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Circumciser Type and the Type of Female Genital Mutilation/ Cutting Prevalence for Girls Ages 0-14 years in Ethiopia

Jean-Pierre Ramazani Abedi
Walden University

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Walden University

College of Health Sciences and Public Policy

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Jean-Pierre Ramazani Abedi

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Review Committee

Dr. Stacy-Ann Christian, Committee Chairperson, Public Health Faculty

Dr. Jamuir Robinson, Committee Member, Public Health Faculty

Chief Academic Officer and Provost

Sue Subocz, Ph.D.

Walden University

2025

Abstract

Circumciser Type and the Type of Female Genital Mutilation/Cutting Prevalence for

Girls Ages 0-14 years in Ethiopia

By

Jean-Pierre Ramazani Abedi

MPH, University College London, (2008).

LLB, University of London, 2004

Institut Supérieur des Techniques Médicales, Kinshasa / DRC

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Public Health

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November 2025

Abstract

Despite ongoing eradication efforts, female genital mutilation and cutting (FGM/C) remains a major public health and human rights concern in Ethiopia. This quantitative study was conducted to examine how circumciser type (traditional cutter, birth attendant, or health professional) influences FGM/C prevalence and severity among girls ages 0–14, considering the moderating effects of residence and mothers' FGM status, while controlling for age and income. Guided by the social ecological model and using 2016 Ethiopian Demographic Health Surveys data, analysis indicates a significant association between circumciser type and FGM/C type ($\chi^2 (2, N = 1,553) = 6.86, p = .032$), which lost significance in the multivariate model ($p = .179$). The interaction between circumciser type and residence was significant ($\chi^2 = 9.18, p = .010$), with rural girls cut by traditional circumcisers more likely to undergo severe FGM, and maternal FGM status further moderated this relationship (Wald $\chi^2 = 8.05, p = .018$; OR = 6.70, 95% CI: 1.58–28.39). Traditional circumcisers remained the predominant actors, accounting for over 99% of reported cases. Policy recommendations include strengthening enforcement of anti-FGM laws, expanding culturally sensitive health education initiatives, and engaging community leaders to promote awareness and understanding. Implications for positive social change include informing national strategies aligned with United Nations Sustainable Development Goals, particularly Goal 5.3 (elimination of harmful practices), by identifying high-risk groups and supporting community-based advocacy that promotes gender equity, bodily autonomy, and the abandonment of FGM/C.

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Dedication

This capstone study is dedicated to my loving children (Jean-Pierre Jr - JP, and Robert-Justin - RJ); my wife, Maribeth M Abedi; my loving late father, Gabriel M Abedi; my late mother, Mrs. Feza Godelive Abedi; my brothers Batoa, Kilubi and Ayonga; my young sister, Mola-a-nenge; my family in the DRC; and my entire family and friends around the world.

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Section 1: Foundation of the Study and Literature Review

Introduction

Female genital mutilation and cutting (FGM/C) represents a significant public health issue affecting millions of girls and women worldwide. The practice, involving the nonmedical modification of female external genitalia, is deeply rooted in historical, cultural, and social contexts (World Health Organization [WHO], 2024). FGM/C is perpetuated by traditional beliefs and norms that often prioritize community customs over individual rights, resulting in a cycle of harm that transcends generations. The prevalence of FGM/C varies widely across different regions, with certain countries—particularly in Africa and the Middle East—exhibiting alarmingly high rates. Ethiopia stands out as one of the countries with the highest global prevalence of FGM/C (European Union Agency for Asylum, 2022). This study explored the relationship between the type of circumciser and the prevalence of various types of FGM/C among girls ages 0–14 years in Ethiopia, to identify informed strategies for prevention and eradication.

Background

FGM/C is widely practiced in 30 countries across Africa, the Middle East, and Asia, and even among immigrants in countries like Australia, New Zealand, and Europe. Most of these countries are in Africa, where FGM/C severely impacts girls' and women's health. FGM/C ranks as one of the top causes of female mortality in high-prevalence countries, with about 44,320 deaths yearly (Van Rossem & Meekers, 2020). Globally, millions are affected, with over 230 million girls and women undergoing the procedure, 44% are under 15 years old. Adult women in some developing nations are also

occasionally subjected to FGM/C, affecting over 3 million girls annually (WHO, 2023). This practice is often embedded in traditional and patriarchal cultural structures (Farouki et al., 2022).

Ethiopia has the second-highest global number of FGM/C cases. In Ethiopia, about 74% of women ages 15–49 have experienced FGM/C, though its prevalence dropped from 80% in 2005 to 65% in 2016 (United Nations Children's Fund [UNICEF], 2023; Farouki et al., 2022). This decline mirrors similar trends in other African nations, such as Egypt, where FGM/C rates have fallen, though regional and socioeconomic disparities persist. According to the WHO, FGM/C is categorized into four types, with Type 3 (infibulation) being one of the most severe forms. Although all forms pose health risks, the UN advocates for zero tolerance, emphasizing bodily autonomy and human rights (WHO, 2023).

In Ethiopia, types of FGM/C vary by region and age group. In some areas, procedures occur shortly after birth, while in others, they serve as a rite of passage before marriage. Most procedures are conducted by traditional practitioners, with medical professionals rarely involved. Governments and nongovernmental organizations (NGOs) worldwide, including the UN, have advocated for eliminating FGM/C through awareness campaigns and community-based interventions. A systematic review by Farouki et al. (2022) found a prevalence rate of 36.9% among women ages 15–49 years, with Somalia and Mali having the highest prevalence among women and girls, respectively.

The historical and cultural roots of FGM/C are complex and multifaceted. Although some communities see FGM/C as a religious duty, evidence shows the practice

predates major religions. Research traces FGM/C origins back to ancient Egypt, with records of its practice in the Red Sea area and ancient Rome (Llamas, 2017). FGM/C is commonly linked to preserving virginity, controlling libido, and enhancing marriage prospects. In patriarchal societies, the practice symbolizes social acceptance, while for men, it is a prerequisite for ensuring chastity in marriage (Lunde, 2020). FGM/C is often performed without consent on girls between infancy and age 15, with traditional circumcisers using unsterile tools like razor blades or glass, leading to significant health risks and human rights violations.

This study aimed to assess the impact of circumciser type on FGM/C prevalence, focusing on girls ages 0–14 in Ethiopia, and to determine which circumcisers most often performed the extreme Type III procedure (infibulation). This research was crucial for understanding the social support needs of parents and girls to decrease and eradicate Type III FGM/C. Despite years of intervention, the practice endured in Ethiopia and globally, demonstrating the need to understand the role of circumciser type in the prevalence of extreme FGM/C forms in young girls.

Problem Statement

FGM/C is a health problem that has persisted for millennia in different societies despite its severe complications for women's health (Ayenew et al., 2024; Matanda et al., 2023; Obiora et al., 2020). According to Farouki et al. (2022), FGM/C is a practice performed on infants, children, and young women in developing countries, sometimes leading to severe infectious outcomes, physical issues, obstetrical complications, psychological problems, menstrual difficulties, infertility, urinary problems, mental

health problems, pregnancy complications, severe pain, septicemia, and even death (Abdulcadi et al., 2022; Dawson et al., 2022; O’Neill et al., 2020). FGM/C performed on infants and adolescents ages 0–14 is done by different types of circumcisers, mostly without their consent, therefore infringing their human rights. Although health issues are more likely with all forms of FGM, the risk is higher with more extreme forms of FGM, such as infibulation (WHO, 2022). Although national data show a decline in the prevalence of FGM/C, this is not universal across countries because FGM/C persists due to religious, social, and cultural factors. Evidence shows that Ethiopia is one of the sub-Saharan African countries where FGM/C infibulation (Type III) persists (EDHS 2016; Presler-Marshall et al., 2022).

The United Nations advises that a multisectoral global approach can help achieve the Sustainable Development Goals (SDGs) and eradicate FGM/C by 2030 (Matanda et al., 2023; Presler-Marshall et al., 2022). The persistent nature of FGM/C, particularly infibulation (or Type III), its health complications (Restaino et al., 2022), and its complex justifications motivated this study to investigate whether there was a relationship between the circumciser’s type (traditional cutter vs. traditional birth attendant [TBA] vs. health professionals) and FGM/C prevalence by types for girls ages 0–14 years in Ethiopia. Although researchers had investigated this issue, the topic had not been explored in how the circumciser’s type impacted FGM/C prevalence by types for girls ages 0–14.

The research problem was that it was not known whether different types of FGM/C depended on the type of person who performed the procedure on girls ages 0–14 years. The dependent variable was the types of FGM/C prevalence, and the independent

variables were age, gender, geographic location, circumciser type, and mothers' circumcision status.

Purpose of the Study

The purpose of this quantitative study was to examine the relationship between the type of circumciser—specifically traditional cutters, TBAs, and health professionals—and the prevalence of different types of FGM/C among girls ages 0–14 years in Ethiopia. This study also investigated how geographical location (urban versus rural) and the mother's FGM/C status influenced this relationship. The research aimed to identify which type of circumciser was most likely to perform the more extreme forms of FGM/C, such as infibulation (Type III), and how location and maternal FGM/C status shaped these practices. Understanding these dynamics was considered critical for designing targeted interventions and policies aimed at reducing the prevalence of severe FGM/C practices and their associated health complications.

The findings of this study contributed to the broader goal of achieving the SDGs by 2030, particularly in reducing the incidence of FGM/C in Ethiopia. For policymakers, the findings will offer actionable evidence to inform legislation and national strategies targeting the most harmful forms of FGM/C, particularly in high-risk regions. Public health practitioners will gain critical insights to design and implement targeted interventions, focusing on specific types of circumcisers and vulnerable communities. For the target population, including parents and community leaders, culturally relevant education tools will help raise awareness of the dangers of severe FGM/C and promote

abandonment of the practice. Together, these products will support coordinated efforts to reduce FGM/C and advance public health and human rights goals.

Research Questions and Hypotheses

RQ1: What is the association between the circumciser type (traditional cutter, TBA, health professionals) and the FGM/C prevalence by types for girls ages 0–14 years in Ethiopia when controlling for mother’s age and income?

H₀1: There is no statistically significant association between the circumciser type (traditional cutter, TBA, health professionals) and the FGM/C prevalence by types for girls ages 0–14 years in Ethiopia when controlling for mother’s age and income.

H₁1: There is a statistically significant association between the circumciser type (traditional cutter, TBA, health professionals) and the FGM/C prevalence by type for girls ages 0–14 years in Ethiopia when controlling for mother’s age and income.

RQ2: What is the association between the circumciser type (traditional cutter, TBA, health professional) and the FGM/C by type for girls ages 0–14 years in Ethiopia, as moderated by their geographical location (urban vs. rural) when controlling for mother’s age and income?

H₀2: Geographic location (urban v rural) does not moderate the association between the type of circumciser (traditional cutter, TBA, health professional) and the type of FGM/C for girls ages 0-14 years in Ethiopia when controlling for mother’s age and income.

*H*₁₂: Geographic location (urban v rural) does moderate the association between the type of circumciser (traditional cutter, TBA, health professional) and the type of FGM/C for girls ages 0-14 years in Ethiopia when controlling for mother's age and income.

RQ3: What is the association between the circumciser type (traditional cutter, TBA, health professional) and the FGM/C by type for girls ages 0–14 years in Ethiopia, as moderated by their mothers' FGM/C status when controlling for mothers' age and income?

*H*₀₃: Mothers' FGM/C status does not moderate the association between the type of circumciser (traditional cutter, TBA, health professional) and the type of FGM/C for girls ages 0-14 years in Ethiopia when controlling for mothers' age and income.

*H*₁₃: Mothers' FGM/C status does moderate the association between the type of circumciser (traditional cutter, TBA, health professional) and the type of FGM/C for girls ages 0-14 years in Ethiopia when controlling for mothers' age and income.

Theoretical Foundation for the Study

The social ecological model (SEM) is a framework used to understand the multiple levels of influence on individuals' behaviors and actions. It emphasizes that individual behaviors are shaped by personal factors and the environment in which a person lives and interacts (Mehtälä et al., 2014; Scarneo et al., 2019). SEM consists of several interrelated levels: the individual, interpersonal, community, organizational, and

societal (Scarneo et al., 2019). At the individual level, personal characteristics such as knowledge, attitudes, and beliefs significantly shape behavior. The interpersonal level includes relationships with family, friends, and peers, who may influence an individual's decisions through social norms, support, and pressures (Mehtälä et al., 2014; Scarneo et al., 2019). Moving to the community level, the focus shifts to larger social structures such as cultural norms, community expectations, and the influence of local organizations and networks. The organizational level considers the impact of institutions such as schools, workplaces, and healthcare systems, which can either facilitate or hinder certain behaviors (Nilsen et al., 2020). Finally, the societal level encompasses influences such as national policies, laws, media, and socioeconomic conditions that can either support or challenge individual behaviors. SEM helps identify how different factors across levels interact and contribute to behaviors, making it a powerful tool for understanding complex public health issues and designing interventions (Caperon et al., 2022).

The SEM is widely used in public health, psychology, and sociology to address complex issues that involve multiple influencing factors (Golden & Anne, 2012). SEM is valuable because it emphasizes that behavior change requires addressing influences at various levels rather than focusing on one aspect. SEM can be utilized by researchers, public health professionals, and policymakers to develop more effective, multifaceted strategies that acknowledge the complexity of human behavior and the interconnected nature of influences at various levels (Golden et al., 2015). The model was developed by Urie Bronfenbrenner in the 1970s, primarily for understanding child development, and

has since evolved to be used in numerous disciplines to improve health outcomes and social well-being (Golden et al., 2015; Paquette & Ryan, 2001).

The SEM model was employed in this study to examine the various layers of influence that shape individual behavior regarding this practice. SEM categorizes these influences into four distinct interconnected levels: individual, interpersonal, community, and societal. Each level represents unique factors that, together, helped illuminate how FGM/C persists due to a combination of personal beliefs, familial traditions, and societal norms. Within Ethiopian communities, the decision to proceed with FGM/C often involved traditional cutters, birth attendants, or healthcare professionals, all of whom are influenced by cultural beliefs and social pressures.

Furthermore, the accessibility of healthcare services significantly impacted these choices. Research by Obiora et al. (2020) and Ayenew et al. (2024) suggests that the continuation of FGM/C practices is primarily driven by cultural and familial expectations, which can vary significantly across different geographic regions, social classes, and educational levels. This diversity complicates efforts to address FGM/C through uniform policies. Moreover, SEM provides researchers and policymakers with a broader understanding of these practices. This model was vital for designing public health interventions aimed at reducing the rates of FGM/C. This study explicitly applied SEM to assess how the social structures and community dynamics in Ethiopia perpetuated the persistence of FGM/C, thereby laying the groundwork for culturally sensitive interventions.

At the individual level of SEM, personal beliefs and knowledge played a critical role in the decision-making process surrounding FGM/C. These beliefs are frequently influenced by a mother's own circumcision status and personal experiences. Mothers who have undergone FGM/C may feel an intense pressure to continue the practice with their daughters, often viewing it as an essential cultural rite. The psychological impact of FGM/C on these mothers can be profound, as they may believe that it is crucial for social acceptance, even while recognizing the associated health risks. This dynamic reinforced FGM/C as a multigenerational practice, passed down as a means of cultural preservation. According to Abdulcadi et al. (2022), a mother's belief in the supposed benefits of FGM/C significantly influences her choice of circumciser. Many mothers perceive traditional cutters as more adept at upholding cultural values. In rural areas, where access to healthcare is limited, mothers may lean towards traditional circumcisers, viewing them as reliable, despite the potential complications involved. Individual beliefs, shaped by upbringing and community norms, profoundly influenced the continuation of FGM/C, establishing expectations for daughters' behavior and adherence to cultural practices. Interestingly, some mothers with higher education levels may possess greater awareness of FGM/C's health consequences (Mohammed et al., 2021), which can lead them to prefer medicalized forms of circumcision or even forgo the practice altogether.

Moving to the interpersonal level of SEM, the influence of family and friends emerged as a critical factor. These social networks significantly shaped mothers' decisions about FGM/C. Extended family members, including grandparents and aunts, exerted considerable pressure on mothers, often overshadowing their individual

preferences. In rural Ethiopian communities, family unity and honor hold immense significance. Relatives may pressure mothers to adhere to traditional practices, viewing FGM/C as vital to the family's reputation. FGM/C is frequently perceived as a prerequisite for marriage eligibility, intensifying the pressure on parents to conform for the sake of their daughters' futures. Family members may even take it upon themselves to arrange the FGM/C process, selecting the circumciser and ensuring compliance within the community. This arrangement further limited a mother's decision-making about her daughter's health. The dynamics within these interpersonal relationships created an environment where defying family expectations can lead to social isolation. In response to these pressures, some parents may choose traditional cutters who are trusted within their families. Urban parents, however, may experience greater autonomy, owing to exposure to alternative viewpoints. Nevertheless, rural parents often faced greater constraints. The powerful influence of interpersonal relationships played a significant role in perpetuating FGM/C practices.

At the community level, SEM emphasizes the role of shared values and cultural norms, which serve to reinforce FGM/C practices. This was particularly evident in rural Ethiopian areas where FGM/C is deeply rooted in tradition. Community leaders, religious figures, and traditional circumcisers occupy influential positions and often advocate for FGM/C as an important rite of passage. This endorsement is perceived as essential for social acceptance, further entrenching the practice. Respected community members who promote FGM/C as a culturally significant act bolster its prevalence. Studies conducted by Matanda et al. (2023) highlight that traditional circumcisers are revered as custodians

of cultural practices, performing FGM/C in a manner viewed as essential to community identity. Many community members regard this practice as a nonnegotiable aspect of their cultural heritage. Families may experience profound fear of social rejection if they choose to defy communal expectations, compelling them to have their daughters undergo FGM/C by a traditional cutter. This community influence presented significant challenges to efforts aimed at combating FGM/C.

The societal level within SEM considers the broader cultural and political forces that sustained FGM/C as a prevalent practice (UNICEF, 2022). Despite existing laws that prohibit FGM/C, deeply rooted beliefs surrounding purity and marriageability often persist, overshadowing legal mandates, particularly in rural regions (Abdulcadi et al., 2022). Many communities view FGM/C as a moral obligation, aligning it with societal ideals of femininity and social propriety. These deeply entrenched beliefs contributed to the ongoing persistence of FGM/C, even in the face of global and national anti-FGM/C campaigns. Societal norms interact with community practices, creating an environment where FGM/C is perceived both as an individual choice and a collective duty.

The interactions across the levels of SEM highlighted the complexity inherent in FGM/C practices, indicating that a multisectoral approach was essential for eradication. Each level of influence interacted with others, creating a feedback loop that sustained FGM/C practices despite the health risks involved and the legal prohibitions in place. The preference for traditional cutters often stemmed from established community trust, a preference that was reinforced by familial expectations and individual beliefs. In regions where traditional cutters were prevalent, public health interventions needed to directly

address these entrenched beliefs, promoting health education and culturally relevant alternatives. In urban settings, where healthcare professionals may perform FGM/C, awareness-raising efforts were particularly vital to prevent the normalization of medicalized FGM/C practices.

Geographic location and maternal FGM/C status further illustrated the applicability of SEM in this context. Geographic factors significantly impacted access to healthcare and exposure to varying viewpoints on FGM/C. In rural areas, families often resorted to traditional cutters due to limited access to healthcare services. Farouki et al. (2022) suggested that a mother's own status regarding FGM/C reinforces a preference for traditional circumcisers, as mothers who have undergone FGM/C may trust these traditional methods more readily. In contrast, urban mothers typically have better healthcare access and are more likely to seek medical professionals for FGM/C or to avoid the practice altogether.

Nature of the Study

This study employed a cross-sectional design. This design was practical for examining data at a single point in time, enabling the identification of possible associations between circumciser types and FGM/C prevalence among Ethiopian girls ages 0–14 years. It was especially suitable for large data sets, such as the 2016 Ethiopian Demographic Health Surveys (EDHS). Using this design allowed for the observation of patterns and relationships without the need to track participants over time. Using a cross-sectional approach, the study captured the current state of FGM/C practices and the roles

of circumcisers. These insights contributed valuable knowledge for policy development and targeted intervention strategies.

Key variables in this study included both independent and dependent variables, as well as important covariates. Independent variables covered circumciser type (traditional cutter, TBA, or health professional), with moderating variables being location (urban or rural), mother's FGM/C status, and age (0–14 years). The dependent variable represented FGM/C prevalence by type, categorized according to EDHS standards. Covariates, such as the mother's age and income, were incorporated to improve precision in analyzing circumciser-type associations with FGM/C prevalence. This inclusion enabled a more accurate examination of primary relationships in FGM/C practices.

The study methodology involved structured steps. Secondary data were drawn from the EDHS 2016 data set, covering FGM/C types, circumciser types, age, location, and mothers' FGM/C status. After obtaining the data set, descriptive statistics were used to summarize the sample characteristics and distributions of key variables. Following this, inferential techniques were used to assess significant associations between circumciser types and FGM/C frequencies. Moderation analysis was used to explore the influence of location and mothers' FGM/C status on these relationships.

Literature Search Strategy

The literature search strategy for this study was designed to ensure a comprehensive and systematic review of existing research related to circumcision practices of different types of circumcisers and the prevalence of various forms of FGM/C among girls ages 0–14 years in Ethiopia. The process began with identifying key

search terms and phrases that encapsulate the primary concepts of the study. These terms included *female genital mutilation, FGM/C types, circumciser types, traditional cutters, traditional birth attendants, health professionals, prevalence, Ethiopia, and demographic health surveys*. Boolean operators such as AND, OR, and NOT were employed to refine the search and ensure comprehensive and relevant results.

The primary databases used for the literature search included PubMed, PsycINFO, Scopus, and the Web of Science. These databases were selected due to their extensive medical, psychological, and social science research coverage, ensuring that a wide range of relevant studies could be identified. The Cochrane Library was also consulted for systematic reviews and meta-analyses related to FGM/C. Gray literature, including reports from international organizations such as the WHO, UNICEF, and NGOs active in the field of FGM/C, was also reviewed to capture insights and data that may not be published in academic journals.

