

*Full Length Research Paper*

# Factors associated with female genital mutilation in Burkina Faso

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While the practice of female genital mutilation (FGM) has been abandoned in western countries, it remains common in many African countries from Senegal to Somalia, in the Middle East, in some parts of South-East Asia and even among immigrant communities in Europe, North America and Australia. Previous studies in Burkina Faso reported a high prevalence (77%) of FGM among 15 to 49 years old women and described the commitment of the government of Burkina Faso to end this practice. Little is known about the effect of this effort on the trend of FGM in the country. This study examined whether the prevalence of FGM changed overtime and identified the factors associated with this practice. Data from the 2010 multistage household survey of 15 to 49 years old Burkinabe women were analyzed. Simple frequency and logistic regression were used to meet the study objectives. Of the 3,289 women who participated in the survey, 68.1% had undergone FGM. Among those who had a daughter (n = 2258), 18.7% had a circumcised daughter. Young age [15 to 24 years (odd ratio (OR): 0.26, 95% confidence interval (CI) 0.21 to 0.31) or 25 to 34 years (OR 0.59, 95%CI 0.48 to 0.72)], ethnicity [Gourmatche ethnic group (OR: 0.48, 95%CI 0.31 to 0.73)], religion [Muslim (OR: 1.53, 95%CI 1.09 to 2.14)], and social support from community leaders (OR: 1.37, 95%CI 1.07 to 1.75) were significantly associated with the FGM among women in Burkina Faso. Although, FGM is associated with serious health risks, its prevalence remains unacceptably high in Burkina Faso. Social marketing interventions targeting community social norms, raising the community awareness about FGM, and empowering women to make informed decisions for their daughters are needed in order to end this deeply rooted tradition.

**Key words:** Female genital mutilation, prevalence, predictors, social norms, Burkina Faso.

## INTRODUCTION

An estimated 100 to 140 million women and girls worldwide are currently living with the consequences of female genital mutilation (FGM), including 92 million girls of 10 years and above in Africa (World Health Organization (WHO), 2008). FGM is a partial or total removal of the female external genitalia or other injury to the female genital organs for cultural or other non-therapeutic reasons (WHO, 2008). This ancient ritual can be traced back to ancient Egypt under the Pharaohs. Egyptian mummies were found to have been circumcised as far back as 200 BC (Kouba and Muasher, 1985;

Brady, 1999). While the practice of FGM has been abandoned in Western countries, it remains popular in many African countries (from Senegal to Somalia), in the Middle East, in some parts of South-East Asia and even among immigrant communities in Europe, North America and Australia (WHO, 1997).

Many health risks are associated with FGM, most notably among women who underwent infibulations. Short terms complications include pain, urinary infections, and hemorrhage. In the long term, women who had FGM complain of urinary incontinence, pelvic inflammatory diseases and infertility. Although, FGM can potentially transmit human immunodeficiency virus (HIV) infection, the actual risk remains controversial in the literature (Hrady, 1987; Kun, 1997; Brady, 1999; Monjok et al.,

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2007).

WHO and other United Nations organizations have recently issued a new joint statement and have broadened the FGM classification: Type I, partial or total removal of the clitoris, with or without excision of part or all of prepuce (clitoridectomy); Type II, partial or total removal of the clitoris and the labia minora, with or without excision of the labia majora (excision); Type III, narrowing the vaginal opening through the creation of a covering seal by cutting and repositioning the labia minora and/or the labia majora, and with or without removal of the clitoris (infibulations); and Type IV, all other harmful procedures to the female genitalia for non-medical reasons, such as pricking, piercing, incising, scraping and cauterizing the genital area.

With the increasing recognition of the FGM practice as a violation of the human rights of women and girls, several of the countries that ratified international treaties addressing various forms of discrimination and violence are taking actions to outlaw or criminalize this practice. Based on the results of the 2003 Enquête Démographique et de Santé (EDS), 77% of Burkinabe 15 to 49 years old women had undergone FGM. Burkina Faso is one of the pioneering African states engaged in the fight against FGM. In the past 18 years, it has put in place several institutional and normative measures to sensitize, dissuade and sanction potential or actual perpetrators of FGM (The World of Parliament, 2009).

