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The relationship between women's individual empowerment and the support to female genital cutting continuation: a study on 7 African countries

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Abstract

Female genital mutilation/cutting (FGM/C) is still present in many African countries, as well as a few others. The United Nations has targeted women's empowerment in terms of both women's health and gender equality as one of its Sustainable Development Goals. In this paper, we aimed to study the possible link between women's empowerment and support for the continuation of FGM/C. We used DHS data from seven African countries and considered both the empowerment and FGM/C modules. We selected empowerment variables based on Kabeer's conceptual framework and used multilevel logistic models to evaluate the putative role of empowerment in support for discontinuing the practice. The multilevel models highlighted the protective effect of education. Other variables, including justification of intimate partner violence (IPV) and having experienced FGM/C, were associated with FGM/C support. The relationship between decision-making and FGM/C support appears complex, while the unmet need for contraception and job conditions do not seem to play a role. Our findings confirm that some aspects of women's empowerment (education and rejection of IPV) may enhance the discontinuation of FGM/C. However, the relationship between empowerment and support for continuation of FGM/C is complex and should not be treated as self-evident. Thus, using DHS data, we empirically support the UN's proposal for discontinuing FGM/C through sustaining women's empowerment.

Keywords: Female genital mutilation, Women's empowerment, Gender violence, Education, Demographic transition

Introduction

Female genital mutilation/cutting (FGM/C) refers to all procedures involving partial or total removal of the external female genitalia or other injuries to the female genital organs for non-medical reasons. FGM/C is a harmful traditional practice that can cause short- and long-term health problems and has long been recognized in international law as a violation of human rights connected to gender inequality (WHO, 2008). The UN Sustainable Development Goals (SDGs) consider this issue a priority for global development: SDG 5 aims to achieve gender equality and empower women and girls

by eliminating gender disparities, discrimination, and violence against women (UN, 2015). The elimination of “all harmful practices, such as child, early and forced marriage and female genital mutilation” (UN, 1995) is one of the milestones required in order to “achieve gender equality and empower all women and girls” (SDG 5). Despite the social and civil importance of this objective, the theoretical complexity of empowerment (Ewerling et al., 2017; Kabeer, 1999a), and the nature of FGM/C practices as social norms (Agboli et al., 2020; Ahmadu, 2000; Finke, 2006; Koso-Thomas, 1987), the scientific literature has so far scarcely investigated the link between female empowerment and FGM/C support (UNFPA & UNICEF, 2019).

To address this issue, we studied the relationship between women’s empowerment and support for continuing the practice of FGM/C in seven African countries (Burkina Faso, Côte d’Ivoire, Egypt, Ethiopia, Mali, Nigeria, and Togo). We operationalized the measure of empowerment using a theory-driven approach to select indicators that could describe empowerment (UNFPA, 2015). We then assessed the strength and dynamics linking women’s empowerment to individual support for FGM/C, expressed as agreement with the sentence “FGM/C should continue”.

The paper is organized as follows: we present the general context of FGM/C (“Female genital mutilation/cutting in the third millennium” section) and introduce a theoretical framework to investigate empowerment, mainly based on the work of Kabeer (1999a, 1999b) (“The Empowerment Framework for FGM/C” section). We then describe our selected variables and countries and the statistical methods used in the analyses (“Data and Methods” section). In “Results” section, we present and discuss the main results. Finally, in Conclusion section, we provide our conclusions.

Female genital mutilation/cutting in the third millennium

FGM/C is explicitly recognized as an extreme violation of women’s rights, as it contravenes the principle of equality and non-discrimination based on gender and the right not to be exposed to torture, cruelty, or inhuman treatment (WHO, 2008). FGM/C is customarily performed on girls before the age of puberty and causes short- and long-term health complications, including infections, increased risk of HIV transmission, chronic pain, birth complications, infertility, and—in the worst cases—death (Berg & Underland, 2013; Berg et al., 2014). In 2008, several UN agencies wrote a joint statement (WHO, 2008) condemning FGM/C in all its forms. The document explicitly described FGM/C as a violation of human rights and discrimination based on sex that is rooted in gender inequality and power imbalance. The condemnation is well embodied in many of the most important and *jus cogens*-related international conventions (the two covenants of 1966, the Convention Against Torture written by the UN Committee Against Torture, the Convention on the Elimination of All Forms of Discrimination Against Women, the 1989 Convention on the Rights of the Child) as well as regional legislative acts.

FGM/C is currently practiced in 28 African countries and a few others (such as Indonesia, Iraq, and Yemen) and affects over 200 million girls and women (Cappa et al., 2019; UNFPA & UNICEF, 2019; UNICEF, 2013). The form and prevalence of FGM/C differ across countries and regions within countries. The World Health Organization (WHO) classifies FGM/C into four main types, ranging from total removal of the clitoris to infibulation, including other types of modification like stretching, cauterization, and piercing

(WHO, 2008). The reasons for performing FGM/C vary from region to region, over time, and according to the typical age for cutting and are correlated with multiple risk factors within families and communities. The practice has generally continued to decline over the past three decades, including in countries where FGM/C is highly prevalent (Brady et al., 2019). Overall, FGM/C prevalence data show that approximately one out of three girls aged 15–19 have undergone the practice in Africa in the 2000s, representing a decline compared to the one out of two in the mid-1980s (Engelsma et al., 2020; UNFPA & UNICEF, 2019). In general, in areas where FGM/C is a strong social norm, community pressure to conform to other individuals' past and present behavior presents a strong motivation to continue the practice (Shell-Duncan et al., 2016; WHO, 2008). FGM/C is often considered part of raising a girl and preparing her for adulthood and marriage. Reasons for the practice are varied but include the following:

- Esthetic and hygienic reasons, linked to the belief that FGM/C makes women's bodies beautiful and clean¹;
- Sexual control of women, as FGM/C is intended to hamper extramarital relationships, preserve chastity (Shell-Duncan et al., 2016), reduce female pleasure, and increase male pleasure;
- Social reasons, highlighting an identity function and cultural belonging, as well as the transition to womanhood, representing a rite of passage (Shell-Duncan et al., 2016; Van Gennep, 1960);
- Mythical reasons related to an underlying belief that undergoing FGM/C will give strength to future children and/or will avoid upsetting the traditions (Aberese Ako & Akweongo, 2009) and honor of one's ancestors (Shell-Duncan et al., 2016); and
- Religious functions, connecting the practice to a specific religious requirement (which can be part of any religion).

Various strategies have been implemented to eradicate FGM/C, from stressing the severe health consequences of FGM/C on women's bodies and mental health (Leye et al., 2019) to a broader interdisciplinary "empowerment approach" that refers to a broadened educational and cultural framework that considers FGM/C a violation of human rights as well as a social practice (Aberese Ako & Akweongo, 2009; Berg & Denison, 2012; Boyle et al., 2002). Examples of the latter approach include conducting various community-led interventions (Brady et al., 2019), constructing alternative rites of passage (Graamans & Ofware, 2017), making public statements, sharing experiences and feelings (Taher, 2020), and training health professionals to be agents of change (Brady et al., 2019). In this regard, improvement in legislation is a necessary but not sufficient condition for promoting change (Aberese Ako & Akweongo, 2009). Identifying potential empowerment-related predictors of FGM/C continuation and support, which is the general objective of this article, can aid in implementing appropriate social policies to reduce FGM/C and change women's positions in society (Farina & Ortensi, 2014; Ortensi et al., 2018).

¹ The Arabic word for FGM/C is *tahara*, meaning "to purify" (Monahan, 2007).

The empowerment framework for FGM/C

Conceptualizing women's empowerment

While empowerment is a concept that is difficult to define and even more so to measure, there have been numerous attempts to do so. The literature has often used synonyms of empowerment, such as autonomy in decision-making (Afifi, 2009; Rappapon, 1984) or gender equality, but these concepts are static components of a dynamic empowerment process, which describes the mechanism through which autonomy and equality increase (Kabeer, 1999a). In a general sense, empowerment is not a condition but a process (Malhotra et al., 2002) that involves a person's ability to make choices that have previously been denied to them (Kabeer, 1999a). For these individuals, empowerment also leads to autonomy in decision-making and turns choices into life-specific outcomes (Ewerling et al., 2017).

Empowerment entails an intertwined set of three dimensions: resources, agency, and achievements (Kabeer, 1999a). Resources are necessary but not sufficient conditions for the availability of a choice. Examples of resources include education, economic resources, and financial literacy (Edmeades et al., 2018). Agency, the second element of the definition, is the power to control a life choice and to define one's own goals, which leads people to make decisions out of a sense of meaning, motivation, or purpose. The sense of agency (Edmeades et al., 2018) is the personal awareness necessary to act freely (Malhotra et al., 2002), leading to the possibility to make choices. Along with resources and agency, the actual outcome is indicated by a measurable achievement (i.e., the third element of the definition).

When referring to women's empowerment, we therefore consider the expansion of choice-making and the removal of barriers to opportunities for women. If a woman is not entitled to do something, whether she justifies this or not, there is a lack of empowerment expressed in one of the three dimensions described by Kabeer (1999a, 1999b). Notably, the focus is on the inequality of choice-making and on the process of choice, not on what kinds of choices women make. Women's decision-making includes politics, economics, health, reproductive preferences (Edmeades et al., 2018), and support for FGM/C as well as perpetuating the practice with their daughters. When individuals are empowered, they can "maximize the opportunities available to them without constraints" (Rahman, 2013). The literature has described women's empowerment in terms of redistribution of power (Dandekar, 1986). A central dimension is households (i.e., interfamilial relationships) because of their impact on most women's lives (Malhotra et al., 2002) and the existence of patriarchal societies in many African contexts. Feminist scholars (Wade, 2009) have linked FGM/C to a patriarchal societal structure that constrains women to certain defined characteristics.

Low education, limited job experience, and early marriage have all been associated with the presence of FGM/C (Hayford et al., 2020). Several determinants of choices related to gender roles, all of which are part of the process of empowerment, need to be considered: what is expected from women, what is usual versus unusual for women, and what is out of the realm of possibility for women. The patriarchal model itself is essential to consider when analyzing empowerment, as it shapes the opportunities available to women (i.e., types of resources, agency, or achievements). This reality must be considered in its entirety to be adequately investigated: women are not a self-standing

social entity, and their empowerment must also involve men and any other authority or leadership that influences the reality under investigation. This does not imply acting against other social groups, but rather following a complementary logic in which different groups that exercise power can share it in a democratic and participatory manner. Thus, women's ability to make choices is influenced by their position in the social hierarchy—that is, their marginalized status (Kabeer, 1999a) within a patriarchal society. This is also reflected in the practice of FGM/C.

The position of women is based on a commonly accepted normative framework involving values and norms that sustain existing power distributions and gender mechanisms. To better understand the crucial dimensions underpinning Kabeer's (1999a) conceptualization of empowerment, we need to consider the issue of social norms—and the dimensions of those norms that are most closely related to gender²—that governs a society and affects people's choices. For instance, gender-based violence can be supported by cultural and social norms (WHO, 2010). It efficiently indicates the presence of patriarchy and inequality of opportunity in accessing resources and, thus, expressing agency and achieving results. Norms and values constitute a normative framework based on empirical, normative, and reciprocal expectations. Values are judgments or evaluations of a society that translate into norms, such as those sustaining FGM/C. People continue to practice FGM/C for many reasons, as discussed above. Social norms are unwritten rules guiding behaviors (Sood et al., 2020) or prescriptive statements of proper actions (Ferrari, 1996) based on shared values within a specific community. Social norms are descriptive (what others do) and injunctive (what others think). They can prescribe punishments (physical or psychological) to regulate social behavior and awards (e.g., social esteem mechanisms) to protect those who conform. Norms are important to analyze because they explain women's low or nonexistent access to certain resources and may hamper the process of empowerment (Kabeer, 1999a). Notably, according to the theory of self-categorization (Hogg & Vaughan, 2018), internalizing normative behaviors leads individuals to autonomously follow norms because they deem them part of their culture and want to construct their belonging to their group.

In this paper, we consider FGM/C as a form of gender discrimination (WHO, 2008), a social norm that is part of a collective identity intrinsically linked to gender roles. Following the framework proposed by Hayford et al. (2020), we conceive of support for FGM/C as a gender norm, a subset of social norms (Cislaghi & Heise, 2020), because it is an expectation placed upon women as such on the basis of their expected role in a community. Society exercises control over women, influencing their opinions on the continuation of FGM/C—that is, their support of the practice through familial and communitarian norms and expectations. Indeed, the familial dimension plays a central role in FGM/C because the family is the direct medium by which communitarian norms reach a single individual. Women need to perceive themselves as able and entitled to truly make decisions (Ewerling et al., 2017), deconstruct negative social perceptions,

² Hereafter, when referring to social norms specifically representing gender dynamics, we use the term "gender norms", defined as "social norms defining acceptable and appropriate actions for women and men in a given group or society. They are embedded in formal and informal institutions, nested in the mind, and produced and reproduced through social interaction. They play a role in shaping women and men's (often unequal) access to resources and freedoms, thus affecting their voice, power and sense of self" (Cislaghi & Heise, 2020).

gain capacity (resources and agency), and have the right to act and influence decisions in their lives (Rahman, 2013). Again, social and gender norms work on the individual woman through her family and shape the resources, agency, and achievements (Kabeer, 1999a) of her empowerment. To measure these dimensions, Ewerling et al. (2017) proposed an indicator of women's empowerment along three dimensions: social independence, decision-making (mainly in the domestic sphere), and attitudes towards violence.

Finally, cultures should not be deemed static constructs (Wade 2011), since changes to normative behaviors may occur in response to influences from external or internal sources (e.g., a minority). The latter is more effective for bringing about stable and sustainable change (Boyle et al., 2002; Gruenbaum, 2005) and modifying the social equilibrium of the normative framework (Hogg & Vaughan, 2018; Mackie & LeJeune, 2009) without giving rise to feelings of cultural attack or interference that may lead to hiding rather than changing behaviors (Shell-Duncan et al., 2013). Berg and Denison (2012) have called for information dissemination as a mean of de-socializing part of the group through conducting educational interventions, setting alternatives, sharing intellectual tools, and creating counter-discourses as the first gradual steps toward the creation of a consistent and coherent internal minority, thereby shaking the normative framework and enhancing empowerment opportunities. Enhancing the agency, freedom, or capabilities of women as they have recently been conceptualized and experienced (Agboli et al., 2020) uses the same logic, presuming that awareness and self-confidence can be granted through discussion. Even if the change itself is not the focus of the present paper, addressing how change develops is essential for understanding empowerment in what we consider its three constitutive dimensions (Kabeer, 1999a, 1999b).

Country settings

Six of the seven countries involved in this study—Burkina Faso, Côte d'Ivoire, Ethiopia, Mali, Nigeria, and Togo—have more similarities than differences in terms of social, economic, and demographic dynamics. They are among the poorest countries in the world, ranking at the bottom on many economic and social indicators.

All countries in this study except Egypt have a very low Human Development Index (HDI; HDI, 2021), below the average of the poorest countries. Egypt shares inequality in the distribution of the national wealth with the other countries. This is evident from both the percentage of loss of HDI due to internal disparities and the low income of 40% of the most impoverished population (Table 1). All countries except Egypt also have similar demographic conditions. For instance, one-third to almost half of the population is less than 15 years old due to the high total fertility rate (Table 1). The contraceptive prevalence is relatively low, and the unmet need for contraception³ is relatively high. The ideal number of children for each married woman is six, excluding Egypt (three) and Togo (four). Even the mortality pattern indicates that these countries, with the exception of Egypt, are still at the very beginning of the demographic transition. Life expectancy at birth is less than 68 years for all countries except Egypt, with very high infant mortality

³ According to the revised definition of DHS Programme, Unmet need for family planning is defined as the percentage of women who do not want to become pregnant, but are not using contraception.

Table 1 Demographic, social and economic indicators by country

	Age	Fert	Life exp	GGI	HDI	Income poor	Contr need	Contr prev	Ideal children	Fert adolescent
Burkina Faso	44	5	63	0.65 /124	0.45	41.4	20	30	6	132
Ivory Coast	41	5	59	0.64 /134	0.54	39.5	21	26	6	123
Egypt	34	3	73	0.64 /129	0.71	22	9	44	3	52
Ethiopia	40	4	67	0.69 /97	0.49	18	15	29	6	80
Mali	47	6	60	0.59 /164	0.43	20	21	18	6	164
Nigeria	43	5	55	0.63 /139	0.54	15	15	17	6	106
Togo	40	4	62	0.68 /105	0.52	15	22	24	4	89

Age = 0–14 population %; Fert = total fertility rate; Life exp = life expectancy at birth; GGI = Gender Gap Index score and rank; HDI = Human Development Index; Income poor = % of the population living below the national poverty line; Contr need = unmet need for contraception (%); Contr prev = contraceptive prevalence* (%); Ideal children = ideal number of children (median)*; Fert adolescent = fertility adolescent rate* (/1000) recent years; *Unfpa; **World Bank indicators; *** World Economic Forum; ****UNdp

and very low probability of survival in Nigeria (55 years) and Côte d'Ivoire (59 years) (Canning et al., 2015).

The social, demographic, and economic contexts are not neutral with regard to women's empowerment. In pre-transitional societies, a high proportion of women's lives is dedicated to childcare (Hewlett, 1991). Both early age at marriage and high adolescent fertility rates have adverse effects on education, which could in turn reduce women's ability to access economic resources, health programs, legal rights, and civil liberties (Kabeer, 1996). A society's financial condition goes in the same direction: the poorer a country is, the more widespread is the informal or family economy in which women tend to be directly involved. However, it is precisely this type of work that makes women less independent and autonomous, as it is unpaid and unrecognized (Kabeer, 2011). Together, these interrelated variables can change the power relations and dynamics between women and men, both within the family and in society. As a result, it can be difficult to take actions that favor female empowerment or reduce harmful practices such as FGM/C.

The latest figures presented by the World Economic Forum (2021) show a very low Gender Gap Index⁴ (GGI) among the seven countries considered in this article, with all ranking below the 110th position. The GGI score is calculated based on social exclusion processes and in this sense partially expresses the unequal opportunities granted to women. The gap is evident in all social and economic dimensions, although intensities differ. In education, literacy does not reach the gender equilibrium threshold, but the most considerable gap in this field involves university degrees. The gap is less relevant in terms of employment, except about women's estimated wages, as well as political participation, and public representation.

As for the global picture of FGM/C, decades of actions by international agencies, governments, civil society, communities, and individuals have accelerated the secular decline of the practice (UNICEF, 2013). The tendency to abandon the practice in most countries is illustrated in the DHS Comparative Report published in 2013 (Yoder & Wang, 2013) (Table 2).

In the countries analyzed in the present paper, the reduction in the practice of FGM/C is clear when comparing the prevalence in older (45–49 years) versus younger (15–19 years) generations. Table 2 shows how the prevalence has decreased everywhere among women aged 15–19 compared to women aged 45–49, with Mali the only exception. However, while the general prevalence has decreased when comparing the two groups, the picture is much more fragmented when considering positive attitudes toward the practice. Younger women tend to support FGM/C less than older women, except in Côte d'Ivoire, where the percentage of younger women favoring the practice is slightly higher than that of older women.

The correlation between the prevalence of FGM/C and support for FGM/C is very high (0.87) (Fig. 1), as many countries are concentrated in both the minimum and the maximum quadrants. