The Power of Education on African Women's Health: A case study of Burkina Faso

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A case study of Burkina Faso

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Abstract

This paper researches Burkina Faso, an African country that is known for its performance of Female Genital Mutilation (FGM), a form of violence against women and girls. Does a higher level of education for women decrease the performance of FGM in developing countries? The research is about FGM in Burkina Faso which eventually allows us to say more about the influence of educational levels on the performance of FGM in general. In Burkina Faso, we have seen a decrease in the prevalence of FGM over the last 10 years. Even though FGM has been banned since 1996 the practice is still very common. Even now more than 70% of girls and women underwent this operation (Equality Now, 2021). We will do a statistical analysis to show the relationship between education and the prevalence of FGM. We also highlight the social norms and convention theory that lay behind this causation. The findings indicate that a higher level of education increases the chance that a woman is uncircumcised, controlling for Type of Place of Residence, Religion, Worked in the Last 12 Months, Ever Heard of Female Cutting, Wealth, and Husbands/Partner's Education. We also found that the odds of being uncircumcised rise when women have educated partners. When educated men become more willing to marry an uncircumcised woman it suggests a break, caused by education, from the social norms and beliefs that form the traditional practice of FGM within Burkina Faso.

1. Introduction

Women all over the world experience the consequences of gender inequality. It is vital to keep improving the care for women's health, more so in developing countries where violation of women's health is extensively present (Williams-Breault, 2018). Many children, and especially girls in African countries, need to help in households daily or are forced to marry at a young age. Therefore, they are often unable to follow an education or are more likely to drop out of school at an early age (ICRW, 2016). When education is not completed, chances of employment decrease, and dependence on husbands, families and communities grow. This study focusses on African developing countries.

One major indicator of gender inequality is Female Genital Mutilation (FGM), a human rights violation of girls and women in many African countries. It reinforces the lower status of women and girls within society as it imposes the repression of women in the way that it prevents them to enjoy sexual activity. Public health interventions focus on changing attitudes and norms that support FGM through educational programs, economic empowerment, and community mobilization (Williams-Breault, 2018). The under-education of large parts of the population within developing countries has a lot of effect on the poor level of general health African women are confronted with. Research on African women's health has shown that 'education of women promotes this individual and national well-being' (King & Hill, 2013, p. 1). Together with other factors, education affects illiteracy, unemployment, child marriage, maternal mortality, genital mutilation, and the prevalence of HIV and AIDS (Nour, 2008).

This study uses quantitative analysis to show the effects of education on the prevalence of FGM and will explain the theory behind the causal relationship for a more qualitative insight. Existing studies often only highlight the relationship between education and FGM prevalence (ICRW, 2019), and fail to explain what this relationship entails. This study seeks to explore and deepen the knowledge and existing research on this topic by discussing these underlying theories and applying them to the case of Burkina Faso. Burkina Faso is known for its performance of FGM. Burkina Faso is a special case where a decrease in the realm of FGM has been accomplished. The first lady of Burkina Faso, Sika Kabore, is very prominent in her statements about FGM and called for a boost to girls' education to help the elimination of FGM. Knowledge is powerful, and the possession of it by future generations can lead to more educated decisions for families, communities and individuals to abandon the practice. (Detoro, 2020).

First, we discuss the literature review and the theoretical framework to gain knowledge about the concepts and theories related to the subject of women's education and health, with a focus on FGM. Secondly, Burkina Faso's educational change over time and the effect it has on FGM will be studied in a small separate section for a more qualitative insight into the case. Subsequently, we will conduct a statistical analysis to research the relationship between the general education of women and the prevalence of FGM in Burkina Faso in 2010. The main objectives of this research are to (1) identify FGM in Burkina Faso, (2) investigate the influence education has in its relationship with FGM, (3) and look at the reasons behind this causal relationship using the social norms and convention theory. These objectives have led to the following research question: *What is the influence of the educational levels of women on the prevalence of FGM in developing countries?* The hypothesis to accompany this research question is: The higher the level of general education of a woman, the lower the odds are that she experienced FGM.

2. Literature Review

Female Genital Mutilation (FGM) is the 'practice of partial, or total removal of the external female genitalia, or other injuries to the female genital organs for non-medical reasons' (Varol, 2015, p. 1). The practice has no health benefits for women and almost always leads to complications later in life. FGM is a violation of the rights of girls and women all over the world and therefore significant in the field of public health. FGM comes with different consequences, both physiological and psychological. Medical impacts come with the use of unsterilized equipment and the lack of medicine against infections given for aftercare. Complications with childbirth arise due to the narrowing of the vaginal opening through stitching, and sexually transmitting diseases are more easily incurred. These are, amongst other things, reasons that FGM can cause death from infections or when giving birth (Shakirat et al, 2020). Mental issues arise after the performance while there is a lot of shame around the topic when it comes to experiencing pain around the mutilated area, especially when having intercourse. The forming of scar tissue over the mutilated area also causes women to feel humiliated and uncomfortable during sexual activities (Shakirat et al, 2020). There are four different types of FGM according to the WHO. Type 1: The partial or total removal of the clitoral glans. Type 2: The partial or total removal of the clitoral glans and the inner labia with or without removal of the outer labia. Type 3: The narrowing of the vaginal opening, also called infibulation. Type 4: All other harmful procedures to the female genitalia for non-medical purposes. Lastly, deinfibulation refers to the re-opening of the vagina for childbirth or sexual intercourse (WHO, 2011).