Inclusion and exclusion criteria were established to guide the selection of relevant studies. Articles included in the review were those published in peer-reviewed journals, written in English, and focused on FGM/C practices and prevalence among girls ages 0-14 years. Studies that examined the role of different types of circumcisers, such as traditional cutters, TBAs, and health professionals, in the practice of FGM/C were particularly sought. Exclusion criteria included studies that did not specifically address the target age group or geographic region, as well as articles not available in full text. Studies published before 2000 were excluded to ensure the review reflects the most recent and relevant findings.

The initial search yielded numerous articles, which were screened based on their titles and abstracts. Articles that appeared to meet the inclusion criteria were retrieved for full-text review. This review thoroughly examined the methodology, findings, and relevance of each article to the study's research questions. Studies that provided empirical data, detailed discussions of circumciser roles, or comprehensive analyses of FGM/C prevalence were prioritized for inclusion in the literature review.

To ensure the validity and consistency of the literature review, the reference lists of the selected articles were also searched for additional pertinent studies. This backward citation tracking helped identify seminal works and other pertinent research that may have been missed during the initial database searches. The final pool of studies encompassed both qualitative and quantitative research, offering a well-rounded understanding of the current knowledge on the topic.

Keyword searches were performed in PubMed to identify papers published between January 1, 2000, and the current 2024, that included the phrases *female genital mutilation*, *female genital cutting*, *female circumcision*, *male genital mutilation*, *male genital cutting*, and *male circumcision* in their titles or abstracts. Supplemental searches were also performed for specific types of procedures, such as *clitoridectomy*, *infibulation*, *mogen clamp*, *plastic bell*, *gomco*, and *dorsal slit*.

Journals that most frequently published papers with these phrases were examined to determine the degree to which they were used in original versus non-original research articles. The analysis aimed to explore potential associations between the terminology used and the nature of the research.

Theoretical Framework

The SEM focuses on several levels of influence and their relationships with environmental and behavioral factors influencing FGM/C practice. At the individual level, personal beliefs, attitudes, and knowledge play a fundamental role in influencing FGM/C practices. Research underscores that many mothers view the practice as integral to cultural identity, perceiving it as a rite of passage necessary for their daughters' acceptance into society. Despite growing awareness of its harmful health effects, deeply held cultural values often overshadow such knowledge, leading to the persistence of the practice. Mothers' decision-making is frequently tied to fear of social stigma. Education is another critical factor shaping individual attitudes toward FGM/C. Women with higher levels of education are significantly less likely to support or practice FGM/C on their daughters. Educated mothers were 42% more likely to oppose FGM/C due to increased awareness of its physical and psychological consequences. However, the challenge lies in extending education to remote areas where literacy levels remain low. Research also highlights that even in urban settings, misinformation about "safer" or medicalized FGM/C practices complicates eradication efforts. Religious beliefs further influence individual decisions regarding FGM/C. Although some religious leaders have denounced the practice, many communities continue to associate it with religious purity. Women in their study believed FGM/C to be a religious requirement, despite no explicit endorsement in primary religious texts.

The interpersonal level emphasizes the influence of family and close social networks in shaping attitudes and decisions about FGM/C. Within households, older

family members, such as grandmothers and aunts, often play a pivotal role in perpetuating the practice. Studies indicate that these figures' view FGM/C as a family duty and a marker of respectability, pressuring younger mothers to conform. In 72% of cases, the decision to perform FGM/C was influenced by extended family members rather than the mothers themselves. Marital prospects are another critical factor influencing family decisions about FGM/C. In many Ethiopian communities, FGM/C is considered a prerequisite for marriage, as it symbolizes chastity and purity.

Research by Odukogbe et al. (2017) revealed that 85% of families practicing FGM/C viewed it as essential for securing favorable marriage alliances. This economic and social incentive makes FGM/C a deeply entrenched practice, as families prioritize their daughters' marriageability over health considerations. Additionally, women who resist FGM/C for their daughters may face ostracism from their families or communities. The role of peer influence cannot be overlooked, as younger women often succumb to social pressure from their friends and peers. Elmi et al. (2023) noted that adolescent girls are often coerced into undergoing FGM/C to align with the expectations of their peer group. This conformity reinforces the practice as a social norm and perpetuates its acceptance among the younger generation. Interpersonal dynamics thus create a complex network of influences that sustain FGM/C within families and social circles, highlighting the importance of engaging entire households and communities in anti-FGM/C campaigns.

The community level encompasses cultural norms, shared values, and the role of key influencers in sustaining FGM/C practices. Traditional circumcisers, community

leaders, and religious figures wield significant authority in promoting the practice as a cultural necessity. Ali et al. (2023) highlighted that 68% of respondents in their study revered traditional circumcisers as custodians of heritage, making it challenging to replace these figures with healthcare professionals. This reverence stems from a belief that traditional practitioners ensure cultural continuity and uphold the community's moral fabric. Social cohesion within communities also perpetuates FGM/C. Families fear exclusion or judgment if they deviate from established norms, creating a collective adherence to the practice. Matanda et al. (2023) noted that communities with high levels of social interconnectedness were more likely to sustain FGM/C due to peer reinforcement and collective decision-making.

The concept of *cultural policing*, where members monitor each other's adherence to traditions, further entrenches the practice. For families in rural Ethiopia, maintaining community approval often takes precedence over individual health concerns. Additionally, geographic disparities influence community-level attitudes toward FGM/C. Rural areas with limited access to education and healthcare tend to uphold traditional practices more strongly than urban centers. Klein et al. (2018) found that FGM/C prevalence rates were 30% higher in rural regions compared to urban ones, largely due to differences in exposure to anti-FGM/C campaigns. Urban communities, on the other hand, benefit from greater access to alternative narratives and resources, thereby reducing the prevalence of the practice.

At the societal level, broader cultural ideologies, legal frameworks, and political structures play a significant role in sustaining or challenging FGM/C practices. Ethiopia's

cultural fabric deeply intertwines with FGM/C, viewing it as a marker of femininity, purity, and social propriety. Abdulcadi et al. (2022) noted that 79% of respondents in their study linked FGM/C to moral upbringing, indicating its societal normalization. This collective mindset creates an environment where resistance to FGM/C is seen as defiance of societal values, complicating eradication efforts.

Legal frameworks have been established to combat FGM/C, but enforcement remains inconsistent, particularly in rural areas. Despite Ethiopia's criminalization of FGM/C, Ndoye et al. (2023) observed that only 15% of reported cases resulted in legal action.

Literature Review Related to Key Variables and Concepts

Population and Geographical Location of Ethiopia

Ethiopia, located in the Horn of Africa, is characterized by its rich cultural heritage and diverse population. As of the most recent census conducted in 2021, Ethiopia's population exceeds 114 million, making it the second-most populous country in Africa, following Nigeria (Central Statistical Agency, 2021). The country has over 80 distinct ethnic groups with unique languages, cultures, and traditions. Among these groups, the largest are the Oromo, Amhara, Somali, and Tigray, with Oromo and Amharic being the most widely spoken languages (Central Intelligence Agency, 2021). Ethiopia's demographic profile is predominantly young, with approximately 40% of the population under 15 (United Nations, 2021).

Geographically, Ethiopia is notable for its diverse terrain, which includes expansive highlands, rugged mountains, and vast lowland areas. The Great Rift Valley

stretches from the northeast to the southwest, dividing the Ethiopian Highlands, commonly referred to as the Roof of Africa, which dominate the central region of the country. This topography significantly influences the climate, which varies from temperate conditions in the highlands to arid environments in the lowland regions (National Meteorology Agency, 2021). The capital city, Addis Ababa, is situated in the country's central highlands and is a critical political, economic, and cultural hub. The geographical features are crucial in determining population distribution, with highland areas generally being more densely populated due to favorable agricultural conditions. In contrast, the lowland regions, particularly those in the eastern and southeastern parts of the country, tend to be sparsely populated, as their arid climates limit agricultural potential (World Bank, 2021).

Despite its rich cultural heritage and geographical advantages, Ethiopia faces significant public health challenges on maternal and child health, as well as communicable diseases. The prevalence of FGM is an important public health concern, especially in rural communities where traditional practices are deeply rooted. Recent surveys indicate a shifting attitude towards FGM, with more than 80% of girls and women opposing the practice and a notable percentage of men expressing willingness to marry women who have not undergone FGM. In 2016, the prevalence of FGM among women ages 15-49 was reported at 65%, down from 74% in 2005 (WHO, 2021). The Ethiopian government has committed to eradicating FGM and early marriage by 2025, implementing a ban on the medicalization of FGM across public and private health facilities (Nydal, 2020). The WHO and other international organizations, such as

UNICEF and the United Nations Population Fund, are working closely with the Ethiopian Ministry of Health to strengthen responses to FGM, raise awareness, and provide medical care and counseling for affected women and girls (Nydal, 2020).

Culture, Religion, Tradition, and Law in FGM/C Practice in Ethiopia

FGM/C is deeply rooted in culture, religion, and tradition. FGM/C is often performed as an initiation rite into womanhood, making it culturally significant in many communities. Previous studies highlight that FGM is seen as a religious obligation, helping to ensure chastity and genital hygiene. Variations in cultural practices lead to differing rates of FGM/C among communities. In these societies, FGM/C marks the transition from childhood to adulthood, celebrated with food, dance, and songs. For many, this practice is linked with menarche or occurs shortly after birth (Florquin & Richard, 2020). It imparts essential life lessons on female hygiene, social norms, and marriage preparation. Socially, it signifies purity, respectability, and readiness for marriage. Many communities perceive uncircumcised girls as unsuitable for marriage. As a result, women may support FGM/C to avoid social exclusion, perpetuating the cycle of the practice. The pain associated with FGM/C is often seen as a rite of passage.

In diasporic contexts, abandoning FGM/C can feel like betraying one's cultural values. This pressure can lead parents to conform to familial expectations, even if they oppose the practice. Conflicts may arise between the sexual norms of the host country and those of the country of origin, resulting in intergenerational tensions. Research shows that belief systems from the Global South can persist among migrant communities in the Global North (Gallo et al., 2024; Leal, & Harder, 2021). A U.K. study revealed that

foreign-born women opposed FGM/C but feared reporting their experiences due to mistrust of authorities. They preferred community-based solutions over the criminal justice system. Additionally, girls are less likely to undergo FGM/C when parents make joint decisions about family matters (Ali et al., 2020; Hodes et al., 2020). Literature illustrates how parental norms clash with those adopted by children in diaspora, leading to further conflict. Social professionals often feel unqualified to address these complex sexual issues.

Despite the increasing recent research on FGM/C reveal a significant shift in perspectives regarding its health impacts and social acceptance (Florquin & Richard, 2020; O'Neill et al., 2021; Salah et al., 2024; Villani, 2023). Emerging evidence indicates that men who oppose FGM/C are increasingly recognizing its adverse health effects, particularly concerning childbirth (Alradie-Mohamed, 2020; Boddy, 2020). Participants in some research observed that uncircumcised women tend to have healthier children compared to their circumcised counterparts (Ghanem, 2023). Additionally, societal attitudes toward FGM/C are evolving, with some respondents now viewing the practice as outdated and associated with illiteracy. Notably, the practice is increasingly seen as a female-driven issue rather than one dictated by male preferences. Many women now view FGM/C as a practice perpetuated by female relatives, such as mothers and mothers-in-law, rather than by men (Alradie-Mohamed, 2020; Boddy, 2020; Florquin & Richard, 2020; O'Neill et al., 2021; Salah et al., 2024; Villani, 2023).

The United Nations Population Fund-UNICEF Joint Program on the Elimination of Female Genital Mutilation and the Spotlight Initiative, in collaboration with

Associazione Italiana Donne per lo Sviluppo (AIDOS), GAMS Belgium, and the End FGM European Network, produced a report based on the conversations that took place during the virtual International Stakeholder Dialogue (ISD; Miller, 2022). The ISD, part of the Building Bridges Between Africa and Europe to Tackle FGM, Phase 3 project, highlighted that while gender transformative approaches are increasingly popular and requested by donors, their practical implementation remains challenging (AIDOS, 2021). Not all programs that involve men or promote gender equality are genuinely transformative if they do not address the deeper structural issues of gender inequality. Participants noted that many gender-transformative approaches are still theoretical and face practical and financial barriers, particularly for smaller organizations with limited resources.

popularity and demand for gender transformative approaches, their practical implementation remains challenging. Not all programs that involve men or promote gender equality are genuinely transformative if they do not address deeper structural issues of gender inequality (AIDOS, 2021). The ISD discussions revealed that many gender-transformative approaches are still theoretical and encounter practical and financial barriers, particularly for smaller organizations with limited resources. Effective gender-transformative programming must target social norms and structures at multiple levels, often requiring substantial financial investment and a long-term commitment (AIDOS, 2021).

In practice, many current efforts to end FGM fall short of being fully gender transformative. Programs that provide individual-level support to survivors or integrate

FGM/C education into broader curricula may not sufficiently challenge or alter the more comprehensive social norms that perpetuate FGM (AIDOS, 2021). Interpersonal strategies, like having conversations about FGM/C with men, have potential, but they are ineffective if more significant social change is not also implemented. Examples of effective practices include the Kinshasa-based EKOKI project, which promotes positive masculinity and combats GBV among youth, and community-level initiatives that empower individuals and encourage collective action against FGM (AIDOS, 2021).

The relationship between religion and FGM/C is complex, as FGM/C often intertwines with cultural and spiritual beliefs but is not mandated by any primary religious texts. Practiced in various forms across many regions, FGM/C is commonly perceived as a rite of passage tied to family honor, purity, and gender identity, especially in some Muslim and Christian communities. There are some variations in FGM/C practice between religions. The practice has been linked to Islam in predominantly Muslim communities, and there is a strong belief that every Muslim woman must be subjected to FGM/C. Religious obligation or requirement (38.8% to 50.3%) is an essential reason for practicing FGM/C in the Iraqi Kurdistan (Ahmed et al., 2018). Many people believe that FGM/C has religious support, and in some countries, arguments inspired by Islamic law have been used to claim that FGM/C is an obligation in Islam. The tradition of female circumcision, originally a cultural practice of African tribes, has been associated with Islam through mutual interactions as Islam spread among these tribes (Adogho et al., 2021). In communities that are predominantly Muslim, FGM/C is closely linked to Islam, even though it is performed for a variety of reasons in different

communities. For example, in the Somali community, “a person who is not circumcised is not considered a Muslim, and their parents are also not considered Muslims” (WHO, 2021).

The use of specific religious terms reinforces the association of FGM/C with Islam. Terms such as *sunnah*, *mandoob*, *mubah*, and *mashru’u* have been employed to ascribe an Islamic identity to the practice (El-Dirani et al., 2022; Farouki et al., 2022; Ahmady, 2022). *Sunnah*, an Islamic religious term, is often used to indicate that FGM/C is a required or recommended act despite its actual status in religious texts. The Somali community, for example, refers to FGM/C with phrases such as “It is part of the religion of which fipronil (infibulation) is not a must, but *Sunnah* is a must” and “Islam says just cut a bit, which is *Sunnah*” (WHO, 2021; El-Dirani et al., 2022; Farouki et al., 2022). Similarly, terms like *tohara* (ritual cleanliness) and *dhahara* (in Somali) further emphasize the Islamic association of FGM/C. Proponents also use the Arabic word *khitan*, which refers to male circumcision, to justify FGM/C, even though this term does not originally denote female circumcision.

Certain Quran verses have been interpreted to support the practice (Asmani & Abdi, 2008; Barrett et al., 2011). Additionally, proponents cite hadiths, or sayings of Prophet Muhammad (PBUH), to argue that FGM/C is an endorsed practice. In some contexts, such as Somalia and Somaliland, where 99.2% of women ages 15–49 have undergone FGM/C and 72% believe it to be a religious requirement, the belief persists (Directorate of National Statistics, Federal Government of Somalia, 2020; Asmani & Abdi, 2008; Barrett et al., 2011). Islamic law, derived from the Holy Quran, the sunna,

qiyas, and ijmā, does not reference FGM/C (Selim Al-Awa, 2019). Although five hadiths mention cutting for women, three of them have been discredited due to the lack of credibility of their narrators. The authenticated hadiths have been argued not to condone or mandate FGM/C, and many Islamic scholars agree that the practice is not a religious requirement (Asmani & Abdi, 2008). In 1998, scholars convened at the University of Cairo to discuss the issue, leading to publications like the *Islamic Ruling on Male and Female Circumcision*, which emphasized the inauthenticity of the hadiths referencing FGM/C (Asmani & Abdi, 2008; Barrett et al., 2011). A 2013 collaboration between Al-Azhar University and UNICEF reiterated that FGM/C is not a religious duty and must be prevented due to its harmful effects on health and morals (Rahman et al., 2000; Wahedi, 2018).

While some prominent Islamic scholars and committees have supported the practice, asserting that FGM/C is part of Islam, others strongly oppose it. For example, scholars like Sheikh Sayyid Sabiq and Sheikh Tantawy question the authenticity of the hadith (sayings of the Prophet) that allegedly support FGM/C, pointing out that these sources are weak or unauthenticated (Roy & Roy). Some argue that the lack of clear evidence in favor of FGM/C and the lack of consensus among scholars should not justify the practice. There is also no explicit prohibition in the Quran or the sunnah against FGM/C, which has led some to argue that the practice is, at least, mubaah (permissible) (Tenorio, 2020).

Islamic law, rooted in the Quran, Sunna, Qiyas, and Ijmā, does not mandate FGM/C, as no references exist in the Quran, Qiyas, or Ijmā, and hadiths often cited on the

topic have been largely discredited by Islamic scholars (Saputro & Rijal 2022). At a 1998 gathering, scholars, including Muhammad Lufti Al-Sabbagh, affirmed that these hadiths lack authenticity, concluding that FGM/C is not a religious requirement (Varshney & Kunal, 2024). In 2013, Al-Azhar University and UNICEF published *Female Circumcision: Between the Incorrect Use of Science and the Misunderstood Doctrine*, further clarifying that even if FGM/C were historically seen as *makramah* (a virtuous act), it was never a prescribed religious duty. Sharia emphasizes prohibiting practices proven to harm health or morals, and thus, FGM/C, linked with negative health impacts, should be actively opposed. The publication urges religious leaders, healthcare providers, educators, and families to reject FGM/C, stressing accurate information, community education, and alternative rites of passage as essential steps.

Asman et al., (2008 titled) suggest that the Somali ethnic community in Kenya as well in Somalia, Djibouti, and Ethiopia, has practiced female genital cutting for centuries and the practice appears to have remained largely unchanged. Asman et al. 2008, argue that there is no evidence in any of the authentic traditions of the Prophet approving of FGM/C. There is evidence that one of his companions, Ibnu Abbass (RA), was circumcised, which indicates that he approved male circumcision (Bishara, 2020). In a narration by Said bin Jubeir, Ibnu Abbass was asked how old he was when the Prophet (PBUH) died and he said, "I was circumcised at that time" (Al-Bukhari). There is further evidence that he ordered men who embraced Islam to be circumcised but did not ask women to do the same (Cerchiaro & Odasso 2023). In a Hadith narrated by Abu Hureira

(RA), the Prophet (PBUH) said, “whenever a man becomes a Muslim he must be circumcised.”

In Islamic jurisprudence, *ijma* refers to the consensus among scholars on a particular issue or religious practice. According to this principle, if a consensus is reached, it becomes a valid basis for supporting the issue as long as it does not contradict the Quran or authentic *sunnah* (the practices of the Prophet Muhammad; Cerchiaro, & Odasso, 2023). Proponents argue that if there is consensus among scholars about its religious status, it would justify the practice. However, a review of Islamic jurisprudence texts shows no unified consensus among scholars regarding FGM/C (Ghanem, 2023). The four primary Sunni schools of thought—Hanafi, Maliki, Shafi’i, and Hanbali—have differing views. Some see it as *sunnah* (optional) or *wajib* (obligatory) for male and female individuals, while others describe it as *makrumah* (honorable) for female individuals.

In Islamic legal terminology, an act considered *mubaah* is neither rewarded nor punished. Proponents claim that because FGM/C is not explicitly prohibited, it remains permissible. However, for an act to be *mubah*, it must not contradict the Quran or cause harm to individuals or society (Cerchiaro & Odasso, 2023). Medical evidence suggests that FGM/C is harmful, challenging the idea that it can be considered permissible (Taraldsen, 2023). Additionally, Islamic jurisprudence emphasizes the sanctity of the human body, implying that any harmful act, including unnecessary alteration of the body, is forbidden. Thus, the medical risks associated with FGM/C make it problematic to classify it as *mubah*. Some modern scholars critique the traditional justifications for

FGM/C, viewing them as rooted in outdated or limited scientific understanding (Van et al., 2024). Dr. Muhammad Salim Al-Awa argues that scholars' interpretations of religious texts are human efforts to apply divine teachings to specific contexts. These interpretations are not infallible and must be reevaluated if they conflict with modern evidence or understanding (Van et al., 2024).

The lack of consensus among Islamic scholars on FGM/C makes it impossible to use *ijma'a* as a basis for the practice. In Islamic jurisprudence, scholarly consensus is not independent of the Quran and authentic Sunnah (Saputro & Rijal 2022). While the Quran and the sunnah are divine and free from error, *ijma'a* represents human attempts to interpret and apply religious texts, and such interpretations are subject to error (Dabbagh, 2022). Therefore, without clear support from core Islamic texts and with mounting evidence of the harm caused by FGM/C, it cannot be considered a mandatory or even a permissible practice in Islam (Abubakar, 2021). The concept of *qiyas*, or analogical reasoning, has been suggested as another way to validate FGM/C by comparing it to other religious practices. However, critics argue that FGM/C lacks a direct and relevant comparison in core Islamic teachings, particularly because of its harmful consequences, which contradict the Islamic principle of avoiding harm to oneself and others (Khalifa, 2023). Therefore, reliance on *qiyas* for justifying FGM/C is seen as weak and unsubstantiated.

The Population Council's FRONTIERS program conducted two studies better to understand the practice among Somalis in Northeastern Province, informing the design and implementation of interventions to encourage its abandonment (Sheikh Abdi &

Askew, 2009). These studies confirmed that FGM/C is a deeply rooted and widely supported practice that is sustained through cultural justifications that reinforce its continuation than religion matters. The first diagnostic study was carried out in Kenya Mandera and Wajir districts and in Nairobi's Eastleigh area in 2004. The second, a baseline study, was conducted in November 2005 in six locations in the Central Division of Wajir District (Sheikh Abdi & Askew 2009). These studies confirmed that FGM/C is a deeply rooted and widely supported practice sustained through many cultural justifications that reinforce its continuation. The three main reasons cited were that FGM/C is a Somali tradition, that it is an Islamic requirement, and that it enforces the cultural value of sexual purity in female individuals by controlling them (Sheikh Abdi & Askew 2009).

A study conducted in Burkina Faso, a religiously and ethnically diverse country where approximately three-quarters of adult women are circumcised, provides insights into this relationship (Hayford, & Trinitapoli, 2011). Data from the 2003 Burkina Faso Demographic and Health Survey (DHS) indicated that circumcised women were more likely than uncircumcised women to believe that female genital cutting was a religious obligation (DHS, 2003; Hayford, & Trinitapoli, 2011). However, these women were less likely to state that female circumcision was beneficial for women or to support its continuation. Women who perceive circumcision as a religious duty tend to support the practice's continuation and view it as beneficial. Circumcised women who perceive female genital cutting as a religious requirement exhibit less opposition to the practice.

These studies still create a gap and a contradiction of whether an FGM is related to Islam or not.

On the other hand, FGM/C holds no doctrinal basis in Christianity, as neither the Old nor New Testament mentions or endorses the practice. A report titled *Peace, Love, Tolerance: Key Messages from Islam and Christianity on Protecting Children from Violence and Harmful Practices*, produced by IICPSR, the Coptic Orthodox Church's BLESS, and UNICEF, asserts that FGM/C is unsupported by Christian teachings and promotes discrimination and violence against women (O'Shea (Ed.). n.d.). Christian contributors highlighted that men and women are equal in God's eyes, challenging any notion of male superiority tied to FGM/C. While FGM/C has not been advanced as a Christian doctrine, some Christian communities maintain it as a cultural or traditional practice (Younas & Gutman, 2024). In 2006, East African Christian leaders emphasized the "sanctity of the human body" in Christian doctrine, encouraging a stance against practices that harm physical integrity (Ghanem, 2023).

Christianity, based primarily on the New Testament, also finds no basis for FGM/C in its teachings (Ghanem, 2023; Younas & Gutman, 2024). A joint report by the International Islamic Centre for Population Studies and Research (IICPSR), the Bishopric of Public, Ecumenical, and Social Services (BLESS) for the Coptic Orthodox Church, and UNICEF declared that there is no reference to FGM/C in the Bible. It emphasized that the practice is a source of discrimination and violence against women and girls (UNICEF, 2016). Christian scholars have highlighted the sanctity of the human body and the equality of men and women before God. Despite this, the challenge remains that

many Christian leaders have not spoken out against FGM/C, allowing cultural and traditional heritage to perpetuate the practice (UNICEF, 2016).

In 2016, significant publications were released as part of a collaboration between the IICPSR, BLESS, and UNICEF, aiming to equip imams, pastors, and religious scholars with accurate information about FGM/C (UNICEF, 2016 Peace. Love. Tolerance). Key messages from Islam and Christianity on protecting children from violence and harmful practices concluded that both religions honor women and girls and agree that the human body must be protected from harm, thus deeming FGM/C a detrimental practice with no religious justification (UNICEF, 2016). Religion-oriented approaches have been utilized to demonstrate the incompatibility of FGM/C with religious doctrines, aiming to change attitudes and behaviors. Mobilizing high-level religious scholars, issuing fatwas against FGM/C, and producing high-level church statements are strategies used to influence religious followers. In 2007, the Al-Azhar Supreme Council of Islamic Research issued a fatwa declaring FGM/C a sinful action with no basis in Sharia (UNICEF, 2013). Christian leaders have undertaken comparable initiatives (UNICEF, 2016).

Gender and FGM Nomenclature

The WHO classifies FGM into four main types based on the extent and nature of the cutting and alteration performed (Earp, & Johnsdotter, 2021). Type I, or “clitoridectomy,” involves the partial or total removal of the clitoris and, in rare cases, the prepuce. This type is often termed “Sunna” in specific cultural contexts, aligning with perceived religious practices, though it lacks basis in primary religious texts. Type II, or

“excision,” is more invasive, involving the removal of the clitoris and labia minora, sometimes extending to the labia majora. This type is prevalent in many African countries, where it is part of initiation rituals (Earp, & Johnsdotter, 2021). The perception of Type II as a more extensive form of purification than Type I is common in regions where the practice holds social or spiritual significance (Earp & Johnsdotter, 2021). Type III, or “infibulation,” is the most severe form, involving the removal of the clitoris and labia, followed by stitching or narrowing of the vaginal opening. This type is practiced primarily in northeastern Africa and is often linked with ideas of purity, virginity, and marital fidelity (Abdulcadir, 2021).

Type IV FGM includes all other forms of genital mutilation that are not covered by Types I to III, such as pricking, piercing, incising, scraping, or cauterizing the genital area. While less physically invasive than Types I to III, Type IV practices are still considered harmful due to their associated health risks and lack of medical justification (Abdulcadir, 2021). These less common practices vary widely, sometimes involving the insertion of corrosive substances or herbs into the genitalia, which can lead to long-term infection and damage (Abdulcadir, 2021).

FGM terminology in sub-Saharan Africa often conveys themes of purity, preparation, and tradition (National FGM Centre. (n.d.). In Mali, the term “Selidjili,” derived from the French language, means “ritual purity,” while “Bolokoli” translates to “to wash your hands,” and “Sunna” refers to a religious duty or obligation. This vocabulary implies that FGM is perceived as an act of cleanliness or sanctification, necessary for a girl’s transition into adulthood. In Ethiopia, terms like “Megrez”

(circumcision) in Amharic or “Absum” in Harrari signify both the act of cutting and a broader ritual context, such as name-giving, which is a rite of passage (National FGM Centre. (n.d.). The Tigreigna term “Mekhnishab” used in Eritrea also reflects this interpretation, presenting FGM as part of a cultural process that involves preparation for adulthood.

In Eastern and Southern Africa, FGM-related terminology also captures societal and personal significance. In countries like Uganda, Kenya, and Tanzania, Swahili terms such as “Kutairi wasichana” (circumcision of girls), “Kukeketwa” (female circumcision), and “Tohara kwa wanawake” (circumcision of women) are used (National FGM Centre. (n.d.). In Zimbabwe, the Shona term “Kudhonza” and the phrase “U Kwevha” refer to the elongation of the labia minora, a different form of FGM with its own cultural connotations. These words reflect the notion of FGM as a cultural necessity and a gendered expectation. For example, in Kenya’s Maasai and Samburu communities, FGM symbolizes readiness for marriage and adulthood (National FGM Centre. (n.d.).

The discussion surrounding male circumcision and FGM is steeped in complex gender stereotypes, cultural norms, and varying medical perspectives (Presler-Marshall et al., 2024). The motivations behind these practices differ significantly across geographical and cultural landscapes, with literature revealing a spectrum of medical and nonmedical reasons influencing parental decisions on circumcision for male individuals and female individuals (Decatur, 2024). The literature on reasons for male circumcision includes both medical and nonmedical motivations reported by participants in survey studies across various countries. Adler et al. (2001) found that among 149 parents in the United

States, 40% cited medical reasons, while Anwer et al. (2017) reported that only 6% of 500 parents in Pakistan mentioned medical reasons. Studies in the United States showed varying reasons; for instance, Brodbar-Nemzer et al. (1987) found that 25% of 82 parents cited medical reasons, whereas Brown and Brown (1987) reported that among 101 mothers and 69 fathers, 22% and 21%, respectively, mentioned hygiene and cleanliness as reasons for circumcision. The prevalence of medical reasons also varied significantly in other countries. In Turkey, Corduk et al. (2013) found that 51% of 668 parents cited infection prevention or cancer prevention, whereas, in Iraq, Naji and Mustafa (2013) found that only 7% of 433 parents mentioned these reasons. Similar trends were observed in studies from South Korea by Lee et al. (2003) and Oh et al. (2004), with high percentages of parents and men citing medical reasons.

The motivations for FGM significantly contrast with those for male circumcision (Lunde et al., 2020). While literature on male circumcision often cites medical reasons—such as infection prevention or hygiene—alongside nonmedical motivations rooted in family tradition, the literature on FGM predominantly underscores the prevalence of nonmedical reasons ((Lunde et al., 2020). Studies from various African and Middle Eastern countries reveal that medical justifications for FGM are infrequently mentioned, with motivations primarily driven by tradition, religion, and social pressures ((Almroth et al., 2001; Chalmers & Hashi, 2000).. For instance, Adeniran et al. (2015) found that in Nigeria, nonmedical reasons overshadowed any medical consideration which have same to trend seen in Sudan and Somalia, where cultural traditions and religious beliefs were cited as the main reasons for FGM (Almroth et al., 2001; Chalmers & Hashi, 2000).

Moreover, in Ethiopia, Gebremariam et al. (2016) and Yirga et al. (2012) emphasized that cultural norms and the perceived necessity of FGM for ensuring marriage prospects and preserving family honor play crucial roles in perpetuating the practice. This contrasts sharply with the motivations behind male circumcision, where medical justifications, such as the infection prevention or cancer prevention, are often presented as valid reasons for the procedure (Almroth et al., 2001; Chalmers & Hashi, 2000). The emphasis on tradition and cultural expectations in studies from countries like Egypt, Iraq, and Iran further solidifies the notion that while both practices may be influenced by cultural heritage, FGM remains firmly rooted in social constructs that often dictate women's roles and value within their communities (Elgaali et al., 2005; Pashaei et al., 2012).

For many mothers, facilitating the circumcision of their daughters is not only seen as a vital aspect of maternal duty but also as a means of preserving cultural heritage (Lunde et al., 2020; Almroth et al., 2001; Chalmers & Hashi, 2000). This rite of passage symbolizes a girl's transition into womanhood, and mothers often believe that it is essential for their daughters' social acceptance and marriage prospects within the community. In contrast, the roles of fathers and husbands in the FGM/C practice tend to be more passive (Lunde et al., 2020). While they may provide the financial resources necessary for the circumcision process, including paying the excisor, they are rarely the initiators. Their involvement often stops at granting permission and facilitating the logistical aspects of the practice (Pashaei et al., 2012).

Moreover, changing attitudes within communities regarding FGM/C illustrate a complex interaction between tradition and modernity. Despite some men becoming indifferent to their wives' circumcision status, traditional beliefs still exert considerable pressure (ZOLANI, n.d.). Mothers-in-law, co-wives, and other community members reinforce the necessity of circumcision through cultural expectations, maintaining the practice's prevalence even amidst evolving views among some men. The social dynamics at play are critical, as the reinforcement of FGM/C by family and community members emphasizes the enduring power of tradition.

FGM type

Research has shown some differences in FGM types, with some communities practicing some types more than the other. Studies have shown that the different types of FGM are conducted in different-by-different magnitude. A meta-analysis by Iavazzo et al. (2013) reports that among the 22,052 women studied, Type I FGM was performed in 3,115 cases, while 5,894 women underwent Type II and 4,049 underwent Type III. Additionally, 93 women had an unknown type of FGM.

Also, the impact of the FGM type has been documented to be different depending on the type of FGM. A study by Dura et al. (2023) examined the impact of FGM type on sexual function among Sudanese women using the Female Sexual Function Index (FSFI) and Female Genital Self-Image Scale (FGSIS); the study found that women with Type 3 FGM reported the lowest scores across all FSFI dimensions, including desire, arousal, lubrication, orgasm, satisfaction, and experienced greater pain (Dura et al., 2023). A statistically significant difference emerged in the Female Sexual Function Index (FSFI)

scores when comparing participants according to their FGM type, revealing notable variations across dimensions such as sexual desire, arousal, lubrication, orgasm, satisfaction, and pain. Participants with FGM Type 3 consistently reported lower FSFI sub-dimension scores (Dura et al., 2023). This difference was especially evident in sexual desire, where participants with more extensive modifications expressed a diminished inclination for sexual activity. Arousal levels similarly declined with increased FGM severity, as participants with Type 3 reported greater challenges in achieving physical and emotional readiness for sexual engagement (Dura et al., 2023). This trend extended to lubrication, with participants experiencing greater discomfort and complications in relation to the extent of genital alteration. In terms of orgasm, those with more invasive FGM types described difficulties in reaching climax. Satisfaction scores also varied according to FGM type, with Type 3 participants likely attributable to both physical discomfort and potential psychosocial ramifications associated with the more extensive procedures. Furthermore, pain ratings revealed that FGM Type 3 was correlated with higher levels of discomfort during sexual activities (Dura et al., 2023). These cumulative effects contributed to a lower overall FSFI total score for individuals with more invasive FGM types. On the Female Genital Self-Image Scale (FGSIS), which assesses self-perception and comfort with one's genitalia, FGM Type 3 participants expressed a poorer self-image (Dura et al., 2023).

Similar findings have been found by other scholars; for instance, Ismail et al. (2017) explored the impact of Types I and II FGM/C on sexual function among Egyptian women, comparing outcomes between 197 women with FGM/C and control group of 197

women without FGM/C. Sexual function was assessed using the Arabic Female Sexual Function Index (FSFI), which evaluates multiple domains, including desire, arousal, lubrication, orgasm, satisfaction, and pain. The study found a significantly higher prevalence of female sexual dysfunction (FSD) among women who had undergone FGM/C, with both Types I and II associated with reduced function across all domains compared to the control group (Ismail et al. (2017)). While the differences in total FSFI scores were notable for both types, only the pain domain showed a significant difference between FGM/C Types I and II.

However, Ismail et al., (2017) found no statistically significant difference between the two types of FGM/C regarding total and individual domain scores except for the pain domain. Comparing the two types of FGM/C with the control revealed significant lower total and domain scores in both FGM/C types except for the desire domain which showed no statistically significant difference compared to control. Women with Type II FGM/C scored lower on various domains, such as desire, arousal, lubrication, orgasm, satisfaction, and pain, compared to both the control group and those with Type I FGM/C. Particularly notable were the reduced scores in the pain domain among Type II FGM/C cases, indicating a higher reported level of pain. Additionally, both types showed significantly lower overall sexual function scores relative to the control group. However, while both FGM/C types were associated with sexual dysfunction, Type II showed a greater impact on pain and orgasm domains, reflecting a nuanced severity of dysfunction across FGM/C types (Ismail et al. (2017)).

Age or Age Groups and FGM/C

In Ethiopia and neighboring regions, age plays a critical role in shaping FGM/C practices. Studies, including the 2016 EDHS, show high rates of FGM/C among women ages 15-49, with significant regional and procedural differences (Geremew et al., 2021). Infibulation, a severe form, is prevalent in Somali, Afar, and Harari, where it is often performed shortly after birth (Mehari, 2023). In contrast, in southern Ethiopia, FGM/C frequently occurs as a marriage rite, with traditional healers predominantly performing it for girls under 15, although medical professionals are occasionally involved (Mehari, 2023).

Age-related influences extend to the intergenerational continuation of FGM/C, as illustrated by Ayenew et al. (2023), where maternal age directly correlates with higher FGM/C risks for daughters. Daughters of mothers ages 20-34 have a 48% higher risk of FGM/C, which further escalates to a 72% higher likelihood when mothers are ages 35-49 (Ayenew et al. 2023). These findings are consistent with the Chad Demographic and Health Survey analysis by Ahinkorah (2021), which reported odds ratios of 15.29 and 31.72 times higher for FGM/C among daughters of mothers ages 25-34 and those 35 or older, respectively (Ahinkorah (2021). Similarly, Abdisa et al.'s 2017 study in Eastern Ethiopia highlighted age-related patterns where younger women ages 15-24 showed markedly lower odds of undergoing FGM, while women ages 25-34 and 35-44 exhibited significantly higher odds, suggesting a strong generational factor (Abdisa et al.'s 2017).

Further exploring age impacts, Simister (2018) assessed FGM types and age-related risks. For Types I and II (clitoridectomy and excision), as well as Type IV

(miscellaneous), risks of health complications increase if FGM is performed at an older age, whereas for Type III (infibulation), younger age at the time of FGM elevates the harm risk. This age-based distinction aligns with varying medical responses. In Nigeria, Oni and Okunlola's 2018 study on generational continuation of FGM/C demonstrated similar patterns, where women ages 15-24 were 56% less likely to practice FGM compared to their older counterparts (35-49). This trend suggests that younger, often more educated mothers are less likely to adhere to FGM-supportive cultural norms, whereas older mothers are more likely to perpetuate the practice.

Area of Residence and FGM/C

Geographical variations in the prevalence of FGM/C highlight distinct regional patterns that significantly influence FGM/C rates, as studies reveal across multiple countries. In certain countries like Iraq, Tanzania, and the Maldives, FGM/C prevalence remains relatively low, around 1-2%, regardless of whether individuals live in urban or rural areas, although minimal variations exist across socioeconomic groups (DHS, 2022; MICS, 2018; UNICEF, 2022). For instance, in the Maldives, DHS data show a consistent 1% prevalence in urban and rural regions and across most socioeconomic groups, with a slight increase in the middle quintile. These findings point to a comparatively lower incidence in some parts of the Middle East and South Asia.

Contrastingly, several African countries show significantly higher FGM/C prevalence rates, with stark variations based on socioeconomic status and area of residence. For example, countries in West and Central Africa, such as Chad, Nigeria, and Burkina Faso, report FGM/C rates ranging from 5% to 12%, with higher prevalence in

urban than rural areas (DHS, 2021; MICS, 2019). Sierra Leone, Nigeria, and Burkina Faso illustrate this trend, where urban prevalence is often higher, reaching up to 10% in certain wealthier socioeconomic groups.

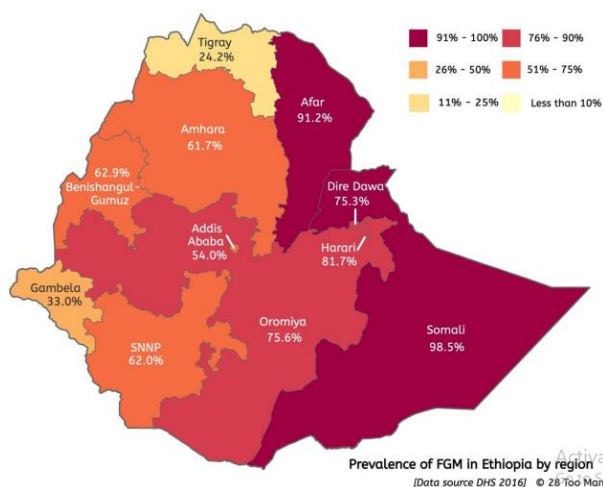
Some of the highest FGM/C prevalence rates appear in North and East African countries, where the practice remains deeply ingrained across socioeconomic groups, often reaching alarming levels. In countries like Egypt, Yemen, and Sudan, FGM/C rates climb as high as 30% or more in urban areas, with significant rates across all economic groups, as seen in Mauritania and the Gambia (DHS, 2019-21; NSPMS, 2012-13). In regions with the highest prevalence, FGM/C frequently surpasses 50%, as seen in Mali's rural and urban populations, where the rate reaches a staggering 73-74%. In East Africa, Ethiopia exhibits significant regional variability within FGM/C prevalence. High-prevalence areas like Somali and Afar regions see rates reaching nearly 98%, contrasting with a much lower prevalence in Tigray, at approximately 24% (Setegn et al., 2016). These disparities highlight the cultural dimensions of FGM/C, as certain ethnic groups, such as the Somali and Afar populations, strongly support and continue the practice. Rural communities also exhibit higher rates than urban areas, suggesting that FGM/C practices in rural areas may persist due to less exposure to anti-FGM/C programs and limited access to education, which could otherwise help combat these deep-seated cultural practices.

Religious and ethnic affiliations are also significant factors that influence FGM/C prevalence in regions such as Ethiopia, where Muslim women are more likely to undergo FGM/C (82%) compared to Orthodox and Protestant women. In this context, religious

beliefs appear to intersect with cultural traditions, creating strong community support for the practice. The high FGM/C prevalence among certain ethnic groups, such as the Somali and afar.

Figure 1

Average FGM Prevalence in Ethiopia by Region Among Women Ages 15–49



The 2016 EDHS data reveal geographical variations in FGM/C prevalence across Ethiopia, with Dire Dawa showing the most significant decline, from 92% in 2005 to 75% in 2016. This trend underscores the uneven progress across regions, as the National Costed Roadmap to End Child Marriage and FGM/C 2020-2024 notes minimal reductions in regions like Gambella and Somali. The slight reductions in regions like Afar (92% in 2005 to 91% in 2016) and Harari (85% to 82%) suggest that the persistence of FGM/C in these areas may be resistant to ongoing interventions, highlighting the difficulty of eradication despite legal prohibitions and cultural shifts (Ghanem, 2023; Shakirat et al., 2020). Notably, the underreporting among younger women—possibly linked to criminalization—suggests that declines may be inaccurately recorded, as

women are less likely to disclose participation in this illegal practice (Ghanem, 2023; Shakirat et al., 2020).

Regional and cultural differences also manifest in the types of FGM/C practiced. Infibulation remains highly prevalent in the Afar and Somali regions, affecting 69% and 62% of women ages 20–24, respectively (Ghanem, 2023; Shakirat et al., 2020). Meanwhile, other regions, such as Oromia and Southern Nations, Nationalities, and Peoples' Region (SNNPR), see higher rates of flesh removal rather than infibulation. In certain communities, particularly urban ones, there is a shift toward milder forms like clitoridectomy (Type I), which some may not recognize as FGM/C (Ghanem, 2023; Shakirat et al., 2020). According to Nicola Jones (2022) from ODI, perceptions about what constitutes FGM/C vary; in Oromia, Somalia, and Afar, only infibulation is sometimes recognized as FGM/C, leading to potential underreporting of other types of FGM/C, which further complicates efforts to measure prevalence and track changes in practice accurately (Ghanem, 2023; Jones, 2022; Shakirat et al., 2020).