The purpose of this study is threefolds: (1) to update the prevalence of FGM among Burkinabe women (15 to 49 years old) and their daughters, (2) to examine the reasons why women undergo the operation, and (3) to identify the factors associated with the practice of FGM among Burkinabe women and their daughters. This information will assist the government of Burkina Faso to assess not only the trends of FGM in the country, but also the effect of the effort undertaken in the past 18 years to fight FGM. A better understanding of factors associated with FGM will inform the design of more effective interventions. Finally, keeping the discussion about FGM alive will also encourage donors to consider funding interventions aimed at ending FGM.

### Theoretical framework

Population Services International (PSI)'s internal framework for behavior change and health impact, the Performance Framework for Social Marketing (PERForM) (Figure 1), guided this study. The PERForM framework has been described elsewhere (Chapman and Patel, 2004; Kassegne et al., 2011). Briefly, PERForM framework portrays a set of theoretical pathways through which social marketing interventions can potentially influence behaviors that affect health. The framework assumes that people's behaviors are influenced by two broad groups of factors including their socio-demographic characteristics and mutable behavioral determinants. The

PERForM framework identified 16 mutable behavioral determinants drawn from various health behavior theories [Belief Model (Rosenstock, 1974) and the Theory of Reasoned Action (Fishbein and Ajzen, 1975), and marketing theory (Chapman, 2004)]. These factors are grouped into 3 categories as Rothschild (1999) suggested: factors of opportunity (ability, social norms, etc) encompass institutional factors that influence someone to perform a desired behavior; factors of ability (knowledge, social support, self-efficacy) relate to individual's skills or proficiencies to perform the behavior; and factors of motivation (belief, attitude, expected outcome, etc) influence individual's desire to perform the behavior.

Promoting increased risk-reducing behavior and/or greater use of protective products or services through social marketing interventions will likely improve the health status and the quality of life of individuals.

This study focuses on 9 mutable determinants thought to be relevant to FGM practice: social norms, knowledge of health effects of FGM, social support, self-efficacy to oppose FGM, intention to accept FGM, locus of control for FGM, outcome expectation and threat related to FGM.

### METHODOLOGY

#### Sample

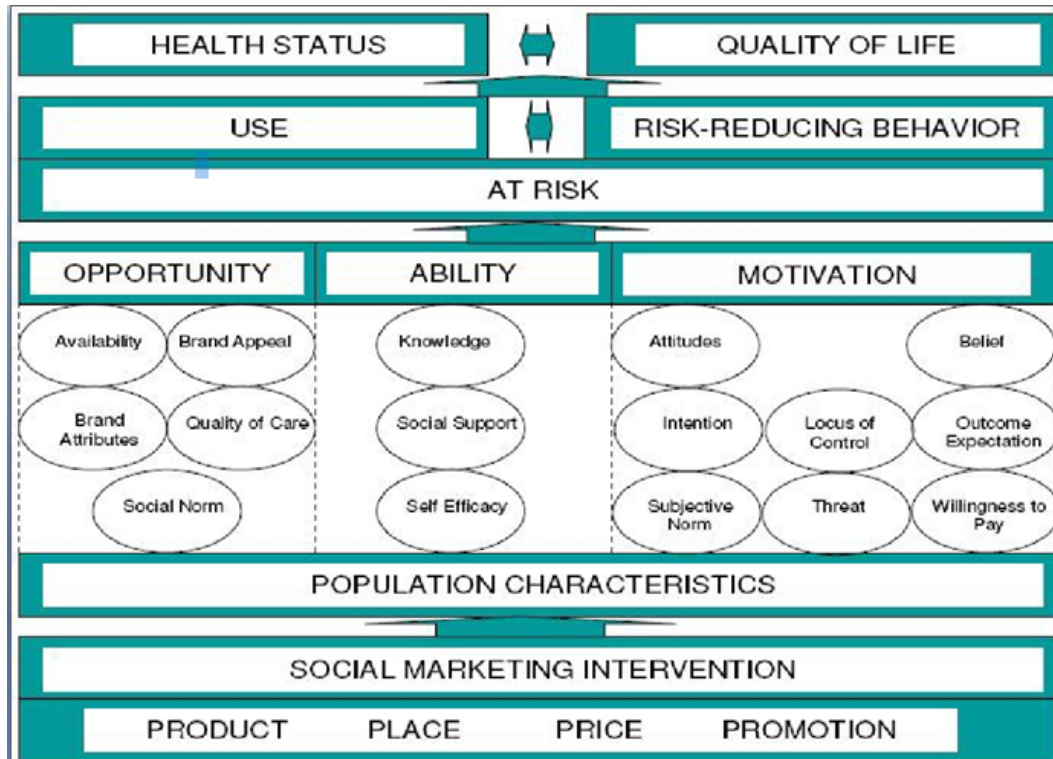
With funding from the Kreditanstalt für Wiederaufbau (KfW), PROMACO has been implementing the Program for the Prevention of HIV/AIDS and support for Reproductive Health (PREVISAR) since 2007 in order to contribute to the reduction of the prevalence of HIV/AIDS, female genital mutilation and maternal and infant mortality.

