table FGC.3 Age at circumcision

Table FGC.4 Prevalence of circumcision and age at circumcision: Girls 0-14

Table FGC.5 Circumcision of girls age 0-14 by mother's background characteristics

Table FGC.6 Infibulation among circumcised girls age 0-14

Table FGC.7 Aspects of circumcision among circumcised girls age 0-14 and women age 15-49

Working Table for Figure FGC.2_Circumcision by age: Girls and Women

Figure FGC.2 Percentage of Women Age 15-49 and Girls Age 0-14 Circumcised by Age

Table FGC.8 Opinions of women and men about whether circumcision is required by religion

Table FGC.9 Opinions of women and men about whether the practice of circumcision should continue

One of the goals in formulating the tabulation plan for the revised FGC module was to develop a way to document changes in the prevalence of FGC over time. The new approach allows for a more valid within survey comparison of women's and daughters' experience of FGC. Further, by providing information on a population (girls age 0-14) that is more immediately at risk of circumcision, it allows for a way to better document recent changes in the spread of the practice. This line of questioning produces data that creates a distinction between *current* FGC status and *final* FGC status for these girls. Of course daughters age 15 and older are eligible for the general sample and thus their FGC status will be self-reported by the respondents. This approach is discussed further in chapter 4.

This chapter has provided an overview of the questions related to FGC that were asked in DHS surveys from 2003 through 2012 in African countries. The combination of tables and text reveals how certain questions have always been asked in surveys during this period, while other questions were asked in some surveys and not in others. Readers interested in a particular country can find which questions were asked in that country at which point in time by looking at the women's and the men's questionnaire in the final country report.

4 National FGC Prevalence Rates for Women Age 15-49

The national prevalence rates for female genital cutting in African countries and Yemen are derived from population-based surveys supported by the Demographic and Health Surveys (DHS) and by the Multiple Indicator Cluster Surveys (MICS) sponsored by UNICEF. As reported by an earlier Comparative Report (Yoder et al. 2004), the first survey that included questions about FGC was conducted in Northern Sudan in 1989-90. DHS data for FGC prevalence are now available for 23 countries. Data on FGC prevalence are available for two or three surveys for some countries.

Most countries that report FGC prevalence rates have used the DHS module as part of the survey. The decision to use the FGC module, as any module, is made by the country team that adapts survey questions to the needs of the country and selects the modules to use. Countries such as Ghana and Uganda, where the practice is highly localized and the national prevalence is low, chose to ask only two or three questions about FGC. Ghana did not ask any questions about FGC in the 2008 DHS survey.

4.1 National FGC Prevalence: Most Recent DHS Surveys

Table 3 shows the FGC prevalence for the most recent DHS survey by country. Countries are grouped by geographic region to facilitate comparisons and highlight regional patterns. For example, the countries of the northeastern part of Africa all have relatively high prevalence rates (74-91%). The countries of the northern portion of West Africa, with the exception of Senegal, also display high FGC rates (71-96%).

Table 3. National prevalence of FGC data by region and country for most recent DHS survey

Country	Year	Prevalence	Number of women
North East Africa			
Egypt	2008	91.1	5,540
Eritrea	2002	88.7	8,754
Sudan*	1989-90	89.2	5,860
Ethiopia	2005	74.3	14,070
West Africa, northern			
Guinea	2005	95.6	7,954
Mali	2006	85.2	14,583
Burkina Faso	2010	75.8	17,087
Mauritania	2000-01	71.3	7,728
Senegal	2010-11	25.7	15,688
West Africa, southern			
Sierra Leone	2008	91.3	7,374
Liberia**	2007	58.2	7,092
Chad	2004	44.9	6,085
Central African Republic	1994-95	43.4	5,884
Cote d'Ivoire	2012	38.2	10,060
Nigeria	2008	29.6	33,385
Benin	2006	12.9	17,749

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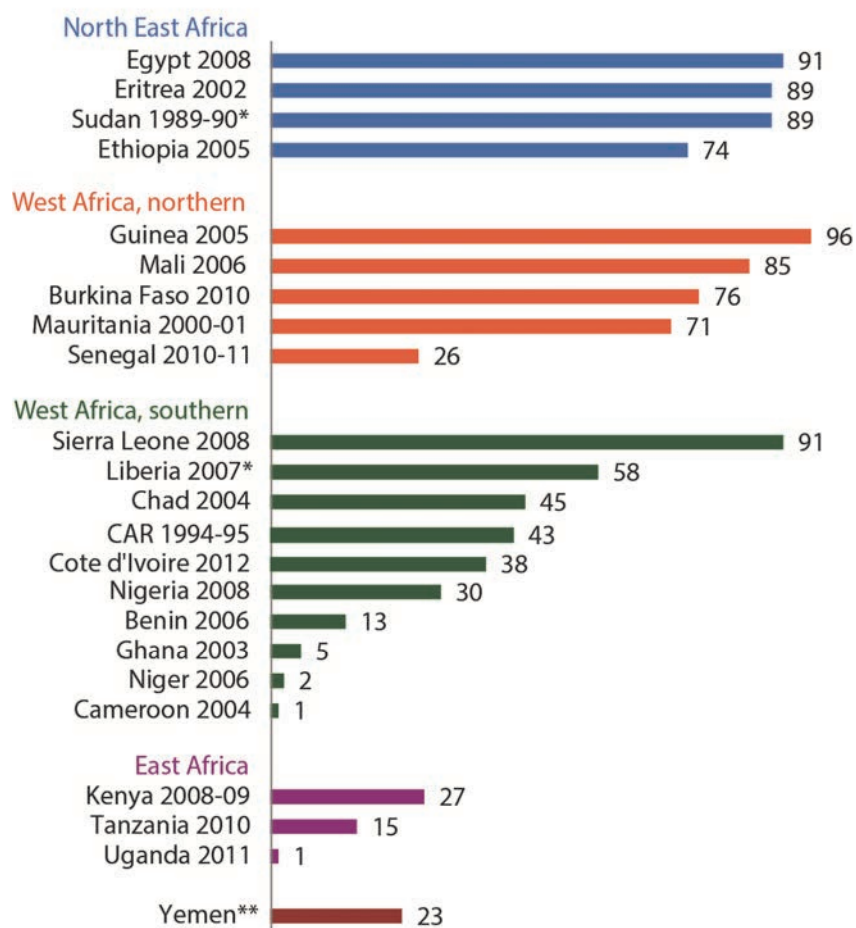
Table 2. – Continued

Country	Year	Prevalence	Number of women
Ghana	2003	5.4	5,691
Niger	2006	2.2	9,223
Cameroon	2004	1.4	5,391
East Africa			
Kenya	2008-09	27.1	8,444
Tanzania	2010	14.6	10,139
Uganda	2011	1.4	8,674
Yemen*	1997	22.6	10,414

*Sample consisted of ever-married women

** Women were asked if they had been initiated into a secret society.

Figure 1: National FGC prevalence
Percent of women circumcised, most recent DHS survey



*Sample consisted of ever-married women

** Women were asked if they had been initiated into a secret society.

In a small number of countries in Africa, the FGC prevalence rates are provided by a MICS survey only. The countries with only MICS data available are Djibouti, Somalia, the Gambia, Guinea Bissau, and Togo. In a few others, data on FGC prevalence are available from both DHS and MICS surveys or a combined DHS/MICS survey. Table A in the Appendix shows FGC prevalence rates from the most recent survey available whether from DHS or MICS. Thus as of July 2013, these are the current FGC prevalence rates for these countries.

The countries listed in northeastern Africa such as Egypt, Ethiopia, and Sudan have relatively large populations and very high FGC prevalence rates. Those three countries alone account for more than 50% of all women circumcised on the African continent, with Egypt at 23.5 million, Ethiopia at 15.7 million, and Sudan at 8 million according to the most recent surveys in those countries

4.2 National FGC Prevalence: All DHS Surveys

Table 4 shows national prevalence rates for all of the DHS surveys for which data are available conducted between 1990 and 2012. Four surveys with FGC data have been conducted in Egypt, and six countries have had three such surveys: Mali, Burkina Faso, Cote d'Ivoire, Nigeria, Kenya, and Tanzania. In countries with more than two surveys with datasets available, one can see evidence of decreases in the national prevalence that occurred from 10 to 40 years earlier. The case of Nigeria is the exception to the rule. However, the increase in FGC prevalence in Nigeria from 2003 to 2008 stems partly from the use of a new definition for what constitutes FGC as well as differences in the data available for selecting the sample. Interviewers in the northeast included local forms of cutting and scraping of the vaginal walls in their definition of what constitutes FGC. The data bases for constituting the samples for the DHS of 2003 and 2008 were somewhat different, so that the distribution of the samples by region was dissimilar.

In most countries, however, the decline in FGC prevalence at a national level as measured in DHS surveys over 10 to 15 years was small. In Egypt FGC prevalence declined from 97% in 1995 to 91% in 2008; in Mali the decline was from 94% in 1995 to 85% in 2006; in Cote d'Ivoire it declined from 43% in 1994 to 38% in 2012; and in Burkina Faso the prevalence did not change between 1998 and 2010. Those changes in prevalence reflect a decrease in prevalence that occurred from about 10-40 years before each survey if we assume that circumcision is typically done at ages less than age 10. That is, a 35 year old woman interviewed in the 2010 Burkina Faso was likely circumcised around 1980. Interviewing adult women about their experience with FGC therefore captures patterns and changes that were actually in effect years earlier.

The FGC prevalence decreased quite remarkably in Kenya between 1998 and 2008: from 37.6% to 27.1%, a decrease of 28% in 10 years. In fact, FGC prevalence in 1998 was presumably slightly higher than the 37.6% found by the DHS survey because the 1998 DHS survey did not include the three districts of Northeastern province bordering Somalia and the districts of Turkana, Marsabit, Isiola and Samburu in Eastern province. Although all of these districts are sparsely populated, Northeastern province is populated mainly by Kenyans of Somali origin, and prevalence in that population is around 98%. The population of the seven districts omitted in 1998 makes up about 8% of the total population of Kenya.

Table 4. National FGC prevalence for all DHS surveys with FGC data by region and country

Country	Year	Prevalence	Number of women
North East Africa			
Egypt*	1995	97.0	14,779
Egypt*	2000	97.3	15,573
Egypt*	2005	95.8	19,474
Egypt	2008	91.1	5,540
Eritrea	1995	94.5	5,054
Eritrea	2002	88.7	8,754
Sudan*	1989-90	89.2	5,860
Ethiopia	2000	79.9	15,367
Ethiopia	2005	74.3	14,070
West Africa, northern			
Guinea	1999	98.6	6,753
Guinea	2005	95.6	7,954
Mali	1995-96	93.7	9,704
Mali	2001	91.6	12,849
Mali	2006	85.2	14,583
Burkina Faso	1998-99	71.6	6,445
Burkina Faso	2003	76.6	12,477
Burkina Faso	2010	75.8	17,087
Mauritania	2000-01	71.3	7,728
Senegal	2005	28.2	14,602
Senegal	2010-11	25.7	15,688
West Africa, southern			
Sierra Leone	2008	91.3	7,374
Liberia**	2007	58.2	7,092
Chad	2004	44.9	6,085
Cote d'Ivoire	1994	42.7	8,099
Cote d'Ivoire	1998-99	44.5	3,040
Cote d'Ivoire	2012	38.2	10,060
Central African Republic	1994-95	43.4	5,884
Nigeria	1999	25.1	8,206
Nigeria	2003	19.0	7,620
Nigeria	2008	29.6	33,385
Benin	2001	16.8	6,219
Benin	2006	12.9	17,749
Ghana	2003	5.4	5,691
Niger	1998	4.5	7,577
Niger	2006	2.2	9,223
Cameroon	2004	1.4	5,391
East Africa			
Kenya	1998	37.6	7,881

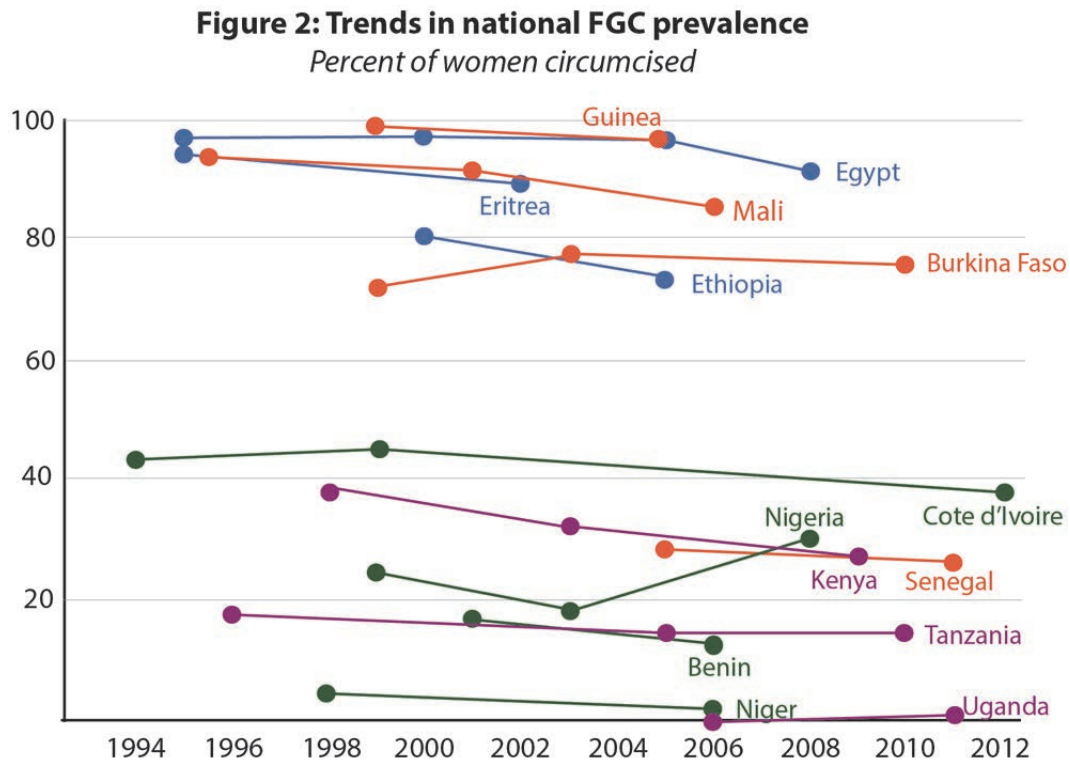
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Table 4. – Continued

Country	Year	Prevalence	Number of women
Kenya	2003	32.2	8,195
Kenya	2008-09	27.1	8,444
Tanzania	1996	17.9	8,120
Tanzania	2004-05	14.6	10,329
Tanzania	2010	14.6	10,139
Uganda	2006	0.6	8,531
Uganda	2011	1.4	8,674
		0.0	
Yemen*	1997	22.6	10,414

*Sample consisted of ever-married women

** Women were asked if they had been initiated into a secret society.



4.3 FGC Prevalence Trends: Contrasts by Age Cohort

A second source of evidence of possible changes over time comes from examining FGC prevalence rates by age cohort. Table 5 shows the FGC prevalence rates by five year age cohort for the most recent DHS survey in each country. Differences in prevalence between cohorts reflect changes in the rate of FGC in five year intervals over the 10-40 years preceding the survey in countries where the typical age at circumcision is some time before 10 years. For example, the 45-49 year old cohort in the survey

was 5-9 years old 40 years earlier, an age when FGC is conducted in some countries and has already been done in others. Ten years earlier the current 15-19 year old cohort was age 5-9 also.