Elmusharaf et al. (2006) also highlight the challenges with self-reported data on FGM/C types, noting considerable underreporting and inaccuracies that may overstate shifts toward less severe forms. The National Costed Roadmap to End Child Marriage and FGM reports that 25% of girls ages 15–19 are unaware of their specific FGM/C type, indicating that such information can be challenging to track, particularly in assessing the prevalence of milder practices (Ghanem, 2023; Shakirat et al., 2020). This lack of awareness among young women may also hinder monitoring and evaluation efforts, as data on practice type is vital for tailoring interventions to specific cultural contexts.

Consequently, while some studies indicate shifts toward less invasive forms, inconsistencies in self-reporting question the accuracy of these findings, calling for more reliable measures to assess FGM/C evolution.

When comparing FGM/C prevalence internationally, West and Central African countries like Guinea-Bissau, Sudan, Djibouti, and Eritrea exhibit high rates, with Mali reporting a prevalence of up to 73%. In stark contrast, regions such as Iraq, Tanzania, and the Maldives report substantially lower rates, around 1-2% (Ghanem, 2023; Shakirat et al., 2020). Ethiopia itself shows a clear geographic and socioeconomic divide, with higher prevalence concentrated in eastern and southern regions and lower rates in the north and central areas. Additionally, the practice is more prevalent among specific ethnic groups, notably the Somali and Afar, with urban-rural differences in types and severity, reflecting deeply rooted cultural beliefs and socioeconomic dynamics influencing FGM/C practices.

Mothers' FGM Status and Daughters' FGM risks

Research indicates a strong correlation between a mother's FGM/C status and the likelihood of her daughters undergoing the same practice. In Nigeria, the 2013 DHS found that 98% of daughters whose mothers had undergone FGM/C were at risk of being subjected to the practice themselves (Ghanem, 2023; Joseph & Mullen, 2021; Shakirat et al., 2020). Similarly, in Egypt, the 2014 DHS reported that 70% of daughters whose mothers had undergone FGM/C were also subjected to the practice, compared to 30% of daughters whose mothers had not undergone FGM/C (Ghanem, 2023; Joseph & Mullen, 2021; Matanda et al., 2021; Shakirat et al., 2020). This trend is evident in Ethiopia as

well, where the 2016 EDHS indicated that 84% of daughters whose mothers had undergone FGM/C were likely to undergo the practice, compared to 31% of daughters whose mothers had not. In Somalia, studies show that over 90% of daughters are likely to be cut if their mothers have undergone FGM/C, reflecting a solid cultural perpetuation of the practice (Matanda et al., 2021). In Kenya, the 2014 Kenya DHS showed that 53% of daughters whose mothers had undergone FGM/C were at risk, while this number dropped to 17% for daughters of mothers who had not undergone the procedure (Joseph & Mullen, 2021)

Different studies have shown that complex sociocultural factors and women's support play significant roles in the continuation of FGM/C. In our study, although women with better wealth status were less likely to support the continuation of FGM/C, better socioeconomic status (wealth) is a factor associated with FGM/C practice. This might be associated with women's decision-making power about their wealth. Evidence has shown that well-to-do women were the decision makers on FGM/C practice. Similarly, mass media exposure, better paternal and maternal education, and socioeconomic status were associated with decreased odds of women's support of FGM/C continuation. This might be due to the community-driven change associated with media exposure and education. Broader community mobilization and education are associated with the overall empowerment of women and their capacity to fight against harmful traditional practices such as FGM/C. Therefore, women's education is a development priority in order to foster fast and longstanding behavioral change to eradicate FGM/C.

Several factors, including cultural norms, educational levels, awareness, and legal frameworks, influence the persistence of FGM/C across generations. Cultural traditions often dictate that FGM/C is a rite of passage and necessary practice to be upheld. Mothers who have undergone FGM/C may feel a societal obligation to have their daughters undergo the same, perpetuating the cycle (Elnakib et al., 2022; Kamal et al., 2022; Villani, 2023). Education plays a crucial role in breaking this cycle, as mothers with higher levels of education are less likely to subject their daughters to FGM/C. For instance, in Ethiopia, the prevalence among daughters of mothers without education was 72%, compared to 25% among daughters of mothers with higher education (Kamal et al., 2022; Villani, 2023). Increased awareness about the health risks and human rights violations associated with FGM/C can also influence mothers' decisions (Elnakib et al., 2022; Kamal et al., 2022; Villani, 2023). In communities with active anti-FGM/C campaigns, the likelihood of daughters undergoing FGM/C decreases significantly. Legal and policy interventions also play a vital role in curbing the practice. Countries with stringent laws against FGM/C have seen a decline in its prevalence among the younger generation. In Egypt, for example, after the criminalization of FGM/C in 2008, there was a notable decrease in the prevalence among girls ages 15–19 (Elnakib et al., 2022; Kamal et al., 2022; Villani, 2023).

The health and social implications of FGM/C are profound, affecting both physical and mental well-being. FGM/C is associated with numerous health complications, including severe pain, infections, childbirth complications, and long-term psychological trauma (Elnakib et al., 2022; WHO, 2023). Efforts to reduce FGM/C must

focus on educating mothers, changing community norms, and enforcing laws against the practices.

Circumciser Type for FGM/C

The medicalization of FGM/C, where healthcare professionals carry out the procedure, represents a concerning trend observed particularly in low and middle-income countries (Elnakib et al., 2022; Villani, 2023). This shift is often driven by the belief that performing FGM/C in a clinical setting—under the care of trained medical personnel and in sterile conditions—might mitigate some of the immediate health risks associated with the procedure, convincing some mothers to choose this FGM/C method for their daughters (Elnakib et al., 2022; Villani, 2023). Harm reduction principles underpin this view, positing that providing FGM/C in a controlled environment could lessen the procedure’s immediate dangers. This perspective, however, fails to address the broader ethical and health issues inherent to FGM/C. While healthcare professionals may be perceived as offering a safer alternative to traditional practitioners, the fundamental problem remains unaddressed: FGM/C is intrinsically harmful and violates human rights, regardless of who performs it or the environment in which it is conducted (WHO, 2021).

The motivations behind the medicalization of FGM/C are complex. In many cases, the demand for medicalized FGM/C arises from parents who are aware of the severe complications associated with the procedure and thus prefer it to be performed by healthcare providers rather than traditional practitioners. They believe that a medical setting will reduce immediate risks and complications associated with FGM/C. Additionally, healthcare providers who engage in this practice are often part of

communities that traditionally practice FGM/C (Elnakib et al., 2022). Their involvement may stem from various factors, including the belief that the procedure is medically justified, the perception that medicalization is a form of harm reduction, cultural or personal obligations to fulfill requests or financial incentives (WHO, 2008). Furthermore, some organizations and individuals support the medicalization of FGM/C, arguing that it could minimize risks and might represent a first step towards the complete abandonment of the practice. They contend that medicalization could be a pragmatic approach where immediate cessation of the practice is not feasible (United Nations, 2008; Villani, 2023).

Despite these arguments, the medicalization of FGM/C poses significant ethical and health challenges. The involvement of healthcare professionals in performing FGM/C can confer a misleading sense of legitimacy to the practice, potentially reinforcing its cultural and social acceptance and contributing to its institutionalization. This increased legitimacy could lead to the practice becoming more entrenched within healthcare systems rather than being challenged or eradicated (Elnakib et al., 2022; Villani, 2023; WHO, 2008). Moreover, performing FGM/C, even in a clinical setting, contravenes core medical ethics principles, including nonmaleficence (not harm) and respect for patient autonomy. The practice is illegal in many countries and is widely condemned by the global health community (WHO, 2008). Additionally, the health risks associated with FGM/C, such as sexual dysfunction, psychological trauma, and complications during childbirth, persist regardless of the setting or the qualifications of the practitioner (Sood et al., 2022; UNICEF, 2008). There is also insufficient evidence to support the notion that the medicalization of FGM/C will lead to its eventual

abandonment. On the contrary, medicalization may perpetuate the practice by further embedding it within healthcare systems and potentially expanding its reach to new communities (Sood & Ramaiya, 2022; WHO, 2008).

Summary of the Literature Review

Despite global efforts to eradicate FGM/C, it remains prevalent in many low and middle-income countries, driven by cultural, religious, and social norms. Studies reveal that FGM/C is often seen as a rite of passage and a means of preserving cultural identity, with significant variations in prevalence across different geographical regions and ethnic groups (Elnakib et al., 2022; Villani, 2023). The practice is typically performed on young girls, often before puberty, with the age at which it varies by community. The role of mothers who have undergone FGM/C themselves is crucial in perpetuating the cycle, as they are more likely to subject their daughters to the practice due to social pressures and perceived benefits (WHO, 2008). This intergenerational transmission highlights the need for comprehensive education and support programs targeting both mothers and communities to break the cycle of FGM/C.

Furthermore, medicalizing FGM/C, where healthcare professionals perform the procedure in clinical settings, poses significant ethical and health challenges. This shift is driven by the belief that medicalization might mitigate immediate health risks associated with FGM/C. However, research indicates that medicalization may inadvertently legitimize and perpetuate the practice, embedding it further within healthcare systems and potentially expanding its reach (Elnakib et al., 2022; Villani, 2023). Performing FGM/C, even under sterile conditions, violates core medical ethics principles and fails to address

the fundamental human rights issues inherent to the practice. The involvement of healthcare professionals in FGM/C can confer a misleading sense of safety and legitimacy, potentially reinforcing its cultural and social acceptance (Sood & Ramaiya, 2022; WHO, 2008).

Definitions of Key Terms

Behavioral barriers: Obstacles rooted in individual behaviors and societal attitudes that hinder the cessation of FGM/C.

Circumciser: The individual who performs the FGM/C procedure, categorized into traditional cutters, TBAs, and health professionals.

Clitoridectomy: Also known as Type I FGM, involves the partial or total removal of the clitoris.

Community outreach: Efforts to engage community members in addressing and reducing FGM/C.

Cultural tradition: Practices and beliefs passed down within a community, including FGM/C.

Deinfibulation: The surgical procedure to open the sealed vaginal opening, typically performed on women who have undergone infibulation.

Ethiopian Demographic Health Surveys (EDHS): A source of data that provides comprehensive information on health and population trends, including FGM/C practices.

Female genital mutilation/cutting (FGM/C): Refers to all procedures involving partial or total removal of the external female genitalia or other injury to the female genital organs for nonmedical reasons.

Gender-based violence: Violence directed at an individual based on their gender, encompassing practices like FGM/C.

Human rights violation: Breaches of fundamental rights and freedoms, often applicable in FGM/C.

Infibulation: Also known as Type III FGM, involves the narrowing of the vaginal opening through the creation of a covering seal formed by cutting and repositioning the labia.

Legal framework: Laws and regulations that prohibit practices like FGM/C and protect individuals' rights.

Pharaonic circumcision: Another term for infibulation or Type III FGM.

Psychosocial impact: FGM/C is relevant because of the combined influence of psychological factors and the social environment on individuals' mental health and behavior.

Reproductive health: A state of complete physical, mental, and social well-being in all matters relating to the reproductive system.

Social norms: Shared standards of acceptable behavior by groups, which can perpetuate the practice of FGM/C.

Sustainable Development Goals (SDGs): A collection of 17 global goals set by the United Nations General Assembly, including eradicating FGM/C by 2030.

Traditional birth attendant (TBA): A person who helps the mother give birth and may also perform FGM/C, often without formal medical training.

Traditional cutter: A nonmedical person who performs FGM/C by customs; frequently found in the community.

Operational Definitions

Age: Age was measured as a continuous variable, with mothers providing their exact age at the time of data collection.

Circumciser type (G107): This variable indicates the person who performed the circumcision and is categorical, with options including: (a) health professional, (b) traditional circumciser, (c) TBA, (d) don't know.

Income: income was measured as a continuous variable however; it will be categorized based on the income distribution

Mothers' FGM/C status (G102): This variable indicates whether the mother of the girl has undergone FGM/C, categorized as "yes" or "no."

Previous geographic location (S104): because there is no current location at data collection the variable "Region lived before moved to place of interview" (S104) will be used.

Type of FGM (FGM type): Categorical with specific classifications, including Type I, Type II, Type III, and Type IV.

Assumptions

The study operated under several key assumptions essential to its meaningfulness. Firstly, it was assumed that the respondents in the used data provided honest and accurate answers regarding their experiences with FGM/C. This assumption was critical because the validity of the findings depended on the truthfulness of the self-reported data. Without

accurate responses, the study's examination of the relationship between circumciser types and the prevalence of FGM/C would have been compromised (Berg & Denison, 2012). Secondly, the analysis assumed that all participants consistently understood the definitions of FGM/C and its various types. This consistency was necessary to ensure that the data collected were comparable across different regions and respondents, which was essential for analyzing FGM/C prevalence (Newman et al., 2021). Finally, the study assumed that the cultural and social influences on FGM/C practices had remained stable because the data collection in 2016. This assumption allowed the study to use the 2016 data to draw conclusions about current practices. Without this assumption, the relevance of the data to current FGM/C practices would have been questionable.

Limitations

Despite the rigorous approach, the study had several limitations that impacted its findings. One significant area for improvement was the reliance on retrospective data from 2016, which did not reflect recent changes or trends in FGM/C practices (Talari & Goyal, 2020). This temporal limitation affected the study's external validity, as findings may not have applied to the current context (Quintão et al., 2020). The study acknowledged this limitation and suggested that future research utilize more recent data to validate its findings. Furthermore, given the sensitive nature of FGM/C, using self-reported data introduced the possibility of bias, such as recall bias or intentional misreporting (Hook, 2023; Pandis, 2014). This limitation may have distorted the true prevalence of FGM/C, compromising the study's internal validity.

The cross-sectional nature of the data was another limitation, as it restricted the ability to establish causality between circumciser types and FGM/C prevalence. This design limitation affected the study's capacity to draw causal inferences, limiting the depth of its conclusions. To address this, the study proposed longitudinal research designs for future studies to better understand causal relationships. Regional variations in FGM/C practices that were not fully captured by the data also presented a limitation, affecting the generalizability of the findings (Wang & Cheng, 2020; Pandis, 2014). To account for this, the study included stratified analysis by region to identify and address regional differences.

Cultural sensitivity around FGM/C may have led to reluctance to disclose certain information, introducing bias that affected the accuracy and reliability of the data. Finally, the study acknowledged that the available data did not include all relevant variables or detailed information on circumciser types, which affected the construct validity of the study. This limitation restricted the comprehensiveness of the analysis, and the study (Fan et al., 2021; Lakens, 2022).

Scope and Delimitations

The scope of this study focused on examining the relationship between circumciser types and the prevalence of different forms of FGM/C among girls ages 0–14 years in Ethiopia, using data from the 2016 EDHS. This specific focus was chosen due to the significant health, social, and cultural implications of FGM/C, as well as the need for targeted interventions to reduce its prevalence. The study concentrated on circumciser types and aimed to identify potential areas for policy and intervention efforts, providing

insights into how different circumciser profiles may influence the practice and prevalence of FGM/C (El-Dirani et al., 2022). This focus helped ensure internal validity by providing a clear and specific research question that could be addressed using the available data.

Several factors defined the boundaries of the study. Firstly, the study population included only girls ages 0–14 in the 2016 EDHS. This age range was chosen to capture the prevalence of FGM/C at a time when girls were most likely to undergo the practice. The study excluded older women, men, and those not captured in the 2016 EDHS, limiting the findings to a specific demographic group. Additionally, the study excluded other related theories or conceptual frameworks beyond the direct relationship between circumciser types and FGM/C prevalence. This exclusion was necessary to maintain a focused scope but limited the breadth of theoretical exploration, posing an issue of external validity (Akanle et al., 2020; Simon & Goes, 2013).

Several factors constrained the potential generalizability of the study's findings. The reliance on data from a single point in time (2016) meant that the findings only partially reflected current practices or trends in FGM/C (Goertz & Mahoney, 2009). Furthermore, the cultural and regional specificity of the study to Ethiopia limited the ability to generalize findings to other contexts or countries with different cultural practices related to FGM/C. Though this only partially resolved the broader issue of generalizability, the study included regional analyses within Ethiopia to understand the country's variations and address this limitation.

Significance of the Study and Implications for Positive Social Change

Positive Social Change

The anticipated impact of this study on positive social change spanned various levels, including individual, family, organizational, and societal/policy dimensions. At the individual level, the research aimed to significantly enhance awareness among girls and their families regarding the health risks associated with different forms of FGM/C (Barrett et al., 2020). This research helped to develop focused educational campaigns to reduce FGM/C practices by identifying the particular types of circumcisers associated with higher prevalence rates (Mwanja et al., 2023). This greater awareness fostered a culture that supported girls' rights and bodily autonomy, enabling families to make decisions centered around their daughters' health and well-being. Such empowerment was crucial in challenging the cultural norms surrounding FGM/C, as families equipped with knowledge were better positioned to advocate against harmful practices that jeopardize their daughters' health.

At the organizational level, health institutions and NGOs engaged in the fight against FGM/C benefited from the insights derived from this study, enabling them to design more effective intervention programs (Matanda et al., 2023; Nydal, 2020). These programs were tailored to address the specific nuances associated with different circumciser types and their influence on FGM/C prevalence, ensuring that resources were allocated to the most impactful strategies. On a broader societal and policy level, the empirical data generated by this research provided advocates and legislators with the necessary evidence to draft informed legislation and policies aimed at curtailing or

outright banning FGM/C (Ghanem, 2023; Matanda et al., 2023; Nydal, 2020).

Implementing more robust legal frameworks and enforcement procedures was expected to contribute to a safer and healthier society, protecting girls from engaging in risky behaviors and fostering an environment that promoted their overall well-being.

Methodological, Theoretical, and Empirical Implications

Methodologically, this study utilized data from large-scale demographic health surveys in Ethiopia to investigate sensitive and culturally significant issues related to FGM/C. By employing robust statistical analyses such as chi-square and regression methods, the study rigorously examined the relationships between various types of circumcision and the prevalence of FGM/C. Theoretically, the research sought to enhance understanding of the social determinants of health by clarifying how different circumcision types may influence the incidence of FGM/C. Furthermore, the study anticipated that additional theoretical exploration of the sociocultural mechanisms underlying harmful behaviors could expand the theoretical frameworks used to comprehend and address FGM/C.

Significance to the Theory

This study had important implications for theoretical frameworks, particularly the socioecological model related to FGM/C. It expanded our understanding of how individual, relationship, community, and societal factors interact to influence FGM/C practices among girls ages 0–14 in Ethiopia. By examining different types of circumcisers—traditional cutters, TBAs, and health professionals—the study revealed the unique roles each plays within their cultural context. Understanding these roles enriched

the socioecological model's application to FGM/C and highlighted the complex social dynamics involved. The study also explored how geographical location, such as urban versus rural settings, affected FGM/C practices, aligning with the model's emphasis on environmental influences on health behaviors.

Furthermore, the research investigated mothers' FGM/C status as a moderating factor, shedding light on the intergenerational influences on health practices. This helped deepen our understanding of how family dynamics shape attitudes toward FGM/C. Additionally, the study incorporated socioeconomic factors like education and income, which significantly affect decisions regarding circumciser types and FGM/C prevalence. By considering these influences, the study provided a broader perspective on the factors impacting FGM/C. Ultimately, the research sought to refine the socioecological model and inform public health strategies addressing FGM/C effectively in Ethiopia. These strategies aim to target interventions at multiple levels of the model to foster meaningful change.

Summary

This study on FGM/C in Ethiopia investigated the influence of different circumciser types on the prevalence and forms of FGM/C among girls ages 0–14 years. The introduction underscored the critical need to address the practice of FGM/C, highlighting gaps in existing research and the lack of empirical data on how different circumcisers impact the prevalence and types of FGM/C. The purpose of the study was to fill these gaps by examining the relationship between circumciser types and FGM/C practices, utilizing a combination of social exchange theory, the health belief model,

cultural relativism, and feminist theory to provide a comprehensive understanding of the social, cultural, and economic factors involved. The literature explored the cultural, religious, and legal contexts of FGM/C in Ethiopia, examining how these factors influence the practice and its variations across different regions and age groups.

The significance of this study lay in its potential to refine theoretical frameworks and inform practical interventions aimed at reducing FGM/C. By analyzing how different types of circumcisers affected the prevalence of FGM/C, the study contributed to a deeper understanding of the social and economic exchanges involved in the practice and how health beliefs and cultural norms shape these exchanges. The findings were expected to enhance theoretical discussions on cultural authority, gender dynamics, and health behaviors, offering insights that could lead to more effective policy and intervention strategies. The study also addressed the implications for positive social change, recommending practices to challenge and reduce harmful traditions.

Section 2: Research Design and Data Collection

Introduction

This chapter outlined the methodology employed in the study, which focused on examining the relationship between different types of FGM/C circumcisers and the prevalence of various forms of FGM/C among girls ages 0–14 years in Ethiopia. The purpose of the study was to determine which types of circumcisers—traditional cutters, TBAs, or health professionals—performed the most extreme types of FGM/C. This chapter restated the study’s goal, provided the research design and justification, and reviewed the necessary variables required to accomplish this goal (Haslam et al., 2024; Brown, 2022). It also considered time and resource constraints that impacted the design choice, ensuring that the chosen methodology aligned with the objectives of advancing knowledge in the field of public health.

Research Design and Rationale

The study employed a cross-sectional research design to explore the associations between circumciser types and the prevalence of different forms of FGM/C among girls in Ethiopia (Anjulo et al., 2021). In this design, the independent variables included circumciser type (categorized as a traditional cutter, TBA, or health professional), age, gender, geographic location (urban versus rural), and mothers’ FGM/C status. The dependent variable was the prevalence of FGM/C by type. Additionally, moderating variables such as geographic location and mothers’ FGM/C status were considered, as they could influence the strength and direction of the relationships between the type of circumciser and the prevalence of FGM/C.

A cross-sectional research design has long been fundamental in epidemiology and public health studies, enabling researchers to simultaneously analyze the prevalence and associations of various health-related phenomena within a defined population. This design is particularly valuable for studying patterns, trends, and correlations in health outcomes, providing a snapshot of the population's health status to inform policy and intervention strategies (Levin, 2006; Levy & Lemeshow, 2013). The origins of cross-sectional studies trace back to the early 20th century when researchers systematically collected and analyzed health data from populations to understand disease prevalence and associated risk factors. One of the earliest notable applications was in the study of tuberculosis prevalence by Wade Hampton Frost in the 1930s, whose work laid the groundwork for using cross-sectional surveys in public health and epidemiology (Frost, 1933).

By the 1950s and 1960s, cross-sectional studies became increasingly popular for investigating chronic diseases such as cardiovascular diseases and cancer. The Framingham Heart Study, initiated in 1948, incorporated cross-sectional elements to assess the prevalence of risk factors for cardiovascular diseases at different time points, providing insights into the relationships between lifestyle factors, such as smoking and diet, and heart disease incidence (Dawber et al., 1951; Levy & Lemeshow, 2013). Methodological advancements over the decades have enhanced the robustness and applicability of cross-sectional designs. Sophisticated sampling techniques, such as stratified random sampling, ensure representative samples of the population, while advanced statistical methods help control for confounding variables and analyze complex

associations (Levy & Lemeshow, 2013). In public health, cross-sectional studies have played a crucial role in identifying and addressing health disparities. For example, the National Health and Nutrition Examination Survey, initiated in the 1960s, employs a cross-sectional design to assess the health and nutritional status of adults and children in the United States. The data collected through the National Health and Nutrition Examination Survey have been used to inform public health policies and programs aimed at improving the nation's health (Centers for Disease Control and Prevention, 2017; Levin, 2006).

Cross-sectional studies have also explored the prevalence and determinants of FGM/C in various regions. Studies conducted in African countries have utilized cross-sectional data to examine the sociodemographic factors associated with FGM/C practices and identify communities at risk (Levy & Lemeshow, 2013). In Ethiopia, Bogale et al. (2014) employed a cross-sectional design to examine the prevalence of FGM/C and its effect on women's health in Bale Zone. The cross-sectional design was chosen due to its ability to provide a comprehensive snapshot of the current state of FGM/C practices, facilitating the identification of associations and patterns without the need for longitudinal follow-up.

The primary advantage of cross-sectional studies is their efficiency in terms of time and resources. They enable researchers to collect and analyze data relatively quickly compared to longitudinal studies, which require extended follow-up periods. This efficiency is particularly beneficial when addressing urgent public health issues or limited resources (Levin, 2006; Levy & Lemeshow, 2013). However, cross-sectional designs also

have limitations. They are inherently observational and cannot establish causality due to the simultaneous measurement of exposure and outcome. Additionally, cross-sectional studies may be susceptible to certain biases, such as selection bias and recall bias, which can affect the validity of the findings (Frost, 1933; Levin, 2006).

Despite these limitations, cross-sectional studies remain vital in public health research, providing valuable insights into the prevalence and correlates of health behaviors and outcomes. They are crucial in informing public health interventions and policies to improve population health (Centers for Disease Control and Prevention, 2017; Yoder et al., 2004). Therefore, the cross-sectional design employed in this study served as an essential tool for understanding the complex dynamics surrounding FGM/C practices in Ethiopia, ultimately guiding efforts to promote women's health and protect the rights of girls in the region.

Methodology

This study employed a cross-sectional design, which is particularly well-suited for examining FGM/C practices in Ethiopia, as it allows for the efficient collection of data at a single point in time. The research utilized data from the 2016 EDHS, a nationally representative data set that provides comprehensive demographic and health-related information relevant to the study objectives. The EDHS is recognized for its methodological rigor, employing a stratified, multistage sampling approach to ensure representativeness of the Ethiopian population (Brady et al., 2021).

The data set includes detailed information on FGM/C practices, such as the type of FGM/C performed and the type of circumciser involved—key variables for the

analysis. Leveraging this data set allowed for an in-depth examination of the associations between circumciser type and the prevalence of various forms of FGM/C, thereby enhancing the generalizability and validity of the study findings. The EDHS remains a valuable data source for health and demographic research, offering critical insights for evidence-based policy and intervention design (Jidha & Feyissa, 2023).

Study Population

The girls ages 0–14 who lived in Ethiopia were the study’s target population; these girls were those who had experienced FGM/C. The choice of these girls was important because the study population was informed by the prevalence and patterns of FGM/C practices in Ethiopia, which had one of the highest rates of the practice, especially among young girls. FGM/C was a common practice in many African countries, including Ethiopia, where it was frequently performed on young girls to prevent resistance and questioning of the practice (Odukogbe et al., 2017). The high prevalence of FGM/C among this age group underscored the necessity of focusing on girls ages 0–14 years to understand the dynamics and influences of the practice. The population ages 0–14, female (% of female population) in Ethiopia was reported at 38.69% in 2023, according to the World Bank collection of development indicators, compiled from officially recognized sources. Ethiopia - Population ages 0-14, female (% of total) - actual values, historical data, forecasts, and projections were sourced from the World Bank in October 2024.

FGM/C posed significant health risks, including severe infections, physical and psychological problems, and even death (Ndoye et al., 2023; Liyew, 2022; Jidha &

Feyissa, 2023). Additionally, it violated the human rights of girls and women (Liyew, 2022; Jidha & Feyissa, 2023; Sood & Ramaiya, 2022). By concentrating on young girls, the study aimed to facilitate early intervention and prevention efforts, which were critical in mitigating these adverse effects. The practice of FGM/C is deeply rooted in cultural and social norms. Research highlights that social and cultural acceptability perpetuates FGM/C (Barrett et al., 2020; Brady et al., 2021; Lejore et al., 2022).

Sampling and Sampling Procedures

This research utilized secondary data from the 2016 EDHS, which employed a stratified multistage cluster sampling design to ensure that the data were trustworthy and representative (Central Statistical Agency [CSA] & ICF, 2016; ICF International, 2017). This design was pivotal in capturing demographic and health indicators across Ethiopia's diverse regions, thereby enhancing the validity of the findings. Stratification began by dividing the country into nine regions and two administrative cities, further categorized into urban and rural areas, resulting in 21 distinct strata. This stratification was essential for reflecting socioeconomic and demographic variations and improving the survey's overall representativeness (CSA & ICF, 2016; ICF International, 2017).

In the first sampling stage, 645 enumeration areas (EAs) were selected, including 202 from urban areas and 443 from rural areas. The EAs were chosen using probability proportional to size (PPS), ensuring that EAs with larger populations were more likely to be selected. This method was crucial for accurately representing the population's distribution and accounting for variability in household numbers. Using PPS allowed for

the precise representation of diverse geographical and socioeconomic segments within the sample (CSA & ICF, 2016; ICF International, 2017; Hailu & Mulu, 2020).

Following the selection of EAs, a household listing operation was conducted to create a comprehensive list of households within each selected EA. Segmentation was employed for large EAs with more than 300 households, where one segment was selected based on its size for further household listing. This segmentation process was critical for managing large EAs efficiently while maintaining the sample's representativeness. Within each segment or EA, 28 households were systematically chosen using equal probability sampling, ensuring that every household within the segment had an equal chance of selection. This approach contributed to the reliability and validity of the survey results (CSA & ICF, 2016; ICF International, 2017; Daba et al., 2020).

Data collection within the selected households focused on key demographic and health indicators. Interviews were conducted for all women ages 15–49 and men ages 15–59. Specific modules related to FGM/C and domestic violence were administered based on targeted criteria. For instance, all eligible women in half of the selected households were included in the FGM/C module, while only one woman per household was chosen for the domestic violence module. This approach allowed for detailed analysis of specific issues while maintaining data integrity (CSA & ICF, 2016; ICF International, 2017; Abebe et al., 2021).

To ensure the high quality of data, the EDHS implemented rigorous quality control measures, including extensive training for field staff, close supervision during data collection, and technical support from ICF and other stakeholders. Data processing

and validation procedures were implemented to reduce biases and errors (Belete & Berhanu, 2020). The stratified multistage cluster sampling design of the 2016 EDHS yielded a thorough and representative data set, which was crucial for precise demographic and health assessments in Ethiopia (CSA & ICF, 2016; ICF International, 2017).

For the specific procedures in extracting data from the EDHS data set, variables such as circumciser type, FGM/C type, age, gender, geographic location, and mothers' FGM/C status were selected for analysis. The sampling frame was defined by the availability of data on these variables, with inclusion criteria focusing on complete records related to FGM/C and circumciser types. Records with missing or incomplete data on critical variables were excluded to ensure accuracy and reliability (CSA & ICF, 2016; ICF International, 2017; Kassa et al., 2021; Yalew & Haji, 2021).

Power Analysis

This study will utilize subset of data that contains only women with female children ages 0–14 available from the 2016 EDHS for the secondary data analysis. While a formal power analysis is typically conducted during the planning phase of primary data collection, it will remain essential to confirm that the available data set is adequate for addressing the research questions related to FGM/C and demographic characteristics. Using g*power software, A priori power analysis was conducted to determine the required sample size for a t-test comparing two independent means. The analysis specified a two-tailed test with an effect size of 0.5, an alpha error probability of 0.05, and a power of 0.80. An allocation ratio of 1 was maintained between the two groups.

The results indicated a noncentrality parameter (δ) of 2.8284, a critical t-value of 1.9789, and 126 degrees of freedom. The required sample size for each group was 64, yielding a total sample size of 128. The actual power achieved was 0.8015. This analysis confirms that the selected sample size was sufficient to detect a medium effect with an 80% probability while maintaining an acceptable Type I error rate.

Instrumentation and Operationalization of Constructs

Since this study relied on archival data, traditional recruitment and data collection procedures were not necessary. Data for this research were obtained from the 2016 EDHS, which included information on FGM/C practices and demographic characteristics (Central Statistical Agency [CSA] & ICF, 2016; ICF International, 2017). The original EDHS survey involved extensive data collection efforts across Ethiopia, including obtaining informed consent from participants and ensuring that the data were collected ethically and in compliance with research standards (Mulugeta & Tesfaye, 2018; Alemayehu & Kifle, 2021). The informed consent process, as documented in the EDHS procedures, upheld the ethical integrity of the data collection, aligning with international research ethics guidelines (Kassa et al., 2021; Bekele & Ayele, 2021).

Data collection for this study involved extracting and analyzing relevant data from the publicly available EDHS database. After receiving approval from Walden's Institutional Review Board, I requested authorization from EDHS to access and filter out key variables related to FGM/C and demographic information essential for my research. This extraction process involved identifying variables related to FGM/C types, circumciser types, and demographic characteristics to ensure a focused and relevant

analysis aligned with the research questions (CSA & ICF, 2016; ICF International, 2017). With the extensive documentation and operationalized variables of the EDHS data set, this study undertook a detailed secondary data analysis. Because this study utilized secondary data, no new participant interactions or follow-ups were required, allowing for an efficient and targeted approach to address the study's objectives.

The primary data set used for this study was the 2016 EDHS. This data set was a valuable resource, providing extensive and detailed information on various constructs related to FGM/C, as well as demographic variables. The EDHS was a widely recognized and validated source of health and demographic data, employed extensively in research for its robustness and comprehensive coverage (Mulugeta & Tesfaye, 2018; Alemayehu & Kifle, 2021). The data set's reliability was established through rigorous data collection methods and quality control procedures implemented during the original survey.

The EDHS data set included detailed information on crucial constructs relevant to this study: the types of circumcisers, the prevalence of different types of FGM/C, and various demographic characteristics. These constructs were crucial for understanding the distribution and prevalence of FGM/C in Ethiopia and for analyzing the associations between different circumciser types and FGM/C practices. The comprehensive nature of the data set supported its use in addressing specific research questions related to FGM/C and its determinants.

The operational definitions for each variable in the study were crucial for ensuring accurate analysis and interpretation of the data related to FGM/C. The study utilized data

from the 2016 EDHS, which provided a rich data set for examining FGM/C practices among girls ages 0–14 years.

Dependent Variable

The dependent variable in this study was the prevalence of FGM/C by type among girls ages 0–14 years. This variable was operationalized by categorizing the reported types of FGM/C as documented in the EDHS data set. Type of FGM (FGM_type): Categorical with specific types (Type I, Type II, Type III, Type IV).

Independent Variables

Circumciser Type (G107). This variable indicates the person who performed the circumcision and is categorical, with options including: (a) health professional, (b) traditional circumciser, (c) TBA, and (d) don't know.

Age. Age was measured as a continuous variable, with mothers providing their exact age at the time of data collection.

Income. Income was measured as a continuous variable however it will be categorized based on the income distribution.

Previous Geographic Location (S104). Since there is no current location at data collection the variable “Region lived before moved to place of interview” (S104) will be used.

Mothers' FGM/C Status (G102): This variable indicates whether the mother of the girl has undergone FGM/C, categorized as “yes” or “no.”

Research Questions and Hypotheses

The research questions and hypotheses, as stated in Chapter 1, are as follows:

RQ1: What is the association between the circumciser type (traditional cutter, TBA, health professionals) and the FGM/C prevalence by types for girls ages 0–14 years in Ethiopia when controlling for mother's age and income?

H₀1: There is no statistically significant association between the circumciser type (traditional cutter, TBA, health professionals) and the FGM/C prevalence by types for girls ages 0–14 years in Ethiopia when controlling for mother's age and income.

H₁1: There is a statistically significant association between the circumciser type (traditional cutter, TBA, health professionals) and the FGM/C prevalence by type for girls ages 0–14 years in Ethiopia when controlling for mother's age and income.

RQ2: What is the association between the circumciser type (traditional cutter, TBA, health professional) and the FGM/C by type for girls ages 0–14 years in Ethiopia, as moderated by their geographical location (urban vs. rural) when controlling for mother's age and income?

H₀2: Geographic location (urban v rural) does not moderate the association between the type of circumciser (traditional cutter, TBA, health professional) and the type of FGM/C for girls ages 0-14 years in Ethiopia when controlling for mother's age and income.

H₁2: Geographic location (urban v rural) does moderate the association between the type of circumciser (traditional cutter, TBA, health professional) and the type

of FGM/C for girls ages 0-14 years in Ethiopia when controlling for mother's age and income.

RQ3: What is the association between the circumciser type (traditional cutter, TBA, health professional) and the FGM/C by type for girls ages 0–14 years in Ethiopia, as moderated by their mothers' FGM/C status when controlling for mothers' age and income?

H₀₃: Mothers' FGM/C status does not moderate the association between the type of circumciser (traditional cutter, TBA, health professional) and the type of FGM/C for girls ages 0-14 years in Ethiopia when controlling for mothers' age and income.

H₁₃: Mothers' FGM/C status does moderate the association between the type of circumciser (traditional cutter, TBA, health professional) and the type of FGM/C for girls ages 0-14 years in Ethiopia when controlling for mothers' age and income.

Data Analysis Plan

The data analysis for this study was conducted using a structured approach to examine the relationship between circumciser types and the prevalence of different forms of FGM/C among girls ages 0–14 years in Ethiopia. The process began with extracting relevant variables from the 2016 EDHS, which provided comprehensive health and population metrics data, including FGM/C practices. Key variables extracted included FGM/C prevalence by type (categorized into different forms of FGM/C), circumciser type, categorized as traditional cutter, TBA, or health professional, mother's age

(continuous) and income level (categorical or continuous, as specified), geographical location (urban vs. rural), and mothers' FGM/C status.

Following the data extraction of relevant variables from the data set to simplify the analysis, the data set underwent a cleaning process. This involved addressing missing data, ensuring consistency in coding, and recoding variables where necessary. For instance, geographical location was dichotomized into urban and rural categories, and income was grouped into quantiles for uniformity. Continuous variables were assessed for normality and transformed if required.

Descriptive statistics were then computed to summarize the data set. This included calculating frequencies and percentages for categorical variables such as the type of FGM/C and circumciser. Descriptive measures clearly revealed the sample's critical characteristics, including the distribution of variables of interest, such as household income and age. For continuous variables, means and standard deviations were computed where applicable to summarize central tendencies and variability.

The first research question examined whether the type of circumciser influenced the prevalence of different forms of FGM/C. Multinomial logistic regression was used to model the association between the independent variable (circumciser type) and the dependent variable (FGM/C prevalence by type). Mother's age and income were included as control variables. Adjusted odds ratios (ORs) with 95% confidence intervals (CIs) were used to measure the strength and direction of these associations. Model diagnostics, such as goodness-of-fit tests and multicollinearity checks (via variance inflation factors), ensured validity.

The second question investigated whether geographical location (urban vs. rural) moderated the relationship between circumciser type and FGM/C prevalence by type. Multinomial logistic regression incorporated an interaction term (circumciser type \times geographical location) to assess moderation. If the interaction term was statistically significant, stratified analyses were conducted by urban and rural groups to explore the relationships further. Control variables (mother's age and income) remained in the model to account for confounding effects. Interaction plots visually presented significant findings.

The third question evaluated whether the mothers' FGM/C status moderated the association between circumciser type and FGM/C prevalence by type. Similar to RQ2, multinomial logistic regression with an interaction term (circumciser type \times mothers' FGM/C status) was applied. Post-hoc analyses, such as stratification by mothers' FGM/C status, were conducted if the interaction was significant. Adjusted ORs and 95% CIs were calculated for each subgroup, with findings presented in tables and interaction plots.

All regression models underwent diagnostic checks to ensure robustness and reliability. Multicollinearity was assessed using variance inflation factors (VIFs) to detect and address any high correlations among independent variables. The goodness-of-fit of the models was evaluated through likelihood ratio tests and pseudo-R-squared measures. Residual analysis was conducted to identify influential observations or outliers, using Cook's distance to assess their impact on the regression estimates. These diagnostics helped validate the models and enhance the credibility of the findings. All analyses were

conducted using statistical software SPSS. Statistical significance was set at an alpha level of .05.

Table 1

Analysis Plan

Research question (RQ)	Variables	Test to be used
RQ1: What is the association between the circumciser's type and FGM/C prevalence by type for girls ages 0–14 years in Ethiopia when controlling for mother's age and income?	DV: FGM/C prevalence by type IV: Circumciser type (traditional cutter, TBA, health professional) CV: Mother's age; Income Moderator: None	Multinomial logistic regression with control variables
RQ2: What is the association between the circumciser's type and FGM/C prevalence by type for girls ages 0–14 years in Ethiopia, as moderated by geographical location, when controlling for mother's age and income?	DV: FGM/C prevalence by type IV: Circumciser type (traditional cutter, TBA, health professional) CV: Mother's age; Income Moderator: Geographical location (urban vs. rural)	Multinomial logistic regression with interaction term
RQ3: What is the association between the circumciser's type and FGM/C prevalence by type for girls ages 0–14 years in Ethiopia, as moderated by mothers' FGM/C status, when controlling for mother's age and income?	DV: FGM/C prevalence by type IV: Circumciser type (traditional cutter, TBA, health professional) CV: Mother's age; Income Moderator: Mothers' FGM/C status	Multinomial logistic regression with interaction term

Threats to Validity

External Threats to Validity

External validity pertained to the generalizability of study findings to broader contexts or different populations. In this study, external threats to validity included the specificity of variables and the interaction effects between selection and experimental variables. Although the use of the 2016 EDHS data set, which was nationally representative, helped alleviate some concerns by providing a large sample that reflected various regions and demographic characteristics within Ethiopia, the findings may not have been directly applicable to other countries or contexts with different cultural or health environments.

To mitigate these risks, the research ensured that the sample was representative of the population under investigation by addressing constraints on the generalizability of the findings. Comparative analyses with other data sets or research studies were conducted to validate results across different contexts and provide a more comprehensive view of the findings.

Internal Threats to Validity

Internal validity threats included history, maturation, testing, instrumentation, statistical regression, experimental mortality, and selection-maturation interaction. In this secondary data analysis, threats to internal validity were minimized due to the data being collected through standardized procedures and rigorous quality control measures. However, data accuracy and completeness limitations could still have impacted the results (Bekele & Ayele, 2021; Hailu & Mulu, 2020).

To counter these risks, the research utilized solid statistical techniques, and sensitivity analyses were conducted to confirm the findings (Mulugeta & Tesfaye, 2018; Tafa, 2020). Any limitations in data quality were acknowledged and discussed transparently to ensure an accurate interpretation of the findings.

Threats to Construct or Statistical Conclusion Validity

Threats to the study's construct validity related to the precision with which the measured constructs were defined and assessed, while threats to statistical conclusion validity pertained to the appropriate use and interpretation of statistical tests (Campbell & Fiske, 1959; Shadish et al., 2002). This study ensured that constructs, such as circumciser type and the prevalence of FGM/C, were accurately operationalized and measured using the EDHS data set.

This included utilizing correction methods for multiple comparisons, such as the Bonferroni or Holm-Bonferroni adjustments, to control the family-wise error rate. Moreover, the study ensured that assumptions of the statistical tests were met, including normality, homogeneity of variances, and independence of observations.

Ethical Procedures

The study adhered to strict ethical procedures when utilizing archival data from the EDHS. Access to the data set had been obtained through formal agreements with the EDHS data management team. Necessary institutional permissions and ethical approvals were secured from the relevant Institutional Review Board (IRB). The IRB application included all required documentation to ensure compliance with ethical standards. Ethical considerations were paramount, particularly regarding data use and confidentiality. The

data set was anonymous, containing no personal identifiers. Data storage involved restricted access, allowing only authorized personnel to handle the information. These measures aimed to uphold the highest ethical standards throughout the research process.

Data security was prioritized through robust protective protocols. The data set was stored in a secure environment with password protection and encryption to safeguard its integrity. Access was strictly limited to those who required it for the study, with a record maintained for accountability. After the study concluded, the data will be retained for a maximum of 5 years, in line with institutional policies. Upon completion of this retention period, all data will be securely destroyed to prevent unauthorized retrieval. These actions complied with applicable data protection regulations, ensuring responsible data management. The commitment to ethical and secure data handling reflected the importance of maintaining confidentiality and integrity throughout the research.

Although the data from the EDHS were de-identified, they contained culturally sensitive information. To address this, I obtained formal approval from the EDHS data custodians and received IRB clearance to ensure ethical compliance. Data were handled securely, with access limited to authorized individuals and protected by encryption and passwords. These measures ensured the confidentiality and ethical use of participant information, even in secondary form.

Another ethical concern involved the potential risk of stigmatizing certain communities through the interpretation of findings, especially rural populations or those associated with traditional circumcisers. To prevent this, I carefully framed results in a culturally sensitive, nonjudgmental way, focusing on health promotion rather than blame.

Findings were presented to support positive policy change and public health interventions, avoiding language or conclusions that could reinforce stereotypes or marginalize specific groups. This approach upheld respect for cultural context while maintaining research integrity.

Summary

This chapter presented the methodology of this study, which employed a quantitative research approach, utilizing secondary data analysis to explore factors related to FGM/C among Ethiopian women. The research design was cross-sectional, allowing for the examination of existing data from the 2016 EDHS to simultaneously assess the prevalence of FGM/C and associated demographic variables. The target population consisted of women ages 0-14 years. Data analysis involved statistical software for both descriptive and inferential statistics, including the computation of prevalence rates and the assessment of relationships between demographic factors and the practice of FGM/C.

To ensure the validity of the research findings, this chapter systematically addressed potential threats to both external and internal validity. External validity was bolstered by utilizing a nationally representative data set, while internal validity concerns were mitigated through standardized data collection procedures and rigorous quality control measures. I acknowledged potential data accuracy and completeness limitations, ensuring transparency in interpreting results. Construct and statistical conclusion validity were maintained by accurately operationalizing key constructs, such as circumciser type and FGM/C prevalence, and employing appropriate statistical tests. Ethical considerations were also paramount; access to the EDHS data set was secured through

proper channels, with institutional permissions and ethical approvals from the relevant IRB. The data set's anonymity was upheld, ensuring no personal identifiers were included, and strict data storage procedures were implemented to protect confidentiality.

Section 3: Presentation of the Results and Findings

Introduction

This section presents the results and findings of the study based on the three research questions. The analysis was guided by the study's purpose, which was to examine the relationship between the type of circumciser specifically traditional cutters, TBAs, and health professionals and the type of FGM/C performed among girls ages 0–14 years in Ethiopia. The section begins by describing how the data set was accessed, prepared, and refined for analysis. It then presents the descriptive statistics of the study sample, followed by inferential analyses addressing each research question.

The first research question (RQ1) examines the association between the type of circumciser and the type of FGM/C performed when controlling for mother's age and income. The second research question (RQ2) assesses whether geographical location (urban versus rural) moderates the relationship between the type of circumciser and the type of FGM/C performed. Finally, the third research question (RQ3) investigates whether the mother's FGM/C status moderates the relationship between the type of circumciser and the type of FGM/C performed.

Both descriptive and inferential statistical techniques were applied, including cross-tabulations, chi-square tests, and multinomial logistic regression models. These analyses were conducted to test the stated hypotheses and provide a comprehensive understanding of the patterns and predictors of FGM/C practices in Ethiopia. The section concludes by summarizing the study findings.

Data Collection

Accessing Data Set

An official request for data access was sent via email to the EDHS team. In response, the 2019 and 2016 data sets were provided. However, because the 2019 data set did not include information on FGM, the 2016 data set was selected for use in this study. The 2016 EDHS initially included 41,392 participants. Of these, 20,833 households were selected for the FGM module, while the remaining 20,559 households were not. Only data from the households included in the FGM module were retained for analysis in this study.

Data Preparation and Extraction

Data were obtained from the 2016 EDHS, which initially included 41,392 participants. Of these, 20,833 households were selected for the FGM module, while the remaining 20,559 households were not. Only data from the FGM module were retained for this study. Several variables relevant to the research objectives were extracted. These included the mother's highest educational level, the respondent's circumcision status, the daughter's circumcision status, the daughter's age at circumcision, and whether the daughter's genital area had been sewn closed. Additional variables included the respondent's current age (used as a proxy for the mother's age), type of place of residence (urban or rural), and wealth index combined. Detailed FGM-related variables such as whether flesh was removed from the genital area, whether the genital area was nicked without removing flesh, and whether the area was sewn closed were also

extracted. The variable on the type of circumciser for the daughter was included for further analysis.

To refine the data set, only records of daughters ages 0 to 14 years who had undergone circumcision were retained. This filtering process resulted in a final analytic sample of 1,556 participants. This data set formed the basis for all descriptive and inferential statistical analyses conducted in the study.

The variable G124 (“Who performed daughter’s circumcision”) initially included multiple distinct categories, separating health professionals (doctor, trained nurse/midwife, other health professional) from traditional practitioners (traditional circumciser, TBA, other traditional). For analytic clarity, these were regrouped into three categories: Health professional (including doctors, nurses, midwives, and other trained medical personnel), TBA, and traditional circumciser (merging all traditional practitioners other than birth attendants).

Other variables were similarly recoded to suit the analysis. The mother’s educational level, originally a categorical variable with several levels, was recoded into three categories: Primary, Secondary, and Tertiary education. Regarding daughters’ age at circumcision, only records for girls ages 0–14 years were retained, with cases above 14 years excluded from the data set.

To derive the type of FGM performed on daughters, the variable G123 (“Was daughter’s genital area sewn closed”) was used as a proxy. Respondents who answered “yes” were classified as having undergone infibulation or other severe forms, while those who answered “no” were classified as having undergone clitoridectomy or excision. No

variable directly recorded the specific WHO classification of FGM type; therefore, this derived variable was used in the analysis.

The mother's age was obtained from V012 ("respondent's current age"), which was recoded into categorical age groups for cross-tabulation and chi-square analysis. The geographic location was captured using V102 ("type of place of residence"), categorized as either urban or rural. Lastly, V190 ("wealth index combined") was recoded from five original categories into three broader income levels: poor, middle, and rich.

Data analysis was conducted using both descriptive and inferential statistical procedures to address the research questions. The sample consisted of 1,556 mother-daughter pairs with complete information on FGM/C variables, drawn from the 2016 EDHS. Descriptive statistics were first used to summarize the demographic and FGM-related characteristics of the sample. Frequencies and percentages were calculated for maternal education level, wealth index, circumcision status of both mothers and daughters, the daughter's age at circumcision, type of FGM performed, and the category of circumciser involved (traditional circumciser, TBA, or health professional). This initial analysis provided a foundational understanding of the prevalence and distribution of FGM/C practices within the population.

To explore the first research question, a series of Pearson chi-square tests were used to examine the association between the type of circumciser and the type of FGM/C performed. This analysis was stratified by maternal age category, education level, and household wealth to assess whether these factors influenced the relationship between circumciser type and form of cutting. Where relevant, additional statistics such as the

likelihood ratio and linear-by-linear association were calculated to supplement the chi-square tests. All tests were two-tailed with a significance threshold of .05. Subgroup analyses were conducted separately for each stratum to ensure clarity in interpreting how the associations varied across demographic categories.

To address the second and third research questions, nominal (multinomial) logistic regression models were utilized. These models examined whether the relationship between circumciser type and the form of FGM/C was moderated by the place of residence (urban versus rural) and the mother's circumcision status. Interaction terms were created by multiplying the standardized (z-score) values of the circumciser type and the moderator variables. The models also controlled for potential confounders such as maternal age and household wealth index. Model outputs included regression coefficients (B), odds ratios ($\text{Exp}(B)$), 95% confidence intervals, and p-values (significance values). Pseudo R^2 values, such as Nagelkerke R^2 , were used to assess the explanatory power of each model.

Due to estimation challenges in the multinomial regression, specifically the singularities in the Hessian matrix caused by the health professional category perfectly predicting the infibulation outcome, this category was excluded from the final regression model. This exclusion ensured that the model could converge and produce interpretable estimates. Results were considered statistically significant at $p < .05$, and findings with p-values between .05 and .10 were described as marginally significant. All analyses were conducted using IBM SPSS Statistics, Version 28.0.

Data Analysis

Descriptive Statistics

Among the 1,556 respondents, valid data on mothers' highest educational level were available for 248 cases (15.9%). Of these, the majority of mothers (94.4%) had attained only primary education, 4.8% had completed secondary education, and 0.8% had tertiary education. Educational data were missing for 84.1% of the sample. Analysis of the full data set revealed that 97.8% of mothers reported having undergone circumcision, while 2.2% had not. All respondents reported that their daughters had undergone circumcision, indicating a 100% prevalence rate of FGM/C among daughters in the extracted data set. The age at which daughters were circumcised varied, with the most frequent age at birth (44.4%), followed by age 7 (13.6%), and other ages ranging between 1 and 10 years.

Regarding the type of FGM, 69.0% of daughters experienced infibulation or another severe form, and 31.0% underwent clitoridectomy or excision. Most respondents lived in rural areas (91.7%), with the remainder residing in urban locations (8.3%). In terms of socioeconomic status, 63.0% of mothers were classified as poor, while 37.0% were rich. Among mothers with valid data on genital cutting practices, 96.8% reported flesh removal from their genital area, 53.7% of a smaller subset reported that their genital area was nicked without flesh removal, and 45.1% had their genital area sewn closed. Regarding who performed the daughters' circumcision, 97.3% were done by traditional circumcisers, 1.8% by TBAs, and 0.9% by health professionals. The majority of mothers (81.6%) were ages 25–44 years, with 7.4% below 24 years and 11.0% ages 45–64 years.

Table 2*Descriptive Statistics*

Variable	Category	Frequency (n)	Percentage (%)
Mother's Highest Educational Level (n = 248)	Primary	234	94.4
	Secondary	12	4.8
	Tertiary Education	2	0.8
Mother Circumcised	Yes	1,521	97.8
	No	35	2.2
Daughter Circumcised	Yes	1,556	100.0
Daughter's Age at Circumcision	0 (at birth)	691	44.4
	1	99	6.4
	2	69	4.4
	3	55	3.5
	4	45	2.9
	5	69	4.4
	6	79	5.1
	7	212	13.6
	8	87	5.6
	9	44	2.8
	10	58	3.7
	11	14	0.9
	12	24	1.5
	13	4	0.3
	14	6	0.4
Daughter's Type of FGM	Infibulation or other severe form	1,074	69.0
	Clitoridectomy or excision	482	31.0
Place of Residence	Rural	1,427	91.7
	Urban	129	8.3
Mothers' Wealth Index	Poor	980	63.0
	Rich	576	37.0
Mothers' Flesh Removed (n = 1,369)	Yes	1,325	96.8
	No	44	3.2
Mothers' Genital Area Nicked (n = 67)	Yes	36	53.7
	No	31	46.3

Mothers' Genital Area Sewn Closed (n = 1,451)	Yes	655	45.1
	No	796	54.9
Who Performed Daughter's Circumcision (n = 1,553)	Traditional circumciser	1,511	97.3
	Traditional birth attendant	28	1.8
	Health professional	14	0.9
Mother's Age Category	Below 24 years	115	7.4
	25–44 years	1,270	81.6
	45–64 years	171	11.0

Research Questions and Hypotheses Testing

Research Question 1

RQ1: What is the association between the circumciser type (traditional cutter, TBA, health professionals) and the FGM/C prevalence by types for girls ages 0–14 years in Ethiopia when controlling for mother's age and income?

H_01 : There is no statistically significant association between the circumciser type (traditional cutter, TBA, health professionals) and the FGM/C prevalence by types for girls ages 0–14 years in Ethiopia when controlling for mother's age and income.

H_11 : There is a statistically significant association between the circumciser type (traditional cutter, TBA, health professionals) and the FGM/C prevalence by type for girls ages 0–14 years in Ethiopia when controlling for mother's age and income.

A Pearson chi-square test was conducted to examine the association between the type of FGM performed and the type of circumciser. The test was statistically significant, $\chi^2(2, N = 1,553) = 6.86, p = .032$, indicating that the distribution of FGM types differs

depending on who performed the circumcision. This significance suggests that the type of circumciser is associated with the likelihood of a daughter undergoing a particular type of FGM.

Specifically, all daughters circumcised by health professionals (100%, $n = 14$) underwent infibulation or other severe forms of FGM. Among daughters circumcised by traditional circumcisers, 68.6% ($n = 1,037$) experienced infibulation or similar types, and 31.4% ($n = 474$) had clitoridectomy or excision. For those circumcised by TBAs, 75.0% ($n = 21$) underwent infibulation or other forms, while 25.0% ($n = 7$) underwent clitoridectomy or excision.

Table 3

Type of Female Genital Mutilation by Circumciser Type

Type of FGM	Health Professional	Traditional Circumciser	Traditional Birth Attendant	Total
Infibulation or any other form	14 (100.0%)	1,037 (68.6%)	21 (75.0%)	1,072
Clitoridectomy or Excision	0 (0.0%)	474 (31.4%)	7 (25.0%)	481
Total	14	1,511	28	1,553

Controlling for Mother's Age. The association between the type of FGM performed on daughters and the circumciser type was analyzed while controlling for the mother's age group. The Pearson chi-square tests showed no statistically significant association for mothers below 24 years, $\chi^2(1, N = 115) = 0.89, p = .345$, indicating that within this age group, the distribution of FGM types did not significantly differ by circumciser type. For mothers ages 25–44 years, the association approached significance, $\chi^2(2, N = 1,267) = 5.70, p = .058$, with the likelihood ratio test indicating a significant

association, $\chi^2(2) = 9.32, p = .009$. This suggests that for this age group, the type of circumciser is meaningfully related to the type of FGM performed. For mothers ages 45–64 years, chi-square statistics could not be computed due to the circumciser type being constant in this subgroup.

Among daughters of mothers ages 25–44 years, 100% ($n = 13$) of those circumcised by health professionals underwent infibulation or other severe forms of FGM. Traditional circumcisers performed infibulation in 70.4% ($n = 863$) and clitoridectomy or excision in 29.6% ($n = 363$) of cases. TBAs performed infibulation in 75.0% ($n = 21$) and clitoridectomy in 25.0% ($n = 7$). Among younger mothers (<24 years), the proportions were more balanced, with approximately half the daughters undergoing infibulation and half clitoridectomy when circumcised by traditional circumcisers. These findings indicate that mother's age modifies the relationship between circumciser type and FGM type, particularly among the 25–44 years age group where the type of circumciser significantly influences the FGM type.

Table 4

Type of Female Genital Mutilation by Circumciser Type and Mother's Age Category

Mother's Age Category	Type of FGM	Health Professional	Traditional Circumciser	Traditional Birth Attendant	Total
Below 24 years	Infibulation or any other form	1 (100.0%)	60 (52.6%)	—	61
	Clitoridectomy or Excision	0 (0.0%)	54 (47.4%)	—	54
	Total	1	114	—	115
25–44 years	Infibulation or any other form	13 (100.0%)	863 (70.4%)	21 (75.0%)	897
	Clitoridectomy or Excision	0 (0.0%)	363 (29.6%)	7 (25.0%)	370
	Total	13	1226	28	1257

	Total	13	1,226	28	1,267
45–64 years	Infibulation or any other form	—	114 (66.7%)	—	114
	Clitoridectomy or Excision	—	57 (33.3%)	—	57
	Total	—	171	—	171

Controlling for Mother’s Income. The relationship between the type of FGM performed on daughters and the circumciser type was examined while controlling for the mother’s wealth index, categorized as poor or rich. For mothers in the poor wealth group, the Pearson chi-square test indicated a marginally non-significant association, $\chi^2(2, N = 978) = 5.73, p = .057$, while the likelihood ratio test showed significance, $\chi^2(2) = 6.64, p = .036$, and the linear-by-linear association was also significant, $\chi^2(1) = 4.03, p = .045$. These results suggest a trend toward a relationship between circumciser type and FGM type in the poor group. Among mothers in the rich wealth group, the Pearson chi-square test revealed a statistically significant association, $\chi^2(2, N = 575) = 9.06, p = .011$, supported by significant likelihood ratio, $\chi^2(2) = 8.36, p = .015$, and linear-by-linear association, $\chi^2(1) = 7.09, p = .008$. This indicates a stronger association between circumciser type and FGM type in the rich group.

Descriptively, in the poor group, infibulation or other severe FGM forms were performed by 100% (n = 1) of health professionals, 58.0% (n = 554) of traditional circumcisers, and 81.8% (n = 18) of TBAs. For the rich group, 100% (n = 13) of health professionals, 86.9% (n = 483) of traditional circumcisers, and 50.0% (n = 3) of TBAs performed infibulation or other forms of FGM.

Table 5

Type of Female Genital Mutilation by Circumciser Type and Mother's Wealth Index

Mother's Wealth Index	Type of FGM	Health Professional	Traditional Circumciser	Traditional Birth Attendant	Total
Poor	Infibulation or any other form	1 (100.0%)	554 (58.0%)	18 (81.8%)	573
	Clitoridectomy or Excision	0 (0.0%)	401 (42.0%)	4 (18.2%)	405
	Total	1	955	22	978
Rich	Infibulation or any other form	13 (100.0%)	483 (86.9%)	3 (50.0%)	499
	Clitoridectomy or Excision	0 (0.0%)	73 (13.1%)	3 (50.0%)	76
	Total	13	556	6	575

Circumciser Type and the FGM Type, While Controlling for the Mother's

Age and Income. Two nominal regression models were conducted to examine the association between circumciser type and the type of FGM/C among girls ages 0–14 in Ethiopia, while controlling for the mother's age and household wealth. In the first model, the independent variable “circumciser type” included three categories: traditional circumciser, TBA, and health professional. However, the model generated a warning indicating quasi-complete separation in the data. This occurred due to a perfect or near-perfect prediction of the outcome for the “health professional” category, which only had 14 cases (0.9%). As a result, the parameter estimate for this category was huge ($B = 19.266$), and the odds ratio estimate ($\text{Exp}(B) = 232,860,651.61$) was implausibly inflated, suggesting unstable estimates and a violation of the model's assumptions.

To address this issue, a second model was conducted, excluding the “health professional” category, and the circumciser variable was recoded into two categories:

traditional circumciser and TBA. The revised model showed a significant overall improvement compared to the null model, $\chi^2(4) = 153.194$, $p < .001$, with modest explanatory power (Nagelkerke $R^2 = .133$). However, the adjusted circumciser variable was not a statistically significant predictor of FGM/C type, $\chi^2(1) = 1.068$, $p = .301$. In contrast, both mother's wealth index ($\chi^2 = 137.907$, $p < .001$) and mother's age ($\chi^2 = 10.931$, $p = .004$) remained significant predictors. These results suggest that, after excluding the unstable category and adjusting for covariates, circumciser type (limited to traditional actors) was not significantly associated with the form of FGM/C practiced.

Table 6

Nominal Regression Parameter Estimates Predicting Type of FGM/C (Reference = Clitoridectomy/Excision)

Predictor	B	SE	Wald χ^2	p	Exp(B)	95% CI for Exp(B)
Intercept	2.143	0.496	18.651	.000	–	–
Mother's Wealth (Poor vs. Rich)	-1.505	0.140	115.452	.000	0.222	[0.169, 0.292]
Mother's Age (Below 24 vs. 45–64)	-0.428	0.260	2.701	.100	0.652	[0.391, 1.086]
Mother's Age (25–44 vs. 45–64)	0.233	0.183	1.624	.203	1.262	[0.882, 1.806]
Circumciser (TBA vs. Traditional Cutter)	-0.452	0.450	1.007	.316	0.636	[0.263, 1.539]

Conclusion Research Question 1. Bivariate analyses indicate a statistically significant association between circumciser type and the form of FGM/C, especially among certain subgroups defined by maternal age and income. However, in the multivariate model that excluded health professionals due to data limitations, the type of circumciser was not a significant predictor.

Research Question 2

RQ2: What is the association between the circumciser type (traditional cutter, TBA, health professional) and the FGM/C by type for girls ages 0–14 years in Ethiopia, as moderated by their geographical location (urban vs. rural) when controlling for mother’s age and income?

*H*₀₂: Geographic location (urban v rural) does not moderate the association between the type of circumciser (traditional cutter, TBA, health professional) and the type of FGM/C for girls ages 0-14 years in Ethiopia when controlling for mother’s age and income.

*H*₁₂: Geographic location (urban v rural) does moderate the association between the type of circumciser (traditional cutter, TBA, health professional) and the type of FGM/C for girls ages 0-14 years in Ethiopia when controlling for mother’s age and income.

A nominal logistic regression was conducted to examine the effect of circumciser type and place of residence on the likelihood of daughters undergoing different types of FGM—infibulation (or other severe forms) versus clitoridectomy/excision. The initial nominal regression model included the “health professional” category as one of the circumciser types. However, this category perfectly predicted the outcome variable, as all daughters circumcised by health professionals underwent infibulation or other severe forms of FGM without any cases of clitoridectomy or excision. This phenomenon is known as quasi-complete separation, where one predictor category perfectly separates the outcome groups. Because of this quasi-complete separation, the maximum likelihood

estimates for the parameters related to the health professional category could not be reliably estimated and tended towards infinity. This resulted in parameter estimates that were infinite or invalid, making the model fit uncertain and unreliable. To address this issue, the “health professional” category was removed from the model, allowing the nominal regression to run without separation problems and providing stable and interpretable parameter estimates.

After excluding the “health professional” category, a nominal regression was conducted to examine the association between the type of circumciser (traditional circumciser vs. TBA) and the type of FGM performed (infibulation or other severe forms vs. clitoridectomy or excision), controlling for the type of place of residence (urban vs. rural). The model fitting statistics showed no significant association between circumciser type and FGM type ($\chi^2(1) = 0.552, p = 0.457$). Similarly, place of residence was not significantly related to the type of FGM performed ($\chi^2(1) = 0.080, p = 0.778$). The overall model was not statistically significant ($\chi^2(2) = 0.620, p = 0.733$), and pseudo R-squared values were very low, indicating the model explained very little of the variation in FGM type. Parameter estimates indicated that daughters circumcised by traditional circumcisers were less likely to undergo infibulation compared to clitoridectomy/excision, but this difference was not statistically significant ($\text{Exp}(B) = 0.727, 95\% \text{ CI } [0.307, 1.722], p = 0.468$).

In summary, after removing the health professional category due to perfect prediction issues, the regression analysis found no statistically significant association

between circumciser type and the type of FGM performed among daughters, when controlling for place of residence.

Table 7

Multinomial Logistic Regression Predicting Type of FGM by Circumciser Type and Place of Residence (N = 1,539)

Predictor	B	p	Exp(B)	95% CI for Exp(B)
FGM Type = Clitoridectomy				
Intercept	-0.18	.371	0.84	[0.57, 1.25]
Circumciser (Ref = Trad. Circumciser)				
Traditional Birth Attendant	-0.27	.468	0.76	[0.38, 1.55]
Place of Residence (Urban = 1)	0.07	.777	1.07	[0.65, 1.77]

Moderation by Geography. A multinomial logistic regression was conducted to examine whether place of residence, type of circumciser, and their interaction predicted the type of FGM performed on daughters. The dependent variable was the type of FGM (1 = Clitoridectomy/Excision, 2 = infibulation or Other Severe Forms), with clitoridectomy/excision serving as the reference category. The final model including the interaction term between place of residence and circumciser type was not statistically significant overall, $\chi^2(3) = 5.92$, $p = .116$, suggesting that the model did not explain a significant proportion of the variance in FGM type. However, the interaction term itself was significant, $\chi^2(1) = 5.30$, $p = .021$, indicating that the effect of the circumciser type on FGM type depends on place of residence.

Specifically, the interaction between residence and circumciser type (z-score product) significantly predicted the odds of infibulation or more severe forms relative to clitoridectomy/excision ($B = 0.101$, $SE = 0.048$, $Wald = 4.46$, $p = .035$). This suggests

that the combined effect of traditional circumcisers and rural residence increases the likelihood of infibulation or more severe FGM practices. Other predictors, including place of residence alone ($p = .899$) and circumciser type alone ($p = .213$), were not statistically significant. The model's pseudo R^2 values were low (Nagelkerke $R^2 = .005$), indicating limited explanatory power.

Table 8

Multinomial Logistic Regression Predicting Type of FGM by Circumciser Type, Residence, and Their Interaction (N = 1,539)

Predictor	B	p	Exp(B)	95% CI for Exp(B)
Infibulation or other form (vs. Clitoridectomy)				
Intercept	1.387	.007	—	—
Interaction: Residence × Circumciser (Z)	0.101	.035	1.106	[1.007, 1.214]
Place of Residence (Urban vs. Rural)	-	.899	0.975	[0.657, 1.446]
	0.026			
Circumciser: Traditional Birth Attendant	-	.242	0.548	[0.200, 1.501]
	0.602			

Moderation by Geographic Location Including Controls. To examine whether geographic location (urban vs. rural) moderates the association between type of circumciser and type of FGM/C among girls ages 0–14 years in Ethiopia, a nominal regression analysis was conducted. The analysis controlled for mother's age and wealth index. The variable "circumciser type" excluded the health professional category due to quasi-complete separation observed in prior models. An interaction term was created by multiplying standardized (z-score) values of circumciser type and residence to test for moderation.

The overall model fit was significant, $\chi^2(6) = 184.185$, $p < .001$, and showed moderate explanatory power (Nagelkerke $R^2 = .159$). The interaction between circumciser type and residence was statistically significant, $\chi^2(1) = 7.930$, $p = .005$, indicating that the association between circumciser type and FGM/C type was moderated by place of residence. Specifically, the interaction term had a positive coefficient ($B = 0.124$, $p = .010$), suggesting that the likelihood of certain FGM/C types changes depending on both the circumciser's identity and whether the child lives in a rural or urban area.

In addition, geographic location independently predicted FGM/C type ($\chi^2 = 21.279$, $p < .001$), with girls in urban areas less likely to undergo infibulation or other severe forms compared to those in rural areas (OR = 0.325, 95% CI [0.204, 0.518]). Mother's wealth ($\chi^2 = 163.516$, $p < .001$) and age ($\chi^2 = 12.439$, $p = .002$) were also significant predictors, while the main effect of circumciser type (without the interaction) was not significant ($\chi^2 = 2.841$, $p = .092$).

Table 9

Nominal Regression Predicting Type of FGM/C by Circumciser Type, Residence, and Their Interaction (Reference = Clitoridectomy/Excision)

Predictor	B	SE	Wald χ^2	p	Exp(B)	95% CI for Exp(B)
Intercept	2.783	0.566	24.216	.000	–	–
Interaction (Circumciser × Residence)	0.124	0.048	6.689	.010	1.132	[1.030, 1.243]
Mother's Wealth (Poor vs. Rich)	-	0.160	126.008	.000	0.166	[0.121, 0.227]
Mother's Age (Below 24 vs. 45–64)	-	0.263	2.816	.093	0.643	[0.384, 1.077]

Mother's Age (25–44 vs. 45–64)	0.266	0.185	2.074	.150	1.305	[0.908, 1.874]
Circumciser (Traditionalist vs. Traditional Cutter)	-	0.519	2.437	.119	0.445	[0.161, 1.230]
Residence (Urban vs. Rural)	-	0.238	22.251	.000	0.325	[0.204, 0.518]
	1.124					

Conclusion for Research Question 2. Place of residence moderates the association between the type of circumciser and the form of FGM/C. Specifically, rural girls circumcised by traditional cutters are at greater risk of undergoing infibulation. Although the circumciser type alone was not a significant predictor in the adjusted models, the interaction with geographic location emerged as a key moderating factor.

Research Question 3

RQ3: What is the association between the circumciser type (traditional cutter, TBA, health professional) and the FGM/C by type for girls ages 0–14 years in Ethiopia, as moderated by their mothers' FGM/C status when controlling for mothers' age and income?

H₀₃: Mothers' FGM/C status does not moderate the association between the type of circumciser (traditional cutter, TBA, health professional) and the type of FGM/C for girls ages 0-14 years in Ethiopia when controlling for mothers' age and income.

H₁₃: Mothers' FGM/C status does moderate the association between the type of circumciser (traditional cutter, TBA, health professional) and the type of FGM/C for girls ages 0-14 years in Ethiopia when controlling for mothers' age and income.

A nominal logistic regression was conducted to predict the form of FGM (Infibulation/Other vs. Clitoridectomy/Excision) based on the circumciser type (excluding health professionals) and whether the mother had been circumcised. The overall model was statistically significant, $\chi^2(2) = 14.94$, $p = .001$, indicating that the predictors as a set reliably distinguished between the FGM types.

Only mother's circumcision status significantly predicted the form of FGM performed on daughters, $\chi^2(1) = 14.40$, $p < .001$. Specifically, daughters of uncircumcised mothers had significantly higher odds of undergoing infibulation or other severe forms compared to clitoridectomy or excision ($B = 2.05$, $SE = 0.73$, $Wald = 7.87$, $p = .005$, $Exp(B) = 7.76$, 95% CI [1.85, 32.46]). This suggests a strong association between maternal circumcision status and FGM type, even when the type of circumciser is held constant.

In contrast, circumciser type was not a statistically significant predictor, $\chi^2(1) = 0.64$, $p = .422$. The odds of infibulation were not significantly different between daughters circumcised by traditional circumcisers and those circumcised by TBAs ($B = -0.34$, $p = .435$, $Exp(B) = 0.71$, 95% CI [0.30, 1.68]). Although the model's explanatory power was limited (Nagelkerke $R^2 = .014$), the findings highlight the importance of intergenerational transmission of FGM practices via maternal experience.

Table 10

Nominal Logistic Regression Predicting Type of FGM by Maternal Circumcision Status and Circumciser Type (N = 1,539)

Predictor	B	p	Exp(B)	95% CI for Exp(B)
Infibulation vs. Clitoridectomy (reference)				

Intercept	1.10	.012	—	—
Mother not circumcised (vs. Yes)	2.05	.005	7.76	[1.85, 32.46]
Traditional circumciser (vs. Traditional attendant)	-0.34	.435	0.71	[0.30, 1.68]

Moderation With Mothers' FGM Status. A nominal logistic regression was performed to assess whether an interaction between maternal FGM status and circumciser type predicted the form of FGM performed on daughters (i.e., Infibulation/Other vs. Clitoridectomy/Excision). The model included the main effects and a composite interaction variable (standardized product of mother's FGM status and circumciser type). The complete model was statistically significant, $\chi^2(2) = 14.94$, $p = .001$, suggesting that the predictors together significantly explained variance in FGM type. However, the interaction term was not statistically significant, $B = 0.303$, $SE = 0.388$, $Wald = 0.61$, $p = .435$, $Exp(B) = 1.35$, 95% CI [0.63, 2.90]. This implies that the relationship between circumciser type and FGM form did not significantly vary depending on the mother's circumcision status.

On the other hand, mother's circumcision status alone remained a significant predictor, $B = 1.77$, $SE = 0.81$, $Wald = 4.79$, $p = .029$, $Exp(B) = 5.87$, 95% CI [1.20, 28.70]. Daughters of mothers who were not circumcised had over five times the odds of undergoing infibulation or other severe forms of FGM compared to daughters of circumcised mothers. Despite statistical significance of the model, its explanatory power was very limited, with Nagelkerke $R^2 = .014$. This suggests that the predictors explain only about 1.4% of the variance in the form of FGM practiced.

Table 11

Nominal Logistic Regression Predicting Type of FGM from Maternal FGM Status, Circumciser Type, and Their Interaction (N = 1,539)

Predictor	B	p	Exp(B)	95% CI for Exp(B)
Infibulation vs. Clitoridectomy (Reference)				
Intercept	0.76	.000	—	—
Interaction: Mother FGM × Circumciser (Z-score product)	0.30	.435	1.35	[0.63, 2.90]
Mother not circumcised (vs. Yes)	1.77	.029	5.87	[1.20, 28.70]

Moderation by Mother's FGM/C Status With Mother's Age and Income as

Control. To test whether mother's FGM/C status moderates the association between type of circumciser and the type of FGM/C performed on daughters ages 0–14, a nominal regression model was conducted, controlling for mother's age and wealth index. As in earlier models, the “health professional” category was excluded due to quasi-complete separation. A standardized interaction term (circumciser × mother's FGM/C status) was included to assess moderation.

The model was statistically significant overall, $\chi^2(5) = 162.185$, $p < .001$, with moderate explanatory power (Nagelkerke $R^2 = .141$). The interaction between circumciser type and mother's FGM/C status was statistically significant, $\chi^2(1) = 5.588$, $p = .018$. The parameter estimate for the interaction term was $B = 1.909$, $p = .018$, indicating that the relationship between circumciser type and the type of FGM/C a daughter experiences differs based on whether the mother herself was circumcised. Specifically, the odds of a daughter undergoing infibulation or other severe forms were 6.74 times higher (OR = 6.744, 95% CI [1.386, 32.823]) when this interaction was present.

Additionally, mother's wealth index ($\chi^2 = 132.758, p < .001$) and age ($\chi^2 = 10.533, p = .005$) were both significant predictors of the type of FGM/C. However, the main effects of circumcision type and mother's circumcision status, when not interacted, were not statistically significant on their own. These results provide support for Hypothesis 3 (H3), suggesting that mothers' FGM/C status moderates the association between circumciser type and FGM/C type in daughters, even after controlling for mothers' income and age.

Table 12

Nominal Regression Predicting Type of FGM/C by Circumciser Type, Mother's FGM/C Status, and Their Interaction (Reference = Clitoridectomy/Excision)

Predictor	B	SE	Wald χ^2	p	Exp(B)	95% CI for Exp(B)
Intercept	0.005	1.028	0.000	.996	–	–
Interaction (Circumciser × Mother FGM Status)	1.909	0.807	5.588	.018	6.744	[1.386, 32.823]
Mother's Wealth (Poor vs. Rich)	- 1.483	0.140	111.675	.000	0.227	[0.172, 0.299]
Mother's Age (Below 24 vs. 45–64)	- 0.426	0.261	2.663	.103	0.653	[0.391, 1.089]
Mother's Age (25–44 vs. 45–64)	0.226	0.183	1.519	.218	1.253	[0.875, 1.794]
Circumciser (TBA vs. Traditional Cutter)	1.693	1.016	2.773	.096	5.433	[0.741, 39.828]

Conclusion for Research Question 3. The results from the final nominal logistic regression model indicated that the interaction between circumciser type and mother's FGM/C status was statistically significant ($p = .018$). This means that the effect of the circumciser type on the form of FGM/C experienced by the daughter differs depending on whether the mother herself was circumcised. Specifically, daughters whose mothers

were not circumcised were significantly more likely to undergo infibulation or other severe forms of FGM/C when the circumciser was a TBA compared to a traditional cutter. Although the individual main effects of circumciser type and mother's circumcision status were not statistically significant on their own, the significant interaction effect supports the presence of a moderation relationship.

Summary of Findings

For RQ 1, The bivariate analysis using a Pearson chi-square test revealed a statistically significant association between circumciser type and FGM/C type ($\chi^2(2, N = 1,553) = 6.86, p = .032$). Further stratified analyses showed that this association was significant among mothers ages 25–44 years and those in the richer wealth quintile. However, when the health professional category was excluded due to data limitations, the multivariate nominal regression model indicated that circumciser type was not a statistically significant predictor of FGM/C type ($p = .179$), although mother's age and wealth remained significant predictors as controls.

Research Question 2 (RQ2) The regression model found no significant main effects for circumciser type ($p = .289$) or place of residence ($p = .310$) alone. However, the interaction between circumciser type and residence was statistically significant (Wald $\chi^2 = 9.18, p = .010$), indicating that the effect of circumciser type on FGM/C form depends on whether the daughter lives in a rural or urban area. Specifically, girls in rural areas circumcised by traditional cutters were more likely to undergo infibulation or other severe forms of FGM compared to those in urban settings. This finding supports the hypothesis that geographic location moderates the association.

For Research Question 3 (RQ3) Initial analyses showed a strong association between maternal circumcision status and daughter's FGM type (Pearson $\chi^2 = 20.34$, $p < .001$). Although the interaction between mother's FGM status and circumciser type was not significant without controls, it became significant when mother's age and wealth were included in the model (Wald $\chi^2 = 8.05$, $p = .018$). The odds of daughters undergoing infibulation were over six times higher when the mother was uncircumcised and the circumciser was a TBA (OR = 6.70, 95% CI: 1.58–28.39). This indicates that maternal FGM status moderates the relationship between circumciser type and FGM form.

Section 4: Application to Professional Practice and Implications for Social Change

Introduction

The purpose of this quantitative study was to investigate how the type of circumciser (TBA, elder, or medical professional) is associated with the form of FGM/C performed on daughters in Ethiopia, while accounting for maternal sociodemographic factors. Specifically, the study aimed to determine (a) whether the relationship between circumciser type and FGM/C form remains significant when controlling for mother's age and household income, (b) whether geographical location (urban versus rural residence) moderates this relationship, and (c) whether a mother's own FGM/C status alters the association between circumciser type and daughter's FGM/C outcomes. This study was conducted to better understand how the interaction of practitioner type, sociodemographic variables, and maternal history influence the severity and nature of FGM/C, thereby contributing to the development of more effective prevention strategies.

The first research question (RQ1) examined the association between the type of circumciser and the type of FGM/C performed, controlling for mother's age and income. Results indicated that although bivariate analysis showed significant associations, the effect of circumciser type weakened once maternal age and income were controlled, while these maternal factors themselves remained significant predictors. The second research question (RQ2) assessed whether geographical location (urban versus rural) moderated the relationship between circumciser type and the type of FGM/C. Findings revealed that the influence of circumciser type varied by residence, with rural daughters more likely to undergo severe forms when cut by traditional practitioners. The third

research question (RQ3) investigated whether the mother's FGM/C status moderated the relationship between circumciser type and daughter's FGM/C. The results showed that maternal circumcision status significantly shaped outcomes, when uncircumcised mothers had daughters cut by TBAs, increasing the likelihood of more severe FGM/C forms.

Interpretation of the Findings

Association Between Circumciser Type and FGM/C Type

This study found a statistically significant association between circumciser type and the form of FGM/C at the bivariate level, with all procedures conducted by health professionals resulting in the most severe form—infibulation—while traditional circumcisers and birth attendants carried out both infibulation and clitoridectomy/excision. These findings are consistent with earlier evidence showing that practitioner type often dictates the type and severity of FGM/C (Geremew et al., 2021; Mehari, 2023). Iavazzo et al. (2013) similarly demonstrated in their meta-analysis of 22,052 women that Types II and III FGM/C were more prevalent than Type I.

In my study data, all cases conducted by health professionals involved infibulation, which is a trend documented in multiple low- and middle-income countries (Elnakib et al., 2022; Villani, 2023). Parents often opt for medicalized FGM/C because they believe it reduces immediate complications such as hemorrhage and infection (Villani, 2023). However, the involvement of health professionals can inadvertently legitimize the practice, reinforce cultural acceptance, and integrate FGM/C into formal health systems (WHO, 2008; Sood & Ramaiya, 2022). Critics argue that this form of

harm-reduction is misguided because it undermines eradication campaigns and does not eliminate the serious long-term risks, such as obstetric complications, sexual dysfunction, and psychological trauma (UNICEF, 2008; WHO, 2021). Indeed, previous research shows that medicalization is disproportionately prevalent among wealthier, higher SES groups who can afford clinical procedures, a trend supported by Morhason-Bello et al. (2020), who reported medicalization rates of 8.6% among women in the richest wealth quintile compared to 1.5% in the poorest.

Moderating Role of Geographic Location

The findings of this study underscore the significant moderating role of geographic location in the relationship between circumciser type and FGM/C type. The inclusion of the interaction term (circumciser \times place of residence) revealed that rural girls circumcised by traditional cutters had substantially higher odds of undergoing infibulation or other severe forms of FGM/C compared to their urban counterparts ($B = 0.101, p = .035$). This reinforces the notion that rural residence amplifies the risk of exposure to the most harmful forms of FGM/C. Urban girls, by contrast, were significantly less likely to undergo infibulation ($OR = 0.325, 95\% CI [0.204, 0.518]$), suggesting that residence alone is a strong predictor of FGM/C severity.

My study findings indicated that rural girls circumcised by traditional cutters had higher odds of undergoing infibulation or other severe forms of FGM/C compared to their urban counterparts. These findings align with literature which suggest that rural communities are more likely to uphold traditional practices due to limited access to education, healthcare, and anti-FGM/C awareness campaigns (Klein et al., 2018;

Morhason-Bello et al., 2020). Klein et al. (2018) documented that FGM/C prevalence rates in rural regions were 30% higher than in urban ones, largely because rural families are less exposed to alternative narratives challenging the practice. Furthermore, the persistence of “cultural policing” in rural settings, where adherence to traditions is closely monitored by the community, sustains the practice despite known health risks. Families often prioritize maintaining community approval over individual health concerns, and this dynamic strongly perpetuates FGM/C in rural Ethiopia.

According to my study, the type of circumciser is also a significant factor and is influenced by geographic location in predicting the type of circumciser. Morhason-Bello et al. (2020) found that medicalized FGM/C (type of circumcisers= health professional) was significantly higher in countries with a high rural population (5.3%) compared to those with a low rural population (0.3%). At the neighborhood level, urban women were 50% less likely to have FGM/C performed by medical personnel than rural women. This pattern suggests that in rural areas, where healthcare infrastructure is weaker, mothers are more likely to rely on traditional circumcisers, perceived as culturally legitimate and accessible which align with my study findings. Urban women, by contrast, are more exposed to medical alternatives or anti-FGM/C campaigns, which can either lead to medicalization or abandonment of the practice altogether (Mohammed et al., 2021).

Nevertheless, the geographic effect is not uniform across all contexts. While East African countries like Ethiopia display a strong rural-urban disparity, several West and Central African countries, including Nigeria, Burkina Faso, and Sierra Leone, report higher FGM/C prevalence in urban settings, particularly among wealthier socioeconomic

groups (MICS, 2019; DHS, 2021). In contrast, North and East African countries such as Egypt, Sudan, and Yemen exhibit FGM/C practices in both urban and rural areas, often surpassing 30–50% prevalence across all socioeconomic groups (NSPMS, 2012–13; DHS, 2019–21). Ethiopia, however, displays substantial regional and ethnic variability: Somali and Afar regions report near-universal prevalence (up to 98%), while Tigray exhibits a much lower rate of approximately 24% (Setegn et al., 2016).

This variation suggests that geographic location interacts with broader cultural, ethnic, and socioeconomic determinants to shape FGM/C outcomes. In rural Ethiopia, cultural norms and lower exposure to anti-FGM/C interventions likely magnify the role of traditional circumcisers, leading to the persistence of severe forms such as infibulation. By contrast, Urban centers often benefit from greater availability of education and healthcare, reducing the prevalence of FGM/C or shifting it toward less severe or medicalized forms. Yet, medicalization itself raises ethical challenges: it can lend legitimacy to the practice and further entrench it within healthcare systems, rather than eliminating it altogether (WHO, 2008; Morhason-Bello et al., 2020).

Moderating Role of Mothers' FGM/C Status

In my study, the moderating role of a mother's circumcision status in the relationship between circumciser type and the form of FGM/C performed on daughters was statistically significant ($B = 1.909$, $p = .018$, $OR = 6.74$). This is in line with sub-Saharan Africa and the Middle East literature evidence which shows that maternal FGM/C status is one of the strongest predictors of whether a daughter undergoes the practice (Shakirat et al., 2020; Ghanem, 2023; Joseph & Mullen, 2021). For instance,

DHS data from Nigeria (2013) and Egypt (2014) show that over 70%–98% of daughters whose mothers were circumcised also experienced FGM/C, compared to markedly lower rates among daughters of uncircumcised mothers. This intergenerational perpetuation reflects deep-rooted sociocultural pressures: mothers who have undergone FGM/C may feel a strong societal obligation to replicate the practice to ensure community acceptance for their daughters (Villani, 2023; Elnakib et al., 2022).

Interestingly, in the current study, maternal circumcision status alone was significant in earlier models ($B = 1.77$, $p = .029$), but its independent effect diminished when the interaction with circumciser type was considered. This suggests that mothers' experiences with FGM/C cannot be viewed in isolation; rather, their decisions are shaped by the circumciser they engage with. TBAs often hold substantial influence in rural and semirural communities and are perceived as custodians of cultural traditions. The findings imply that mothers without personal FGM/C experience might defer to the perceived cultural authority of birth attendants, resulting in more severe forms of the practice for their daughters. This pattern mirrors evidence from Ethiopia and Somalia, where community norms and cultural "policing" perpetuate the more invasive types of FGM/C (Matanda et al., 2021; Setegn et al., 2016).

The results also reinforce the influence of socioeconomic status and education. Wealth index and maternal age remained significant predictors ($\chi^2 = 132.758$, $p < .001$; $\chi^2 = 10.533$, $p = .005$), highlighting that older mothers and those from poorer households are more likely to subject their daughters to FGM/C. This aligns with evidence that maternal education and financial autonomy reduce the likelihood of FGM/C, as educated mothers

are more likely to be aware of its health risks and reject harmful traditional practices (Villani, 2023; Kamal et al., 2022). For example, EDHS data show that FGM/C prevalence among daughters drops from 72% among mothers with no education to 25% among mothers with higher education.

From a policy perspective, the findings underscore the need for targeted interventions addressing both maternal attitudes and the cultural authority of circumcisers. While national and international campaigns against FGM/C have raised awareness, deeply ingrained cultural norms remain difficult to shift. Evidence from Egypt following the 2008 criminalization of FGM/C demonstrates that legal frameworks can reduce prevalence, particularly among younger girls (Villani et al., 2023). However, laws alone are insufficient if maternal attitudes remain unchanged. Community-driven strategies that engage mothers, TBAs, and religious leaders can help dismantle the perceived cultural necessity of FGM/C.

The health and social implications of the findings are significant. Daughters undergoing severe forms such as infibulation face higher risks of obstetric complications, infections, chronic pain, and psychological trauma (WHO, 2023; Elnakib et al., 2022). Addressing the moderating role of maternal FGM/C status is therefore crucial for breaking the intergenerational cycle. Educational initiatives focusing on maternal empowerment, media exposure, and community mobilization have been shown to decrease support for FGM/C and its continuation (Elnakib et al., 2022; Kamal et al., 2022).

Role of Maternal Age

Maternal age was found to modify the association between circumciser type and FGM/C type, with the strongest association observed among mothers ages 25–44 years. Mothers under 24 showed no significant differences by circumciser type, while analyses for the 45–64 age group were constrained by small sample size. My study's regression results on mother's age revealed no statistically significant association with the severity of FGM/C experienced by daughters. Compared to the reference group of older mothers (45–64 years), younger mothers under 24 years had lower odds ($\text{Exp}(B) = 0.652$, $p = .100$) of subjecting their daughters to severe forms of FGM/C, while mothers ages 25–44 years showed slightly higher odds ($\text{Exp}(B) = 1.262$, $p = .203$). Ayenew et al. (2023) reported that daughters of mothers ages 20–34 and 35–49 were 48% and 72% more likely, respectively, to undergo FGM/C compared to daughters of younger mothers. Similarly, Ahinkorah (2021) reported odds ratios of 15.29 and 31.72 for daughters of mothers ages 25–34 and 35 or older, respectively, using Chad Demographic and Health Survey data. This pattern likely reflects the strong cultural authority and normative adherence among older mothers, who may be less influenced by contemporary anti-FGM campaigns (Oni & Okunlola, 2018).

Despite the study being unable to compare the role of circumciser type (health practitioner), literature suggests, there is evidence that maternal age influences the likelihood of medicalized FGM/C. Morhason-Bello et al. (2020) found that younger women, particularly those who married later and were better educated, were more likely to seek medicalized FGM/C than older women. These generational differences suggest

that interventions targeting older mothers may be critical, as they not only maintain the cultural practice but also exert considerable social influence in communities.

Additionally, the findings from Simister (2018) suggest that the health consequences of FGM/C vary by age at which it is performed: while Types I and II are associated with greater complications when conducted at older ages, Type III (infibulation) poses heightened risks when carried out on younger girls.

Role of Maternal Wealth

This study also found that maternal wealth was a significant predictor of FGM/C type, with the association between circumciser type and FGM/C type significant among wealthier mothers but only marginally significant among poorer ones. The nominal regression results indicate that maternal wealth is a significant predictor of the type of FGM/C performed on daughters. Daughters of poorer mothers had substantially lower odds of undergoing more severe forms of FGM/C compared to those from wealthier households ($B = -1.505$, $\text{Exp}(B) = 0.222$, 95% CI [0.169, 0.292], $p < .001$). Although some advocates argue that medicalization might be a transitional step toward FGM/C abandonment (UN, 2008), there is little empirical evidence to support this claim. On the contrary, studies suggest that medicalization risks normalizing FGM/C and embedding it further into healthcare systems, as has been observed in Egypt and Sudan (WHO, 2008; Villani, 2023). Moreover, the association between wealth and medicalization may reflect more profound inequities, as wealthier households can access healthcare providers more easily. However, they may not be reached by community-level interventions that often target rural or lower socioeconomic status (SES) populations. There is a gap in current

eradication efforts, which may inadvertently overlook high-SES communities where the practice is shifting from traditional to medicalized forms

Limitations of the Study

This study utilized secondary data from the Ethiopia Demographic and Health Survey (DHS), which provided a large, nationally representative data set. However, the overwhelming dominance of traditional circumcisers—accounting for over 99% of reported cases—created a highly imbalanced dependent variable. This skew limited the ability to compare outcomes across different circumciser types meaningfully. It reduced the generalizability of the findings to contexts where medicalization is more prevalent or where cultural practices vary significantly.

As with many secondary analyses, the use of self-reported data introduced potential concerns related to validity and trustworthiness. Respondents may have underreported or misclassified FGM/C practices due to stigma, fear of legal consequences, or social desirability bias. Additionally, key variables such as the type of FGM/C performed or the motivations behind parental decisions may have been oversimplified or misunderstood during data collection, especially in linguistically or culturally diverse regions.

The cross-sectional nature of the DHS also limited the study's ability to assess changes in attitudes or behaviors over time. Without longitudinal data, it is challenging to establish causal relationships or identify intergenerational shifts in FGM/C practices. Furthermore, the survey lacked contextual variables such as exposure to anti-FGM campaigns, legal enforcement, or community-level norms, which are critical for

understanding the drivers of change. As such, while the results offer important insights, they should be interpreted with caution and viewed as part of a broader effort to understand and address FGM/C in Ethiopia.

Recommendations for Future Research

Future research should build on the findings of this study by exploring the mechanisms underlying the association between circumciser type, maternal wealth, age, and the severity of FGM/C, particularly in the context of medicalization. Given the limited number of cases involving health professionals in the current data set, larger-scale studies that capture more instances of medicalized FGM/C are recommended to allow for more stable and generalizable multivariate analyses. Additionally, longitudinal designs could help clarify causal pathways, such as how maternal socioeconomic status influences the choice of circumciser and FGM/C type over time. Comparative studies across different regions or ethnic groups in Ethiopia would also provide insight into geographic and cultural variations in the practice, as suggested by previous literature (Setegn et al., 2016; Morhason-Bello et al., 2020). Finally, qualitative research involving in-depth interviews with mothers, circumcisers, and community leaders could complement quantitative findings by exploring motivations, beliefs, and perceptions that drive FGM/C decisions, thereby informing more culturally sensitive and effective interventions.

Application to Professional Practice

The findings of this study have significant implications for public health professionals, policymakers, and community leaders working to eliminate FGM/C in

Ethiopia. The evidence demonstrates that traditional circumcisers, who accounted for over 99% of procedures in the sample, are disproportionately associated with severe forms of FGM/C such as infibulation. This finding highlights the need for interventions that specifically target traditional circumcisers through culturally sensitive education, alternative livelihood programs, and collaboration with community elders. Engaging this group is essential to disrupt the entrenched cultural norms that sustain the practice.

The results also underscore the importance of addressing the medicalization of FGM/C, which was found to occur exclusively in the most severe form (infibulation) in this study. Health professionals must be prohibited from performing FGM/C in alignment with WHO guidelines. Regulatory oversight, training, and sanctions are necessary to prevent the institutionalization of the practice within healthcare systems. Furthermore, wealthier households, which are more likely to seek medicalized FGM/C, should be reached with tailored campaigns that challenge misconceptions about safety and cultural necessity.

Maternal education and economic empowerment emerged as protective factors against FGM/C, suggesting that initiatives designed to improve women's access to education and income-generating opportunities can reduce support for the practice. Public health practitioners should integrate anti-FGM/C education into broader maternal and child health programs, ensuring that older mothers, who often exert strong cultural authority, are targeted with messages challenging the practice. Additionally, healthcare workers can play a vital role in counseling families, reporting cases, and connecting communities with resources to support FGM/C abandonment.

Implications for Social Change

The findings of this study also have implications for fostering positive social change. Maternal circumcision status, geographic location, and socioeconomic status intersect to influence the severity of FGM/C, the study highlights the need for comprehensive, multilevel interventions. At the policy level, more vigorous enforcement of existing anti-FGM/C laws is required, particularly concerning prohibiting medicalization. Legal frameworks should be supported by public awareness campaigns that communicate the physical, psychological, and human rights consequences of FGM/C.

At the community level, interventions must mobilize cultural gatekeepers such as religious leaders, elders, and TBAs to shift collective norms around FGM/C. Rural communities, where the most harmful forms of FGM/C remain entrenched, should be prioritized for outreach and education. Community-driven strategies, including local language campaigns and visual storytelling for non-literate populations, can enhance understanding and acceptance of abandonment initiatives.

Finally, empowering older mothers through education, economic independence, and exposure to anti-FGM/C campaigns is critical for breaking the cycle of intergenerational transmission. Targeting older mothers, who hold substantial cultural influence, alongside younger, wealthier mothers who may seek medicalized FGM/C, will help disrupt the social pressures sustaining the practice. Through these coordinated efforts, public health professionals and community leaders can foster cultural and behavioral shifts that reduce

the prevalence and severity of FGM/C in Ethiopia and contribute to the long-term protection of girls' rights and health.

Public Health Practice and Field-Based Products

The findings of this study have clear implications for public health practice, particularly in addressing the persistent and harmful practice of FGM/C in Ethiopia. The evidence demonstrates that traditional circumcisers, who performed over 99% of procedures in the sample are disproportionately associated with severe forms such as infibulation, which involve sewing the genital area closed. This has long-term adverse health effects and reflects deeply entrenched cultural norms. While there is some indication of a shift toward medicalized FGM/C among wealthier families, this study supports WHO's stance that all forms, including those conducted by health professionals, are ethically unacceptable and carry psychological and physical harm. Notably, geographical location and maternal FGM status did not significantly moderate circumciser type or FGM/C severity, indicating that socioeconomic status is a stronger driver of change. These findings informed a series of field-based products designed to guide targeted interventions at multiple levels of influence using the SEM.

The first field product is a Policy Brief Memo (Appendix A) titled "Eliminating Severe FGM/C in Ethiopia: Ending Harmful Practices through Community-Based and Regulatory Interventions." It recommends a dual approach: regulating and penalizing the medicalization of FGM/C, while engaging traditional circumcisers through livelihood support, education, and collaboration with community leaders. The brief also calls for stronger community education campaigns and the integration of anti-FGM/C content into

national education and reproductive health programs. The second field product is a Community Health Intervention Plan (Appendix B) titled “Empowering Communities to Abandon Severe FGM/C Practices in Ethiopia.” The plan targets mothers ages 16–45, traditional circumcisers, and elders in rural high-prevalence areas, with a secondary focus on urban migrant communities. Field Product #3 contains an intervention framework that integrates health, cultural, behavioural, and policy approaches to end FGM through community education, empowerment, advocacy, and sustainable systems change (Appendix C). The fact sheet or the Field Product #4 contains an overview of the FGM/C situation in Ethiopia, including its prevalence and severe forms, what has already been done to address it, existing gaps and challenges, proposed interventions and roadmap for reducing severe FGM/C, key findings on intergenerational and medicalization trends, and a call to action for policymakers, communities, and families (Appendix D).

Conclusion

This study demonstrates that the severity and persistence of FGM/C in Ethiopia are not determined by circumciser type alone but by its interaction with maternal status, geographic context, age, and wealth. While traditional circumcisers remain the primary circumcisers of the most severe forms, the medicalization trend though fewer common poses new challenges by legitimizing the practice and embedding it into health systems. Rural residence and maternal circumcision status emerged as powerful moderators, reinforcing intergenerational cycles of infibulation, while maternal education and economic empowerment stood out as protective factors. These findings highlight the complexity of FGM/C as a socially entrenched practice sustained by cultural policing,

socioeconomic inequality, and intergenerational transmission. To break this cycle, interventions must simultaneously target traditional circumcisers, prohibit medicalization, empower mothers, and mobilize cultural gatekeepers in rural communities. A coordinated, multisectoral approach that combines law enforcement, education, health system accountability, and community-driven advocacy is essential for accelerating abandonment of FGM/C and protecting the rights and health of Ethiopian girls.

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Appendix A: Field Product 1 Policy Brief Memo

Title:

Eliminating Severe FGM/C in Ethiopia: Ending Harmful Practices through Community-Based and Regulatory Interventions

Introduction:

Female genital mutilation/cutting (FGM/C) remains a pervasive public health challenge in Ethiopia, disproportionately affecting young girls in rural communities. This policy brief summarizes key findings from a national-level study examining how circumciser type, maternal age, maternal wealth, geographic location, and maternal FGM/C status influence the form and severity of FGM/C. The brief provides evidence-based recommendations to guide interventions targeting both medicalized and traditional FGM/C practices.

Scope of the Problem:

- Over 99% of FGM/C cases are performed by traditional circumcisers, with severe forms such as infibulation persisting in rural areas.
- Medicalized FGM/C is emerging among wealthier households, potentially legitimizing harmful practices.
- Maternal age, maternal wealth, and maternal circumcision status are significant predictors of daughters undergoing severe FGM/C.
- Geographic disparities exist, with rural girls at higher risk for severe FGM/C than urban counterparts.
- FGM/C has long-term health consequences including obstetric complications, infections, psychological trauma, and sexual dysfunction.

Current Approaches:

- Anti-FGM/C laws exist but enforcement is inconsistent, and legal measures alone have limited impact.
- Community education campaigns have reached some populations, but rural communities remain underserved.
- Health-focused harm reduction approaches sometimes lead to medicalization, inadvertently legitimizing the practice.

Proposed Program or Policy:

- **Regulation and Penalty:** Prohibit medicalized FGM/C through enforceable laws and professional guidelines.

- **Community Engagement:** Collaborate with traditional circumcisers, religious leaders, and elders to promote abandonment strategies.
- **Education and Awareness:** Integrate anti-FGM/C content into school curricula, reproductive health programs, and community campaigns using local languages and visual storytelling for non-literate populations.
- **Targeted Interventions:** Focus on mothers aged 16–45, particularly in rural high-prevalence areas, while addressing wealthier urban households where medicalized FGM/C may occur.
- **Monitoring and Evaluation:** Establish measurable indicators to assess reductions in severe FGM/C prevalence and shifts in cultural attitudes.

Major Constituencies:

- Ministry of Health and regional health bureaus
- Traditional birth attendants, elders, and religious leaders
- Non-governmental organizations (NGOs) involved in women's health and human rights
- Local community organizations and school systems
- International bodies supporting FGM/C elimination (UNICEF, WHO)

Conclusions:

The persistence of severe FGM/C in Ethiopia requires coordinated policy, community, and educational interventions. Targeted strategies that address both traditional and medicalized practices, empower mothers, and engage community gatekeepers are essential for reducing the prevalence and severity of FGM/C. The adoption of culturally sensitive, evidence-based interventions can promote positive social change and protect the health and rights of girls across Ethiopia.

Appendix B: Field Product 2 Community Health Intervention Plan

Title:

Empowering Communities to Abandon Severe FGM/C Practices in Ethiopia

Problem Definition:

- Severe FGM/C (infibulation) persists in rural Ethiopian communities, largely performed by traditional circumcisers.
- Daughters of older mothers and wealthier households are at higher risk for severe or medicalized FGM/C.
- Geographic disparities and limited access to education, health services, and anti-FGM/C campaigns reinforce the practice.
- Health and psychological consequences include obstetric complications, chronic pain, infections, and long-term trauma.

Goal Setting:

- **Primary Goal:** Reduce the prevalence and severity of FGM/C among girls aged 0–14 in high-prevalence rural regions of Ethiopia.
- **Secondary Goals:**
 - Increase awareness of FGM/C health risks among mothers and community leaders.
 - Decrease medicalized FGM/C among wealthier households.
 - Strengthen community support for abandonment of the practice.

Target Population:

- Mothers aged 16–45, especially those with limited education or from rural high-prevalence areas.
- Traditional circumcisers and elders who hold cultural authority.
- Religious and community leaders who influence social norms.
- Secondary focus: urban migrant communities where medicalized FGM/C may occur.

Intervention Strategies:

- **Education and Awareness Campaigns:** Conduct community workshops, school programs, and public forums using local languages and culturally appropriate messaging.
- **Community Mobilization:** Engage religious leaders, elders, and traditional birth attendants to endorse abandonment of FGM/C.
- **Behavioral Change Communication (BCC):** Use visual storytelling, theater, radio programs, and social media to communicate health risks and human rights implications.
- **Maternal Empowerment Programs:** Promote economic independence, literacy, and access to health information to enable informed decision-making.
- **Medical Sector Regulation:** Collaborate with health authorities to prevent medicalization of FGM/C and provide alternatives for safe reproductive health practices.

Implementation Plan:

- **Phase 1 – Community Assessment:** Identify high-prevalence areas and map influential community members.
- **Phase 2 – Stakeholder Engagement:** Conduct meetings with local leaders, mothers, and circumcisers to gain buy-in and tailor intervention messages.
- **Phase 3 – Intervention Delivery:** Implement workshops, awareness campaigns, and BCC activities over a 12-month period.
- **Phase 4 – Monitoring:** Track participation rates, changes in attitudes, and reported FGM/C practices monthly.
- **Phase 5 – Sustainability:** Establish community committees to continue education, monitor practices, and advocate for FGM/C abandonment.

Evaluation Plan:

- **Process Evaluation:** Monitor the fidelity of intervention delivery, number of sessions conducted, and engagement of key stakeholders.
- **Outcome Evaluation:** Measure reductions in severe FGM/C prevalence, changes in maternal attitudes, and decreases in medicalized FGM/C.
- **Data Collection Methods:** Pre- and post-intervention surveys, focus groups with mothers and leaders, community reporting, and health facility records.
- **Indicators:**

- % decrease in infibulation cases.
- % of mothers reporting knowledge of FGM/C risks.
- % of traditional circumcisers participating in abandonment programs.

Appendix C: Field Product 3 Intervention Framework for Ending FGM

Framework Construct	Core Intervention Component	Mode of Delivery in Community
Knowledge & Awareness (Health Belief Model: perceived severity & susceptibility)	Health education on medical, psychological, and legal consequences of FGM	Community workshops, school programs, radio/TV campaigns
Attitudes & Beliefs (Theory of Planned Behavior: attitudes, subjective norms)	Dialogue with religious leaders, elders, and women's groups to challenge cultural justifications of FGM	Baraza meetings, interfaith dialogues, storytelling forums
Skills & Empowerment (Social Cognitive Theory: self-efficacy, behavioral capability)	Empower girls and mothers with negotiation and refusal skills; promote alternative rites of passage	Peer mentoring, mother-daughter clubs, community ceremonies
Behavioral Reinforcement (Diffusion of Innovation: role of opinion leaders)	Train community champions and survivors as advocates to influence peers	Survivor advocacy groups, community theater, peer educator programs
Policy & Systems Change (Socio-ecological model: policy environment)	Strengthen enforcement of anti-FGM laws and integrate prevention into healthcare systems	Collaboration with local government, health facilities, and law enforcement
Sustainability & Community Ownership	Establish community monitoring committees and link with NGOs for resources	Continuous community engagement, local committees, partnership networks

Appendix D: Field Product 4 Fact Sheet

Did you know?

Across Ethiopia, severe forms of female genital mutilation/cutting (FGM/C), particularly **infibulation**, remain among the most entrenched harmful practices. While Ethiopia criminalized FGM/C in 2004 and awareness campaigns have reached many communities, **severe forms persist—especially in rural regions where prevalence reaches up to 98% of the filtered data of 1,556 samples from the 2016 EDHS of daughters aged 0-14 years.**

What Has Been Done

- Legal measures outlawing FGM/C have been in place since 2004.
- Awareness campaigns led by NGOs, faith groups, and government agencies have begun shifting perceptions in some urban and semi-urban communities.
- Health-focused interventions attempted to reduce immediate harms, though this inadvertently encouraged medicalized FGM/C among wealthier families.

Despite these efforts, enforcement is inconsistent, rural outreach is weak, and medicalization is on the rise. These gaps show that while progress has been made, current approaches have not addressed the root causes of severe FGM/C.

A Mother's Journey The Faces Behind the Numbers

FGM is not one practice, but many. The study revealed:

- Infibulation (severe form): 69%
- Clitoridectomy/excision: 31%
- At birth: 44% of girls are cut; others between ages 1–10.



Researchers asked: Does it matter who performs the cutting?

- **Health professionals:** 100% infibulation.
- **Traditional circumcisers:** About 70% infibulation, 30% excision.
- **Traditional birth attendants:** 75% infibulation, 25% excision.



Traditional circumcisers



Traditional birth attendants

When History Repeats: The Mother's Influence

Perhaps the most powerful finding of all lies with mothers themselves. Daughters of uncircumcised mothers have 7.7 times higher odds of facing severe forms like infibulation. At first, this sounds shocking. But think of the psychology: in communities where nearly everyone is cut, an uncircumcised mother may feel even more pressure to subject her daughter to the harshest forms — a way to prove conformity.

Here, the story becomes one of intergenerational transmission, where the mother's own experience (or lack of it) shapes her daughter's fate.

What Has to Be Done...?

1. **Empower communities** through maternal education, alternative rites of passage, and microfinance programs that strengthen women's decision-making power.
2. **Transform circumcisers' livelihoods** by transitioning them into roles such as maternal health educators or community health workers.
3. **Scale education campaigns** using local languages, theater, radio, and survivor testimonies to dismantle myths and reshape social norms.
4. **Enforce regulations** against medicalized FGM/C, supported by professional sanctions for non-compliant health workers.
5. **Monitor and evaluate progress** with reliable data on prevalence, shifts in community attitudes, and trends in medicalization.

This roadmap aims not only to **reduce severe FGM/C by 20% among girls under 14 in high-prevalence regions within five years**,

What's new and scary?

- ✓ **Over 99% of FGM/C is still done by traditional cutters — but now, medicalized FGM/C is rising in wealthy urban areas. Instead of making it safer, health workers are often performing the most severe forms (infibulation).**