Despite the complications, the undesirability of the practice, and the efforts of elimination using law and intervention by governments and advocacy groups, FGM is still of frequent occurrence in many African countries. It is practiced in more than 30 countries in Africa and the Middle East. An estimated 200 million women are circumcised worldwide (Shakirat et al, 2020). FGM is linked to gender inequality, child marriage, educational disadvantages, and forced sexual debut (Williams-Breault, 2018). Williams-Breault (2018) claims that to eradicate FGM the empowerment of girls and women needs to be addressed. FGM is encouraged by not only men but also women themselves and performed by female traditional circumcisers (WHO, 2011). Therefore, it is important to investigate what both women and men can do to eradicate the practice within the community. Just in 2008, the UN defined FGM as 'a violation of human rights, a form of discrimination based on gender, and a form of violence against girls' (Williams-Breault, 2018, p. 227). Even though the practice of

FGM is recognized as a violation of human rights, the issue faded in discussion, since the practice is deeply rooted in African culture and tradition and limitation appeared difficult. This makes legislation difficult to approve and enforce (Williams-Breault, 2018). The consequence of legal restrictions is that the practice is driven underground (Williams-Breault, 2018). Girls are taken to other countries to perform the treatment or are subjected to FGM at a younger age when they are not susceptible to anti-FGM propaganda (Williams-Breault, 2018).

Even when the practice of FGM became prohibited in certain African countries, FGM rates did not reduce profoundly. Examples are Burkina Faso, Benin, Kenya, and Ethiopia. The decline in FGM rates is often not larger than 10%, which suggests other factors that possibly influence the fortitude of this practice. In a study from Koski & Heymann (2017) on these countries, where laws are enacted to criminalize FGM, results show only a slight decline over the past 30 years. Aside from the attempted policy reforms, there have been reduction approaches for FGM to motivate the slow eradication process. Such as substitutions for the more extreme forms of FGM (level 3,4) with less extensive forms (level 1,2). The medicalization of FGM also helps with the reduction of the severe harms that come with the practice. For example, the provisioning of sterile blades or the performance of the treatment by permitted healthcare providers (Koski & Heymann, 2017). These measures are controversial because they create a sense of acceptance of the practice. These approaches are seen as a legitimation of FGM, even though it is still a violation of female basic human rights (Koski & Heymann, 2017). Reducing approaches do not eliminate FGM or solve the repression women and girls experience and it does not solve gender inequality, which eventually is the goal. This research shines a light on the slow progress that is made and the fact that FGM stays in practice in many countries damaging the health of numerous women.

There are different perspectives on the motives for practicing FGM. Following Shakirat et al (2020), these perspectives can be divided into three categories: superstitious beliefs, hygiene & aesthetics, and society. In some distinct Islamic sects FGM is practiced, but in general the practice is not specifically required by most religious groups (Shakirat et al, 2020). Even though many people, even practicing groups themselves, sometimes think FGM is practiced due to religion and linked with for example Islam, this is not the case. FGM is not included in the Koran and various religious leaders have stated that the practice is not on religious grounds (Shakirat et al, 2020). The justifications vary between communities and are often linked to ethnicity. Nonetheless, there are some critical points that overlap. The most prominent perceptions of FGM are on a socio-cultural and traditional level as stated before (Shakirat et

al, 2020). Koski & Heymann (2017) suggest intervention strategies in the fight against FGM. They suggest community-based educational interventions. They explain that there is little high-quality evidence on what works in the prevention of the practice but that motivations often have to do with social mores that rule about the expression of female sexuality which can be altered through education (Koski & Heymann, 2017). This study investigates how education, social norms, and beliefs on FGM influence the practice and investigate with what kind of education the norm can be altered.

2.1 Superstitious Beliefs

In numerous African communities FGM is seen as a traditional core practice that must be preserved. It is a superstitious belief that due to FGM chastity is preserved and girls are purified. This purification is necessary for spiritual cleanliness and is thus required by traditional communities (WHO, 2011). The communities use fear of punishment by god or other supernatural forces (Shakirat et al, 2020). An example is a belief that external genitalia have the power to make infants abnormal and husbands die (WHO, 2011). Fears of women becoming aroused when riding a bike, or having tight clothes on to a point where uncut women can even get so aroused that they may rape men and thus cannot be trusted as they would be a threat to the community (WHO, 2011).

2.2 Hygiene & Aesthetics

Many women experience fear about not looking beautiful when they are uncircumcised (Shakirat et al, 2020). Cleanliness and beauty are important when getting married. The clitoris and external genitalia are believed to be ugly, dirty, or have a bad odor. Some communities even believe that when uncut, the genitalia can grow to oversized proportions (WHO, 2011). When FGM is the standard, uncut women feel shame and as if they are not as beautiful and clean as other circumcised women.

2.3 Society

Societal conceptions is the most extensive category of the three and fits in both categories mentioned above. It entails social punishments through family honor, marriageability, and status within communities (Shakirat et al, 2020). Many African girls and women who are not circumcised stand no chance of getting married. When girls and women do not participate in FGM they are often socially excluded and therefore parents are left with no choice other than

forcing their daughters to the practice. The image and social status of their families and community could otherwise be harmed. However, forcing their daughters to circumcision or other forms of FGM, will lead to them being honored by the community and well recognized (Shakirat et al, 2020). FGM is accepted as the preservation of a girl's virginity and thus the sexual emotions of girls. This is needed to contain their dignity, morality, and chastity (Shakirat et al, 2020). FGM also determines the status of women in society. It is seen as a mark of social and tribal distinction that derives status (Shakirat et al, 2020). For example, girls that are circumcised are worth more money when they are married off.