In a few countries where FGC is practiced on girls more than 10 years of age, the relevant time period for change would be from 5 to 35 years earlier.

Table 5. National FGC prevalence data by age cohort for most recent DHS survey by country

Country	Year	Age of women							Total	
		15-19	20-24	25-29	30-34	35-39	40-44	45-49		
North East Africa										
Egypt	2008	80.7	87.4	94.3	95.2	96.4	96.2	96.0	91.1	5,540
Eritrea	2002	78.4	87.9	90.9	93.4	92.7	94.1	95.2	88.7	8,754
Sudan*	1989-90	86.8	89.7	88.6	89.7	89.0	89.0	90.9	89.2	5,860
Ethiopia	2005	62.1	73.0	77.6	78.0	81.2	81.6	80.8	74.3	14,070
West Africa, northern										
Guinea	2005	89.3	94.6	96.6	97.4	98.6	98.1	99.5	95.6	7,954
Mali	2006	84.7	84.5	86.7	84.2	84.9	86.2	85.8	85.2	14,583
Burkina Faso	2010	57.7	69.8	77.5	82.8	85.2	88.2	89.3	75.8	17,087
Mauritania	2000-01	65.9	71.1	73.4	74.2	71.7	76.5	68.6	71.3	7,728
Senegal	2010-11	24.0	24.3	26.1	24.9	29.0	26.9	28.5	25.7	15,688
West Africa, southern										
Sierra Leone	2008	75.5	89.4	95.2	94.9	96.4	96.1	95.9	91.3	7,374
Liberia**	2007	35.9	51.1	61.3	63.4	66.7	71.2	79.0	58.3	7,092
Chad	2004	43.4	45.8	45.2	43.5	46.2	46.1	45.9	44.9	6,085
Cote d'Ivoire	1998-99	41.2	42.7	42.4	49.0	44.5	51.4	51.0	44.5	3,040
Cote d'Ivoire	2012	31.3	35.1	36.8	40.3	45.4	44.6	46.9	38.2	10,060
Central African Republic	1994-95	34.6	42.7	44.3	44.1	47.5	51.4	53.1	43.4	5,884
Nigeria	2008	21.7	26.4	28.9	32.8	33.9	36.4	38.1	29.6	33,385
Benin	2006	7.9	9.9	13.6	14.3	16.3	17.0	15.8	12.9	17,749
Ghana	2003	3.3	3.8	6.4	6.3	6.7	5.5	7.9	5.4	5,691
Niger	2006	1.9	1.6	2.4	2.1	2.9	2.9	2.8	2.2	9,223
Cameroon	2004	0.4	2.5	1.6	1.1	1.2	1.8	2.4	1.4	5,391
East Africa										
Kenya	2008-09	14.6	21.1	25.3	30.0	35.1	39.8	48.8	27.1	8,444
Tanzania	2010	7.1	11.0	11.7	19.1	21.6	22.2	21.5	14.6	10,139
Uganda	2011	1.0	0.8	1.9	2.1	1.3	1.7	1.9	1.4	8,674
Yemen*	1997	19.3	22.2	21.3	22.9	23.6	25.1	25.0	22.6	10,414

*Sample consisted of ever-married women

** Women were asked if they had been initiated into a secret society.

One can detect three patterns of trends over time in the data from the countries in the table: 1) there was little or no change over time from 10-40 years before the survey in some countries, as seen in Sudan, Chad, and Uganda. Uganda is a special case given the extremely low national prevalence and that the practice is limited to two small areas in the east of the country; 2) there is a slight decline in a few countries in the prevalence of FGC from the oldest cohort to the youngest cohort, with the decline being greater among the younger cohorts. Eritrea, Ethiopia, Burkina Faso, Benin, and Senegal fit this model; and 3) a few countries show a small but steady, nearly linear, decline in prevalence by age cohort, as seen in Egypt, Mauritania, Cote d'Ivoire, Nigeria, and Kenya. In Senegal the age cohort data show that the prevalence changed very little between about 1970 and 2000, but that there was a slight decrease in the 1990s.

How do we explain a significant drop in prevalence in the youngest one or two cohorts as was found in Ethiopia or Benin? Three explanations are possible: 1) it may be that a secular trend began about 20 years earlier and has led to this decrease in FGC prevalence; 2) it could be the result of anti-FGC interventions beginning about 20 years ago; or 3) it may be the result of younger women being afraid of admitting they had been circumcised because of the publicity around a law passed to criminalize FGC. Further analysis of DHS data in a specific country, combined with an examination of the context of anti-FGC programs and media campaigns to publicize laws against the practice, is needed to determine which of these explanations is most relevant.

4.4 Changes in FGC Prevalence by Age Cohort from DHS Surveys at Different Points in Time

For most countries where DHS surveys have included the FGC module, FGC data have been collected in more than one survey in the country. In Egypt, four DHS surveys have included data on the FGC status of respondents. In six countries, FGC data were collected in three DHS surveys each: Mali, Burkina Faso, Cote d'Ivoire, Nigeria, Kenya, and Tanzania. In countries with data from more than two time points, there is evidence of decreases in the national prevalence.

Table 6 shows the national prevalence disaggregated by age cohort for all DHS surveys with FGC data from two or more points in time. As seen earlier, Table 5 showed the same data for the most recent DHS surveys only. This table allows us to verify if the trend over time from older to younger cohorts seen in the most recent survey was also evident in earlier surveys. The table can be read vertically as well as horizontally.

Table 6. National FGC prevalence data disaggregated by age cohorts for countries with more than one DHS survey with FGC data over time

Country	Year	Age of women							Total	
		15-19	20-24	25-29	30-34	35-39	40-44	45-49		
North East Africa										
Egypt*	1995	98.1	98.3	97.0	95.8	96.7	97.2	96.8	97.0	14,779
Egypt*	2000	99.1	97.4	97.2	96.7	97.4	96.9	97.9	97.3	15,573
Egypt*	2005	96.6	95.9	95.1	95.9	95.9	96.0	96.3	95.8	19,474
Egypt	2008	80.7	87.4	94.3	95.2	96.4	96.2	96.0	91.1	5,540
Eritrea	1995	90.4	94.4	94.9	95.6	97.0	95.9	97.1	94.5	5,054
Eritrea	2002	78.4	87.9	90.9	93.4	92.7	94.1	95.2	88.7	8,754
Ethiopia	2000	70.7	78.3	81.4	86.1	83.6	85.8	86.8	79.9	15,367

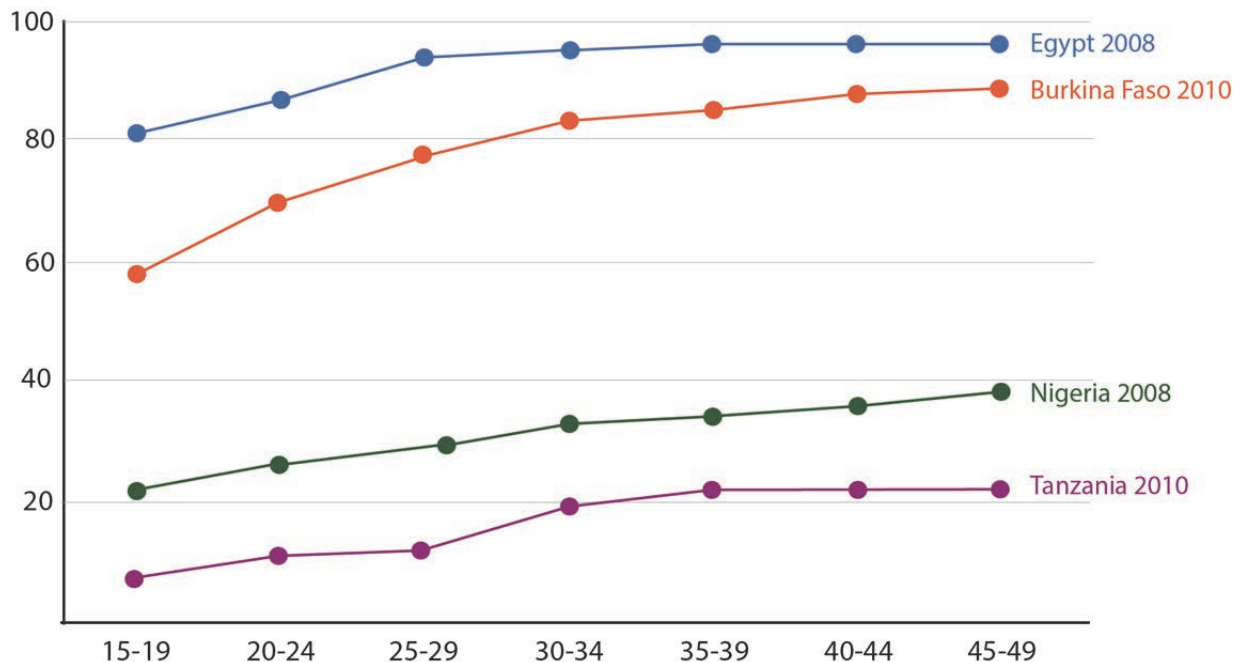
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Table 6. – Continued

Country	Year	Age of women							Total	
		15-19	20-24	25-29	30-34	35-39	40-44	45-49		
Ethiopia	2005	62.1	73.0	77.6	78.0	81.2	81.6	80.8	74.3	14,070
West Africa, northern										
Guinea	1999	96.6	98.5	99.1	99.1	99.1	99.3	99.5	98.6	6,753
Guinea	2005	89.3	94.6	96.6	97.4	98.6	98.1	99.5	95.6	7,954
Mali	1995-96	92.5	94.2	93.9	94.8	93.9	94.2	92.4	93.7	9,704
Mali	2001	91.2	91.3	91.9	92.1	92.3	91.2	91.0	91.6	12,849
Mali	2006	84.7	84.5	86.7	84.2	84.9	86.2	85.8	85.2	14,583
Burkina Faso	1998-99	64.2	70.7	75.0	73.7	74.1	76.7	74.1	71.6	6,445
Burkina Faso	2003	65.0	76.2	79.2	79.4	81.6	83.1	83.6	76.6	12,477
Burkina Faso	2010	57.7	69.8	77.5	82.8	85.2	88.2	89.3	75.8	17,087
Senegal	2005	24.8	28.0	28.4	30.1	30.5	30.3	30.6	28.2	14,602
Senegal	2010-11	24.0	24.3	26.1	24.9	29.0	26.9	28.5	25.7	15,688
West Africa, southern										
Cote d'Ivoire	1994	35.3	42.2	47.7	47.1	43.7	44.8	44.3	42.7	8,099
Cote d'Ivoire	1998-99	41.2	42.7	42.4	49.0	44.5	51.4	51.0	44.5	3,040
Cote d'Ivoire	2012	31.3	35.1	36.8	40.3	45.4	44.6	46.9	38.2	10,060
Nigeria	1999	8.8	19.6	26.4	31.3	31.0	37.9	48.3	25.1	8,206
Nigeria	2003	12.9	17.0	20.8	19.4	22.2	22.2	28.4	19.0	7,620
Nigeria	2008	21.7	26.4	28.9	32.8	33.9	36.4	38.1	29.6	33,385
Benin	2001	12.1	13.4	16.9	18.4	18.3	25.1	23.7	16.8	6,219
Benin	2006	7.9	9.9	13.6	14.3	16.3	17.0	15.8	12.9	17,749
Niger	1998	5.0	4.8	4.3	5.3	3.8	3.3	3.3	4.5	7,577
Niger	2006	1.9	1.6	2.4	2.1	2.9	2.9	2.8	2.2	9,223
East Africa										
Kenya	1998	26.0	32.2	40.4	40.9	49.3	47.4	47.5	37.6	7,881
Kenya	2003	20.3	24.8	33.0	38.1	39.7	47.5	47.7	32.2	8,195
Kenya	2008-09	14.6	21.1	25.3	30.0	35.1	39.8	48.8	27.1	8,444
Tanzania	1996	15.7	17.7	20.9	19.9	18.3	19.3	20.1	18.5	8,120
Tanzania	2004-05	9.1	13.7	15.2	16.0	16.0	18.8	22.9	14.6	10,329
Tanzania	2010	7.1	11.0	11.7	19.1	21.6	22.2	21.5	14.6	10,139
Uganda	2006	0.5	0.8	0.3	0.8	0.8	1.0	0.4	0.6	8,531
Uganda	2011	1.0	0.8	1.9	2.1	1.3	1.7	1.9	1.4	8,674

*Sample consisted of ever-married women

Figure 3: FGC prevalence by age cohort
Percent of women circumcised, selected DHS countries



A horizontal reading shows if any changes occurred in FGC prevalence from 10-40 years ago. For Egypt, no changes are seen in the survey data from 1995, 2000, or 2005. The data from 2008, however, show that prevalence among younger women dropped in the 2008 survey, indicating that FGC prevalence decreased in the late 1980s and early 1990s. The downward trend in prevalence is more pronounced in the 2002 survey in Eritrea than the 1995 survey. The two surveys in Ethiopia show the same pattern as that of Eritrea. In Guinea and Mali, the data show a drop in prevalence among the 15-19 year olds in the more recent survey. In the Burkina Faso 2010 DHS, however, the progression from prevalence among the oldest to the youngest cohorts is large and linear: from 89% to 58%. Overall, the largest decline in prevalence among age cohorts is found in the 2008-09 Kenya survey.

