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Prevalence and Factors Associated With Generational Transition of Female Genital Mutilation in The Gambia: Evidence From the 2019–2020 Demographic and Health Survey

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ABSTRACT

Background: Female genital mutilation (FGM) presents a dual challenge in The Gambia, constituting a human rights abuse and a major public health concern. Despite legislative efforts and global advocacy, the magnitude of FGM among women of reproductive age remains high. This study examined the prevalence and factors associated with the generational transition of FGM in The Gambia.

Methods: The study analysed data from the 2019–2020 Gambia Demographic and Health Survey (GDHS). We included a final sample of 5272 mother–daughter pairs. We defined generational transition of FGM as 'women of reproductive age (15–49 years) who were circumcised and had at least one daughter circumcised'. Sample characteristics and prevalence of generational transition FGM among women and their daughters were summarised using frequencies and percentages. Bivariate and multilevel logistic regression analyses were used to examine the factors associated with the generational transition of FGM in The Gambia.

Results: The prevalence of generational transition FGM in The Gambia was 69.7% (95% CI: 66.9, 72.5). The prevalence was highest among women aged 35–49 years, 72.3% (95% CI: 68.5–75.9), those with no formal education, 74.5% (95% CI: 70.9–77.8), and those in union 71.6% (95% CI: 68.6, 74.5). The prevalence was fairly distributed across the wealth index quintile. Factors associated with increased odds of generational transition FGM included women aged 35–49 years (adjusted odds ratios [aOR]: 3.88, 95% CI: 2.93–5.52), being in a marital union (aOR: 1.96, 95% CI: 1.45–2.64), and living in clusters with high FGM support (aOR: 1.89, 95% CI: 1.31, 2.73). Conversely, secondary and higher education levels (aOR = 0.71, 95% CI: 0.57–0.89) and the richest wealth index (aOR = 0.42, 95% CI: 0.28–0.64) were protective factors against transitional FGM.

Conclusion: FGM persists in The Gambia due to a complex interplay of maternal characteristics, cultural expectations and community norms. Targeted multilevel interventions, particularly those that expand access to education, engage male partners and challenge collective attitudes, are essential to disrupt this generational transmission. Future studies should qualitatively

explore the reasons behind the generational transition to inform the design of targeted interventions that can interrupt the FGM cascade.

1 | Background

Female genital mutilation/cutting (FGM/C), also known as female circumcision, is ‘a practice that involves partial or total removal of the external genitalia and/or injury to the female genital organs, for nonmedical reasons’ [1]. Globally, the population of girls and women who have undergone FGM exceeds 200 million [2]. Additionally, 3 million new girls are at risk of undergoing FGM annually, with a staggering two-thirds of them are subjected to the practice within their first year of life [3]. Despite being internationally condemned and declared a violation of human rights, FGM continues to be practised in 30 countries across Africa, Asia and the Middle East [2]. Africa bears the largest share of the global burden of FGM, totalling 144 million cases, surpassing 80 million in Asia and 6 million in the Middle East [4]. A pooled analysis of FGM in 10 sub-Saharan African (SSA) countries reported a prevalence of 53.6% [5], with countries such as Somalia (98%), Guinea (94.5%) and Mali (88.6%) reporting nearly universal rates [5, 6]. Although several SSA countries have achieved significant success in lowering FGM rates, such as in Nigeria, Senegal and Uganda, many other countries struggle with enforcement due to community resistance [3, 7, 8]. Addressing FGM in Africa could save millions from lifelong harm and accelerate gender equality.

In The Gambia, FGM remains a pervasive practice supported by both men and women and embedded in cultural and traditional norms [9]. The Gambia is ranked among the top countries in the world with the highest FGM prevalence [5]. Prevalence remains persistently high (73%) among women of reproductive age and 46% among their daughters aged 0–14 years [10]. Alarmingly, over 65% of girls are circumcised within their first 5 years of life, highlighting that FGM in The Gambia is a serious public health crisis that robs girls of their bodily autonomy at their most vulnerable stage in life [11]. Several studies have highlighted the drivers of FGM, often justified by cultural beliefs around religious requirements and social acceptance [2, 12, 13]. FGM is predominantly practised by certain ethnic groups, such as the Mandinka, Sarahule and Wollof, and in regions like the rural areas of Basse, Mansakonko and Brikama, as well as among Muslims [14]. In the Mandinka community, the practice is performed as an initiation ritual (*Nyaakaa*) between the ages of four and ten and hence reinforced by community norms and religious misconceptions [15].

Legal reforms in The Gambia have sought to curb FGM, yet enforcement challenges and cultural resistance continue to hinder progress [2]. Despite early efforts such as the 1998 national symposium, which strongly condemned the practice of FGM [16], and the 2015 landmark law, which criminalised FGM [17], the practice is still persistent. The prevalence has only declined marginally from 75% in 2013 to 73% in 2020 [9]. This persistence reflects strong cultural norms and intergenerational transmission, which diminish the intended legislative impact [18]. The Women’s (Amendment) Bill 2024, which sought to decriminalise FGM [19], further highlights the tension between human rights advocacy and traditional authority, thus complicating enforcement and behaviour change [20].