3. Theoretical Framework

3.1 Education

Under-education has a large effect on the deteriorating general health of African women. There is compelling evidence that the 'education of women promotes individual and national well-being' (King & Hill, 2013, p. 1). Higher levels of education are often linked with reduced maternal deaths, improved child health, and lower fertility (Population Reference Bureau, 2011). Curiosity arises about the effect of education on the prevalence of FGM in African countries. Education is an important mechanism to start discussions on the topic and create awareness about its consequences. When we think of education in connection to FGM it is common to think about forms of sex education on the topic. Sex education on FGM is expected to correlate positively with the decrease of FGM rates, as the results show more awareness about the practice and its consequences (ICRW, 2016). This is the case for education specifically about FGM, how about general education?

Recent research discovered that men and women who are educated or who follow higher levels of education are more likely to oppose FGM (UNICEF, 2022). For example, recent studies have shown a lower prevalence of FGM and more support for eradication among highly educated mothers and fathers in Burkina Faso (ICRW, 2016). Not only is the education of girls, mothers, and women in general of great importance, but also that of men. Men hold the roles of fathers, husbands, heads of the community, and traditional leaders that influence the practice to a great extent (Varol, 2008). Therefore, even though this study is mainly about the education of women, the education of men will also be discussed in the analysis. Literature often highlights an existing correlation between general education and the prevalence of FGM, but the theory behind this correlation is not discussed to a great extent, so a broader explanation is absent. The concepts of FGM and education have been illustrated, the research will look at education as a tool to eradicate or reduce the practice. The focus is on the theory behind this relationship and the effects of education on the beliefs about FGM.

3.2 Social Norms Theory

The conceptions of FGM are often presented with a positive tone within the communities and therefore serve as justifications for the practice. They undermine the consequences of the practice and the harm that is done to women and girls. The effects are downplayed to hold on to the social-cultural standards and perspectives (Shakirat et al, 2020). This is fitting within the social norms theory. This theory focuses on understanding behavior by looking at the

environment and interpersonal influences. It primarily looks at peer relations and the role they play in individual decision-making and behavior (LaMorte, 2022). Influence on behavior comes from perceived norms, based on what we think is typical or standard in a group. 'Norms are considered to be rules or expectations within social groups that guide behaviors. Group members expect and are expected to adhere to perceived norms because of social rewards or punishments associated with deviating from social norms' (Sood & Ramaiya, 2022, p. 3). Human behavior depends on what an individual thinks others want to see, especially living in close communities.

Following the social norms theory, Sood & Ramaiya (2022) also use the social convention theory to understand FGM within the social norms theory. When a sufficient amount of people perform FGM the practice becomes standardized. To shift the convention, and sustain it, a great mass of people need to change their beliefs and behavior (Sood & Ramaiya, 2022). Such a shift could allow uncut women to marry and let go of the other conceptions mentioned above. When more people accept this shift, a tipping point within the evolving situation will be reached eventually, where so many people have adopted the new norm that it becomes irreversible. Looking at the social norms theory and the social convention theory, the importance of social behavior and the pressure the population within the communities put on each other is evident.

3.3 Education, Conceptions, and the Social Norms Theory

Education is one of the tools for altering social norms and behavior. Williams-Breault (2018) research indicates that education feels less repressive than other top-down approaches like legislation. Laws and legislation are necessary for the reduction of FGM while it creates a legal environment that prohibits the population from the practice. Yet, the beliefs of mothers, fathers, traditional leaders, and the community are equally important for the eradication of FGM (Williams-Breault, 2018). General education is not always common in countries that have a high prevalence of FGM. A higher educational level leads to individuals that are more likely to rebel against the norm of FGM in their communities.

Women and men with higher education are more likely to have jobs later in their lives and therefore to make a living for themselves. This makes them less dependent on the norms of their parents, family, and community. In addition to economic autonomy, general education targets the population by increasing the likelihood to encounter people that do not practice FGM, as in some communities FGM is not at all common (UNICEF, 2022). This allows them to make more informed decisions regarding their reproductive health and agency (Bradley,

2019). For example, an educated woman has more contact with individuals that do not practice FGM in their community, and therefore her view on social punishments, hygiene and aesthetics, and superstitious beliefs can change. Their overall increased exposure to different cultures, norms, and values can be seen as a kind of social education. Eventually, we learn most from the people around us and we start to behave like we think we are expected to, as explained in the social norms theory. General education, in a different way than sex education on FGM, alters the way women value the practice.

Not to mention, thirty years ago a large part of the population of Burkina Faso was illiterate. Therefore knowledge often was based on the sayings of community and traditional leaders. Still to this day literacy rates are just above 30% for people ages 15 and above (The World Bank, 2022). Education makes people able to access a wider range of information on topics, through the ability to read books or news articles. An individual is able to have a mind of her own and shape her own opinions, norms, and values. Thus educated individuals have more capability to disprove certain practices parents, the community or leaders claim righteous.

Leading positions are often roles mainly obtained by men in traditional communities. They have influential power over the rest of the community, and thus the norms and beliefs that are settled. Intervention programs educating men decreased men's attitudes toward FGM by 25% (Varol, 2015). Cislaghi et al (2019) confirm that education is an effective tool to change social norms. She states that 'community discussions, where members of the same group identify local harmful practices and the norms that sustain them, eventually renegotiating both to achieve greater health, well-being, and empowerment for themselves and others in their group' are important (Cislaghi et al, 2019, p. 1). Education thus eventually increases the ability to question certain norms within the community and creates a safe space where this kind of critical thinking is allowed (ICRW, 2019).

There needs to be highlighted that education has its limits. FGM is a social-cultural phenomenon that is deeply rooted in African communities (Shakirat et al, 2020). The fears of social punishments are not easy to overcome in just a few years. Nevertheless, when education starts at a young age, and the benefits of education discussed above have had the time to integrate within society, then substantial changes when these young educated people grow up and themselves hold the positions of leaders in communities or are parents of daughters will be seen. Then young individuals who have had an upbringing filled with 'a variety of competing ideas, concepts and a broader worldview' (Bradley, 2019) are more capable to stop the coercion of FGM due to their changed social norms and future leading positions in the community. An

ICRW (2019) research claimed that there is ‘evidence pointing towards the correlation between education and FGM and it suggests more research and investigation on the topic to better understand this link while the body of work on this topic is rather small’. Studies on girls’ educational levels and the connection to FGM rates are limited. For this reason, it is important to research this topic while studies made connections to FGM with similar variables like school dropouts (ICRW, 2016).

4. Burkina Faso

In the following section the case that is studied, Burkina Faso, will be discussed. How does education influence the prevalence of FGM within Burkina Faso? Africa has the most concentrated number of cases of FGM. Burkina Faso has one of the worst rates of women's and child's health. More than 300 women out of every 100,000 die from maternal problems when giving birth (Chikhungu & Madise, 2015). In Burkina Faso, a drop in FGM rates is seen. Data shows a declined from 83,6% in 19998/1999 to 76,1% in 2010 (UNICEF, 2022). More women in 2010 believed that FGM should be eradicated by 90,6% in comparison to 1998/1999 with 75,1% (UNICEF, 2022). Burkina Faso enacted a law in 1996 to ban FGM and started different programs to campaign the eradication of FGM including education and awareness campaigns (Chikhungu & Madise, 2015). Even though FGM has been banned since, FGM remains a common act and still more than 70% of girls and women have undergone this operation in Burkina Faso (UNICEF, 2022). Burkina Faso is one of the few African countries with implemented laws on elimination within society, in contrast to many other countries. Most court cases of the countries that prohibited FGM are reported in Burkina Faso. The maximum prison sentence is three years and a fine of US$244-1,465 can be given to anyone that harms or attempts to harm the female organ (UNFPA, 2018). Strong implementation and law enforcement were key to the successful decrease. Another example, in which Burkina Faso is a remarkable case compared to other African countries, is the use of a free telephone line that encourages people to report planned or committed practices (UNFPA, 2018). This does not mean that the practice is even close to being eliminated. Curiosity arises about what other factors hold the practice in place.

Looking at the enrollment in primary and secondary education within the country, educational levels have risen in Burkina Faso over the last 20 years (The World Bank, 2022). Over the years, a difference in the prevalence of FGM between older and younger women becomes visible. This means there is a declining trend between different generations in the country. This supports the argument that young educated individuals with changed social norms can reduce the coercion of FGM when they grow up and take over places in leading positions. Chikhungu & Madise (2015) state that the government and developmental partners should promote girls' participation in education. 70% of women cannot find one benefit that they have experienced from FGM, and 90% of them think the practice should be banned (UNICEF, 2022). This supports the theory of the role that peer pressure and social networks have within the

community. Women often get circumcised because they are scared of social punishment and not because they choose to themselves. Educated women are less likely to have their children circumcised in Burkina Faso (Chikhungu & Madise, 2015). Education improves the position of women in society, as they become more independent of their husbands and the community due to increased control of resources in Burkina Faso (Chikhungu & Madise, 2015). The effects of laws and education of parents on community behavior regarding FGM have been discussed. This study further focuses on educating the women of Burkina Faso and if then they are more or less likely to be circumcised looking at different levels of education.

5. Method

This study is both quantitative and qualitative. A survey that holds the numbers of educational levels, the prevalence of FGM, and all the control variables is used. Apart from the survey, papers on FGM and social norms already have been used. This research will build on existing literature on FGM and social norms. The 2010 survey of Burkina Faso with women aged 15-49 years from the DHS program is used to conduct the analysis (Demographic and Health Survey, 2022). The survey consisted of personal interviews with females, so the level of analysis is on an individual level with 5088 respondents. The survey is representative of Burkina Faso's female population while random households with females aged 15-49 years over the width of the country are included in the survey and the average life expectancy is 61 years. This means that only the very oldest group of women is not included in the survey.

The most important concepts analyzed are education and the prevalence of FGM. The Highest Educational Level variable will be divided into four categories: no education, primary education, secondary education, and higher education. Even though there are four types of FGM this study will not take this differentiation into account and will focus on FGM as a whole. We find that circumcised women often are not able to differentiate the type of FGM they endured and therefore we cannot rely on them to report the correct type (Elmusharaf et al, 2006). One in four women who have undergone FGM reports the practice incorrectly (Elmusharaf et al, 2006). From the 2010 DHS dataset, we use the variable: Respondent Circumcised to measure the prevalence of FGM. Questions are answered with yes or no. Several control variables are taken into account in the statistical analysis. These enhance the internal validity of the study while they make sure other factors that influence the dependent or independent variable stay constant. In this way, there is no research on non-existent causal relationships and the influence of confounding variables is eliminated.

The first control variable is sex education about FGM and will be measured through the variable Ever Heard of Female Circumcision. It is important to know if there is an effect of general education on FGM. To accomplish this the height of the effect from general education that is caused by sex education about FGM needs to be known. When participants have heard about FGM they have had some kind of sex education about FGM and are more aware of the dangers and consequences that come with the practice. Some women might know what FGM is but are never told what the consequences of the practice are before the treatment is done. Men are often not aware of the consequences, or even the practice itself, while the treatment is

done and accompanied only by women within the family and female traditional circumcisers (WHO, 2011; Varol, 2015).