A more significant use of this table is to examine it for evidence of under-reporting of FGC over time. Most surveys are conducted at five year intervals. Therefore it is possible to compare the prevalence in equivalent age cohorts over time. The prevalence of the cohort age 15-19 in 2000 in Ethiopia, for example, should be about the same as the prevalence of the cohort age 20-24 in 2005. In Ethiopia, in 2000, the 15-19 cohort has a prevalence of 71%, and the 20-24 cohort five years later (in the 2005 Ethiopia DHS) has a prevalence of 73%. Comparisons of the other age cohorts show no or similar differences. This degree of variation is normal and expected as the data come from two different samples.

However, variation in the reporting of FGC by the same age cohort as it moves through time do not follow the expected pattern as seen in Ethiopia in some of the other countries. The data from Mali for example, show a somewhat different pattern. The prevalence for each age cohort in 2001 is 1-3 percentage points below the equivalent age cohort in 1996, five years earlier: the age cohort 15-19 in 1996 had a prevalence of 92.5%; but in 2001 it had a prevalence of 91.3%; similarly, the 20-24 age cohort in 1996 had a prevalence of 94.2% but 91.9% in 2001. A difference of 1-3 percentage points is within acceptable statistical variation, but the prevalence for every cohort that can be compared is consistently

lower in 2001 than in 1996. The same pattern is visible in the comparison of the 2001 and the 2006 data, but, importantly, the differences are even greater. The 15-19 age cohort had a prevalence of 91.2% in 2001, so we would expect about the same prevalence for the 20-24 age cohort five years later in 2006. However, the prevalence for the 20-24 age group in 2006 is 84.9% almost seven percentage points lower. Similarly, in each comparison between 2001 and 2006, the prevalence for 2006 is from about four to about eight percentage points less than what had been reported for the same age cohort five years earlier.

A systematic significant decrease in the prevalence of FGC in the same age cohort when it is five years older does suggest under-reporting of FGC by the cohort as it ages. That appears to be the case in Mali, suggesting that the FGC prevalence may not have declined as much as the numbers would suggest. A similar pattern is also observed in Benin and Niger. Whether this pattern of under-reporting is provoked by fear of a law passed against practicing FGC, or in response to a campaign to abandon FGC, or some similar media event, is not evident from the data. To further our understanding of how such results appear, there is a need to examine the media discussion of FGC and/or laws concerning FGC in the months preceding the second or third survey in each country.

4.5 Changes in FGC Prevalence by Generation

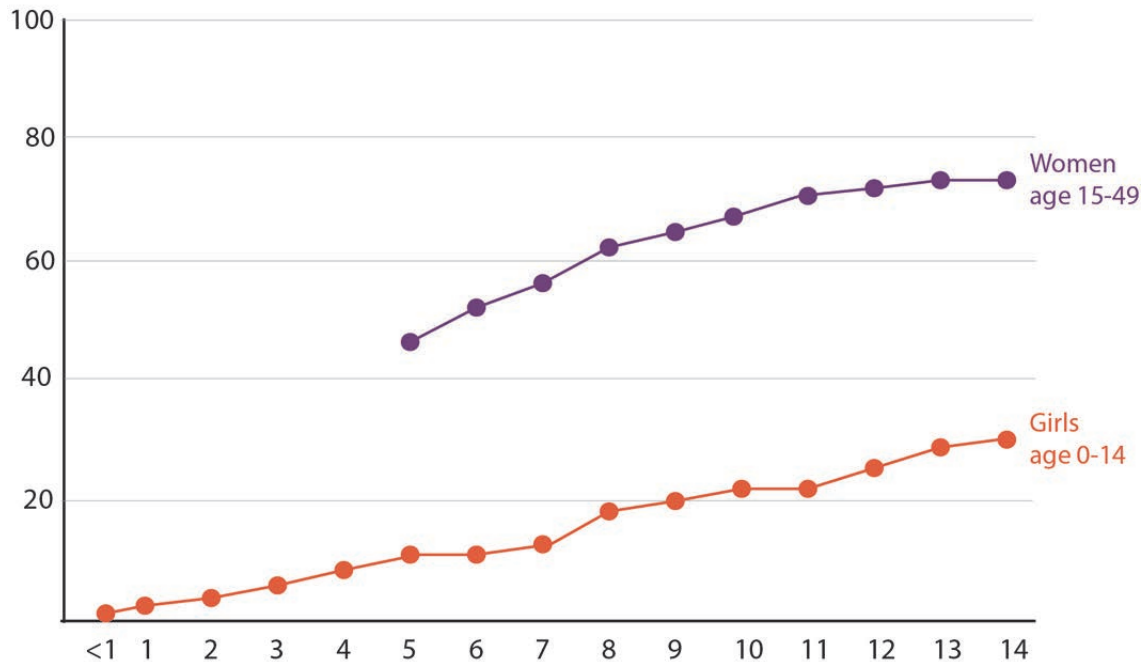
As discussed in chapter 3, the tabulation plan for the DHS surveys has changed in part to allow a way to document changes in the prevalence of FGC over time by comparing the FGC experiences of mothers and daughters. However, comparing the FGC information for women age 15-49 and daughters age 0-14 is not as easy as it might seem. Girls, especially very young girls, who are not circumcised at the time of the survey, may still be circumcised in the future. A simple percentage of all girls age 0-14 who have been circumcised at the time of the survey will understate the magnitude of the practice for this age group as a whole. On the other hand, women age 15-49 who are not circumcised at the time of the survey, in all likelihood, will not undergo circumcision in their lifetime. This creates a situation of comparing apples to oranges when looking at girls' circumcision status relative to that of women age 15-49. If such a comparison was to be made, reductions in the prevalence of FGC would appear larger than they actually were.

A more valid approach, though not perfect, is to compare the proportion of girls currently age X who are circumcised, with the proportion of women who said they were circumcised by exact age X. This comparison is not perfect because daughters' prevalence at each age is a *current* status measure based on their mothers' reports, whereas, the information for women is retrospective, based on their recall of their own age at circumcision, and reflects their *final* status. Nonetheless, this approach eliminates the bias created by the difference in the length of time for which daughters and women have been exposed to the risk of circumcision.

Accordingly, to make this comparison, DHS designed a graph that shows the percentage of girls and women age 15-49 circumcised by single years of age (see Figure 4 which provides an example from Burkina Faso). More specifically, the percentage of girls circumcised by age 5 is calculated as the percentage of daughters circumcised among all daughters who are age five years at the time of the survey. Similarly, the percentage of girls circumcised by age six is calculated as the percentage of daughters circumcised among all daughters who are age 6 at the time of the survey, and so on. For women, the percentage circumcised at each age 6, 7 ...14 is the percentage of all women age 15-49 who report being circumcised by that exact age. However, no year-by-year comparisons are made for women and daughters for ages below 5 years. This is because when asked about their age at circumcision, many women say that they were circumcised during infancy. Such a response is not surprising, since women who were circumcised during infancy are unlikely to remember the event or to know their exact ages at circumcision. In countries where circumcision commonly takes place soon after birth, this category of women can be quite large. Consequently, without more specific information, it is assumed that women

who respond that they were circumcised during infancy were circumcised before the age of 5 years and are grouped with women who do give specific ages of less than five years. Thus, in the figure, the plotted line for women begins at 5 years.

Figure 4: Women and girls circumcised by age: Burkina Faso
Percent of women age 15-49 and girls 0-14



One of the most useful pieces of information on the graph is the percentage of 14-year-old daughters who are circumcised compared with the percentage of women age 15-49 who were circumcised by age 14. Since few women are likely to be circumcised after age 14 in most countries, the percentage of daughters age 14 who are circumcised and women circumcised by age 14 allows a comparison of proportions of two different age cohorts who are likely to undergo FGC in their lifetimes. This information provides the overall magnitude of the practice and how it has or has not changed over the course of the generation. Notably, however, where circumcision takes place soon after birth, information on the circumcision status of daughters who are currently 14 years old is not a good indicator of recent changes in FGC practices given that these girls were likely to have experienced the greatest risk for circumcision many years earlier. In these countries, comparing the mother and daughter data for age 5 will give a better indication of the impact of recent interventions to reduce FGC, but it will not reflect the overall magnitude of the practice in countries in which circumcision is practiced after age 5.

4.6 FGC Prevalence Disaggregated by Demographic Variables and Aspects of the Practice

DHS surveys that use the FGC module include a separate chapter on FGC in the country final report. Until 2010, the percentage of women and men who had heard of FGC, as well as the FGC status of women, was presented in a table disaggregated by age cohort, region, urban/rural residence, education, religion, wealth quintile of the household, and for many countries, by ethnicity. FGC prevalence continues to be reported by religion because of the need for information on religion to monitor the success of interventions seeking to persuade religious leaders to promote abandonment of the practice.

Since about 2010, the FGC prevalence is no longer being reported by education of the respondent or by the wealth quintile of the household. This change in reporting was made because it is unclear how a woman's FGC status could vary by her educational attainment or current wealth status, since the FGC event would precede the start or even completion of education and the wealth status is a current measure of wealth not at the time of circumcision. Some countries do report the FGC status of daughters by the education of the mother, and find that mothers with higher levels of education are less likely to have their own daughters cut than mothers with less education.

The presentation of FGC prevalence by urban/rural residence and by region shows evidence of the distribution of FGC within a country. In countries with a national prevalence of less than 80 percent, marked differences by region are often found. For example, the 2008-09 DHS in Kenya found an FGC prevalence of 0.8% in Western Province dominated by Luo, and an FGC prevalence of 98% in North eastern province dominated by Somalis. Regional differences in prevalence are often a reflection of ethnic composition of the population, as will be seen below. For more information on regional distribution of FGC prevalence, the maps in chapter 4 of the recent UNICEF publication show the FGC distribution in five countries (UNICEF 2013).

4.7 FGC Prevalence and Ethnicity

In many countries, ethnicity underlies FGC distribution by urban/rural residence and by region, since ethnic groups are unevenly distributed within and between regions, and FGC status varies with ethnicity in so many countries. In the majority of countries, FGC prevalence is higher in rural than in urban areas (ex. Senegal, Burkina Faso, Ethiopia, Kenya, Tanzania). Experts hypothesize that families in urban areas may be less likely to follow the requests of older relatives who would normally direct the circumcision rituals, but no study has been conducted to test this hypothesis. Nigeria, however, is an exception to this rule. In the 2003 DHS survey in Nigeria, the FGC prevalence was 28% in urban areas and 14% in rural areas nationally. However, most of this difference stems from the fact that the Hausa, who dominate the rural north of the country, do not practice FGC (prevalence was 0.4%), while prevalence among the Yoruba was 61% and 45% among the Igbo. Both the Yoruba and Igbo peoples are highly urbanized in the southern part of the country.

DHS reports clearly show that FGC prevalence varies greatly by ethnicity except in countries with very high national prevalence. The Women's core questionnaire for DHS surveys usually asks about the ethnicity of the respondent, though there are exceptions. For the countries of North East Africa, FGC prevalence by ethnicity is available only for Ethiopia. For all countries of West Africa, and for Kenya, information on ethnicity is available in the dataset even if the country report does not show FGC prevalence by ethnicity. That is, some of these countries report on FGC prevalence by ethnicity while others do not. The DHS surveys in Tanzania did not ask about ethnic identity. After the 2000 DHS in Mauritania, the government requested that no data be reported by ethnicity, including FGC prevalence. The DHS surveys in Uganda asked about affiliation to five broad ethnic groups. In Uganda, however,

only two small ethnic groups not included in the broad ethnic categories included as answer codes in the questionnaire practice FGC: the Sabiny of Eastern region and the Pokot in Karamoja region.