FGM is sustained primarily through its intergenerational transmission from mothers to daughters [21]. Understanding how the practice is disrupted or continued across generations is, therefore, important in supporting its elimination [18]. Research highlights that a mother’s FGM status is the strongest predictor of daughters’ circumcision, with daughters of circumcised mothers being 28 times more likely to undergo FGM [22]. This transmission is highly influenced by societal pressure and the belief that FGM ensures social and cultural conformity and familial honour [14]. To date, no study has systematically examined this intergenerational transition of FGM using nationally representative data in The Gambia. This study, therefore, aimed to fill this gap by examining the prevalence and determinants of generational transition of FGM in The Gambia using the 2019–2020 Gambia Demographic and Health Survey (GDHS). The findings from this study have the potential to inform national strategies as well as the global efforts to eliminate FGM, in line with the Sustainable Development Goals.

2 | Methods

2.1 | Study Setting

The Gambia is a small West African state situated on the Atlantic coast and surrounded by the neighbouring territory of Senegal. The population of The Gambia is 2,422,712, of whom 51% are females [23]. About 64.5% of the population resides in urban areas, and the country is experiencing fast urban growth, with an annual rate of 3.75% [11]. The Gambia spends about 2.6% and 2.8% of its GDP on health and education, respectively [24]. In The Gambia, 5.6% of girls are married by the age of 15; and by age 18, the figure rises to 23.1% [19]. The Women’s (Amendment) Act of 2015 outlawed FGM in The Gambia with penalties up to 3 years in prison, and a fine of about $1250, or both [19]. Primarily, the Ministry of Gender, Children and Social Welfare is responsible for FGM oversight [11].

2.2 | Study Design and Data Source

We performed a secondary analysis of the 2019–2020 GDHS data. The GDHS is a nationally representative survey implemented by the Gambia Bureau of Statistics (GBoS) in partnership with the DHS program [10]. The datasets used for this analysis were obtained from the DHS program and are publicly available on the repository [25]. The dataset was accessed on 15 February 2024, after obtaining approval from the DHS program. The authors did not have access to any personal identifying information during or after data collection, as all datasets provided by DHS are fully de-identified. The GDHS employed a two-stage stratified cluster sampling design to ensure both national and subnational representation across the administrative regions [26]. The data were collected through structured household and individual questionnaires by trained enumerators, cleaned and standardised by the GBoS and the DHS program [10]. A total of 6,549 households and 11,865 women were interviewed.

Additional details regarding the GDHS are described elsewhere [10]. This study is reported in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines for cross-sectional studies(Supporting Information 1).

2.3 | Study Population and Sample Size

The study focused on mother–daughter pairs derived from the 2019–2020 GDHS. We utilised the birth recode (BR) file, which contains information on all births to women of reproductive age (15–49 years). From the initial 31,665 records representing individual children, we restricted the dataset to female children only, identifying the relevant mother–daughter pairs. To focus on the generational transition of FGM, we further restricted the sample size to include only mothers who had undergone FGM themselves. We excluded records with missing data to ensure data accuracy and consistency across key variables. The 601 excluded records were attributable to missing values on two covariate variables: FGM continuation attitude ($n = 490$) and FGM as a religious requirement ($n = 111$). There were no missing values on the outcome variable. We assessed the pattern of missingness and assumed data were missing completely at random (MCAR), as missingness in these variables was not systematically related to the outcome but was associated with other observed covariates. We compared the sociodemographic characteristics of included ($n = 5272$) and excluded ($n = 601$) records and found no meaningful differences, further supporting the MCAR assumption. The final analytical sample consisted of 5272 mother–daughter pairs (Supporting Information 2: Figure S1).

3 | Study Variables

3.1 | Outcome Variable

The dependent variable for this study was the generational transition of FGM. We defined generational transition of FGM as 'women of reproductive age (15–49 years) who were circumcised and at least one of their daughters underwent FGM experience'. Generational transition FGM was coded as 'Yes' if a woman of reproductive age (15–49 years) who reported having undergone FGM had at least one daughter circumcised and 'No' if none of her daughters had undergone FGM. To construct this binary outcome, two variables from the 2019–2020 GDHS were utilised: (g102) 'Respondent circumcised', which captured whether the mother had undergone FGM, and (g108) 'Number of daughters circumcised', which captured how many of the respondent's daughters were circumcised. For this analysis, only women who had undergone FGM were included.

3.2 | Explanatory Variables

The selection of the independent variables was informed by empirical literature [2, 13, 22, 27] and their availability in the dataset. These included sociodemographic factors, household-level factors, media exposure and FGM-related variables. Additionally, cluster-level variables were constructed to capture the surrounding community's normative influence on individual behaviours (Table 1).

3.3 | Statistical Analysis

STATA version 19 (Stata Corporation, College Station, Texas) [28] was used for coding, cleaning and data analysis. Descriptive statistics, including the frequencies and percentages, were used to summarise the sample characteristics. Prevalence was estimated through weighted proportions and 95% confidence intervals (CIs). Bivariate logistic regression analyses were performed to explore the crude association between the explanatory and outcome variables.