The second control variable is religion. Even though FGM is often not based on religious grounds, it still cannot be pushed aside. Religion is a major influence on social norms within communities and therefore should be taken into account. The variable is categorical with the different categories: Protestant, Jewish, Catholic, Muslim, traditional, no religion, and other.

The third and fourth control variables are the employment of respondents in the last 12 months, and their level of wealth from poorest to richest. The fifth control variable is the place of residence which will be divided into the categories of rural or urban. The third, fourth and fifth control variables are of importance while under-education and FGM are more common in rural and less wealthy places.

The sixth control variable is the educational level of the husband/partner of the respondents. With this, the contribution of men in the eradication of FGM is researched. The last control variable is Ethnicity. It is categorized by 17 different ethnicities that can be found in Burkina Faso. It is important to involve this factor, while ethnicity influences a respondent's community culture and thereby their social norms and standards. It determines their way of living and their beliefs.

A logistic regression model with controls is conducted to see if Highest Educational Level and Respondent Circumcised have a reason-result relationship. Logistic regression calculates the probability of circumcision (1) over the probability of being uncircumcised (0). It determines the impact of several independent variables to predict the membership of one of these categories. All the assumptions of logistic regression are met. The data is not paired and there is no multicollinearity. The independent variables do not correlate too much with each other when testing Spearman's rho. The correlation coefficient should be between -0.7 and 0,7 for every independent variable, which is the case. Linearity in the logit for continuous variables does not apply, and there can be no strong influential outliers with the use of categorical variables only. Lastly, the dependent variable consists of two categories so it is binary. The sample size should be around ten times the number of independent variables which for this research means a minimum of 800 which is easily met with 5079 cases in model 1 and 1478 cases in model 2. The issue of a possible reversed causal relationship needs to be recognized. This means that a woman’s circumcision causes her inability to enter school or a higher level

of education and so women who are circumcised are less educated. The discussion will continue on this and give a more elaborated insight.

6. Analysis and Results

6.1 Contingency Tables

This research investigates whether different educational levels individually affect being circumcised or not. The null hypothesis (H0) will state that there is no relation between the two variables. The alternative hypothesis (Ha) states that the higher the level of general education of a woman, the lower the odds are that she experienced FGM. Before the logistic regression is conducted cross-tabulations are calculated (Table 1) to explore the relationship between the two variables. The table shows that the relationship between the independent variable and the dependent variable is significant ($X^2 = 57{,}690$, $p < 0{,}001$, $df=3$). When the educational level goes up, the percentage of respondents who are uncircumcised increases from 17,3% with no education to 50% with higher education. The percentage of respondents that are circumcised decreases from 82,7% with no education to 50% with higher education. In the higher education category, the percentage of respondents who are circumcised is the same size as uncircumcised respondents (50/50). In a study by UNICEF (2022). Opposition to FGM within Burkina Faso rises from 85% to an estimated 95% between the different levels of education. This percentage is much larger between no education and any of the levels of education. This corresponds with the findings that the largest difference is between having no education and having some kind of education. The higher educational levels themselves have little difference between them. Entering education at a young age limits the chance of FGM being practiced on a girl, and the level of education eventually achieved has less of an effect (UNICEF, 2022).

Table 1. Crosstabulations of Highest Educational Level and Respondent Circumcised.

Highest educational level * Respondent circumcised Crosstabulation

			Respondent circumcised		
			No	Yes	Total
Highest educational level	No education	Count	713	3419	4132
		% within Highest educational level	17,3%	82,7%	100,0%
	Primary	Count	156	476	632
		% within Highest educational level	24,7%	75,3%	100,0%
	Secondary	Count	89	206	295
		% within Highest educational level	30,2%	69,8%	100,0%
	Higher	Count	10	10	20
		% within Highest educational level	50,0%	50,0%	100,0%
Total		Count	968	4111	5079
		% within Highest educational level	19,1%	80,9%	100,0%

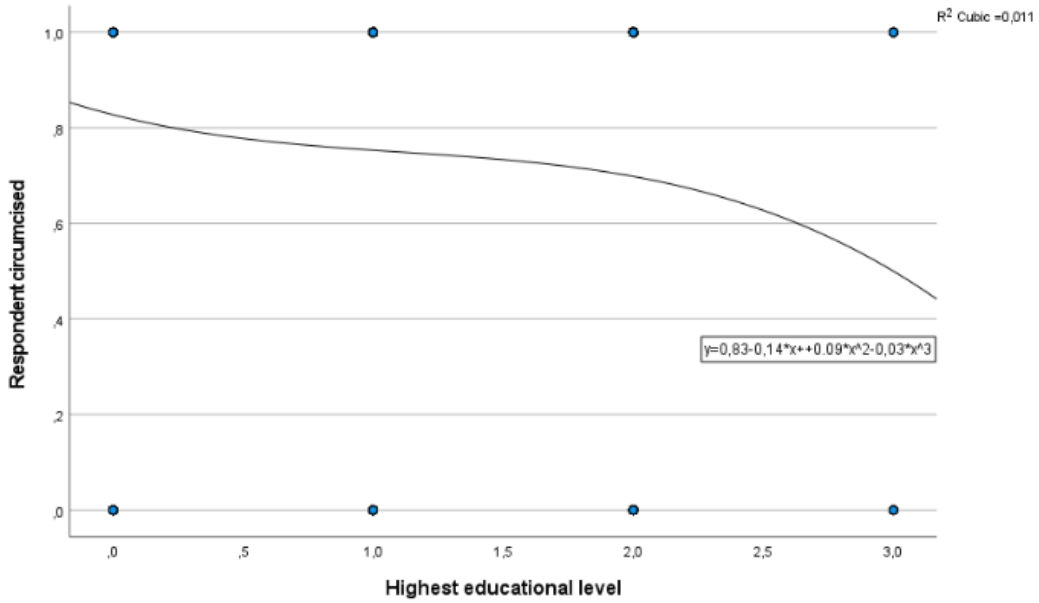
6.2 Logistic Regression

With logistic regression the odds of being circumcised are predicted. The three dummy variables are compared to the baseline category: no education. For the effect of educational levels on the likelihood to be circumcised, the odds ratio is used (Exp(B)). When the odds ratio is above 1 the probability of being circumcised is greater than being uncircumcised. When the odds ratio is under 1 the probability of being uncircumcised is greater than being circumcised. The Highest Level of Education significantly predicts if the respondent is circumcised (Highest Educational Level (1) Wald = 20,023, $p < 0,001$, df = 1) (Highest Educational Level (2) Wald = 29,830, $p < 0,001$, df = 1) (Highest Educational Level (3) Wald = 12,184, $p < 0,001$, df = 1).

First, Highest Educational Level (1), which is someone with primary education, has the odds of being circumcised 0,636 times lower than someone with no education. This is a reduction of 36,4%. This means that those who have no education are more likely to be circumcised than respondents who followed primary education. Of the entire population of Burkina Faso, women who followed primary education have odds of being circumcised that are 0,522-0,776 times the odds of women who did not follow education (95% CI = 0,522-0,776). Next, Highest Educational Level (2), which is someone with secondary education, has the odds of being circumcised 0,483 times lower than someone with no education. This is a reduction of 51,7%. This again means that those who have no education are more likely to be circumcised than respondents who have secondary education. Of the entire population of Burkina Faso, women who followed secondary education have odds of being circumcised that are 0,372-0,627 times the odds of women who did not follow education (95% CI = 0,372-0,627). Lastly, Highest Educational Level (3), which is someone with higher education, has the odds of being circumcised 0,209 times lower than someone with no education. This is a reduction of 79,1%. This means that those who have no education are more likely to be circumcised than respondents who have higher education. Of the entire population of Burkina Faso, women who followed higher education have odds of being circumcised that are 0,086-0,503 times the odds of women who did not follow education (95% CI = 0,086-0,503).

To conclude, the odds-ratio decreases when the level of education goes up. The probability of being circumcised decreases and the probability of being uncircumcised increases. The null hypotheses can be rejected since the model is significant ($p < 0,001$). Therefore, a conclusion can be made based on sufficient evidence that when educational levels increase, respondents are more likely to be uncircumcised than circumcised (Table 2). The model fits the data adequately (-2LL = 4896,084).

Table 2. Scatter-Plot of Highest Level of Education and Respondent Circumcised.



6.3 Logistic Regression with Controls

In model 2 (Table 3) we added the control variables to the regression. The independent variable still significantly predicts the dependent variable (Highest Educational Level (1) Wald = 4,486, $p < 0,05$, df = 1) (Highest Educational Level (2) Wald = 7,523, $p < 0,01$, df = 1) (Highest Educational Level (3) Wald = 6,103, $p < 0,05$, df = 1). If the odds-ratio coefficient stays somewhat constant for the Highest Level of Education when adding control variables, then the independent variable has an individual effect on being circumcised, controlling for Type of Place of Residence, Religion, Worked in the Last 12 Months, Ever Heard of Female Cutting, Wealth and Husbands/Partner's Education. Looking at model 2 (Table 3), the odds-ratio coefficient of the Highest Level of Education variable has risen slightly in comparison to when no controls were added, but not radically. The null hypothesis is rejected and the alternative hypothesis: The higher the level of general education of a woman, the lower the odds are that she experienced FGM, controlling for Type of Place of Residence, Religion, Worked in the Last 12 Months, Ever Heard of Female Cutting, Wealth and Husbands/Partner's Education is accepted. The model still fits the data adequately (-2LL = 4478,140) and the control variables allow us to have a good estimate of the influence of education on FGM.

Worked in the Last 12 Months, Type of place of Living, Ever Heard of Female Circumcision are not significantly linked with being circumcised ($p > 0,05$). The control variables that affect the model are Religion, Ethnicity, Wealth, and Husbands/Partner's Education. Religion (1), which is Muslim, is significantly correlated with being circumcised (Wald = 18,572, $p < 0,05$, df = 1). A Muslim respondent has an odds of being circumcised 3,970 times higher than a respondent who is not Muslim. This is an increase of 39,7%.

For Ethnicity Gourmatché, Gourounsi, Lobi, Mossi, Sénoufo, Touareg/Bella, and Pays CEDEAO are significantly linked with circumcision. Gourmatché, Gourounsi, Touareg/Bella, and Pays CEDEAO have odds-ratio values under 1 and that means that they are more likely to be uncircumcised than the Bobo ethnicity. Lobi, Mossi and Sénoufo have odds-ratio values above 1 and therefore are more likely to be circumcised in comparison with the Bobo ethnicity. Wealth (2), which is middle-class wealth, is significantly correlated with being circumcised (Wald = 4,996, $p < 0,05$, df = 1). A respondent who has middle-class wealth has the odds of 0,797 times lower of being circumcised than a respondent who falls into the poorest class. This is a reduction of 25,3%.