Countries with a national prevalence of more than 80% have relatively small differences by ethnic group. Examples of such countries include Guinea, Mali, and Sierra Leone. In countries with lower overall prevalence, the range of FGC prevalence by ethnicity is far wider. Senegal showed a national prevalence of 26% in the 2010 survey, but a range of between 0.9% (Wolof) to 82% (Mandinka) by ethnicity. It should be noted that in many countries in West Africa such as Chad, Cote d'Ivoire, Central African Republic, Niger, Nigeria, and Benin, one finds ethnic groups with an FGC prevalence of 1% or 2% and others with 65% to 80% prevalence. The 2008 DHS survey in Kenya showed a national prevalence of 27% but a range of FGC prevalence from 0.1% and 0.2% for Luo and Luhya, to 96% among the Kisii and 98% among the Somali. Thus in Kenya, some groups do not practice FGC at all, while among others, the practice is nearly universal.

Table 7 shows the FGC prevalence for each ethnic group in detail in most of the countries. However, it is critical to remember that the names of ethnic groups in different countries are not equally specific. That is, some names refer to a category of related ethnic groups (Akan, Mande, Yoruba), while other names refer to a specific ethnic group (Wolof, Kikuyu, Bobo). In Côte d'Ivoire, for example, the five ethnic groups listed in the tables of the country report are ethnic groupings, not ethnic groups per se. In Cameroun, Chad, Côte d'Ivoire, and Nigeria, no answer codes for ethnicity were provided for coding on the questionnaire. Interviewers wrote the answers in the space provided in the questionnaire, and from 50 to 100 different names were recorded in each country. During data processing, these names were grouped into six to ten categories as shown in the table.

Table 7. National FGC prevalence data by ethnicity for all countries with information on ethnicity in the DHS

Country	Year	Ethnicity	Prevalence	Number of women cut CCut
Guinea	2005	Sussu	99.0	1,602
		Fulani	98.9	2,834
		Mandinka	97.1	2,080
		Kissi	97.5	412
		Toma	90.1	350
		Guerze	68.4	587
		Other/Foreigner	NA	23
Mali	2006	Bambara	97.7	4,239
		Mandinka	98.0	1,183
		Fulani	94.3	2,122
		Sarakole/Soninke/Marka	96.9	1,838
		Songhay	28.4	1,313
		Dogon	76.0	851
		Tamachek/Tuareg	32.0	602
		Sénoufo/Minianka	92.9	1,295
		Bobo	80.6	861
		ECOWAS countries	87.1	255

(Continued...)

Table 7. – Continued

Country	Year	Ethnicity	Prevalence	Number of women cut C/Cut
Burkina Faso	2010	Bobo	68.4	814
		Dioula (Jola)	72.8	142
		Fulani	83.9	1,433
		Gourmantche	64.3	1,169
		Gourounsi	60.3	773
		Lobi	83.2	423
		Mossi	78.4	8,964
		Senoufo	87.2	751
		Tuareg/Bella	22.2	317
		Dagara	69.3	412
		Bissa	83.1	670
		Other nationalities	35.7	83
		Other ethnic groups	78.4	1,107
		Senegal	2010	Wolof
Fulani	54.5			4,164
Serer	2.2			2,353
Mandinka	81.9			652
Diola (Jola)	51.5			634
Soninké	64.9			362
Other/non-Senegalese	37.7			1,458
Chad	2004			Gorane
		Arab	95.2	769
		Ouadai	90.9	627
		Baguirmien	67.8	83
		Kanem-bornou	4.9	712
		Fitri-batha	85.6	243
		Hadjarai	93.9	452
		Lac Iro	48.8	134
		Sara	38.4	1,418
		Tandjile	1.7	402
		Fulani	12.0	67
		Mayo Kebbi	0.1	606
		Other/Foreigners	27.2	287
Cote d'Ivoire	1998-99	Akan	2.0	907
		Krou	13.4	335
		Northern Mande	74.6	366
		Southern Mande	69.6	313

(Continued...)

Table 7. – Continued

Country	Year	Ethnicity	Prevalence	Number of women cut C/Cut
		Gur	66.5	442
		Others	74.7	676
Cote d'Ivoire	2012	Akan	2.4	78
		Krou	19.0	188
		Northern Mande	66.8	830
		Southern Mande	51.0	463
		Gur/Voltaic	64.1	965
		Others	60.6	1,290
		Unknown	50.7	27
Central African Republic	1994-95	Hausa	42.0	283
		Sara	35.8	342
		Mboum	3.1	405
		Gbaya	31.7	1,743
		Mandjia	71.0	581
		Banda	83.9	1,468
		Ngbaka-Bantou	5.6	453
		Yakoma-Sango	3.0	319
		Zandé-Nzakara	3.9	165
		Other	51.0	124
		Undetermined	0.0	1
Nigeria	2003	Fulani	0.6	463
		Hausa	0.4	2,055
		Igbo	45.1	1,037
		Kanuri	0.5	232
		Tiv	0.9	170
		Yoruba	60.7	865
		Other	15.7	2,797
Benin	2006	Adja	0.2	3,050
		Bariba	74.4	1,348
		Dendi	15.6	482
		Fon	0.2	7,714
		Yoa and Lokpa	53.2	578
		Bétamaribe	3.8	1,015
		Fulani	72.0	747
		Yoruba	10.0	1,959
		Other nationalities	11.9	656
		Other	23.8	79

(Continued...)

Table 7. – Continued

Country	Year	Ethnicity	Prevalence	Number of women cut C/Cut
		Missing	11.0	164
Niger	2006	Arab	3.4	38
		Djerma/Songhay	2.7	1,954
		Gourmantche	65.8	70
		Hausa	0.2	4,894
		Kanuri	0.5	540
		Fulani	12.8	602
		Tuareg	0.4	1,012
		Toubou	1.4	34
		Other	15.4	80
Cameroon	2004	Arab		
		Choa/Peulh/Maoussa/Kanuri	12.7	433
		Biu-Mandara	0.5	591
		Adamaoua-Oubangui	0.0	589
		Bantoïde	1.4	163
		Grassfields	0.0	589
		Bamilike/Bamoun	0.2	1,328
		Coast/Ngoe/Oroko	0.0	234
		Beti/Bassa/Mbam	0.2	1,105
		Kako/Meka/Pygmé	0.0	146
		Foreigners	5.7	207
Kenya	2008-09	Kalenjin	40.4	1,115
		Kamba	22.9	923
		Kikuyu	21.4	1,642
		Kisii	96.1	579
		Luhya	0.2	1,373
		Luo	0.1	1,098
		Maasai	73.2	113
		Embu	51.4	120
		Meru	39.7	415
		Mijikenda/Swahili	4.4	430
		Somali	97.6	240
		Taita/Taveta	32.2	79
		Other	38.9	315

Some names of ethnic groups occur in several different countries, but we should not assume that they share the same social practices. Ethnic groups that were once part of a larger social or political entity may develop a separate identity within a country. The FGC prevalence in these groups may or may not be similar. For example, the Gourmantché in Burkina Faso with a FGC prevalence of 64% in 2010 have a similar prevalence to the Gourmantché of Niger (2006) next door (66%). However, the Fulani of Guinea (2005) have a prevalence of 99% while the Fulani of Senegal (2010) have a prevalence of 55%. Ethnic groups called by the same name such as the Hausa and the Fulani live in numerous countries in West Africa, but the FGC prevalence within each of these groups varies widely from country to country.

4.8 Changes Over Time in FGC Prevalence by Ethnicity

Since FGC prevalence has declined in most countries from 1970 to 2000, and prevalence varies greatly by ethnic affiliation in most countries, it seemed important to examine the data to see if a decline in prevalence occurred equally in all ethnic groups. We expected to find wide differences in the rates of decline by ethnicity. However, as alluded to previously, the ethnicity of an individual, or the ethnic group of a survey respondent, is not as straightforward for all individuals as an outsider may expect. Several sources of variation should be recognized as inherent to assigning ethnicity to a respondent: 1) as noted earlier, some of the “ethnic groups” reported in a survey are actually categories that include a number of related but separate ethnic groups; 2) many individuals have a mixed ancestry ethnically, and thus may have some flexibility in giving their ethnic identity; 3) in the survey process, the implementing agency usually determines which ethnic categories will be listed as pre-coded responses to the question about ethnicity and any answer that does not fit into these categories is then coded as “Other.” The instructions given by trainers and/or supervisors about which ethnic groups belong together and should thus be combined, and which are separate entities, thus have an impact on the final results.

These possible sources of variation explain how and why some countries have used a different list of ethnicities in subsequent surveys. If a country uses a different list of ethnic categories or ethnicities in subsequent surveys, it becomes extremely difficult to compare survey results. Table 8 shows FGC prevalence by ethnicity for the countries that used ethnic names that correspond fairly closely to actual groups rather than categories. Only in Guinea, Mali, Senegal, and Kenya, do the ethnic groups identified in the data sets correspond more or less to ethnicities recognized and consistently reported in those countries. Data from countries that reported ethnicity by category, or that used different ethnic groups or categories in successive surveys, are not included in the table.

Table 8. National FGC prevalence data by ethnicity for four countries with more than one DHS survey that showed ethnicity

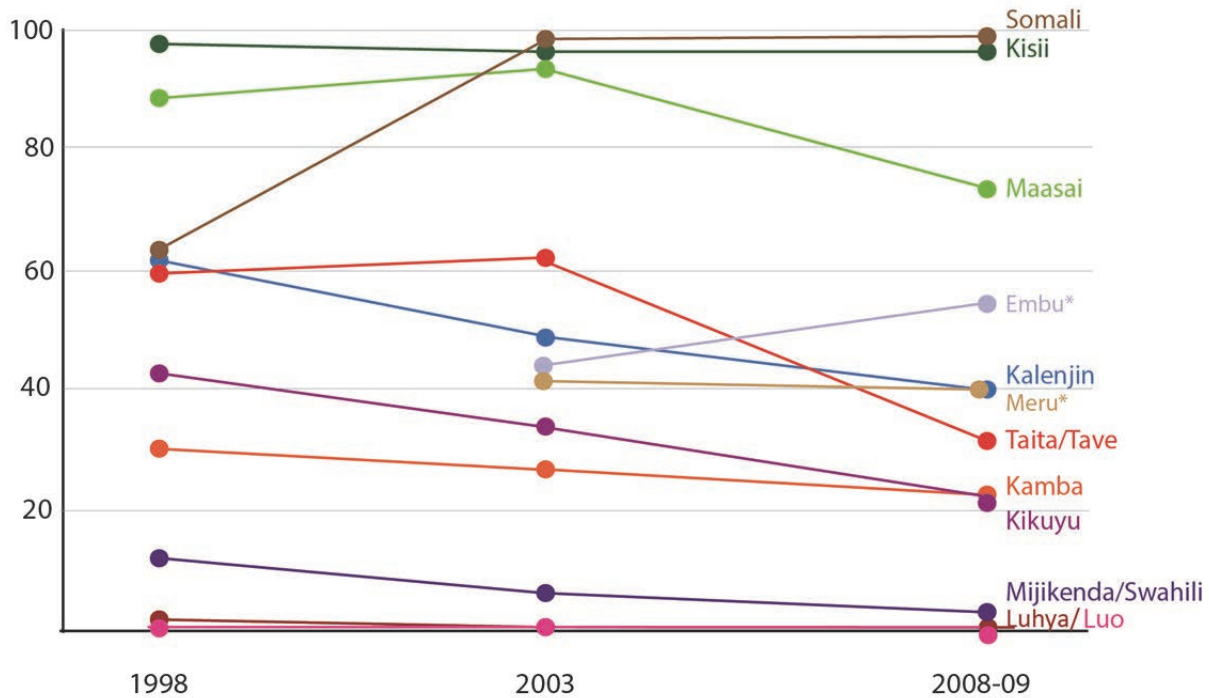
	1999			2005			2006		
	Ethnicity	Prevalence	Number of women	Ethnicity	Prevalence	Number of women	Ethnicity	Prevalence	Number of women
Guinea									
	Sussu	99.5	1,336	Sussu	99.0	1,602			
	Fulani	99.6	2,427	Fulani	98.9	2,834	Bambara	97.7	4,239
	Mandinka	99.4	1,875	Mandinka	97.1	2,080	Mandinka	98.0	1,183
	Kissi	99.7	340	Kissi	97.5	412	Fulani	94.3	2,122
	Toma	99.4	174	Toma	90.1	350	Sarakole/Soninke Marka	96.9	1,838
	Guerze	89.0	492	Guerze	68.4	587	Songhay	28.4	1,313
	Other	73.9	15	Other	90.1	23	Dogon	76.0	851
							Tamachek	32.0	602
							Senoufo/Minianka	92.9	1,295
							Bobo	63.5	321
							Ecowas countries	87.1	255
							other African countries	41.9	18
							Other countries	55.0	5
							Other	90.8	539
Mali									
	Bambara	98.9	2,814	Bambara	98.0	4,245			
	Mandinka	98.9	741	Mandinka	97.9	1,177			
	Fulani	98.4	1,404	Fulani	97.2	1,797			
	Sarakole/Soninke	98.6	1,228	Sarakole/Soninke Marka	96.9	1,584			
	Songhay	47.8	319	Songhay	40.8	763			
	Dogon	84.0	856	Dogon	78.6	938			
	Tamachek	16.5	76	Tamachek	65.3	257			
	Senoufo/Minianka	95.6	859	Senoufo/Minianka	97.2	1,063			
	Bobo	77.4	325	Bobo	90.5	489			
	Foreigner	87.3	77	Other	95.1	323			
	Other	96.1	993						

(Continued...)