Before the modelling, we assessed multicollinearity among the explanatory variables using Spearman's rank correlation coefficient, where correlations not exceeding 0.5 suggested no significant collinearity issues [29]. We further assessed multicollinearity using the variance inflation factor (VIF) and its inverse (I/VIF), with VIF values <10 and corresponding tolerance values >0.1 indicating no multicollinearity issues [30] (Supporting Information 3: Figure S2). Multilevel mixed-effects logistic regression models were used to identify factors associated with the generational transition of FGM in The Gambia. Given the hierarchical structure of the data, we used a three-level mixed-effects logistic regression approach to account for within-cluster correlation. The three levels were defined as follows: Level 1 represented individual mother–daughter pairs, Level 2 represented households and Level 3 represented clusters, which served as the primary sampling units in the 2019–2020 GDHS. This structure was adopted to appropriately account for the nested nature of the data, whereby mother–daughter pairs are nested within households, and households are nested within clusters. We fitted four sequential models: (1) a null model excluding all explanatory variables to identify baseline clustering; (2) a model with individual-level sociodemographic and household-level factors; (3) a model including community-level factors only; and finally, (4) a full model combining all the covariates. The intraclass correlation coefficient (ICC) estimated the proportion of total variance attributable clustering in each model, hence guiding the justification for multi-level modelling. We used the likelihood ratio test (LRT), the Akaike information criterion (AIC) and the Bayesian information criterion (BIC) to assess the models' goodness of fit, guiding the selection of the best-fitting model. The final model (Model 4) was selected on both theoretical and empirical grounds. Theoretically, the model aligns with the Social Ecological Model, which posits that health behaviours are shaped by multi-level influences spanning individual, household and community contexts [31]. Prior multi-level studies on FGM have consistently demonstrated that its generational transmission is driven by factors operating simultaneously across these levels [13, 21]. Empirically, Model 4 also had the lowest AIC and BIC values, confirming the best statistical fit among all four models. Adjusted odds ratios (aOR) with 95% CIs were reported for the final model, with statistical significance determined at a p-value threshold of <0.05.

4 | Results

4.1 | Sample Characteristics and Prevalence of Generational Transition FGM in The Gambia

A total of 5272 mother–daughter pairs were included in the final analysis. A majority (58.1%) of the mothers were aged 35–49 years, had no formal education (61.3%), and were in union (94.0%). Nearly all respondents were Muslim (99.7%) while the

TABLE 1 | Explanatory variables.

Domain	Variable	Categories
Sociodemographic	Maternal age	15–24, 25−34, 35−49 years
	Maternal education level	No education, primary, secondary+
	Religion	Islam, Christianity
	Marital status	In-union, not in-union
	Ethnicity	Mandinka/Jahanka, Wollof, Jola/Karoninka, Fula/Tukulur/Lorobo, Serere, Sarahule, Creole/Aku Marabout, Manjago, Bambara, other/non-Gambian
Household factors	Wealth index	Poorest, poorer, middle, richer, richest
	Place of residence	Urban, rural
	Region of residence	Banjul, Kanifing, Brikama, Mansakonko, Kerewan, Kuntaur, Janjanbureh, Basse
	Sex of household head	Female, male
	Age of household head	18–29, 30–44, 45–59, 60+ years
Exposure to media	Frequency of reading newspaper	Not at all, <once a week, ≥once a week
	Frequency of listening to radio	Not at all, <once a week, ≥once a week
	Frequency of watching television	Not at all, <once a week, ≥once a week
FGM-related factors	FGM is required by religion	Yes, No
	Perception of FGM	Should continue, should stop, depends
	Awareness of laws prohibiting FGM	Yes, No
Cluster-level factors	Poverty level cluster	Low, moderate, high
	Cluster of uneducated women	Low, moderate, high
	Proportion of women supporting FGM	Low, moderate, high

majority of the households were headed by males (83.7%). Most women (35.1%) lived in clusters with high FGM support and believed that FGM practice should continue (68.0%). The weighted prevalence of generational transition FGM in The Gambia was 69.7% (95% CI: 66.9–72.5), meaning that 30.3% of circumcised mothers in the analytical sample had not circumcised any of their daughters at the time of the survey. The prevalence was highest (72.3%) among those aged 35–49 years (95% CI: 68.5–75.9), those with no formal education 74.5% (95% CI: 70.9–77.8) and those in union 71.6% (95% CI: 68.6, 74.5). The prevalence was fairly distributed across the wealth quintiles ranging from 71.9% (95% CI: 64.97–78.02) among those in the richer quintile to 75.09% (95% CI: 70.42–79.23) among those in the poorest quintile. The prevalence was highest among those women with no media (radio, television and newspaper) exposure (Table 2).