To assess the difference between women who had and those who had not undergone FGM with a confidence level of 95% and a power of 0.80, using an effect size of 1.5 and a 10% non-response rate, a sample size of 3,400 respondents were needed for the study.

To get this sample size, a cross-sectional survey of women of reproductive age was conducted between February and June 2010 using a three-stage sampling approach. The country's enumeration zones list from the 5 districts where the intervention took place (Hauts Bassins, South West, Plateau Central, Center East and East) served as the sampling frame. In the first stage, 103 enumeration zones were selected based on a probability proportional to the size of the district. The most populous districts contributed more enumeration zones. At the second stage, 30 households were randomly selected in each enumeration zone, yielding a total of 3090 households. Finally, all female household members of age 15 to 49 were asked if they would serve as survey participants and those who consented were interviewed. A total of 3,289 women were selected.

#### Ethical review

All researchers, involved in this study, were trained in courses certified by the Office of Human Resources Protections on the Code of Standards and Ethics for Survey Research. Participants were informed that they were participating in a research, that their participation was voluntary, and that their answers were confidential. Only participants who signed an informed consent



**Figure 1.** The performance framework for social marketing (PERFoM).

were included in the study. To ensure confidentiality for participants, researchers did not collect identifying information. Information collected was accessible only to members of the research team and was kept in locked file cabinets. The study was approved by the Population Services International Ethical Review Board.

### Measure

A pretested interviewer-administered questionnaire collected information on socio-demographic characteristics; knowledge and perceptions of FGM; its complications; sources of information about the practice; the age at which girls undergo the practice; and intention to circumcise their daughter. Information was also collected on household characteristics allowing for the calculation of household socioeconomic status (access to drinking water, toilet facilities, cooking fuel, consumer items (television, bike/car), wall/flooring material). Finally, the questionnaire measured opportunity, ability, and motivation (OAM) determinants of behavior, and exposure to the FGM interventions. A multi-item scale measured the OAM factors. Possible answers ranged from 1 to 4 "1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree". The determinants were reported as percentages of respondents who agreed with the statements. Trained interviewers collected the data under supervision of PROMACO researchers.

### Statistical analysis

Women who participated in the survey were asked "Have you been circumcised? Those who had a daughter were asked: "Has your daughter been circumcised?" The answers to these two questions were used to determine the prevalence of FGM among Burkinabe

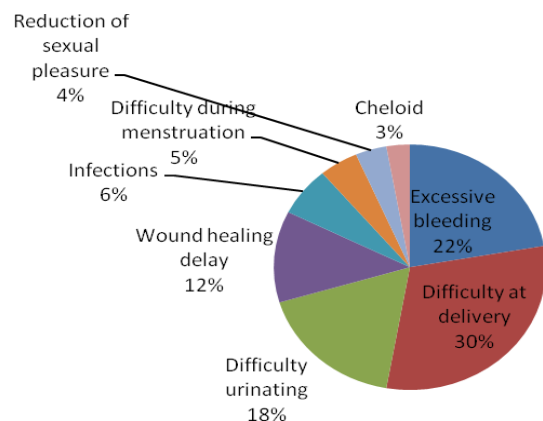
women and their daughters. Women who had and those who had not had FGM in one hand and women with and those without a circumcised daughter on the other hand were compared with regard to sociodemographic characters (Tables 1 and 2). Bivariate analysis was used to assess the difference between the different groups. UNIANOVA test was also used to compare the mean score for OAM between the two groups. Logistic regression was used to compare women who had and those who had not had FGM as well as women with and those without a circumcised daughter. All sociodemographic and behavioral variables were entered into the model, and non-significant items were dropped then re-entered one by one until the Wald statistic was <1.0. The remaining non-significant items were dropped from the model. Only significant items were presented in Tables 3 and 4. Statistical Package for Social Sciences (SPSS) Version 17 was used to analyze the data.

### RESULTS

Of the 3,289 Burkinabe women who participated in the survey, 2,240 (68.1%) underwent FGM. Among women who had a daughter ( $n = 2,258$ ), 18.7% had a daughter who underwent FGM. Traditional practitioners performed the vast majority of FGM (82.4%), although medical personnel are timidly making some inroads in this business (0.4%). The median age at which girls underwent FGM was 8 years. Majority of the participants (70.1%) failed to cite a single benefit for undergoing FGM. The few benefits cited included the improvement of the family social status (5.9%), better personal hygiene (5.4%) and increased chances of getting married (3.6%). Figure 2 summarizes the health complications reported

**Table 1.** Socio-demographics characteristics of Burkinabe women by female genital mutilation.

| Characteristic                    | Women who had had FGM |       |          |      | P-value |
|-----------------------------------|-----------------------|-------|----------|------|---------|
|                                   | No                    |       | Yes      |      |         |
|                                   | N = 1049              | 31.9% | N = 2240 | 68.1 |         |
| <b>Age of respondents (Years)</b> |                       |       |          |      |         |
| 15 - 24                           | 497                   | 46.5  | 566      | 53.2 | <0.001  |
| 25 - 34                           | 343                   | 28.9  | 843      | 71.1 |         |
| 35 - 49                           | 209                   | 20.1  | 831      | 79.9 |         |
| <b>Religion</b>                   |                       |       |          |      |         |
| Animist                           | 198                   | 33.3  | 397      | 66.7 | <0.001  |
| Muslim                            | 532                   | 29.3  | 1284     | 70.7 |         |
| Christian                         | 319                   | 36.3  | 559      | 63.7 |         |
| <b>Attended school</b>            |                       |       |          |      |         |
| No                                | 769                   | 30    | 1797     | 70   | <0.001  |
| Yes                               | 280                   | 38.7  | 1217     | 69.7 |         |
| <b>Socio-economic status</b>      |                       |       |          |      |         |
| Low                               | 520                   | 33.7  | 1023     | 66.3 | 0.037   |
| High                              | 529                   | 30.3  | 1217     | 69.7 |         |
| <b>Region</b>                     |                       |       |          |      |         |
| Center-east                       | 191                   | 27.1  | 514      | 72.9 | <0.001  |
| East                              | 255                   | 40.8  | 370      | 59.2 |         |
| Haut-Bassins                      | 267                   | 40.9  | 386      | 59.1 |         |
| Plateau Central                   | 95                    | 14.9  | 544      | 84.1 |         |
| South West                        | 241                   | 36.1  | 426      | 63.9 |         |
|                                   |                       |       |          |      |         |
| <b>Ethnic group</b>               |                       |       |          |      |         |
| Mossi                             | 368                   | 27    | 996      | 73   | <0.001  |
| Bissa                             | 108                   | 23.9  | 344      | 76.1 |         |
| Gourmatche                        | 220                   | 45.2  | 267      | 54.8 |         |
| Dioula                            | 10                    | 58.8  | 7        | 41.2 |         |
| Bobo                              | 21                    | 38.9  | 33       | 61.1 |         |
| Lobi/Birifor                      | 98                    | 36    | 309      | 64   |         |
| Dagara                            | 50                    | 33.8  | 99       | 66.2 |         |
| Others                            | 174                   | 34.5  | 186      | 65.5 |         |

**Figure 2.** Complications of FGM among Burkinabe women, 2010.

by women of reproductive age who had FGM. Difficulty at delivery (30%), excessive bleeding (22%) and difficulty urinating (18%) were the most commonly cited complications.

Table 1 summarizes the differences among women by their FGM status. Women who had and those who had not undergone FGM differed significantly with regard to most socio-demographic characteristics. A high proportion of FGM was observed among older women of 35 to 49 years old (79.9%), Muslims (70.7%), those who did not attend school (70.0%), women with a high socio-economic status (69.7%), those who lived in the Plateau region or were from the Bissa ethnic group.

Table 2 shows the differences between women with and without a circumcised daughter. The two groups differed in regard to all socio-demographic characteristics

**Table 2.** Socio-demographics and OAM characteristics of Burbinabe women by Daughters's Female Genital Mutilation status.

| Characteristic                    | Women with at least on daughter who had had FGM |       |            |      | P-value |
|-----------------------------------|---|-------|------------|------|---------|
|                                   | No  |       | Yes        |      |         |
|                                   | n = 1835  | 81.3% | n = 423    | 18.7 |         |
| <b>Age of respondents (Years)</b> |   |       |            |      |         |
| 15 - 24                           | 387   | 96.5  | 14         | 3.5  | <0.001  |
| 25 - 34                           | 830   | 87.1  | 123        | 12.9 |         |
| 35 - 49                           | 618   | 68.4  | 286        | 31.6 |         |
| <b>Religion</b>                   |   |       |            |      |         |
| Animist                           | 357   | 81.1  | 83         | 18.9 | <0.001  |
| Muslim                            | 957   | 78.3  | 265        | 21.7 |         |
| Christian                         | 521   | 87.4  | 75         | 12.6 |         |
| <b>Attended school</b>            |   |       |            |      |         |
| No                                | 1487  | 80    | 372        | 20   | <0.001  |
| Yes                               | 348   | 87.2  | 51         | 12.8 |         |
| <b>Socio-economic status</b>      |   |       |            |      |         |
| Low                               | 869   | 83.1  | 177        | 16.9 | 0.041   |
| High                              | 529   | 30.3  | 246        | 20.3 |         |
| <b>Region</b>                     |   |       |            |      |         |
| Center-east                       | 340   | 77.6  | 98         | 22.4 | <0.001  |
| East                              | 397   | 91.5  | 37         | 8.5  |         |
| Haut-Bassins                      | 374   | 82.2  | 81         | 17.8 |         |
| Plateau Central                   | 338   | 73    | 125        | 27   |         |
| South West                        | 386   | 82.5  | 82         | 17.5 |         |
| <b>Ethnic group</b>               |   |       |            |      |         |
| Mossi                             | 734   | 77.7  | 211        | 22.3 | <0.001  |
| Bissa                             | 218   | 77.9  | 62         | 22.1 |         |
| Gourmatche                        | 311   | 93.7  | 21         | 6.3  |         |
| Lobi/Birifor                      | 284   | 82.6  | 60         | 17.4 |         |
| Others                            | 288   | 80.7  | 69         | 19.3 |         |
| <b>Maternal history of FGM</b>    |   |       |            |      |         |
| No                                | 592   | 96.6  | 21         | 3.4  | <0.001  |
| Yes                               | 1229  | 75.4  | 402        | 24.6 |         |
| Intention to excise daughter      |   |       |            |      |         |
| No                                | 1771  | 83.1  | 360        | 16.9 | <0.001  |
| Yes                               | 60  | 48.8  | 63         | 51.2 |         |
| <b>Psychological factors</b>      |   |       |            |      |         |
| Social Norm- Women make decision  | Mean score                                      |       | Mean score |      | <0.01   |
| Social Norm- men make decision    | 2   |       | 2.29       |      | <0.19   |
| Social support par leaders        | 1.79  |       | 1.88       |      | 0.01    |
| Attitude that devalue FGM         | 2.88  |       | 2.94       |      | <0.01   |
| Cultural value                    | 3.47  |       | 3.21       |      | <0.01   |
|                                   | 3.19  |       | 3.19       |      | <0.01   |

studied. The proportion of women with uncircumcised daughters was high among 15 to 24 years old women (96.5%), Christians (87.4%), those who attended school (87.2%), lived in the East region (91.5%), were from

Gourmatche ethnic group (93.7%), had not had FGM themselves (96.6%), or did not have the intention to circumcise their daughters (83.1%). Furthermore, the mean score of most OAM factors differ significantly