Table 8. – Continued

	2005		2010		2008-09		
	Ethnicity	Prevalence	Number of women	Ethnicity	Prevalence	Number of women	
Senegal							
				2010			
	Wolof	1.6	5,799	Wolof	0.9	6,066	
	Fulani	62.1	3,684	Fulani	54.5	4,164	
	Serer	1.8	2,316	Serer	2.2	2,353	
	Mandinka	73.7	674	Mandinka	81.9	652	
	Diola	59.7	710	Diola	51.5	634	
	Soninke	78.2	402	Soninke	64.9	362	
	Non-Senegalese	70.7	253	Non-Senegalese	57.0	318	
	Other	37.6	758	Other	32.3	1,140	
Kenya							
				2003			
						2008-09	
		1998					
	Kalenjin	62.2	992	Kalenjin	48.1	831	Kalenjin
	Kamba	33.0	1,008	Kamba	26.5	938	Kamba
	Kikuyu	42.5	1,414	Kikuyu	34.0	1,886	Kikuyu
	Kisii	97.0	860	Kisii	95.9	466	Kisii
	Luhya	1.6	1,142	Luhya	0.7	1,230	Luhya
	Luo	1.2	1,074	Luo	0.7	984	Luo
	Maasai	88.8	113	Maasai	93.4	189	Maasai
	Meru/Embu	54.2	564	Embu	43.6	129	Embu
	Mijikenda/Swahili			Meru	42.4	460	Meru
	Swahili	12.2	391	Mijikenda/Swahili			Mijikenda/Swahili
	Somali	62.7	16	Swahili	5.8	407	Swahili
	Taita/Taveta	59.2	81	Somali	97.0	298	Somali
	Other	15.9	218	Taita/Taveta	62.1	101	Taita/ Taveta
				Turkana	12.2	116	Other
				Kuria	95.9	49	
				Other	17.6	111	

Figure 5: Trends in FGC prevalence by ethnicity, Kenya
Percent of women circumcised



*The Meru and Embu groups were combined in 1998

The two DHS surveys in Guinea show no change in the prevalence among the three main ethnic groups of the country (Fulani, Sussu, and Mandinka) and in one of the small groups (Kissi) of the forest area in the southeast. FGC did decline in two of the smaller ethnic groups. Prevalence among the Toma (1.8% of the population) decreased from 99% to 90% from 1999 to 2005, and prevalence among the Guerzé (3.8% of the population) declined from 89% to 68% during the same time period. The Kissi, Toma, and Guerze, all inhabitants of the forest region, make up nearly 10% of the total population of the country.

The three surveys in Mali show that five of the six largest ethnic groups in the country (Bambara, Fulani, Soninke, Senoufo, and Mandinka) show virtually no change in FGC prevalence in data from the three surveys: 1996, 2001, and 2006. FGC prevalence among these groups ranged from 96% to 99% in 1996 and from 93% to 98% in 2006. Prevalence among the Dogon declined slightly, from 84% to 76%, but prevalence among the Songhay (Songhai, Sonrai) in the north dropped far more: 48% in 1996, 41% in 2001, and 28% in 2006. The Songhay make up about 6% of the country's population. However, the proportion of Songhay in the DHS sample varied somewhat, in part because in the first stage of choosing the sample for the survey of 1996 and 2001, the regions of Gao, Kidal, and Timbuktu were combined into one region for sampling purposes. In the sample of 2006, these three regions were considered separately, so the proportion of Songhay in the sample increased to 9% from only 6% in 2001 and 3% in 1996. The numbers and prevalence for the Tamachek (Tuareg, Moor) also varied greatly. It should also be noted that the reported prevalence for Tamachek in the 2001 survey (65.3%) is an error. Most Tamachek do not practice FGC, so the origin of that figure remains unclear.

The FGC prevalence specific to various ethnic groups that practice FGC in Senegal changed for several ethnicities in the surveys conducted in 2005 and 2010. Among the Wolof and the Serer, who together make up two-thirds of the total population, FGC is rare. Prevalence for both ethnicities remained at 1% to 2%. For Fulani, who make up one-fourth of the population, FGC prevalence declined slightly from 62% to 55%. For Diola and Soninke, each 4-5% of the population, FGC prevalence declined somewhat: Soninke from 78% to 65% and Diola from 60% to 52%. Only for Mandinka (4% of population) did prevalence rise: from 74% in the 2005 DHS to 82% in the 2010 DHS. Given the relative importance in the makeup of the population, the decrease in prevalence among the Fulani had the greatest impact on the overall national FGC prevalence.

The ethnic groups of Kenya fall into three categories in relation to the practice of FGC: groups such as the Luo and Luhya in the west do not practice FGC at all; groups with one-third to one-half of their women circumcised; and groups such as the Kisii and Maasai with a prevalence of around 90% or higher. One sees major declines in prevalence for Kalenjin, Kamba, Kikuyu, Meru, the Mijikenda and Swahili, as well as the Taita and Taveta. Among the Kisii there was no change in the prevalence which remained at 96-97% in each of the three surveys.

The variations in the size of a decline in prevalence by ethnicity provides some reassurance that the overall decline is more than a reflection of the fear of being stigmatized or of legal problems for having been circumcised. The three DHS surveys in Kenya showed major declines in FGC prevalence for the Kalenjin, the Kamba, and the Kikuyu. These three groups make up about 45% of Kenya's population. The Luhya and Luo do not practice FGC and make up another 27% of the total population. Therefore, in Kenya, much of the overall decrease in FGC for the country can be attributed to changes among the Kalenjin, Kamba, and the Kikuyu. If the decline in prevalence were largely a response to a fear of legal problems instigated by the practice of FGC, we would see a more uniform decrease across the board.

5 Female Genital Cutting as an Event: the Practice

The details of how, when, and where FGC occurs vary tremendously from one society and one country to the next. Such details may determine whether or not a girl sustains damage to her health from the procedure. Therefore, it is useful to consider the details of how the circumcision was conducted: at what age, by what type of practitioner, and what was actually done at the time.

5.1 Types of Cutting

Since 1996 the World Health Organization has classified FGC into four types (WHO 1997). A revision of 2011 identified the four types as follows:

- 1) Type I: Partial or total removal of the clitoris and/or the prepuce (clitoridectomy);
- 2) Type II: Partial or total removal of the clitoris and the labia minora, with or without excision of the labia majora (excision);
- 3) 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).
- 4) Type IV: All other harmful procedures to the female genitalia for non-medical purposes...” (WHO 2011:3).

Although there is general agreement that any and all forms of FGC should be abandoned, it is also true that the most severe type of FGC—infibulation—inflicts greater harm on the physical well-being of girls and women than any other type. Women who are infibulated frequently experience pain and damage to their genitalia during pregnancy and delivery. Experts also agree that it may be difficult for a woman to know exactly what was done to her at the time of circumcision many years later if she had a mild form of FGC. Therefore, the FGC module of the DHS survey asks specifically -: Were you only nicked? Was flesh removed? Were you sewn shut? That sequence of questions allows us to estimate the proportion of women who were only slightly touched, and the proportion that was infibulated. It is this latter category that is of most concern from the standpoint of public health.

5.2 Categories of Cutting in the DHS Data

Table 9 shows the proportion of women who fall into the three main categories of types of FGC. In Ethiopia, women were only asked if they were infibulated. No questions were asked about the type of circumcision in Egypt, in the Central African Republic (CAR), in Liberia, Cameroon, Uganda, or Yemen. As indicated earlier, respondents in Liberia were asked only about membership in a secret society that includes FGC as part of initiation ceremonies. It was assumed that all members of the secret society had been circumcised.

Only in northeastern Africa do we find large proportions of circumcised women with infibulation: 82% in Sudan and 39% in Eritrea. Several neighboring countries in West Africa show rates of infibulation from 9% to 14%: Guinea, Mali, and Senegal. In Kenya, 13% of circumcised women are infibulated. It should also be noted that about 20% of women who reported that they had been circumcised said they did not know what was done to them in Senegal and Mauritania, and in Nigeria, the proportion of circumcised women who said they did not know what was done to them was almost half (46%).

Table 9. Percent distribution of circumcised women by type of circumcision in most recent DHS survey

Country	Year	Type of circumcision				Number of women circumcised
		Nicked only	Flesh removed	Sewn closed	Don't know	
North East Africa						
Eritrea	2002	46.0	4.1	38.6	11.3	7,765
Sudan	1989-90	14.8	2.7	82.4	0.1	5,224
West Africa, northern						
Guinea	2005	1.7	86.5	9.3	2.58	7,607
Mali	2006	3.0	75.8	10.2	11.1	12,426
Burkina Faso	2010	16.6	76.8	1.2	5.4	12,949
Mauritania	2000-01	5.5	75.3	na	19.3	5,508
Senegal	2010-11	9.9	52.7	13.8	23.6	4,025
West Africa, southern						
Sierra Leone	2008	3.2	82.0	2.6	12.2	6,735
Cote d'Ivoire	2012	4.7	71.1	8.7	15.6	3,843
Chad	2004	19.6	76.0	2.3	2.1	2,734
Nigeria	2008	3.0	45.4	5.3	46.4	9,890
Benin	2006	0.5	93.8	3.9	1.8	2,290
Niger	2006	0.8	77.8	13.3	8.2	206
East Africa						
Kenya	2008	2.3	82.7	13.4	1.6	2,284
Tanzania	2010	0.7	90.9	2.2	6.3	1,477

Several points about the data in Table 9 are worth noting. With the exception of Eritrea and Sudan, by far the largest proportion of women who had been circumcised reported they had some flesh removed as opposed to being nicked or infibulated. Only in Eritrea do we find a substantial proportion (46%) with “nicked only.” In Burkina, Chad, and Sudan, from 15-20% were ‘nicked only.’ Figure 6 Shows the same data in a graph.

It also seems useful to examine the type of circumcision practiced in several surveys in the same countries over time to assess changes in FGC practices. Table 10 shows the percent distribution of circumcised women by type of circumcision for the DHS surveys that asked about the type of circumcision in the same manner in two or more successive surveys. The number of countries is limited: Eritrea in the north east; Mali, Burkina Faso, Senegal, Nigeria, and Benin in West Africa, and Tanzania in East Africa.

Figure 6: Type of circumcision

Percent distribution of circumcised women, most recent DHS survey

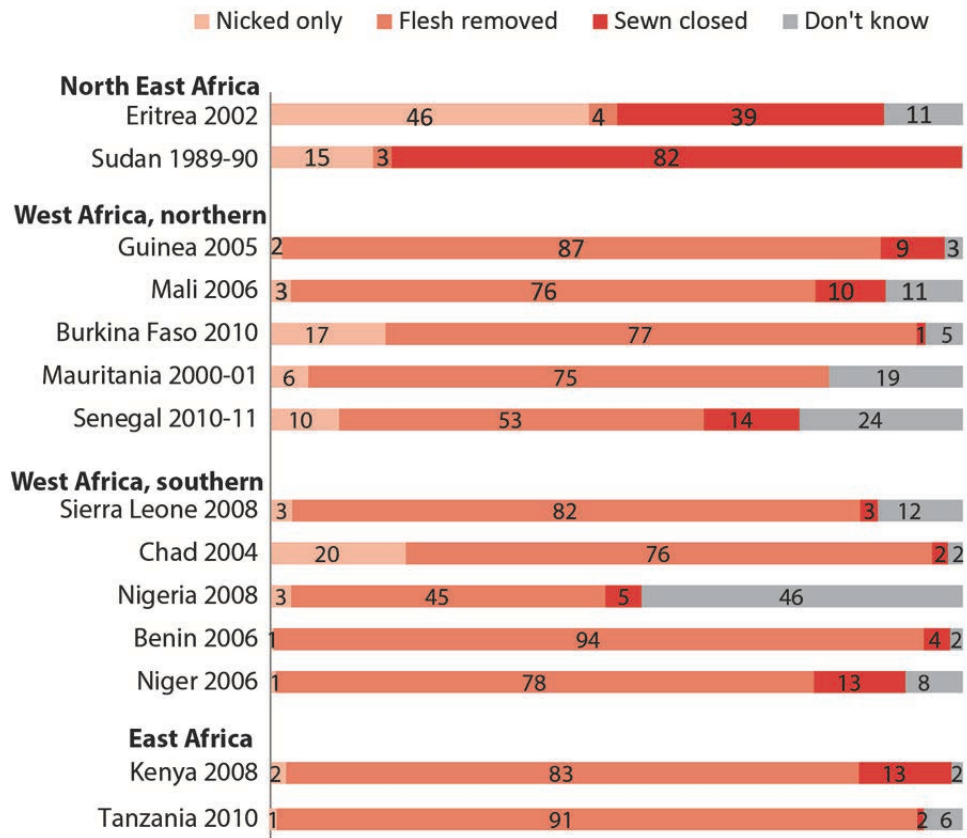


Table 10. Percent distribution of circumcised women by type of circumcision with multiple DHS surveys

Country	Year	Type of circumcision				Number of women circumcised
		Nicked only	Flesh removed	Sewn closed	Don't Know	
North East Africa						
Eritrea	1995	61.5	4.4	34.0	0.1	4,771
Eritrea	2002	46.0	4.1	38.6	11.3	7,765
West Africa, northern						
Mali	1995-96	na	99.2	0.5	0.4	9,086
Mali	2001	2.0	81.5	1.9	14.7	11,767
Mali	2006	3.0	75.8	10.2	11.1	12,426
Burkina Faso	2003	1.2	90.8	2.0	6.1	9,552
Burkina Faso	2010	16.6	76.8	1.2	5.4	12,949
Senegal	2005	0.22	82.7	11.9	5.1	4,123
Senegal	2010-11	9.9	52.7	13.8	23.6	4,025
West Africa, southern						
Nigeria	1999	na	88.9	3.8	7.3	2,056
Nigeria	2003	2.0	43.5	3.9	50.6	1,445
Nigeria	2008	3.0	45.4	5.3	46.4	9,890
Benin	2001	7.0	84.1	3.5	5.4	1,047
Benin	2006	0.5	93.8	3.9	1.8	2,290
East Africa						
Kenya	1998	na	89.4	0.04	10.6	505
Kenya	2008-09	2.3	82.7	13.4	1.6	2,284
Tanzania	1996	na	91.9	5.2	2.9	1,476
Tanzania	2004-05	1.9	91.3	2.0	4.8	1,510
Tanzania	2010	0.7	90.9	2.2	6.3	1,477

Several DHS surveys did not include all the information about type of cutting necessary to be included in the table. That is the case for Guinea 1999, Burkina 1999, Côte d'Ivoire 1999, and Niger 1998.

Eritrea shows a small increase in the proportion of women infibulated, and a larger increase in the proportion that gave no answer. Mali shows a small increase in the proportion with flesh removed. Burkina shows an increase from 1% to 17% for 'just nicked,' and a decrease in 'flesh removed.' In Senegal the proportion who said 'flesh removed' changed from 83% in the 2005 survey to 53% in the 2010 survey; at the same time, the proportion of women saying that they don't know what was done to them changed from 5% in the 2005 DHS to 24% in the 2010 DHS; it is not clear why. No changes were observed in the DHS surveys from Nigeria or Tanzania.

5.3 Age at Circumcision

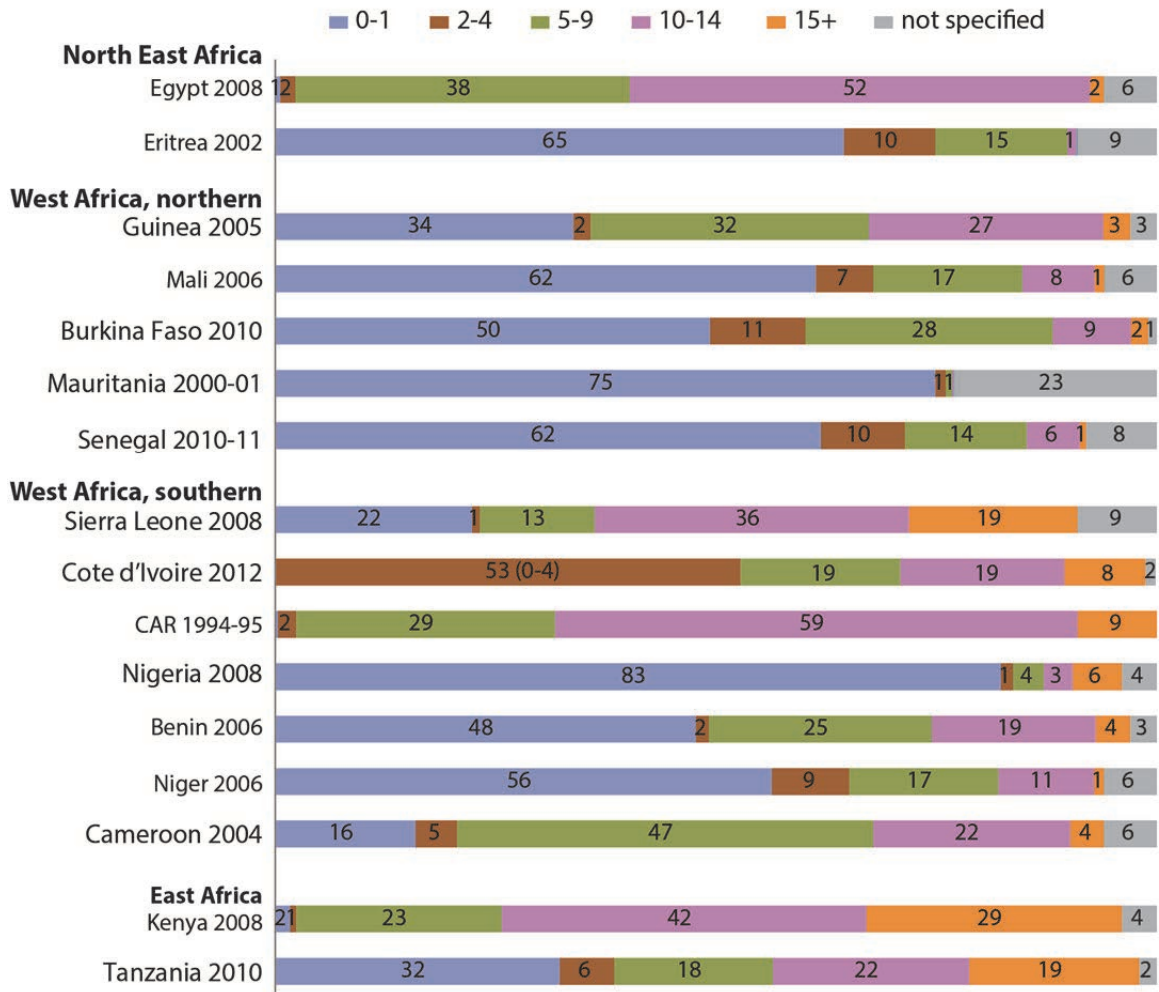
The standard FGC module has always included a question asking at what age the respondents had been circumcised. Knowing the age of the girl at circumcision adds to our picture of how the event occurred. For example, if most girls are cut by the age of two years, we cannot expect the event to have included much instruction about appropriate behavior or much ritual participation. Girls cut at the age or 13 or 14 may, however, have participated in ceremonies and in learning about many topics.

Table 11 shows the distribution of women circumcised by their age at circumcision for countries that include a question about age. In the region of North East Africa only two countries recorded the age at circumcision: Egypt and Eritrea. The two present a dramatic contrast in the timing of circumcision. In the 2008 survey in Egypt, 90% of circumcised women were circumcised between the ages of five and 15: 38% between five and nine and 52% from 10 to 14. In the 2002 survey in Eritrea, 50% were circumcised in the first two months of life. In fact, 36% were cut during their first month of life (data not shown), another 10% from age two to four, and 15% from age five to nine. Nine percent reported they did not know their age at the time of circumcision.

Table 11. Percent distribution of circumcised women by age of circumcision in most recent DHS

Country	Year	Age at circumcision					Don't know/missing	Number of women circumcised
		0-1	2-4	5-9	10-14	15+		
North East Africa								
Egypt	2008	0.6	1.7	38.0	52.4	1.6	5.7	5,044
Eritrea	2002	64.7	10.4	15.0	1.1	0.1	8.7	7,765
West Africa, northern								
Guinea	2005	33.8	1.9	31.5	26.5	3.1	3.2	7,607
Mali	2006	61.6	6.5	17.0	8.2	1.1	5.6	12,426
Burkina Faso	2010	49.6	10.9	28.2	8.9	2.0	0.5	12,949
Mauritania	2000-01	75.1	1.2	0.7	0.2	0.1	22.7	5,508
Senegal	2010-11	61.7	9.5	13.8	6.0	0.7	8.3	4,025
West Africa, southern								
Sierra Leone	2008	22.3	0.9	13.0	35.6	19.1	9.1	6,735
		0-4	5-9	10+				
Chad	2004	4.0	49.5	40.9		5.6		2,734
Cote d'Ivoire	2012	52.8	18.6	26.1		2.4		3,843
Central African Republic	1994-95	0.3	2.1	29.3	59.2	9.0	0.1	2,555
Nigeria	2008	82.7	1.4	3.5	3.3	5.6	3.5	9,890
Benin	2006	47.6	1.5	25.2	18.6	3.9	3.2	2,290
Niger	2006	56.4	8.8	16.9	10.9	1.1	5.9	206
Cameroon	2004	15.9	4.7	47.1	22.3	3.8	6.1	78
East Africa								
Kenya	2008-09	1.7	0.7	23.4	41.5	29.1	3.6	2,284
Tanzania	2010	32.4	6.2	18.1	22.3	19.4	1.7	1,477

Figure 7: Age at circumcision
Percent distribution of circumcised women, most recent DHS survey



The countries in the northern part of West Africa display two patterns with regard to age at circumcision: smaller versus larger proportions of girls cut before their first birthday. In the 2005 survey in Guinea, only one-third of girls were circumcised during their first year of life, while that proportion varied from 50% to 75% in the other four countries. In Guinea, 36% were circumcised before the age of five, while in the other countries, from 60% to 76% were cut before their fifth birthday. One-third of girls in Guinea was cut between the ages of five and nine, and another 27% from 10 to 14. In countries where one-half of those circumcised are cut in the first 12 months, or two-thirds to three-fourths before the age of five (data not shown), it is highly unlikely that much instruction or organized group activities would remain part of FGC.

Several other points about this group of countries are worth noting. In Burkina Faso, 37% of girls were circumcised between the age of five and 14, compared with 20% in Senegal, 25% in Mali, and merely 1% in Mauritania. In Burkina Faso, only 0.5% of respondents said they did not know their age at FGC. In Mauritania, on the other hand, 23% reported they did not know their age at circumcision. Among those who did report age in Mauritania, more than 97% were circumcised before their first birthday.

The countries in the southern part of West Africa display a much wider range in the age at circumcision. The countries with the highest percentage circumcised in the first two years of life are Nigeria at 83%, Niger at 56%, Cote d'Ivoire at 51%, and Benin at 48%. FGC occurs in the Central African Republic (CAR) much later than in the other countries in the region, with 59% of girls being cut between 10 and 15 years of age, and nearly 80% between 5 and 15. Cameroon is similar, with 69% circumcised between five and 15. However, Cameroon, with a national prevalence of only 1.4%, had only 78 cases of women circumcised, so the percentages in the various categories are not reliable. Chad, Niger, and Cameroon reported that 6% of respondents did not know their age at circumcision, while the other countries reported lower levels.

In East Africa, Kenya and Tanzania, show quite different patterns with regard to age at circumcision. In Kenya, 2% of girls were cut before the age of five, while in Tanzania, that figure was 39%. In Tanzania, 57% of girls were circumcised before they reached 10 years of age; in Kenya, that figure was only 26%. Less than 4% in each country reported they did not know their age of circumcision.

5.4 Age at Circumcision for All DHS Surveys

Table 12 presents data on the age at circumcision for all countries that reported such data for at least two surveys. In Egypt, Mali, Burkina Faso, Nigeria, and Tanzania, data on age at circumcision from three surveys are available. Data from Egypt show that between 1995 and 2008, the median age at circumcision increased gradually. In the 1995 EDHS, 46% were circumcised between the ages of five to nine, and 43% between the ages of 10-14. By 2008, only 38% of girls were cut between five to nine years of age, while 52% were cut between the ages of 10-14. These changes captured between the 1995 and 2008 surveys indicate that the median age at circumcision in Egypt rose slightly from 1960 to 1995.

Changes between the 1995 and 2002 DHS surveys in Eritrea are shown in Table 12. Two apparent changes are worth pointing out: the proportion of girls circumcised before reaching two years of age increased from 46 in 1995 to 65% in 2002, and the proportion that reported they did not know when they had been cut, or were missing, declined from 28% to 9%. The question and the coding possibilities were identical except that in 2002, interviewers were encouraged to "Probe for a numeric answer before circling 'Don't Know.'" It would seem that the probing for a numeric answer greatly reduced the proportion of those reporting 'Don't Know.'

Table 12. Percent distribution of circumcised women by age when circumcision occurred in countries with multiple DHS surveys

Country	Year	Age at Circumcision					Don't know/missing	Number of women circumcised
		0-1	2-4	5-9	10-14	15+		
North East Africa								
Egypt*	1995	0.8	1.8	46.0	42.9	1.0	7.6	14,332
Egypt*	2005	0.3	1.8	42.5	44.9	1.3	9.1	18,657
Egypt	2008	0.6	1.7	38.0	52.4	1.6	5.7	5,044
Eritrea	1995	46.2	13.9	11.1	1.0	0.1	27.9	4,775
Eritrea	2002	64.7	10.4	15.0	1.1	0.1	8.7	7,765
West Africa, northern								
Guinea	1999	0.5	3.7	48.1	35.2	3.3	9.2	6,656
Guinea	2005	33.8	1.9	31.5	26.5	3.1	3.2	7,607
Mali	1995-96	30.6	10.7	24.8	15.6	1.7	16.6	9,097
Mali	2001	54.3	6.9	20.5	13.1	1.4	3.7	11,767
Mali	2006	61.6	6.5	17.0	8.2	1.1	5.6	12,426
Burkina Faso	1998-99	12.5	11.9	35.3	9.3	2.2	28.8	4,649
Burkina Faso	2003	41.4	9.3	28.9	9.1	2.1	9.1	9,552
Burkina Faso	2010	49.6	10.9	28.2	8.9	2.0	0.5	12,949
Senegal	2005	63.2	9.5	14.9	5.1	0.9	6.3	4,123
Senegal	2010-11	61.7	9.5	13.8	6.0	0.7	8.3	4,025
West Africa, southern								
Cote d'Ivoire	1994	16.7	7.6	27.3	27.6	11.1	9.6	3,459
Cote d'Ivoire	1998-99	51.3	3.8	17.3	18.2	8.1	1.4	1,354
Nigeria	1999	44.9	4.6	8.0	5.8	9.6	27.1	2,073
Nigeria	2003	74.9	0.9	4.4	5.1	11.0	3.8	1,445
Nigeria	2008	82.7	1.4	3.5	3.3	5.6	3.5	9,890
Benin	2001	30.2	3.8	40.0	18.6	4.4	3.0	1,047
Benin	2006	47.6	1.5	25.2	18.6	3.9	3.2	2,290
Niger	1998	14.1	14.7	18.8	7.2	11.4	33.8	340
Niger	2006	56.4	8.8	16.9	10.9	1.1	5.9	206
East Africa								
Kenya	1998	0.0	2.7	18.9	43.1	31.9	3.5	2,965
Kenya	2008-09	1.7	0.7	23.4	41.5	29.1	3.6	2,284
Tanzania	1996	0.8	4.3	19.9	37.5	23.6	13.9	1,779
Tanzania	2004-05	28.8	5.6	17.8	27.1	18.9	1.8	1,510
Tanzania	2010	32.4	6.2	18.1	22.3	19.4	1.7	1,477

*Sample consisted of ever-married women

The data from countries in northern West Africa demonstrate the effects that changes in the coding of answers may have on survey results. In Guinea, Mali and Burkina Faso, the first survey that collected FGC data asked about age at circumcision. If the respondent could not give a precise age in years, her response was coded 'don't know'. This approach resulted in a fairly large proportion of 'don't know' responses: 17% in the 1996 Mali DHS and 29% in the Burkina Faso 1999 DHS. In the subsequent surveys in Burkina, Guinea, and Mali, the answer codes to the age question were changed: an answer category 'In infancy' was added to cover answers that did not give a precise age but that indicated a very early age. In addition, an instruction was added asking the interviewer to have the respondent estimate her age at circumcision if she did not know her exact age. As noted above for Eritrea, this change in coding appears to have reduced the proportion of women who reported they did not know their age. It seems logical to assume that many of those (who said 'Don't know') were circumcised at a very early age.

