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Assessing factors that support the abandonment of female genital mutilation in Ethiopia

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Abstract

This study assessed both demographic and Social Ecological Model (SEM) variables associated with supporting the abandonment of female genital mutilation (FGM) in three regions of Ethiopia. Data were collected through structured quantitative questionnaires with study participants (n=1146), including adolescent girls, caregivers, social network contacts, and community influentials. Data were analyzed using the statistical software STATA/SE. Chi-square, binary logistic regression, and multivariate logistic regression were used to analyze the data. Results found the one significant association between support for FGM abandonment and demographic variables was having an education above secondary level (AOR=0.11, CI=0.01-0.92). For SEM variables, attitudes regarding identity (AOR=5.74, CI=1.42-23.11), expectation to abandon (AOR=56.88, CI=14.99-215.90), sanctions (AOR=23.00, CI=4.77-110.95), and social networks (AOR=4.61, CI=1.21-17.51) were found to be significant factors in supporting FGM abandonment. Programs should intervene on multiple levels of the SEM and focus on social norms to empower and mobilize communities toward the elimination of FGM. *(Afr J Reprod Health 2022; 26[1]: 53-65).*

Keywords: Female genital mutilation, harmful traditional practices, Ethiopia, social norms, monitoring and evaluation

Résumé

Cette étude a évalué à la fois les variables démographiques et les variables du modèle écologique social (SEM) associées au soutien à l'abandon des mutilations génitales féminines (MGF) dans trois régions d'Éthiopie. Les données ont été recueillies au moyen de questionnaires quantitatifs structurés auprès des participants à l'étude (n = 1146), y compris des adolescentes, des soignants, des contacts sur les réseaux sociaux et des personnes influentes de la communauté. Les données ont été analysées à l'aide du logiciel statistique STATA/SE. Le chi carré, la régression logistique binaire et la régression logistique multivariée ont été utilisés pour analyser les données. Les résultats ont révélé que la seule association significative entre le soutien à l'abandon des MGF et les variables démographiques était le fait d'avoir une éducation supérieure au niveau secondaire (AOR = 0,11, IC = 0,01-0,92). Pour les variables SEM, les attitudes concernant l'identité (AOR=5,74, IC=1,42-23,11), l'attente d'abandonner (AOR=56,88, IC=14,99-215,90), les sanctions (AOR=23,00, IC=4,77-110,95) et les réseaux sociaux (AOR = 4,61, IC = 1,21-17,51) se sont révélés être des facteurs significatifs en faveur de l'abandon des MGF. Les programmes doivent intervenir à plusieurs niveaux du SEM et se concentrer sur les normes sociales pour autonomiser et mobiliser les communautés en faveur de l'élimination des MGF. *(Afr J Reprod Health 2022; 26[1]: 53-65).*

Mots-clés: Mutilations génitales féminines, pratiques traditionnelles néfastes, Éthiopie, normes sociales, suivi et évaluation

Introduction

Globally, more than 200 million girls and women have undergone female genital mutilation (FGM), the modification of female genitalia for non-medical purposes[1,2]. FGM encompasses several procedures; including the partial or complete removal of the clitoris and/or labia minora, the constriction of the vaginal opening through cutting and transposing the labia, or other harmful procedures[2]. FGM has no health benefits, only harmful short and long term consequences[3]. Risks of the procedure include, vaginal, sexual, menstrual, and childbirth complications, hemorrhaging, infections, acute and chronic pain, shock, increased risk of contracting HIV, and even death[3,4]. In addition to physical complications, psychological consequences of FGM include, anxiety, depression, and post-traumatic stress disorder[4,5]. A key step to FGM abandonment and foster support for its elimination,

is understanding the factors that underpin the practice at different levels of the social ecological model (SEM). This study aims to determine the factors that affect support for abandonment of FGM in Ethiopia, through a SEM lens, with a specific focus on social norms.

Literature review

FGM as a Violation of Reproductive Rights

Due to its hazardous effects on physical and mental health, FGM is internationally recognized as a human rights violation, and a form of violence against women and girls[6]. Experts argue that FGM interferes with the ability to attain an adequate standard of living, as outlined in Article 25 of the Universal Declaration of Human Rights[3,7].