**Table 3.** Adjusted odd ratio and 95% confidence interval for female genital mutilation (FGM) in Burkina Faso.

| Characteristic                    | Women that had FGM |             |
|-----------------------------------|--------------------|-------------|
|                                   | OR                 | 95% CI      |
| <b>Age of respondents (Years)</b> |                    |             |
| 15 - 24                           | 0.26               | 0.21-0.31   |
| 25 - 34                           | 0.59               | 0.48-0.72   |
| 35 - 49                           | Ref                | -           |
| <b>Religion</b>                   |                    |             |
| Animist                           | 1.17               | 0.87 - 1.56 |
| Muslim                            | 1.15               | 0.93 - 1.43 |
| Christian                         | Ref                | -           |
| <b>Attended school</b>            |                    |             |
| No                                | 1.1                | 0.91 - 1.35 |
| Yes                               | Ref                | -           |
| <b>Socio-economic status</b>      |                    |             |
| Low                               | 0.94               | -           |
| High                              | Ref                | -           |
| <b>Region</b>                     |                    |             |
| Center-east                       | 1.24               | 0.80 - 1.92 |
| East                              | 1.5                | 0.92 - 2.44 |
| Haut-Bassins                      | 0.69               | 0.31 - 0.73 |
| Plateau Central                   | 3.4                | 2.21 - 5.21 |
| South West                        | Ref                | -           |
| <b>Ethnic group</b>               |                    |             |
| Mossi                             | 0.96               | 0.74 - 1.25 |
| Bissa                             | 1.47               | 0.98 - 2.19 |
| Gourmatche                        | 0.48               | 0.31 - 0.73 |
| Lobi/Birifor                      | 0.87               | 0.59 - 1.28 |
| Others                            | Ref                | -           |

between the two groups.

Using maternal FGM status as the outcome of interest (Table 3), the multivariate regression analysis showed that 15 to 24 (OR: 0.26, 95%CI, 0.21 to 0.31) or 25 to 34 years old women (OR: 0.59, 95%CI 0.48 to 0.72) were significantly less likely to have had FGM as compared to older women (35 to 49 years old). Women who lived in the Hauts Bassins region (OR: 0.69; 95%CI 0.31 to 0.73) were significantly less likely than those who lived in the south-west region to have had FGM. Women from the Gourmatche ethnic group (OR: 0.48, 95%CI 0.31 to 0.73) were also less likely to have undergone FGM as compared to women from the other ethnic groups (Dagara, Dioula, Bobo and others). However, women who were Animist (OR: 1.17; 95% CI 0.87 to 1.58) or Muslims (OR: 1.15, 95%CI 0.93 to 1.43) were more likely than Catholic women to have undergone FGM, although the difference was not statistically significant. Those who

lived in the Plateau region (OR: 3.40, 95%CI 2.21 to 5.21) were three times more likely to have had FGM than those from the South.

On the other hand, when using the likelihood of having a circumcised daughter as the outcome of interest (Table 4), the model showed that women who lived in the Center-East region (OR: 2.09, 95%CI 1.00 to 4.35), were Muslim (OR: 1.53, 95%CI 1.09 to 2.14), reported receiving social support from community leaders (OR: 1.37, 95%CI 1.07 to 1.75) or agreed with statement that "women should decide whether to circumcise their daughter" (OR: 1.70, 95%CI 1.30 to 2.23) were significantly more likely to have a circumcised daughter when compared with their counterparts. However, those who were younger 15 to 24 years old (OR: 0.07, 95%CI 0.04 to 0.12) and 25 to 34 years old (OR: 0.31, 95%CI 0.24 to 0.41), had not undergone FGM (OR: 0.18, 95%CI: 0.11 to 0.29), did not intend to circumcise their daughter

**Table 4.** Adjusted odd ratio and 95% confidence interval for women to have uncircumcised daughter in Burkina Faso.

| Characteristic                      | Having uncircumcised daughter |             |
|-------------------------------------|-------------------------------|-------------|
|                                     | OR                            | 95% CI      |
| <b>Age of respondents (Years)</b>   |                               |             |
| 15 - 24                             | 7.4                           | 5.00 - 9.88 |
| 25 - 34                             | 3.15                          | 2.43 - 4.08 |
| 35 - 49                             | Ref                           | -           |
| <b>Religion</b>                     |                               |             |
| Animist                             | 0.64                          | 0.39 - 1.09 |
| Muslim                              | 0.65                          | 0.46 - 0.91 |
| Christian                           | Ref                           | -           |
| <b>Attended school</b>              |                               |             |
| No                                  | 0.79                          | 0.54 - 1.19 |
| Yes                                 | Ref                           | -           |
| <b>Socio-economic status</b>        |                               |             |
| Low                                 | 1.1                           | 0.93 - 1.28 |
| High                                | Ref                           | -           |
| <b>Region</b>                       |                               |             |
| Center-east                         | 0.47                          | 0.23 - 0.98 |
| East                                | 0.76                          | 0.34 - 1.71 |
| Haut-Bassins                        | 0.93                          | 0.49 - 1.72 |
| Plateau Central                     | 0.68                          | 0.35 - 1.34 |
| South West                          | Ref                           | -           |
| <b>Ethnic group</b>                 |                               |             |
| Moss                                | 1.25                          | 0.83 - 1.91 |
| Bissa                               | 1.63                          | 0.89 - 2.99 |
| Gourmatche                          | 2.88                          | 1.32 - 6.30 |
| Lobi/Birifor                        | 1.34                          | 0.73 - 2.50 |
| Others                              | Ref                           | -           |
| <b>Maternal history of FGM</b>      |                               |             |
| No                                  | 5.49                          | 3.44 - 8.76 |
| Yes                                 | Ref                           | -           |
| <b>Intention to excise daughter</b> |                               |             |
| No                                  | 2.81                          | 1.73 - 4.56 |
| Yes                                 | Ref                           | -           |
| <b>Psychological factors</b>        |                               |             |
| Social Norm- Women make decision    | 0.58                          | 0.44 - 0.75 |
| Social Norm- men make decision      | 1.39                          | 1.07 - 1.83 |
| Social support par leaders          | 0.78                          | 0.65 - 0.94 |
| Attitude that devalue FGM           | 1.28                          | 1.02 - 1.61 |
| Cultural value                      | 1.15                          | 0.86 - 1.53 |

(OR:0.36, 95%CI 0.22 to 0.59), or were from Gourmatche ethnic group (OR: 0.35, 95%CI: 0.16 to 0.76) were significantly less likely to have a circumcised daughter as

compared to older women (35 years+), women with a history of FGM, and women from other ethnic groups (Dagara, Dioula, Bobo and others), respectively.

## DISCUSSION

While the prevalence of women of reproductive age who had undergone FGM in Burkina Faso (68.1%), as well as the proportion of those who had circumcised daughters (18.7%) have decreased overtime as compared to 77% in 2003 (EDS, 2003) and 30.2% among their daughters (Karmaker et al., 2011), they remain unacceptably high. More efforts are needed to further reduce the practice of FGM in Burkina Faso.

The results of this study showed that the median age of girls being circumcised was eight years. This is in line with findings from previous studies. Sayet et al. (1996) found that 80% of girls in Egypt were circumcised between the ages of 5 and 9 years old; whereas Satti et al. (2006) found that 20% of girls (4 to 9 years old) in Sudan had undergone FGM. The practice of FGM at such a young age, when girls have no say whatsoever in the decision making process, underscores the need for a more aggressive involvement of the governments to protect these children.

The involvement of medical personnel in the practice of FGM marks a big change in a business historically dominated by traditional practitioners. Although, this involvement commonly referred to as "medicalization" of FGM, will likely decrease the negative health consequences of FGM, it may, however, delay or prevent the development of effective and long-term solutions for the abandonment of this long-standing tradition (Shell-Duncan, 2001). While some policy makers may have encouraged the medicalization of FGM for short term benefits, they should not overlook the ultimate goal of the fight against FGM, which is to ban the practice of FGM altogether.

This study identified several factors associated with the practice of FGM among women of reproductive age and their daughters. Age was strongly associated with the practice of FGM in Burkina Faso. Younger women (ages 15 to 24 and 25 to 34 years) were less likely than older women (34+) to have undergone FGM. Furthermore, younger women were less likely than older women to have circumcised daughters. This difference in the prevalence of FGM or the likelihood of having a circumcised daughter between younger and older women could be a harbinger of the loss in favor of this practice. More studies are needed to confirm this change.