The question on age at circumcision was comparable in the second and third surveys in Burkina Faso and Mali as well as in the two surveys in Senegal. No difference in results can be seen in the two surveys in Senegal. In Mali the proportion of girls circumcised before reaching the age of two was 54% in 2001 and 62% in 2006, while the proportion cut at age 10-14 was 13% in 2001 and 8% in 2006, suggesting that there might be a movement to conduct FGC at younger ages in Mali. In Burkina Faso, the proportion of girls circumcised before reaching the age of two was 41% in 2003 and 50% in 2008. The age at circumcision by age cohorts in the two Burkina Faso survey indicates that the age at circumcision has been declining.

The countries in the southern part of West Africa show mainly a shift towards girls being circumcised during their first two years of life (0-1). The largest increases can be seen in Côte d'Ivoire, where the proportion of girls circumcised in their first two years was 17% in 1994 and 51% in 1999. Similarly, the DHS in Niger showed that the proportion of circumcised women who were cut at age 0-1 went from 14% in 1998 to 56% in 2006.

In 1998-99 Côte d'Ivoire, 2006 Niger, and 1999 and 2003 Nigeria, an answer code 'during infancy' was added to accommodate answers that respondents often gave. That is, when respondents in a number of West African countries were asked about their age at circumcision, an important proportion gave answers that could best be translated as "during infancy." The coding change most likely explains part of the dramatic increase in the proportion of girls cut before their second birthday, but not all. In Benin, the coding for both surveys included the same answer code (during infancy), yet the proportion of girls cut in their first two years changed from 30% in the 2001 survey data to 48% in the 2006 survey data.

5.5 The Identity of the Person Performing the Circumcision

In most countries, FGC is performed by elderly women who are known for playing the role of circumciser. In a few countries, health care professionals also perform FGC. Women were asked who performed their circumcision; the answers were coded as traditional provider (circumciser, traditional birth attendant, or other traditional) or health care professionals (doctors, nurses, midwives). The country reports include a table showing the percentage of women circumcised by traditional practitioners and the percentage cut by health care professionals.

Table 13 shows the data on circumciser from the most recent DHS surveys for all countries that used the FGC module. The data from three countries stand out as different from all the rest in the percentage of cases of FGC that were performed by health care professionals: Egypt, Sudan, and Kenya. The 2008 Egypt DHS showed that 32% of FGC cases were performed by health care professionals. The corresponding percentage in the 1989-90 Sudan DHS was 36%, and in the 2008 Kenya DHS it was 20%. We should also take note of the significant role of health care professionals in performing FGC in Guinea,

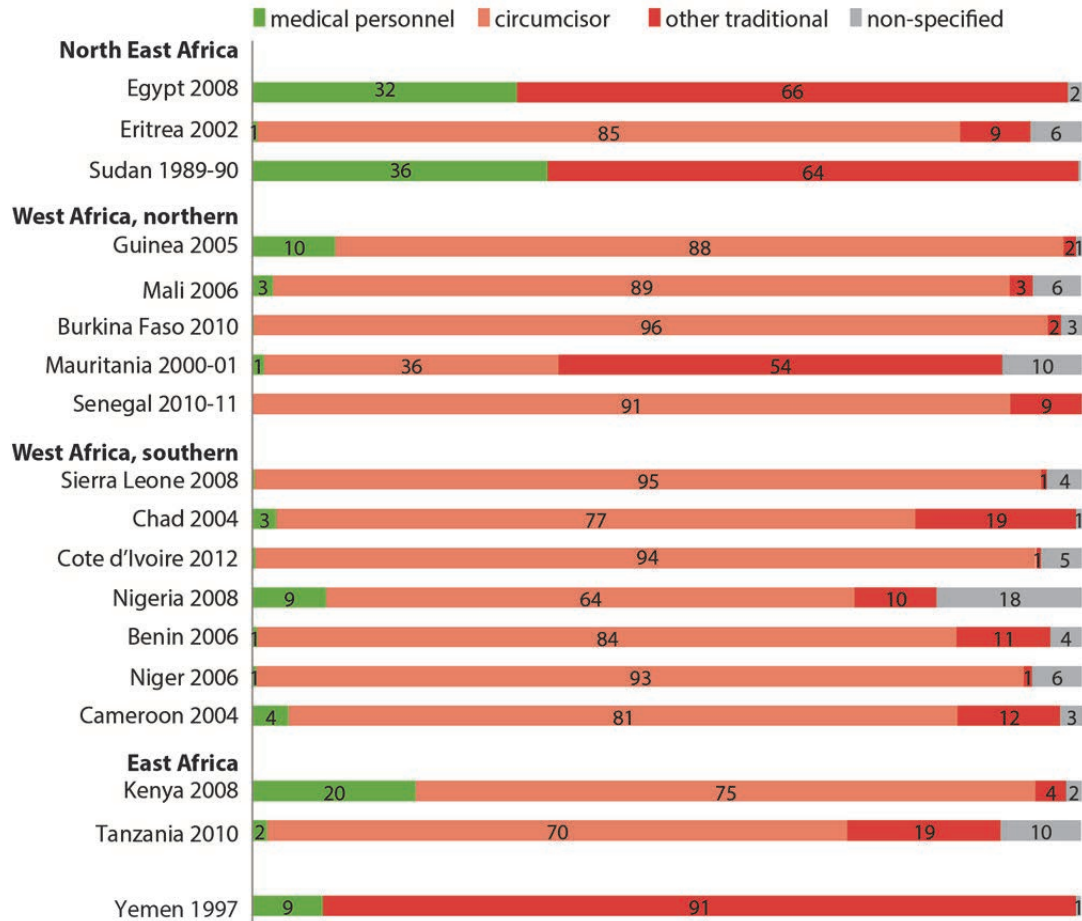
Nigeria, and Yemen: in these countries, the latest DHS shows that about 1 in 10 circumcised women are cut by a health professional.

Table 13. Percent distribution of circumcised women by type of person who did the cutting for the most recent DHS survey

Country	Year	Type of person who did the cutting			Non-specified	Number of women circumcised
		Health care professional	Circumciser	Other traditional		
North East Africa						
Egypt	2008	31.9	NA	66.4	1.7	5,044
Eritrea	2002	0.6	84.7	8.5	6.2	7,677
Sudan*	1989-90	35.6	NA	64.0	0.3	5,213
West Africa, northern						
Guinea	2005	10.0	87.8	1.5	0.7	7,561
Mali	2006	2.5	88.8	2.8	5.8	12,426
Burkina Faso	2010	0.2	95.7	1.6	2.6	12,949
Mauritania	2000-01	1.4	35.5	53.5	9.6	4,384
Senegal	2010-11	NA	91.4	8.6	NA	4,025
West Africa, southern						
Sierra Leone	2008	0.3	94.8	0.7	4.2	6,735
Chad	2004	2.9	77.0	19.4	0.7	2,734
Cote d'Ivoire	2012	0.3	93.8	1.1	4.8	3,843
Nigeria	2008	8.9	63.7	9.9	17.5	9,890
Benin	2006	0.6	84.3	11.3	3.8	2,290
Niger	2006	0.5	92.5	1.0	6.0	206
Cameroon	2004	4.4	80.6	12.4	2.7	75
East Africa						
Kenya	2008-09	19.7	74.7	3.7	1.9	2,284
Tanzania	2010	1.8	69.9	18.5	9.7	1,477
Yemen*	1997	8.5	NA	90.8	0.6	1,544

*Sample consisted of ever-married women

Figure 8: Person who performed the circumcision
 Percent distribution of circumcised women, most recent DHS survey



In a limited number of countries, data on who performed the circumcision are available for two or three surveys in the country which shows changes in the proportion of FGC procedures performed by health professionals and by any traditional person. Table 14 shows these data from 11 countries. The table shows changes in Egypt and Kenya only. In Egypt, the percentage of FGC procedures performed by medical staff rose from 17% in the 1995 survey to 32% in the 2008 survey, while the percentage of FGC operations performed by medical personnel declined to 20% in the Kenya 2008 DHS from 35% in the 1998 DHS. In addition, slight decreases can also be seen in Nigeria and Mali: from 12.9% in 2003 to 8.9% in 2008 in Nigeria, and from 5.2% in 1996 to 2.4% in 2001 in Mali.

Table 14. Percent distribution of circumcised women by type of person who did the cutting in countries with multiple DHS surveys

Country	Year	Health professional	Circumciser	Other traditional	Non-specified	Women circumcised
North East Africa						
Egypt*	1995	17.3	NA	79.6	3.1	14,332
Egypt	2008	31.9	NA	66.4	1.7	5,044
Eritrea	1995	0.2	92.2	4.1	3.4	4,708
Eritrea	2002	0.6	84.7	8.5	6.2	7,677
West Africa, northern						
Mali	1995-96	5.2	88.2	5.7	0.8	4,694
Mali	2001	2.4	91.4	0.7	5.5	11,674
Mali	2006	2.5	88.8	2.8	5.8	12,426
Burkina Faso	1998-99	0.6	86.3	0.2	12.9	4,647
Burkina Faso	2003	0.1	88.0	1.0	10.8	9,505
Burkina Faso	2010	0.2	95.7	1.6	2.6	12,949
Senegal	2005	0.6	91.6	1.8	6.1	4,087
Senegal	2010-11	NA	91.4	8.6	NA	4,025
West Africa, southern						
Cote d'Ivoire	1994	0.9	NA	NA	8.6	3,450
Cote d'Ivoire	1998-99	0.4	92.3	1.5	5.8	1,344
Cote d'Ivoire	2012	0.3	93.8	1.1	4.8	3,843
Nigeria	1999	12.9	37.6	36.3	13.2	2,048
Nigeria	2003	12.8	50.2	9.9	27.0	1,419
Nigeria	2008	8.9	63.7	9.9	17.5	9,890
Benin	2001	0.5	94.7	1.8	3.0	1,040
Benin	2006	0.6	84.3	11.3	3.8	2,290
Niger**	1998	NA	NA	96.6	3.4	337
Niger	2006	0.5	92.5	1.0	6.0	206
East Africa						
Kenya	1998	35.0	51.1	12.1	1.8	507
Kenya	2008-09	19.7	74.7	3.7	1.9	2,284
Tanzania	1996	3.6	75.7	8.8	11.8	1,425
Tanzania	2004-05	2.0	70.9	18.2	9.0	1,510
Tanzania	2010	1.8	69.9	18.5	9.7	1,477

*Sample consisted of ever-married women

** "Circumciser" not included in answer categories

6 Enduring Issues

This final chapter briefly discusses issues that remain relevant to understanding the practice of FGC within each country: overall prevalence, its distribution within the country, temporal trends, and the interpretation of daughter data. These issues will be included in efforts by government agencies and donors in their assessments of the importance of the practice and their understanding of trends over time. The issues addressed include the prominence of FGC nationally, the regional distribution of the practice, any trends over time in national prevalence and age cohorts, and the use of daughter data for program evaluation. The proper use of data on the FGC status of daughters of respondents presents an enduring challenge.

DHS data on the national prevalence for FGC shows the proportion of women age 15-49 that have been circumcised. This proportion can be used to estimate the total number of women in all ages who are circumcised in the country. The calculation of the total number of women affected involves several assumptions, but one can arrive at a figure with some confidence. The FGC prevalence for women age 45 to 49 can be used as a proxy and lower limit for the prevalence of women older than 49 years of age; similarly, the prevalence of women 15 to 19 years of age can be used as a proxy and upper limit for girls less than 15 years old (Yoder et al. 2013).

There is tremendous variation in FGC prevalence from one country to the next, sometimes in countries that share a border. In West Africa, according to the 2006 DHS in Mali, prevalence was 85%, while in Niger next door, 2% of women (2006) had been cut. In East Africa, the 2008 DHS in Kenya showed an FGC prevalence of 27% while across the border in Uganda, less than 1% of women had been cut. Knowledge of the proportion of women affected as well as the total number can be used to assess the importance of FGC as an issue in public health, child protection, and women's rights.