To conclude, some ethnicities and the Muslim religion are significantly correlated with circumcision. This is in line with the findings discussed before. The prevalence, the type, and the reasoning behind FGM differ per ethnic group within Burkina Faso. We also established that FGM is not of religious ground, which is corresponding with our findings that Catholic, Protestant, and traditional religions have no significant correlation with the prevalence of FGM (Shakirat et al, 2020). We stated that religion and the connection to FGM is a confusing matter, especially within Islam. This also is in agreement with the previous research which stated that even though FGM is not a religious practice, some groups within Muslim cultures do practice it. Even Muslims practicing FGM themselves sometimes believe that it is practiced due to religious reasons even though FGM is nowhere to be found within the Koran (Shakirat et al, 2020). Lastly, Husbands/Partner's Education 1 and 2 are strong significant predictors of the odds of being circumcised (Husbands/Partner's Education (1) Wald = 18,005, $p < 0,001$, df = 1) (Husbands/Partner's Education (2) Wald = 5,372, $p < 0,05$, df = 1). A respondent who has a partner with primary education has a 37,6% less chance of being circumcised and a respondent who has a partner with secondary education has a 31,8% less chance of being circumcised. Higher education and other kinds of education are not significantly linked with the odds of being circumcised. Here again, the largest difference is between having no education and having some kind of education.

Table 3. Logistic Regression of Circumcision in Burkina Faso.

	Model 1	Model 2
(Constant)	4,795***	0,838
Highest educational level (1)	0,636***	0,779*
	(0,522-0,776)	(0,618-0,982)
Highest educational level (2)	0,483***	0,616**
	(0,372-0,627)	(0,435-0,871)
Highest educational level (3)	0,209***	0,276*
	(0,086-0,503)	(0,100-0,767)
Type of place of residence (1)		0,983
		(0,780-0,1,237)
Religion (1)		4,215***
		(2,191-0,8,109)
Religion (2)		2,330*
		(1,210-0,4,488)
Religion (3)		2,274*
		(1,146-0,4,514)
Religion (4)		2,283*
		(1,157-0,4,503)
Ethnicity (1)		1,222
		(0,473-3,157)
Ethnicity (2)		0,803
		(0,519-0,1,241)
Ethnicity (3)		0,472***
		(0,317-0,703)
Ethnicity (4)		0,461***
		(0,304-0,698)
Ethnicity (5)		3,191***
		(1,684-0,6,048)
Ethnicity (6)		1,291
		(0,909-1,833)
Ethnicity (7)		1,704*
		(1,060-0,2,739)
Ethnicity (8)		0,075***
		(0,042-0,135)
Ethnicity (9)		1,068
		(0,657-1,739)
Ethnicity (10)		1,348
		(0,792-2,294)
Ethnicity (11)		0,215*
		(0,079-0,586)
Ethnicity (12)		0,537
		(0,041-7,032)
Ethnicity (13)		407379283,429
		(0,000-.)
Ethnicity (14)		1,216
		(0,776-1,905)
Ethnicity (15)		390525826,190
		(0,00-.)
Worked in last 12 months (1)		1,986
		(0,472-8,364)
Worked in last 12 months (2)		1,314
		(0,424-4,072)
Ever heard of female circumcision (1)		1,802
		(0,363-8,943)
Wealth index (1)		0,797
		(0,622-1,021
Wealth index (2)		0,747*
		(0,578-0,965)
Wealth index (3)		0,827
		(0,634-1,078)
Wealth index (4)		0,773
		(0,549-1,088)
Husband/partner's education level (1)		0,624***
		(0,502-0,776)
Husband/partner's education level (2)		0,682*
		(0,494-0,943)
Husband/partner's education level (3)		0,850
		(0,315-2,294)
Husband/partner's education level (4)		0,770
		(0,197-3,018)
-2LL	4896,084	4478,140
Cox & Snell R Square	0,010	0,081
Nagelkerke R Square	0,016	0,129
N	5079	1478

Note: odds ratio's with 95% confidence intervals in brackets.

****p < 0,001, ** p < 0,01, *p < 0,05*

7. Discussion

This research investigates the influence educational levels of women have on the prevalence of FGM within Burkina Faso. The research question is: *What is the influence of the educational levels of women on the prevalence of FGM in developing countries?* The overall key findings prove that education in general has a positive influence on the prevalence of FGM. An increase in a woman's educational level decreases the chance of her being circumcised. This decrease is seen per educational level in comparison to no education. The data significantly supports the hypothesis: The higher the level of general education of a woman, the lower the odds are that she experienced FGM. The control variables: Type of Place of Living, Worked in the Last 12 Months, Religion, Ethnicity, and Ever Heard of Female Circumcision did not influence the independent and dependent variables to a great extent. Hence, we can state that the data supports the research question and that educational levels have an individual effect on FGM prevalence which proves the internal validity of the research.

The theories and literature that have been discussed are in line with the findings. Educated women are more likely to socialize with different peers that may have other beliefs on FGM. Due to education, they are exposed to interventions and other worldviews. This shows that the relationships with others (community, peers, family) constructs the world view of individuals. Education promotes the expansion of world views and the possibility of breaking away from one-sided socially accepted perspectives. There is established that a higher level of education reduces the likelihood to be circumcised in Burkina Faso. As said by an ICRW (2019) research 'Education allows the introduction of new concepts and the exchange of ideas, along with access to sources and information, technology and programming in spaces that foster critical thinking and social relations'. The findings support the role the convention theory and social norms theory have on the prevalence of FGM (Chikhungu & Madise, 2015).