Animist and Muslim women were only marginally more likely than Catholics to be circumcised. However, Muslim women were significantly more likely than Catholic women to have a circumcised daughter. While older women underwent FGM to fit in this patriarchal society, this does not seem to be true today. Catholic women's daughters are not likely to be circumcised. In order to bring about changes in this community, interpersonal communications should be organized with Muslim and other key leaders in the community.

The impact of maternal educational attainment on FGM

was counterintuitive. There was no significant difference in the prevalence of FGM by maternal educational attainment. Even the likelihood of having a circumcised daughter did not differ between women who attended or did not attend school. The impact of maternal educational attainment on FGM remains controversial in the literature. In a study of 15 countries conducted in 2005, UNICEF (2007) found a positive relationship between maternal educational attainment and FGM in eight countries, no relationship in six countries, and a negative relationship in one country, Nigeria, where the likelihood of having at least one circumcised daughter was greater among women with some education. The interaction with other variables (religion, ethnicity, etc.) may explain this finding. For example in the case of Nigeria, ethnicity was found to be an important confounding factor.

FGM is practiced across all regions in Burkina Faso. However, women living in the Plateau Central as well as those from the Central East were at high risk of FGM as compared to those from the South West. The regional variations in the prevalence of FGM are probably accounted for by the ethnic group distribution and the prevailing religion in the area (Carr, 1997; Hayford and Trinitapoli, 2009).

Women who underwent FGM were less likely to have their daughters circumcised. Although, FGM is so deeply entrenched in the social, economic and political structures of the community that its abandonment is perceived as a loss of status and protection (UNICEF, 2007); the low prevalence of FGM among young mothers and their daughters is a positive sign of change over time. FGM is no longer being practiced systematically on every girl. The Government of Burkina Faso should involve women who have defied this deeply rooted ritual in its interventions aimed at reducing the practice of FGM in Burkina Faso. For example, these women could serve as spokespersons in mass media campaigns or as peer educators.

The sentence should read: Maternal intention to circumcise daughters was also an important factor in the likelihood of circumcising a daughter. Many health behavior theories such as TRA (Fishbein and Ajzen, 1975) etc. share a common belief that intention is the single best predictor of an individual's behavior in a wide range of health domains (smoking, drinking, dental behavior, health screening, etc). Although there is a gap between intention and action (Kelley and Abraham, 2004), many reviews and meta-analyses support the predictive power of intention, showing that intention accounts for 20 to 40% of the explained variance of several behaviors (Cohen, 1992; Sheeran, 2002; Hagger et al., 2002; Godin and Conner, 2008).

Women who agreed with the statement that "women should decide whether to circumcise their daughter" and those who reported receiving support from community leaders were more likely to have a circumcised daughter when compared with those who did not. Community



leaders are generally old men. They are likely to enforce the existing social norms. Even if a girl's mother or another female relative makes the decision whether to circumcise the daughter, the decision is likely to fall in line with the established patriarchal norms of ensuring that the girl remains an accepted community member (Mackie and LeJeune, 2009).

While the large sample size as well as the sampling approach constitutes a major strength for this study, they also have some limitations. Information on FGM status was self-reported by women who participated in the study without any attempts to validate it through physical inspection or medical record review. Considering that FGM is a very sensitive and stigmatizing social issue in Burkina Faso, this leaves room to question the truthfulness of a young woman when questioned by an unknown interviewer. The likelihood for women to give culturally acceptable answers to the interviewer constitutes a real concern.

To conclude, the results of this study show that the practice of FGM is still high in Burkina Faso, despite the government's active involvement in the fight against it. However, the low prevalence of FGM among younger women and their daughters may be an indication of behavior change. Reports that FGM has decreased among groups in practicing countries (e.g. Ethiopia) further confirm that the fight against FGM can be won. Efforts to challenge the prevailing social norm should be reinforced, and focus on organizing young women who have abandoned the practice of FGM. Their social network should be made aware of their rejection of the FGM practice. Concomitantly, awareness-raising education and female empowerment and skill building programs should be put into place. Only through integrated community interventions can we unravel this deeply entrenched social practice.

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