4.2 | Factors Associated With Generational Transition FGM in The Gambia

The multi-level analysis revealed that maternal age, education level, marital status, wealth index, and community attitudes significantly influenced generational transition FGM in The Gambia. Older mothers, specifically those aged 35–49 years, were more likely to circumcise their daughters (aOR = 3.88, 95% CI: 2.93–5.16) than those aged 15–24. Moreover, women living in clusters where FGM was highly supported were 1.89 times more likely to practice generational transition FGM (aOR = 1.89, 95% CI: 1.31–2.73) compared to those who lived in low-cluster FGM support. On the contrary, higher maternal education and residence in female-headed and richest households were protective barriers against the generational transition of FGM. Women with secondary or higher education were 29% less likely (aOR = 0.71, 95% CI: 0.57–0.89) to circumcise their daughters compared to those with no formal education. Similarly, female-headed (aOR = 0.61, 95% CI: 0.61–0.76) and the richest (aOR = 0.42, 95% CI: 0.28–0.64) households had significantly lower odds of generational transition of FGM compared to the male-headed and poorest households, respectively (Table 3).

5 | Discussion

This study examined the prevalence and factors associated with generational transition of FGM among women and their daughters in The Gambia using nationally representative data from DHS 2019–2020. The study is extremely timely, considering the 2024 legislative attempt to decriminalise FGM in The Gambia. The weighted prevalence of generational transition FGM in The Gambia was 69.7%. The prevalence was highest among women aged 35–49 years, those with no formal education and those in union. The prevalence was fairly distributed across the wealth

TABLE 2 | Sample characteristics of the study participants and the prevalence of generational transition of FGM.

Variable	Frequency (*n*)	Percentage (%)	Prevalence % (95% CI)
Maternal age (years)			
15–24	331	6.3	47.2 (39.6, 54.9)
25–34	1877	35.6	69.3 (64.9, 73.3)
35–49	3064	58.1	72.3 (68.5, 75.9)
Maternal educational level			
No formal education	3233	61.3	74.5 (70.9, 77.8)
Primary	938	17.8	68.2 (60.2, 75.2)
Secondary+	1101	20.9	61.0 (54.9, 66.8)
Marital status			
Not in union	314	6.0	45.0 (34.6, 55.9)
In-union	4958	94.0	71.6 (68.6, 74.5)
Religion			
Islam	5275	99.7	70.1 (67.2, 72.7)
Christianity	17	0.3	26.8 (3.9, 76.5)
Wealth index			
Poorest	1575	29.9	75.1 (70.4, 79.2)
Poorer	1192	22.6	72.2 (65.3, 78.2)
Middle	1188	22.5	74.4 (68.7, 79.3)
Richer	758	14.4	72.0 (65.0, 78.0)
Richest	559	10.6	52.4 (44.4, 60.3)
Sex of household head			
Male	4410	83.7	72.6 (69.6, 75.3)
Female	862	16.4	57.7 (50.3, 64.7)
Age of household head (years)			
18–29	124	2.4	63.8 (43.9, 79.9)
30–44	1349	25.6	69.2 (63.5, 74.4)
45–49	1939	36.8	70.7 (65.8, 75.2)
60+	1860	35.3	69.5 (64.4, 74.1)
Ethnicity			
Mandinka/Jahanka	2384	45.2	75.1 (71.0, 78.8)
Wollof	56	1.1	30.5 (12.0, 58.0)
Jola/Karoninka	367	7.0	66.7 (58.5, 74.0)
Fula/Tukulur/Lorobo	1239	23.5	63.8 (56.7, 70.4)
Serere	44	0.8	32.7 (13.2, 60.9)
Sarahule	626	11.9	80.3 (70.6, 87.4)
Reole/Aku/Marabout	4	0.1	51.8 (8.6, 92.4)
Manjago	2	0.0	11.9 (8.6, 92.4)
Bambara	81	1.5	51.6 (27.0, 75.4)
Other/non-Gambian	469	8.9	62.6 (52.7, 71.6)

(Continues)

Variable	Frequency (*n*)	Percentage (%)	Prevalence % (95% CI)
Reading newspaper			
Not at all	5022	95.3	70.8 (68.0, 73.5)
Less than once a week	178	3.4	58.5 (45.1, 70.8)
At least once a week	72	1.3	48.5 (29.9, 67.6)
Listening to radio			
Not at all	1133	21.5	73.5 (67.5, 78.8)
Less than once a week	1767	35.5	68.1 (63.1, 72.8)
At least once a week	2372	45.0	69.4 (65.6, 73.0)
Watching television			
Not at all	1611	30.6	74.2 (68.6, 79.1)
Less than once a week	1496	28.4	69.1 (63.5, 74.2)
At least once a week	2165	41.1	67.9 (63.4, 72.2)
FGM as a religious requirement			
No	1007	19.1	54.9 (47.7, 62.0)
Yes	4265	80.9	73.5 (70.4, 76.3)
FGM continuation attitude			
Continued	3587	68.0	76.9 (74.0, 79.6)
Stopped	1472	27.9	52.3 (45.2, 59.2)
Depends	213	4.0	62.3 (47.5, 75.2)
Awareness of anti-FGM laws			
No	212	4.0	72.4 (60.9, 81.5)
Yes	5060	96.0	69.6 (66.7, 72.4)
Residence			
Urban	2623	49.8	66.8 (63.0, 70.3)
Rural	2649	50.3	77.0 (72.8, 80.6)
Regions			
Banjul	261	5.0	48.6 (38.2, 59.1)
Kanifing	518	9.8	61.6 (52.2, 70.3)
Brikama	1082	20.5	68.4 (64.0, 72.4)
Mansakonko	652	12.4	73.2 (63.7, 81.2)
Kerewan	399	7.6	65.0 (56.6, 72.5)
Kuntaur	474	9.0	65.7 (53.1, 76.5)
Janjanbureh	670	12.7	75.5 (67.6, 81.9)
Basse	1216	23.1	85.1 (80.0, 89.0)
Proportion of women supporting FGM			
Low	1663	31.5	57.6 (51.4, 63.6)
Moderate	1756	33.1	76.8 (73.0, 80.3)
High	1853	35.2	74.7 (71.0, 78.0)