Taking note of the regional distribution and any urban/rural contrast are key elements for any assessment of the practice of FGC in most countries. If a national survey finds that FGC prevalence is far higher in rural than in urban areas, as in most countries, that fact invites us to reflect on how and why families in urban areas act differently toward their daughters. Why are mothers less likely to have their daughters circumcised? Whether prevalence differs markedly by region depends to some extent on the overall prevalence, and on the importance of the practice of FGC as a marker for ethnicity. Countries with a prevalence of less than 70% display marked difference in prevalence by region, while those with a prevalence of 80% or higher show relatively small regional differences.

Several examples serve to illustrate these points. In the 2010 survey in Burkina Faso, with an overall national prevalence of 76%, prevalence in urban areas was 69% and 78% in rural areas. Regional variations in prevalence were also found. The Centre-Ouest (Center-West) region had a prevalence of 54%, the Centre-Est (Center-east) a prevalence of 90%, and all other regions were in between. The 2008 survey in Kenya found an FGC prevalence of 0.8% in Western province, 98% in North Eastern province, three provinces around 33%, and the others somewhat less.

In short, an assessment of FGC in a country will consider the overall national prevalence as well as how the practice is distributed. The distribution of the practice may be explained in terms of either the impact of urbanization, the ethnic composition of the population, historical trends, or some other variable. FGC prevalence shows more variation by ethnicity than any other demographic variable. Programs that promote the abandonment of the practice will find such considerations useful for policy formulation and program planning.

Evidence for changes in FGC prevalence over time is derived from the national prevalence found in two or more DHS for a country, or one or more DHS that show FGC prevalence by age cohort. In most

cases, it is not possible to interpret the results without performing statistical tests to determine whether or not the change was statistically significant. That is, what are the chances that the decline in national prevalence is due to chance, as determined by whether or not the confidence intervals overlap? For example, the small decrease in national prevalence in the 2005 to 2010 surveys in Senegal is not statistically significant (decrease from 28.2% to 25.7%). On the other hand, the decline in national prevalence in Kenya from 36% in 1998 to 27% in 2008 is statistically significant.

As indicated earlier, the FGC module used by both DHS and MICS since 2010 asks respondents about each of their living daughters less than 15 years of age. The respondent reports on whether or not each of her daughters was circumcised, what was done, at what age, and the type of person (traditional or medical personnel) who performed the procedure. These questions mirror the questions asked of the FGC status of the respondents themselves. The new module makes it possible to report on the FGC status of girls at all ages from 0-14. These data show the *current* FGC status of these daughters of respondents.

However, some of these girls will be circumcised after the date of the survey. Therefore we must consider the difference between *current* FGM/C status and *final* FGM/C status of daughters. Since relatively few women are circumcised after the age of 15, when women age 15-49 are asked whether they have been circumcised, it is assumed that those who report that they have not been circumcised will not be cut in the future. Thus our FGC data on women 15-49 years of age reports on their *final* (FGC) status. We do not make that assumption for daughters less than 15 years of age, since a certain proportion will be later circumcised. The question is, what is the size of that proportion?

However, when mothers (respondents) are asked about the FGC status of their daughters, they provide information about their *current* status only. Some girls in the 0-4 cohorts and the 5-9 cohorts have not yet been circumcised at the time of the survey because they had not yet reached the proper age for the event, and thus remain at risk for FGC. Some of these will be cut later. Indeed, even some in the 10-14 age cohort will be circumcised before they become 15 years old. For these girls, their current FGC status of not being cut will be different from their *final* FGC status.

This distinction between *current* and *final* FGC status is critical for interpreting data on daughters 0-14 years old. We must keep in mind two limitations for these data: Thus two caveats are important for a valid interpretation of data on the circumcision of daughters: first, that the FGC prevalence of girls age 0-14 years to women age 15-49 is not valid since many of the 0-14 age group may not have reached the age at which circumcision takes place in that community/country. Second, interpretation of the prevalence of FGC among girls 0-14 should be done in the context of the median age of circumcision for that society. This will allow for an assessment of what proportion of the girls 0-14 are likely to be circumcised as they age through the cohort. For example, in the 2002 survey in Eritrea, more than 90% of women reported that they had been circumcised before the age of 10. Therefore, data on the FGC status of girls age 10-14 in Eritrea would be fairly close to their final FGC status.

One of the reasons for asking about the FGC status of the daughters of respondents is to obtain data that could be used to evaluate the impact of recent programs that promote FGC abandonment. The availability of more complete data on the FGC status and experience of girls can always be useful. In countries where most circumcision occurs in the first few years of life, such data may indeed be used for the evaluation of the impact of recent interventions. In countries where FGC occurs largely at the ages of 10 and above, the *current* FGC status of girls will be much lower than their *final* FGC status, and thus daughter data will be less useful for recent program evaluation. Nevertheless, with proper caution, data on daughters can add a great amount to our understanding of how circumcision has been practiced in the last ten years or so.

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Appendix

Table A1. Female genital cutting module for Woman's Questionnaire

FEMALE GENITAL CUTTING FOR WOMAN'S QUESTIONNAIRE (1)		3 January 2011	
NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
GC1	Have you ever heard of female circumcision? (2)	YES 1 NO 2	→ GC3
GC2	In some countries, there is a practice in which a girl may have part of her genitals cut. Have you ever heard about this practice?	YES 1 NO 2	→ NEXT SECTION
GC3	Have you yourself ever been circumcised?	YES 1 NO 2	→ GC9
GC4	Now I would like to ask you what was done to you at that time. Was any flesh removed from the genital area?	YES 1 NO 2 DONT KNOW 8	→ GC6
GC5	Was the genital area just nicked without removing any flesh?	YES 1 NO 2 DONT KNOW 8	
GC6	Was your genital area sew n closed? (3)	YES 1 NO 2 DONT KNOW 8	
GC7	How old were you when you were circumcised? IF THE RESPONDENT DOES NOT KNOW THE EXACT AGE, PROBE TO GET AN ESTIMATE.	AGE IN COMPLETED YEARS <input type="text"/> <input type="text"/> AS A BABY/DURING INFANCY 95 DONT KNOW 98	
GC8	Who performed the circumcision? (4)	TRADITIONAL TRAD. CIRCUMCISER 11 TRAD. BIRTH ATTENDANT 12 OTHER TRAD. _____ 16 (SPECIFY) HEALTH PROFESSIONAL DOCTOR 21 NURSE/MIDWIFE 22 OTHER HEALTH PROFESSIONAL _____ 26 (SPECIFY) DONT KNOW 98	
GC9	CHECK 213, 215 AND 216: HAS ONE OR MORE LIVING DAUGHTERS BORN IN 1995 (5) OR LATER <input type="checkbox"/> HAS NO LIVING DAUGHTERS BORN IN 1995 (5) OR LATER <input type="checkbox"/>		→ GC16

(Continued...)

<p>CHECK 213, 215 AND 216: ENTER IN THE TABLE THE BIRTH HISTORY NUMBER AND NAME OF EACH LIVING DAUGHTER BORN IN 1995 (5) OR LATER. ASK THE QUESTIONS ABOUT ALL OF THESE DAUGHTERS. BEGIN WITH THE YOUNGEST DAUGHTER. (IF THERE ARE MORE THAN 3 DAUGHTERS, USE ADDITIONAL QUESTIONNAIRES).</p> <p>Now I would like to ask you some questions about your (daughter/daughters).</p>				
GC10	BIRTH HISTORY NUMBER AND NAME OF EACH LIVING DAUGHTER BORN IN 1995 (5) OR LATER	<p>YOUNGEST LIVING DAUGHTER</p> <p>BIRTH HISTORY NUMBER <input type="text"/> <input type="text"/></p> <p>NAME _____</p>	<p>NEXT-TO-YOUNGEST LIVING DAUGHTER</p> <p>BIRTH HISTORY NUMBER <input type="text"/> <input type="text"/></p> <p>NAME _____</p>	<p>SECOND-TO-YOUNGEST LIVING DAUGHTER</p> <p>BIRTH HISTORY NUMBER <input type="text"/> <input type="text"/></p> <p>NAME _____</p>
GC11	Is (NAME OF DAUGHTER) circumcised?	<p>YES 1</p> <p>NO 2</p> <p>(GO TO GC11 ← IN NEXT COLUMN; OR IF NO MORE DAUGHTERS, GO TO GC16)</p>	<p>YES 1</p> <p>NO 2</p> <p>(GO TO GC11 ← IN NEXT COLUMN; OR IF NO MORE DAUGHTERS, GO TO GC16)</p>	<p>YES 1</p> <p>NO 2</p> <p>(GO TO GC11 ← IN FIRST COLUMN OF NEW QUESTIONNAIRE; OR IF NO MORE DAUGHTERS, GO TO GC16)</p>
GC12	How old was (NAME OF DAUGHTER) when she was circumcised?	<p>AGE IN COMPLETED YEARS ... <input type="text"/> <input type="text"/></p> <p>DONT KNOW 98</p> <p>IF THE RESPONDENT DOES NOT KNOW THE AGE, PROBE TO GET AN ESTIMATE.</p>	<p>AGE IN COMPLETED YEARS ... <input type="text"/> <input type="text"/></p> <p>DONT KNOW 98</p>	<p>AGE IN COMPLETED YEARS ... <input type="text"/> <input type="text"/></p> <p>DONT KNOW 98</p>
GC13	Was her genital area sew n closed? (3)	<p>YES 1</p> <p>NO 2</p> <p>DONT KNOW 8</p>	<p>YES 1</p> <p>NO 2</p> <p>DONT KNOW 8</p>	<p>YES 1</p> <p>NO 2</p> <p>DONT KNOW 8</p>
GC14	Who performed the circumcision? (4)	<p>TRADITIONAL CIRCUMCISER 11</p> <p>TRAD. BIRTH ATTENDANT 12</p> <p>OTHER TRAD. 16</p> <p>(SPECIFY)</p> <p>HEALTH PROFESSIONAL DOCTOR 21</p> <p>NURSE/MIDWIFE 22</p> <p>OTHER HEALTH PROFESSIONAL 26</p> <p>(SPECIFY)</p> <p>DONT KNOW 98</p>	<p>TRADITIONAL CIRCUMCISER 11</p> <p>TRAD. BIRTH ATTENDANT 12</p> <p>OTHER TRAD. 16</p> <p>(SPECIFY)</p> <p>HEALTH PROFESSIONAL DOCTOR 21</p> <p>NURSE/MIDWIFE 22</p> <p>OTHER HEALTH PROFESSIONAL 26</p> <p>(SPECIFY)</p> <p>DONT KNOW 98</p>	<p>TRADITIONAL CIRCUMCISER 11</p> <p>TRAD. BIRTH ATTENDANT 12</p> <p>OTHER TRAD. 16</p> <p>(SPECIFY)</p> <p>HEALTH PROFESSIONAL DOCTOR 21</p> <p>NURSE/MIDWIFE 22</p> <p>OTHER HEALTH PROFESSIONAL 26</p> <p>(SPECIFY)</p> <p>DONT KNOW 98</p>
GC15		GO BACK TO GC11 IN NEXT COLUMN; OR, IF NO MORE DAUGHTERS, GO TO GC16.	GO BACK TO GC11 IN NEXT COLUMN; OR, IF NO MORE DAUGHTERS, GO TO GC16.	GO TO GC11 IN FIRST COLUMN OF NEW QUESTIONNAIRE; OR IF NO MORE DAUGHTERS, GO TO GC16.

(Continued...)

GC16	Do you believe that female circumcision (2) is required by your religion?	YES 1 NO 2 NO RELIGION 3 DON'T KNOW 8	
GC17	Do you think that female circumcision should be continued, or should it be stopped?	CONTINUED 1 STOPPED 2 DEPENDS 3 DON'T KNOW 8	
<p>(1) Female genital cutting module can be inserted into the woman's questionnaire wherever it is appropriate, and questions should be renumbered accordingly.</p> <p>(2) Use local term for female circumcision.</p> <p>(3) This question should be adapted to reflect country-specific methods of infibulation (that is, ways in which the vaginal orifice is narrowed or "closed").</p> <p>(4) Coding categories to be developed locally and revised based on information collected before the survey and on the pretest; however, the broad categories must be maintained. The detailed coding categories for "health professional" are relevant in the countries where health professionals perform a large number of circumcisions.</p> <p>(5) Year of fieldwork is assumed to be 2010. For fieldwork beginning in 2011 or 2012, the year should be 1996 or 1997, respectively.</p>			

Table A2. Female genital cutting module for Man's Questionnaire

FEMALE GENITAL CUTTING FOR MAN'S QUESTIONNAIRE (1)			
NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
GC1	Have you ever heard of female circumcision? (2)	YES 1 NO 2	→ GC3
GC2	In some countries, there is a practice in which a girl may have part of her genitals cut. Have you ever heard about this practice?	YES 1 NO 2	→ NEXT SECTION
GC3	Do you believe that female circumcision (2) is required by your religion?	YES 1 NO 2 NO RELIGION 3 DON'T KNOW 8	
GC4	Do you think that female circumcision should be continued, or should it be stopped?	CONTINUED 1 STOPPED 2 DEPENDS 3 DON'T KNOW 8	
<p>(1) Female genital cutting module can be inserted into the man's questionnaire wherever it is appropriate, and questions should be renumbered accordingly.</p> <p>(2) Use local term for female circumcision.</p>			