Our qualitative research implies that education influences the cultural and traditional views of FGM which are in the grip of social norms. Even though education and its different levels make women or girls less likely to be circumcised is significantly proven, it is difficult to prove the certainty of the relationship between education and social norms/beliefs on FGM in this study. Preferably survey questions were included in the statistical analysis that measure the beliefs about social norms. Unfortunately, they were not available. The research did establish that women who are married to educated men are less likely to fall into the category of circumcised with the control variable educational level of the husband/partner. This supports the social norms and convention theory and the effect of education on them. Suppose more

educated men are willing to marry uncircumcised women. In that case, it proves that education can remove the social obligation associated with FGM, namely that of marriageability, and starts the conversation about FGM between men and women (Varol, 2015). This is where social beliefs about FGM change within the community through education. A tipping point can be reached due to a shift in the community's perceptions of FGM through education. This is a promising finding for the effect of education on other societal, hygienic, or superstitious beliefs about FGM. We have established the relationship between education, social norms, and FGM. The role of social norms in this triangular relationship should be expanded in further research.

Further limitations of the study starts with the control variable which was supposed to control sex education about FGM, Has Ever Heard of Circumcision. The main goal was to see if general education affected FGM prevalence. To accomplish this the height of the effect from general education that is caused by sex education about FGM needs to be known. This variable does not grasp the scope of sex education and therefore the effect of sex education and general education cannot be separated well in this study. There has been established that different levels of education in comparison to no education make a substantial difference in FGM rates, but every higher level has less and less effect. This supports the argument that entering education mostly prevents FGM on young girls and higher education, often attained when older, influences the chance of getting circumcised less.

The possibility of a reversed causal relationship has been discussed. This would mean that circumcision causes a child to not enter school or higher levels of education. Women who are circumcised are then consequently less educated. An argument that limits the possibility of a reversed causal relationship is that circumcision takes place from infancy to approximately 15 years old. There are also some suggestions that that age is dropping (United Nations Population Fund, n.d.). FGM then should only limit enrollment in school and not the possibility of a higher level of education while a girl often is already circumcised before secondary or higher education. Even though the effect is less significant, it does not mean that a higher level of education was not significantly correlated to FGM prevalence. If there were to be a reversed causal relationship there would be no significant causal relationship between secondary and higher levels of education and FGM.

Lastly, the biases of the surveys that are conducted within Burkina Faso need to be addressed. As discussed before, FGM is a sensitive subject and therefore women and men within villages might not answer the questions according to the truth. Even though a significant relationship between education and FGM is established, still half of all higher-educated women

are circumcised. Women are still subjected to FGM. Only 947 respondents in the survey followed education and only 20 followed a higher education (Table 1). The effect we see in the research is reasonably large but it still affects a minimal number of women. Even though education has contributed and will continue to contribute to the reduction of FGM. It is not the complete solution and other factors should be taken into account in future research. These are discussed in the next section.

8. Conclusion

This research paper gives an insight in the causal relationship between levels of general education and FGM rates in Burkina Faso. There was no room for an in-depth qualitative case study of multiple African countries to build solid arguments for the social norms and convention theory, therefore it is recommended to do this in future research. The study also solely focused on Burkina Faso. With more studies on several different countries where FGM is practiced these theories can be broadened and generalized.

As discussed, studies have shown a lower prevalence of FGM and more support for eradication among highly educated mothers and fathers in Burkina Faso, Tanzania, Ghana, Iraq, and Egypt (ICRW, 2016). In the study of Chikhungu & Madise, (2015) they state that one of the reasons we see a reduction in Burkina Faso is due to educated women who are less likely to subject their daughters to FGM. After discovering that women with an educated partner are less likely to be circumcised, it makes us wonder if this same effect applies to the children of more educated parents. This should be analyzed in further research together with other factors influencing FGM which are not discussed in detail in this research. For example, the contrast between the different ethnicities, or laws and their implementation which are important factors that helped lower the practice in African countries and which made an enormous difference in Burkina Faso. The prevalence of FGM lowered while the implementation of laws was taken seriously and citizens within the communities, police, and politics made the matter a priority (UNFPA, 2018).

The results showcase that educational levels lower the chance of being circumcised for a woman. The largest difference noticed, was between no education and any education at all. Despite long-term concerns and efforts to eradicate the practice, FGM has not been abandoned effectively yet (Khosla et al, 2017). This study is of importance to the field because it focuses on a topic that was always suggested to be influencing FGM rates but has not been looked into extensively namely: general education. It opens the debate on the theory behind the causal relationship between education and FGM, namely the social norms and convention theory. In this way, the study takes a step further than only briefly highlighting this causal relation. Social norms are the basis of society and the beliefs on FGM. If these beliefs do not change within practicing communities, programs or laws can only do so little (Williams-Breault, 2018).

This study is a step in the right direction but still much more can be done in further research. A decrease is established in this research but the decline is still small. The fact that FGM is performed in traditionally led communities, makes it hard to interfere with long-

standing superstitious beliefs (Shakirat et al, 2020). The fears of non-marriageability, punishment by supernatural forces, or being seen as a shame for the whole family and community, are not simple to overcome. It is needed to repeatedly educate communities over several years or even decades to see slight changes in these beliefs. Still, thousands of girls and women are circumcised every day. This practice undermines the rights of women and girls. It is a human rights violation of girls and women in Burkina Faso and all over the world. It reinforces the erroneous lower status of women and girls within society and is one of the many ways in which gender repression continues. The eradication of FGM goes beyond the eradication of the practice alone, it is a fight against gender inequality and for the empowerment of women.

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