(Continues)

TABLE 2 | (Continued)

Variable	Frequency (*n*)	Percentage (%)	Prevalence % (95% CI)
Proportion of uneducated women			
Low	1841	34.9	63.7 (59.0, 68.2)
Moderate	1756	33.3	76.7 (71.8, 81.1)
High	1675	31.8	73.4 (68.8, 77.4)
Cluster poverty level			
Low	1788	33.9	64.2 (59.5, 68.6)
Moderate	1777	33.7	76.7 (72.0, 80.7)
High	1707	32.4	71.0 (66.2, 75.4)

TABLE 3 | Factors associated with generational transition FGM in The Gambia.

Variable	Model 1 OR (95% CI)	Model 2 aOR (95% CI)	Model 3 aOR (95% CI)	Model 4 aOR (95% CI)
Maternal age				
15–24	—	1	—	1
25–34	—	2.98 [2.25, 3.96]	—	**2.98 [2.25, 3.95]**
35–49	—	3.91 [2.94, 5.20]	—	**3.88 [2.93, 5.16]**
Maternal education level				
No education	—	1	—	1
Primary	—	0.82 [0.67, 1.02]	—	0.84 [0.68, 1.04]
Secondary+	—	0.69 [0.55, 0.85]	—	**0.71 [0.57, 0.89]**
Marital status				
Not In union	—	1	—	1
In union	—	2.00 [1.48, 2.70]	—	**1.96 [1.45, 2.64]**
Residence				
Urban	—	—	1	1
Rural	—	—	2.04 [1.18, 3.51]	1.59 [0.91, 2.77]
Region				
Banjul	—	1	1	**0.26 [0.13, 0.51]**
Kanifing	—	2.37 [1.32, 4.28]	2.88 [1.65, 5.04]	0.76 [0.41, 1.41]
Brikama	—	2.23 [1.27, 3.90]	2.61 [1.52, 4.48]	0.58 [0.33, 1.04]
Mansakonko	—	2.22 [1.14, 4.33]	2.88 [1.44, 5.75]	**0.50 [0.28, 0.92]**
Kerewan	—	1.40 [0.72, 2.71]	1.92 [0.98, 3.76]	**0.38 [0.21, 0.70]**
Kuntaur	—	1.16 [0.57, 2.38]	1.70 [0.79, 3.66]	**0.35 [0.18, 0.67]**
Janjanbureh	—	2.64 [2.38, 5.20]	2.82 [1.41, 5.62]	**0.60 [0.33, 1.10]**
Basse	—	4.57 [2.41, 8.71]	4.94 [2.60, 9.39]	1
Wealth index				
Poorest	—	1	—	1
Poorer	—	0.77 [0.61, 0.98]	—	**0.75 [0.58, 0.95]**
Middle	—	0.85 [0.63, 1.13]	—	0.81 [0.59, 1.11]

(Continues)

TABLE 3 | (Continued)

Variable	Model 1 OR (95% CI)	Model 2 aOR (95% CI)	Model 3 aOR (95% CI)	Model 4 aOR (95% CI)
Richer	—	0.76 [0.54, 1.09]	—	0.77 [0.53, 1.11]
Richest	—	0.41 [0.28, 0.61]	—	**0.42 [0.28, 0.64]**
Sex of household head				
Male	—	1	—	1
Female	—	0.60 [0.49, 0.75]	—	**0.61 [0.61, 0.76]**
Age of household head				
18–29 years	—	1	—	1
30–44 years	—	0.96 [0.60, 1.53]	—	0.99 [0.62, 1.59]
45–49 years	—	0.87 [0.55, 1.40]	—	0.89 [0.56, 1.43]
60+ years	—	0.77 [0.48, 1.24]	—	0.78 [0.49, 1.25]
Ethnicity				
Reole/Aku/Marabout	—	1	—	1
Mandinka	—	5.19 [0.41, 65.61]	—	5.68 [0.45, 71.11]
Wollof	—	1.95 [0.14, 26.82]	—	2.26 [0.17, 30.81]
Jola/Karoninka	—	2.68 [0.21, 34.59]	—	3.03 [0.24, 38.64]
Fula/Tukulur/Lorobo	—	2.69 [0.21, 34.26]	—	3.01 [0.25, 39.37]
Serere	—	0.57 [0.04, 8.28]	—	0.67 [0.05, 9.50]
Sarahule	—	4.36 [0.34, 56.78]	—	4.79 [0.37, 61.62]
Manjago	—	2.57 [0.05, 140.71]	—	3.29 [0.06, 168.30]
Bambara	—	4.00 [0.30, 54.05]	—	4.51 [0.34, 60.26]
Other/non-Gambian	—	2.52 [0.20, 32.19]	—	2.85 [0.22, 36.04]
Reading newspaper				
Not at all	—	1	—	1
Less than once a week	—	0.81 [0.54, 1.22]	—	0.81 [0.54, 1.21]
At least once a week	—	0.61 [0.33, 1.13]	—	0.63 [0.34, 1.17]
Listening to radio				
Not at all	—	1	—	1
Less than once a week	—	0.80 [0.65, 0.99]	—	0.81 [0.65, 0.99]
At least once a week	—	0.93 [0.75, 1.15]	—	0.93 [0.75, 1.15]
Watching television				
Not at all	—	1	—	1
Less than once a week	—	0.96 [0.77, 1.19]	—	0.94 [0.76, 1.17]
At least once a week	—	1.12 [0.94, 1.51]	—	1.14 [0.90, 1.46]
Cluster poverty level				
Low	—	—	1	1
Moderate	—	—	1.09 [0.72, 1.68]	1.15 [0.73, 1.80]
High	—	—	0.61 [0.33, 1.14]	0.64 [0.33, 1.26]

(Continues)

TABLE 3 | (Continued)

Variable	Model 1 OR (95% CI)	Model 2 aOR (95% CI)	Model 3 aOR (95% CI)	Model 4 aOR (95% CI)
Proportion of uneducated women				
Low	—	—	1	1
Moderate	—	—	1.39 [0.98, 2.00]	1.21 [0.84, 1.76]
High	—	—	1.42 [0.98, 2.08]	1.12 [0.76, 1.68]
Proportion of women supporting FGM				
Low	—	—	1	1
Moderate	—	—	1.09 [1.49, 2.99]	**1.68 [1.17, 2.39]**
High	—	—	2.27 [1.58, 3.24]	**1.89 [1.31, 2.73]**
Intercept	2.16 [1.83, 2.57	0.01 [0.01, 1.43]	0.38 [0.23, 0.63]	0.20 [0.01, 3.02]
Model diagnostics				
ICC	0.31	0.23	0.21	0.21
AIC	5675.28	5394.69	5612.69	5384.58
BIC	5688.42	5637.79	5717.81	5673.67

Note: Bold; significant at $p < 0.05$. Banjul was used as the reference region in Models 2 and 3 as the region with the lowest prevalence of generational transition FGM (48.6%). Basse was used as the reference region in Model 4 as the region with the highest prevalence of generational transition FGM (85.1%), to allow meaningful comparison of all other regions against the highest-risk region in the full model.

quintiles, but highest among those who had no media (radio, television and newspaper) exposure at all.

Consistent with prior research [32–34], this study found that maternal age is a significant factor associated with daughters' circumcision. Mothers aged 35–49 years had 3.9 times higher odds of circumcising their daughters as compared to those aged 15–24. This is in line with several other studies [32–34]. A study conducted in Ethiopia found that women aged 40–49 had higher odds of circumcising their daughters compared to younger women (aOR = 2.56, 95% CI: 1.40–4.69) [33]. This may be indicative of generational differences in the influence of traditional norms and beliefs [33]. As highlighted in previous studies, this generational difference in FGM practices may be due to access to education as well as national and global campaigns on awareness of FGM, which have shifted societal beliefs around FGM over time [9, 18]. For instance, younger generations tend to dissociate from the practice as they do not perceive the traditional ritual associated with FGM as relevant or necessary [14].

This study identified educational attainment as a protective barrier against FGM. Mothers who had secondary or higher education were less likely to have their daughters circumcised. According to Link and Phelan [35], women's education is one of the most important factors contributing to bodily autonomy and preventing violent outcomes such as FGM. Our findings are consistent with similar studies in SSA, which reported that women with at least a primary educational level were less likely to engage in FGM compared to those with no education [21, 22, 36–38]. This means that lack of education is a significant predictor of FGM. A similar study conducted in Somalia using DHS data found that mothers who completed at least primary education had higher odds (aOR: 1.33, 95% CI: 1.12–1.58) of not circumcising their daughters compared to those with no education at all [6]. Educated mothers are more likely to be aware of the FGM risks and to access, understand and share accurate information, thus lower tendency to practice FGM on their daughters [39, 40].