FGM was officially deemed a human rights concern at the 1993 World Conference on Human Rights in Vienna, leading to the prohibition of the practice through national laws and regional agreements[8]. A year later, the International Conference on Population and Development led to 179 governments globally adopting the Program of Action, aimed to make women's reproductive rights and health a priority in development undertakings globally[9]. The Maputo Protocol (Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa) was adopted by the African Union in 2003 to ensure all-inclusive rights to women. It comprehensively addresses social and political equality and explicitly prohibits FGM in Article 5[10,11]. However, even with these laws and agreements, many countries, including Ethiopia, still experience occurrences of violence against women and children, harmful traditional and discriminatory practices, and high rates of maternal and child mortality[12,13].

FGM in Ethiopia

According to UNICEF[12], about 25 million girls and women in Ethiopia have been subjected to FGM. Ethiopia has ratified all international and regional protocols[14,15]. Additionally, FGM was outlawed in the 2004 Revised Criminal Code of the Federal Democratic Republic of Ethiopia, and the Ethiopian government has highlighted Sustainable Development Goal 5.3: eliminate all harmful practices, such as child, early, and forced marriages and female genital mutilations[4,16]. With the enactment and adoption of these laws and treaties, FGM in Ethiopia has decreased in national prevalence since 2000[4]. Nevertheless, national prevalence remains high, with about 65% of women between the ages of 15-49 having experienced some form of FGM and five in ten girls ages 15-19 still experiencing some form of FGM[12,17]. The practice of FGM in Ethiopia is not uniform, with prevalence rates varying considerably across regions, ethnic groups, and other demographic factors[18]. According to the 2016 Ethiopia Demographic and Health Survey (DHS)[17], FGM is more prevalent among women from rural areas compared to urban areas (68% vs 54%). Somali and Afar ethnicities have the highest prevalence rates in the country, both above 98%, while prevalence among the Tigray ethnicity is only 23%.

Factors affecting FGM continuation

With the persistence of FGM and the substantial variation in the practice, significant study has gone into understanding the reasons for FGM continuation in Ethiopia. One challenge is law enforcement[11]. However, many other diverse factors have been identified as influencing support for FGM. In Ethiopia, research has frequently examined demographic characteristics. Significant associations have been found between FGM and age, wealth index, occupation, religion, residence, education, marital status, sex, access to media, and type of genital mutilation[4,18-28]. A study of 11,375 Ethiopian women by Masho and Mathews[25] found that women of younger age, rural residence, Islamic religion, having ever married, with no education, without mass media exposure, and having undergone FGM were all at greater odds of supporting FGM. The 2016 DHS survey[17] revealed similar findings.

There is extensive research on how personal factors, such as knowledge and attitudes affect the support for FGM. Several studies have looked at the role of knowledge and attitudes in FGM abandonment[6,19,21,22,26-28]. A study conducted by Abathun *et al*[20] found a majority of their respondents agreed that there are no benefits to FGM, only risks, and cited the negative effects on the well-being, economy, and social life of women

who undergo FGM. These respondents from the Harari region of Ethiopia had a negative attitude towards the practice of FGM and supported abandonment.

Fewer studies have examined factors at other levels of the SEM. The SEM is a theory-based framework for viewing multiple stages of determinants[29]. Harmful practices such as FGM are governed by multiple influences from different levels including individual, interpersonal, community, and society. These levels are interrelated and each one influences the others[29]. At the community level, gender context was examined by Mariam *et al*[24], who found that adolescents with low gender role perceptions were 1.4 times more likely to have a positive attitude toward continuing FGM. Additionally, Missailidis and Gebre-Medhin[30] found that women cited adherence to gender roles as a reason to continue FGM.

FGM and social norms

There is evidence that the practice of FGM in Ethiopia is driven by social norms. A social norm is a behavioral rule in a particular social environment, essentially implied rules steering behavior[31,32]. Social norms are comprised of multiple constructs, including descriptive norms (perceived prevalence), injunctive norms (perceptions of others' expectations), and outcome expectancies (beliefs in positive or negative consequences for adhering/not adhering to the norm). FGM is upheld by social norms when individuals choose to conform not based on their own knowledge, attitudes, and beliefs, but because they believe others in their social group will cut their daughters and that their social group may sanction individuals who do not cut their daughters[8]. On the other hand, if individuals believe others do not practice FGM on their daughter then the social norm can change leading to FGM abandonment[8,31-34]. According to Setegn *et al*[18] FGM persists due to familial and societal pressure to respect tradition. Reference groups are important, as the people to whom an individual compares themselves, and thus help to influence and maintain norms[35]. However, not all traditional practices are harmful[36,37]. Tostan[38] and UNICEF[39] have done extensive work in community-led social norms change. Traditional practices can be harmful or supportive, in this case FGM is a traditional harmful practice. Despite recent acknowledgement of the normative aspects of FGM continuation, there has been little effort to measure and track factors beyond demographic characteristics and individual-level attitudes[31,34,40]. In a study conducted by Shell-Duncan *et al*[41], focus group discussions were used to identify FGM related social norms provoking dialogue on attitudes and perceptions. Another study of 842 women in Eastern Ethiopia by Oljira *et al*[27] asked women's thoughts about how their husbands feel about the continuation of FGM, which assesses injunctive norms; however, they did not measure association with the women's own support for continuation. Finally, a study done by Yirga *et al*[28] in the Kersa district of Ethiopia asked 858 women if they had tried to impede the practice of FGM and a quarter reported not wanting to interfere with the norm. Social norms are not meant to be synonymous with gender norms. Gender norms are the customary characteristics of female and male gendered identity during a specific time and place. FGM is upheld by social norms and an indicator of gender inequality[39].

Using mass media and communication to shift social norms

Mass media and communication can influence perceptions of different behaviors, making communication efforts important for social norms change[42,43]. Communication in the form of stories, movies, information, etc., may result in a shift of norms by forming attitudes and behaviors[39,43]. Studies have examined the effectiveness of "organized diffusion", where participants from interventions disseminate the inquired knowledge to others, leading to changes in norms[44,45]. Narrative engagement, developing a connection with a fictional character to share information and shift norms, have also been examined[43]. There are numerous examples in the literature all over the globe that showcase the relationship between social norms and communication efforts. In West Africa this includes family planning[46,47]; in South Asia this includes infant and young child feeding[48], child marriage[49], and menstrual health and hygiene management[50]; in Latin America this includes harmful masculinity[51] and gender equality[52].

Moreover, mass media exposure has been used and studied to shift norms specifically towards abandoning FGM, including the Saleema campaign in Sudan[53] and the ACT Framework in Guinea and Ethiopia[54].

Methods

Study area and sampling

To determine the factors associated with support for FGM abandonment, a cross-sectional study was conducted in three regions of Ethiopia, Addis Ababa, Afar, and Southern Nation, Nationalities, and Peoples (SNNP). The regions were chosen to provide diversity in demographic characteristics, such as type of residence (urban/rural), FGM prevalence, religion, ethnicity, and exposure to FGM-related social and behavior change communication programming. Four enumeration areas, as outlined by the 2007 Ethiopian Census, were randomly selected from each region.

Adolescent girls (10-19 years old) were the primary audience because of their proximity to the consequences of FGM decisions. Caregivers were also considered important participants because of the influence they may have on their daughter[34]. Given the significance of reference groups in creating and upholding social norms, social network contacts and community influentials were also part of the study population.

A combination of random and snowball sampling techniques was used to identify study participants. All households within an enumeration area were listed and were considered eligible if the household contained at least one adolescent girl age 10-19 years. A computer system randomly selected households to participate from the list of eligible households. From each selected household, one adolescent girl and one primary caregiver were identified to participate. Once the adolescent girl and her caregiver had consented to participate, they each identified three individuals in their social networks with whom they discuss FGM and three individuals in their community who they consider influential on the topic. Six to nine social network contacts and community influentials were asked to participate per adolescent girl and caregiver pair.

Data collection

Data were collected during August and September 2019. Structured, quantitative questionnaires were administered to study participants using Survey Solution, a computer assisted personal interviewing software. The questionnaire was developed in English, then translated into Amharic, Afar Af, and Kembatissa. The questionnaire was then back-translated into English to identify errors in translation. Prior to administration of the interview, the Amharic version of the questionnaire was pretested in Addis Ababa with 36 respondents and the Afar Af and Kembatissa versions were reviewed by multiple experts in those languages. Local and gender matched data collectors fluent in both the local language and English administered the interviews.

Study variables

To measure the outcome variable support for the abandonment of FGM, participants were asked, "Do you think that FGM should be continued, or should it be abandoned" and responses were coded as either "Continue" or "Abandon." "Declined to respond" and "don't know" options were also given; however, these were excluded from data analysis.

Independent variables in this study were composed of demographic variables, including region, type of residence, gender, age, marital status, religion, education, employment status, and standard of living. All demographic variables were assessed through questions with predefined categories. Standard of living was used as a proxy for income or socioeconomic status, due to respondent discomfort around reporting their income level. A composite standard of living variable was assessed through a combination of three questions from the Ethiopia DHS[17].

Based on the SEM levels, individual-level factors included knowledge of FGM risks, knowledge of FGM laws, attitudes toward FGM health risks and attitudes toward FGM as a part of one's identity, and mass media exposure (heard, read, seen about FGM on radio, TV, print, or social media). Interpersonal-level variables included social support (how many people have you asked for help from regarding FGM) and social networks, for

Table 1: Summary of construction for SEM variables

Variables	Scale Construction
Knowledge (Risks)	3 questions- 20 item categorical scale turned into binary variable.
Knowledge (Laws)	Binary variable.
Attitudes (Health)	7 questions- 5-point Likert scale turned into 3-point ordinal scale.
Attitudes (Identity)	3 questions- 5-point Likert scale turned into 3-point ordinal scale.
Mass Media Exposure	5 item categorical scale turned into binary variable.
Prevalence	11-point continuous scale turned into 5-point ordinal scale.
Expectation	3 questions- binary variable turned into categorical variable.
Sanctions	11-point continuous scale turned into 5-point ordinal scale.
Rewards	11-point continuous scale turned into 5-point ordinal scale.
Social Networks	Binary variable.
Social Support	19 item categorical scale turned into binary variable.
Gender Context Girl	3 questions- 5-point Likert scale turned to 3-point ordinal scale.
Gender Context Women	3 questions- 5-point Likert scale turned to 3-point ordinal scale.

which interpersonal communication was used as a proxy (engaged in conversations about FGM). Community-level variables included social norms (perceived prevalence of FGM, expectation of reference group for the individual to abandon FGM, and likelihood of imposing sanctions and rewards for abandoning FGM), and gender roles (progressive beliefs about gender roles for girls and women).

Except social networks, perceived prevalence, knowledge of laws, sanctions, and rewards, other variables required combining answers to sets of questions (Table 1). Additive indexes were created from the set of questions and ordinal variables were collapsed into either binary or categorical variables, e.g., "no/yes," "low/medium/high," or "negative/positive/neutral." Knowledge of laws, mass media exposure perceived prevalence, sanctions, rewards, social networks, and social support were assessed through single questions. Responses of "don't know" or "declined to respond" were recoded as missing data and were not included in analysis.

Data analysis

Data were transferred to STATA/SE for cleaning and analysis. Proportions were calculated for descriptive statistics of all variables. Bivariate analysis between demographic and SEM variables and support for FGM abandonment was conducted through logistic regression and reported using odds ratios (OR). Multivariate logistic regression analysis was conducted to determine the association of each independent variable with supporting the continuation or abandonment of FGM and reported using adjusted odds ratios (AOR). A p-value less than 0.05 was the cutoff point for a statistically significant association.

Results

Description of the sample

Across the three study regions, the total sample included 1146 individuals. Seventy percent of the respondents were female, about three-quarters of respondents were adults (aged 20 years and older), and two-thirds had ever been married. Respondents were relatively evenly split between rural and urban residences (51.7% vs 48.3%). Education among respondents was low, with more than a third (35.1%) of respondents having no formal education and 37% having only attended primary school. All demographic characteristics of the sample are shown in Table 2, including reported sample total disaggregated by responses around supporting FGM abandonment or its continuation.

Independent variables

Knowledge of risks was high among respondents, with 81.7% being able to name at least one risk (physical, psychological, or social) of undergoing FGM. However, only 12.8% of the respondents knew of any laws about FGM. Attitudes towards FGM were mostly unsupportive of the practice, with only 11% disagreeing that FGM did not pose any health risks and only 19% agreeing with the idea of FGM as a part of their identity. Three-quarters (75.7%) of respondents had been exposed to information about FGM.

Table 2: Demographic characteristics of respondents (n=1146)

Variables	Categories	Total n (%)	Continue n (%)	Abandon n (%)	P<0.05
Age	10 to 19	296 (26.0%)	51 (17.2%)	245 (82.8%)	0.000*
	20 to 29	181 (15.9%)	43 (23.8%)	138 (76.2%)	
	30 to 39	310 (27.2%)	99 (31.9%)	211 (68.1%)	
	40 to 49	196 (17.2%)	82 (41.8%)	114 (58.2%)	
	50+	155 (13.6%)	35 (22.6%)	120 (77.4%)	
Gender	Male	349 (30.6%)	96 (27.5%)	253 (72.5%)	0.960
	Female	793 (69.4%)	217 (27.4%)	576 (72.6%)	
Region	Addis Ababa	347 (30.4%)	13 (3.8%)	334 (96.3%)	0.000*
	Afar	421 (36.9%)	270 (64.1%)	151 (35.9%)	
	SNNP	374 (32.8%)	30 (8.0%)	344 (92.0%)	
Residence	Rural	589 (51.6%)	217 (36.8%)	372 (63.2%)	0.000*
	Urban	553 (48.4%)	96 (17.4%)	457 (82.6%)	
Marital Status	Never Married	385 (33.7%)	50 (13.0%)	335 (87.0%)	0.000*
	Ever Married	756 (66.3%)	263 (34.8%)	493 (65.2%)	
Religion	Muslim	454 (39.8%)	274 (60.4%)	180 (39.7%)	0.000*
	Protestant	315 (27.6%)	10 (3.2%)	305 (96.8%)	
	Christian Orthodox	371 (32.5%)	29 (7.8%)	342 (92.2%)	
Education	No Education	400 (35.1%)	221 (55.3%)	179 (44.8%)	0.000*
	Primary Education	419 (36.7%)	70 (16.7%)	349 (83.3%)	
	Secondary Education	205 (18.0%)	16 (7.8%)	189 (92.2%)	
	Above Secondary	117 (10.3%)	6 (5.1%)	111 (94.9%)	
Employment	Unemployed	133 (11.8%)	29 (21.8%)	104 (78.2%)	0.000*
	Self-Employed	262 (23.2%)	113 (43.1%)	149 (56.9%)	
	Employed	190 (16.8%)	26 (13.7%)	164 (86.3%)	
	Student	301 (26.6%)	43 (14.3%)	258 (85.7%)	
	Housewife	245 (21.7%)	98 (40.0%)	147 (60.0%)	
Standard of Living	Low	373 (32.7%)	191 (51.2%)	182 (48.8%)	0.000*
	Medium	450 (39.4%)	108 (24.0%)	342 (76.0%)	
	High	319 (27.9%)	14 (4.4%)	305 (95.6%)	

In addition, 52.9% of respondents perceived prevalence of cut women within their communities to be high (greater than 67%) and another 28.2% perceived prevalence to be moderate (between 33% and 67%). Regarding expectations, 57.3% of respondents said their families, friends, community, and society all expect them to abandon the practice of FGM. Moreover, 82.2% of respondents expressed that they were likely to sanction an individual who has decided to perform FGM, while 47.1% expressed a likelihood that they would reward an individual who has decided to abandon FGM.

While 52.2% of respondents said they had ever engaged in a conversation about FGM, 56.7% indicated they had received instrumental social support related to FGM (money, transport, etc.). In the larger context, most respondents expressed positive beliefs about gender roles of girls (58.8%) and women (44.9%) (Table 3).

Bivariate results

Several demographic characteristics were found to be significantly associated with support for abandoning FGM through bivariate logistic regression (Table 4). Type of residence, religion, education, and standard of living were all found to be associated with support for abandoning FGM. Specifically, individuals living in an urban setting (OR=2.78, CI=2.11-3.66), Protestant (OR=46.43, CI=24.06-89.59) or Christian Orthodox (OR=17.95, CI=11.76-27.41), with some primary (OR=6.16, CI=4.45-8.51), secondary (OR=14.58, CI=8.44-25.20), or above secondary education (OR=22.84, CI=9.81-53.16), and a moderate (OR=3.32, CI=2.47-4.47) or high standard of living (OR=22.86, CI=12.89-40.54) displayed significant odds of supporting FGM abandonment. Among the independent variables, all were found to have significant associations with support for FGM

Table 3: SEM factors associated with respondents supporting the continuation or abandonment of FGM (n=1146)

Variables	Categories	Total n (%)	Continue n (%)	Abandon n (%)	P<0.05
Knowledge (Risks)	No	310 (18.4%)	151 (71.9%)	59 (28.1%)	0.000*
	Yes	932 (81.6%)	162 (17.4%)	770 (82.6%)	
Knowledge (Laws)	No	993 (87.2%)	303 (30.5%)	690 (69.5%)	0.000*
	Yes	146 (12.8%)	8 (5.5%)	138 (94.5%)	
Attitudes (Health)	Negative	127 (11.1%)	112 (88.2%)	15 (11.8%)	0.000*
	Mixed	235 (20.6%)	137 (58.3%)	98 (41.7%)	
	Positive	780 (68.3%)	64 (8.2%)	716 (91.8%)	
Attitudes (Identity)	Negative	222 (19.4%)	179 (80.6%)	43 (19.4%)	0.000*
	Mixed	364 (31.9%)	111 (30.5%)	253 (69.5%)	
	Positive	5567 (48.7%)	23 (4.1%)	533 (95.9%)	
Mass Media Exposure	No	277 (24.3%)	18 (4.4%)	387 (95.6%)	0.000*
	Yes	865 (75.7%)	295 (40.0%)	442 (60.0%)	
Prevalence	All	273 (28.5%)	218 (79.9%)	55 (20.2%)	0.000*
	Most	234 (24.4%)	55 (23.5%)	179 (76.5%)	
	Some	153 (16.0%)	14 (9.2%)	139 (90.9%)	
	Few	117 (12.2%)	7 (6.0%)	110 (94.0%)	
	None	182 (19.0%	3 (1.7%)	179 (98.4%)	
Expectation	Expect continue	340 (29.8%)	290 (85.3%)	50 (14.7%)	0.000*
	Some expect continue	148 (13.0%)	11 (7.4%)	137 (92.6%)	
	Expect abandonment	654 (57.3%)	12 (1.8%)	642 (98.2%)	
Sanctions	Zero likely to sanction	184 (17.8%)	161 (87.5%)	23 (12.5%)	0.000*
	Likely to sanction	426 (41.2%)	108(25.4%)	318 (74.7%)	
	Completely likely to sanction	424 (41.0%)	23 (5.4%)	401 (94.6%)	
Rewards	Zero likely to reward	549 (52.9%)	26 (4.7%)	523 (95.3%)	0.000*
	Likely to reward	269 (25.9%)	98 (36.4%)	171 (63.6%)	
	Completely likely to reward	220 (21.2%)	164 (74.6%)	56 (25.5%)	
Social Networks	No	543 (47.8%)	59 (10.9%)	484 (89.1%)	0.000*
	Yes	592 (52.2%)	253 (42.7%)	339 (57.3%)	
Social Support	No	495 (43.4%)	108 (21.8%)	387 (78.2%)	0.000*
	Yes	647 (56.7%)	205 (31.7%)	442 (68.3%)	
Gender Context (Girl)	Completely -	29 (2.5%)	27 (93.1%)	2 (6.9%)	0.000*
	Somewhat -/+	442 (38.7%)	204 (46.2%)	238 (53.9%)	
	Completely +	671 (58.8%)	82 (12.2%)	589 (87.8%)	
Gender Context (Women)	Completely -	35 (3.1%)	31 (88.6%)	4 (11.4%)	0.000*
	Somewhat -/+	594 (52.0%)	214 (36.0%)	380 (64.0%)	
	Completely +	513 (44.9%)	68 (13.3%)	445 (86.7%)	

abandonment, with most of the determinants having significant associations in expected directions. However, higher odds of mass media exposure, rewards, social networks, and social support emerged for those who supported the continuation of FGM (Table 5).

Multivariate results

The multivariate analysis showed substantially fewer statistically significant associations than the bivariate analysis did (Table 6). Under the multivariate logistic regression, the only significant association between support for FGM abandonment and the demographic variables was education above secondary level (AOR=0.11, CI=0.01-0.92). For independent variables, the statistically significant variables included attitudes regarding identity, expectations, sanctions, and social networks.

Specifically, those who disagreed that FGM was a part of one's identity were at 5.7 times the adjusted odds (CI=1.42-23.11) of supporting FGM abandonment, as compared to those with negative attitudes. Two of the three norms variables showed significant associations under the multivariate model. Respondents who believed either their friends, family, community, or society expected them to abandon FGM and those who reported that anyone who practiced FGM was likely to be sanctioned, were at significantly higher odds of

Table 4: Demographic variables associated with FGM abandonment

Variables	Categories	OR	95% CI
Age	10 to 19	Reference	
	20 to 29	0.67	0 .42-1.05
	30 to 39	0.44*	0.30-0.65
	40 to 49	0.29*	0.19- 0 .44
	50+	0.71	0.44-1.16
Gender	Male	Reference	
	Female	1.00	0.76-1.34
Region	Addis Ababa	Reference	
	Afar	0.02*	0.01-0.04
	SNNP	0.45*	0.23-0.87
Residence	Rural	Reference	
	Urban	2.78*	2.11-3.66
Marital Status	Never Married	Reference	
	Ever Married	0.28*	0.20-0.39
Religion	Muslim	Reference	
	Protestant	46.43*	24.06-89.59
	Christian Orthodox	17.95*	11.76- 27.41
Education	No Education	Reference	
	Primary Education	6.16*	4.45-8.51
	Secondary Education	14.58*	8.44-25.20
	Above Secondary	22.84*	9.81-53.16
Employment	Unemployed	Reference	
	Self-Employed	0.37*	0.23-0.59
	Employee	1.76	0.98-3.15
	Student	1.67	0.99-2.82
	Housewife	0.42*	0.26-0.68
Standard of Living	Low	Reference	
	Medium	3.32*	2.47-4.47
	High	22.86*	12.89- 40.54

supporting abandonment. Respondents who reported engaging in a conversation about topics related to FGM were 4.6 times the adjusted odds (CI=1.21-17.51) of supporting abandonment compared to those who did not engage in conversations related to FGM.

Discussion

Overall, this study explored how factors at different levels of the SEM impact support for abandonment of FGM in Ethiopia. In the multivariate analysis, there were significant factors at every level of the SEM. The study found that having positive attitudes toward FGM as a part of one's identity, believing that others expect you to abandon FGM, being more likely to sanction someone for performing FGM, and engaging in interpersonal communication regarding FGM were significantly associated with supporting FGM abandonment.

Many variables shown to be significant in previous studies were not statistically significant here. For example, previous research has outlined a connection between support for FGM with demographic factors, such as religion and place of residence[18,20,23,25,26,55]. Multiple studies have also reported the importance of mass media exposure on support for FGM[18,22,24,53]. Geremew *et al*[23] reported that consistent media exposure within a community and maternal educational status reported as secondary and above lowers the odds of experiencing FGM in adolescent girls by 30% (AOR=0.70, CI=0.48-0.91) and 57% (AOR=0.43, CI=0.22-0.84). While Evans *et al*[53] concluded that exposure to the Saleema campaign was linked to a decline in social norms supporting FGM. In this study we only asked about access to different channels and do not know the content of the media consumed by the respondents.

Overall, the multivariate results suggest that the connection with demographic characteristics and support for FGM abandonment may function through SEM determinants. In other words, place of residence, age, mass media exposure etc., are likely to affect knowledge, attitudes, and interpersonal

Table 5: SEM variables associated with FGM abandonment

Variables	Categories	OR	95% CI
Knowledge (Risks)	No	Reference	
	Yes	12.16*	8.61-17.18
Knowledge (Laws)	No	Reference	
	Yes	7.58*	3.67-15.65
Attitudes (Health)	Negative	Reference	
	Mixed	5.34*	2.94-9.71
	Positive	83.5*	46.00-151.67
Attitudes (Identity)	Negative	Reference	
	Mixed	9.49*	6.36-14.17
	Positive	96.47*	56.56-164.53
Mass Media Exposure	No	Reference	
	Yes	0.07*	0.04 – 0.11
Prevalence	All	Reference	
	Most	12.90*	8.45-19.69
	Some	39.35*	21.08-73.45
	Few	62.29*	27.45-141.31
	None	236.50*	72.76-768.68
Expectation	All expect continue	Reference	
	Some expect continue	72.23*	36.5- 143.1
	All expect abandon	310.30*	162.8-591.5
Sanctions	Zero likely to sanction	Reference	
	Likely to sanction	20.61*	12.65-33.59
	Completely likely to sanction	122.04*	66.56-223.76
Rewards	Zero likely to reward	Reference	
	Likely to reward	0.09*	0.05-0.14
	Completely likely to reward	0.02*	0.01-0.03
Social Networks	No	Reference	
	Yes	0.16*	0.12 -0.22
Social Support	No	Reference	
	Yes	0.60*	0.46 -0.79
Gender Context (Girl)	Completely -	Reference	
	Somewhat -/+	4.08*	2.44 -6.82
	Completely +	9.30*	6.14 -14.09
Gender Context (Women)	Completely -	Reference	
	Somewhat -/+	10.35*	6.16-17.39
	Completely +	16.50*	10.50-25.93

Table 6: Significant multivariate results

Variables	Category	AOR	95% CI
Education	No Education	Reference	
	Above Secondary	0.11*	0.01-0.92
Attitudes (Identity)	Negative	Reference	
	Mixed	4.00*	1.30-12.31
	Positive	5.74*	1.42-23.11
Expectation	Zero likely	Reference	
	Some expect continuation	15.59*	4.88-49.75
	All expect abandonment	56.88*	14.99-215.90
Sanctions	Zero Likely to sanction	Reference	
	Likely to sanction	12.65*	2.59-61.66
	Completely likely to sanction	23.00*	4.77-110.95
Social Networks	No	Reference	
	Yes	4.61*	1.21-17.51

communication, which then in turn affect support for FGM abandonment. When including the independent variables in the model, the significance of the demographic variables was eliminated. Regardless of the specific pathways through which demographic characteristics affect the SEM variables, this finding encourages the use of a holistic, multi-level approach to eliminating FGM.

This study found that respondents who had positive attitudes towards FGM as a part of one's identity were in favor of supporting FGM abandonment. These findings imply that, even as broader community and societal approaches are taken, promoting attitudinal change remains an important component of increasing support for FGM abandonment. This confirms previous interpretations about the importance of attitudes in promoting FGM abandonment[6,19-22,24,56]. This study found that respondents with social networks discussing topics related to FGM were more likely to support FGM abandonment. This may mean the conversations respondents were engaging in included topics involving the risks, laws, or norms of FGM. Social networks can be critical to taking acquired knowledge and disseminating it to the wider community[57].

The inclusion of social norms in this study and their significant association highlighted gaps in previous research. As discussions about FGM as a social norm increase, there is a need to measure and track changes in social norms. While previous studies in Ethiopia have discussed connections between social norms and FGM continuation, none have quantified the relationship. A study by UNICEF and Gupta[56] stated that FGM is linked with certain ethnic groups, signifying that social norms and expectations within communities preserve the practice of FGM; however, no measurement of social norms constructs was included. Similarly, a study by Missailidis and Gebre-Medhin[30] suggested that Ethiopian women only support FGM continuation because they believe men support it, but the researchers did not compute any statistical association. Other studies have discussed the importance of sanctions, (stigma or social exclusion), in the support for the abandonment of FGM, but did not examine injunctive or descriptive norms[6,8,22,25]. This study found statistically significant associations for two out of three social norms variables, providing tangible evidence of the importance of approaching FGM from a social norms' perspective.

As measures of social norms related to FGM are further refined, it is important to remember they are multifaceted. This study found expectations of sanctions (outcome expectancies) and the belief that others expect you to continue or abandon (injunctive norms) to be significant. This does not mean that descriptive norms (perceived prevalence) are unimportant when quantifying social norms. In this study, descriptive norms were studied as "How many girls in your community are currently cut?" In addition to verifying the results presented in this study, it is suggested that further research explores alternate ways of measuring descriptive norms with questions focusing on FGM prevalence in the past, present, and future context in assessing support for FGM abandonment.

Ethical considerations

The research was approved by Drexel University's institutional review board in Philadelphia, United States and the Ethiopian Society of Sociologists, Social Workers, and Anthropologists institutional review board in Addis Ababa, Ethiopia. All participants provided consent for participation; participants under 18 years were included only with their assent and the consent of a guardian. All efforts were made to interview respondents privately.

Limitations

As with every study, there are limitations. The analysis presented here is a sub-set of a detailed questionnaire with over 300 questions and interviews lasted over two hours, which may have led to respondent fatigue and inaccurate responses. Social desirability bias is also likely in the responses, as FGM is considered a taboo or sensitive topic in the study regions. However, trained and experienced data collectors were deployed along with external validators to help understand and address these biases. Second, the sample for this study included a wide range of individuals, from 10-to-50+ years and the proportion of specific types of respondents were on the low side. Due to sample size limitations and to provide a holistic picture we did not disaggregate

results by respondent type. It is likely that the type of respondent plays a significant role in determining support for the abandonment of FGM. Third, this study included approximately equal number of respondents from urban and rural areas in three regions. The prevalence of FGM varies by region and residence, so we cannot make claims about the country in general. Fourth, the translation and back translations into different languages of complicated terminology was challenging. Although back translations were done, meanings of questions and the responses, could have been impacted. The outcome variable is not actual practice of FGM but support for its abandonment or continuation, which at best is a proxy measure of actual behaviors. Finally, the results may be limited by choices made during data analysis. Because many variables were being considered, most variables were converted in binary or three-category variables. Alternate classifications of respondents may have occurred if a greater number of categories were created, or if variables were treated as ordinal or continuous instead.

Conclusion

FGM infringes upon the fundamental rights of women and adolescent girls. Although Ethiopia has made much progress toward abandoning FGM, the practice is still highly prevalent in some regions. Overall, this study showed that there is not just one specific reason why FGM persists, but many factors that come together to sustain this tradition. Previous studies looked at demographic characteristics or only one or two SEM variables and appear to have missed the larger interrelated network of factors impacting FGM abandonment. Programs that intervene on multiple levels of the SEM, with a focus on social norms, to empower and mobilize communities toward the elimination of FGM are needed.

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