Marriage was also an important factor associated with girls' circumcision status. Women who were in union were more likely to have their daughters circumcised compared to those who were not in union. In The Gambia, circumcision is a strong prerequisite for marriage, which is viewed as an important aspect of womanhood [9]. Uncircumcised married women face stigma, discrimination and are more likely to have difficult relationships in their marital home [41]. Mothers are therefore likely to circumcise their daughters to ease their transition into marriage. This finding is consistent with a study done in Tanzania, where married women and widows were three times more likely to have undergone FGM compared to women who had never been in a union [42]. Additionally, most women in The Gambia have limited influence in society and thus have lower decision-making power in important matters such as FGM [43]. Since circumcision is viewed as a sign of sexual purity, especially by men, they are most likely to circumcise their daughters to conform to the norm that circumcised daughters have a higher chance of finding a good husband [41, 44]. The marriageability of daughters is an important factor for women, especially in low-resource settings where economic opportunities for women are limited [21].

The study found substantial regional disparities in the generational transition of FGM. Women residing in all other regions had significantly lower odds compared to those residing in Basse. This finding is consistent with those of another study in The Gambia that found that people living in the Basse region had the highest odds (2.71) of being circumcised as compared to other regions [9]. This upper rural region hosts ethnic groups with higher FGM adherence, including the Mandinka, Fula and the Sarahule. The Sarahule are known to have the highest recorded prevalence of FGM (97.8%), attributed to religious norms and marital practices where FGM is performed within the first weeks of life [45]. Several studies have highlighted residence in rural areas as a strong predictive factor of undergoing circumcision, with those living in rural areas more likely to undergo FGM compared to their urban counterparts [22, 27, 46]. People in rural areas tend to have strong cultural beliefs and norms, including the practice of FGM. They are therefore more reluctant to abandon such practices even when they are aware of the negative consequences. Additionally, people in rural areas have low access to education, which may limit access to information as well as knowledge on harmful practices like FGM [22].

Wealth index was inversely associated with the generational transition of FGM. Women from richer households were less likely to circumcise their daughters. A similar study done in Burkina Faso reported that women from the richest wealth quintile were less likely (aOR: 0.75, 95% CI: 0.58–0.97) to engage in FGM compared to those from the poorest wealth quintile [47]. Women from wealthier households have lower economic dependency and higher access to opportunities, which increases their ability to challenge harmful norms [48]. Importantly, household wealth intersects with educational attainment, as families with more resources are more likely to invest in girls' education [49]. Educated women are not only more aware of health risks but are also well-positioned to critically challenge harmful norms and resist the pressure to conform [13]. Additionally, wealthier households have access to alternative sources of societal status outside of traditional practice, reducing the perceived need to adhere to FGM as a marker of family honour [5].

At the community level, women who lived in clusters where FGM was highly supported had increased odds of having generational transition FGM. A pooled analysis of DHS data from 14 African countries found that living in communities with higher FGM support increased a mother's likelihood of circumcising their daughters [18]. Another study conducted in Egypt found that daughters living in communities with stronger opposition against FGM had less risk of being circumcised [50]. Boyle et al. [21] also found that girls are less likely to undergo circumcision when parents made joint household decisions, but the odds increased when parents lived in communities with stronger FGM support, despite individual characteristics. This highlights the power of collective norms in sustaining the practice. According to the social convention theory, communities often uphold FGM to avoid social stigma even when attitudes have shifted [41].

5.1 | Strengths and Limitations

The strengths of this study lie in its use of a nationally representative dataset and large sample size, making the findings generalisable to all women and girls in The Gambia. Second, to the best of our knowledge, this is the first study in The Gambia that explores the generational transition of FGM, thus giving insights into factors that perpetuate its disruption or continuation. This study is, however, subject to several limitations. First, the cross-sectional design of the study limits causal inference. Second, FGM is a sensitive topic, and since the data relied on self-reporting, it could be subject to social desirability bias. Additionally, since FGM is illegal in The Gambia, there is the possibility of underreporting daughters' circumcision status. Furthermore, some ethnic groups in the analytic sample had very small cell sizes, including Manjago ($n=2$) and Reole/Aku/Marabout ($n=4$), resulting in quasi-complete separation in the regression models and producing implausibly wide CIs for these groups. Estimates for these categories should therefore be interpreted with caution. The restriction of the analytic sample to circumcised mothers only, while methodologically necessary given the study's focus on intergenerational transmission, means that findings are specific to this population. Lastly, due to the disparity between the time the survey was carried out and the time of circumcision, it may be difficult to link circumcision practices with current policy and social changes.

5.2 | Policy Implications

The findings of this study carry key policy implications necessary for accelerating the abandonment of FGM in The Gambia.

First, the strong protective association between maternal education and reduced odds of generational transition of FGM underscores the critical importance of investing in girls' education. However, given that over 65% of girls in The Gambia are circumcised within their first 5 years of life, school-based interventions alone are insufficient and cannot reach girls before the practice occurs. Educational interventions must therefore operate at multiple levels simultaneously. At the individual level, policies should prioritise keeping girls in school through secondary and higher education, as our findings indicate that secondary and higher education confers the greatest protective effect against generational transition FGM. At the community level, educational programmes must target mothers of reproductive age and expectant mothers through community health worker platforms, antenatal care services and women's group dialogues, providing accurate information on the health consequences of FGM and actively challenging the cultural beliefs and social norms that sustain the practice across generations.

Second, given the strong association between marital union and generational transition FGM observed in this study, policies should incorporate family-centred approaches that actively engage male partners, husbands and in-laws in anti-FGM campaigns. In The Gambia, male partners and in-laws hold significant power and influence over reproductive and cultural decisions within families. Involving male allies in community dialogues and behaviour change communication programmes would help challenge the deeply entrenched norm that circumcision is a prerequisite for marriageability and social acceptance. Premarital and early marriage counselling programmes should incorporate FGM education to reach couples before reproductive decisions are made.

Third, the significant regional disparities observed in this study, particularly the markedly higher prevalence in Basse compared to more urbanised regions, call for geographically targeted interventions. High-prevalence regions such as Basse, Janjanbureh and Mansakonko should be prioritised for intensive community-based programmes that engage traditional and religious leaders, who hold significant normative authority in these communities. Community-level interventions should be specifically designed to shift collective attitudes in high FGM-support clusters, as our findings demonstrate that community norms independently predict generational transition FGM even after accounting for individual and household-level factors.

Fourth, the inverse association between household wealth and generational transition of FGM highlights the need to address the economic drivers of the practice. Social protection programmes, cash transfer schemes and livelihood support initiatives targeting women in the poorest households should be integrated with FGM abandonment messaging, recognising that economic empowerment reduces women's dependence on marriage as the primary pathway to social and economic security and thereby weakens the perceived need to circumcise daughters to enhance their marriageability.

Finally, the findings of this study highlight the urgent need to strengthen the enforcement of The Gambia's existing legal framework against FGM, particularly in the context of the 2024 legislative attempt to decriminalise the practice. Legal deterrence alone is insufficient without complementary community-based behaviour change strategies, but a clear and consistently enforced legal framework sends an important normative signal that the practice is unacceptable and provides protection for girls at risk.

6 | Conclusion

This study found that the prevalence of generational transition of FGM remains alarmingly high, at 69.7%. A complex interplay of maternal age, marital status and community norms shape this persistence. Protective factors, such as maternal education and household wealth, offer critical entry points for intervention. To accelerate the elimination of FGM practice in the Gambia, multilevel strategies must be prioritised. These include expanding access to education for girls and women, engaging male partners and community leaders in anti-FGM campaigns, and implementing culturally sensitive reforms that challenge entrenched norms. Community-level interventions should be designed to shift collective attitudes, especially in high-prevalence regions like Basse. Further studies should undertake a qualitative exploration to understand factors perpetuating the intergenerational transition of FGM in The Gambia. By addressing both community and individual-level drivers, The Gambia can accelerate the abandonment of FGM, contributing to SDG 5.3 and advancing gender equality and health for future generations.

Nomenclature

DHS:	Demographic and Health Survey
FGM:	Female genital mutilation
IRBs:	Institutional review boards
LRT:	Likelihood ratio test
ICC:	Intraclass correlation coefficient
CI:	Confidence interval
SSA:	Sub-Saharan Africa
GBoS:	Gambia Bureau of Statistics
GDHS:	Gambia Demographic and Health Survey
AIC:	Akaike information criterion
BIC:	Bayesian information criterion
aOR:	Adjusted odds ratio
SDG:	Sustainable Development Goals
VIF:	Variance inflation factor
GDP:	Gross domestic product.

Author Contributions

Catherine Akoth, James Odhiambo Oguta, Caleb Nyakundi, Sharonmercy Okemwa and Solomon Kimutai Toweet conceptualised and supervised this study. Caleb Nyakundi, Lilian Ngina and Irene Mulei analysed the data with inputs from James Odhiambo Oguta, Catherine Akoth, Solomon Kimutai Toweet and Sharonmercy Okemwa. Lilian Ngina and Irene Mulei drafted the initial version of the manuscript, which was subsequently revised by Catherine Akoth, Grace Wambura Mbuthia, James Odhiambo Oguta, Sharonmercy Okemwa and Caleb Nyakundi. All authors critically read, revised and approved the final manuscript for publication.

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Disclosure

We have no further disclosures to make.

Ethics Statement

We utilised secondary data from The Gambia Demographic and Health Survey 2019–2020, approved by institutional review boards (IRBs) at ICF and The Gambia Government/Medical Research Council (MRC) Joint Ethics Committee in The Gambia.

Consent

The authors have nothing to report.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data used in this study can be accessed from The Gambia Bureau of Statistics website at Gambia: Standard DHS, 2019–20 Dataset.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section. **Supporting Information 1**. The STROBE Checklist: This figure represents the completed Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist for cross-sectional studies, confirming adherence to the recommended reporting standards for observational studies. **Supporting Information 2**. Figure S1: The sample selection flow chart. This figure represents a step-by-step flowchart illustrating the sample selection process used in this study. **Supporting Information 3**. Figure S2: Multicollinearity diagnostics. This figure represents the results of a multicollinearity assessment conducted prior to multivariable modelling, detailing the variance inflation factor values and the corresponding tolerance values.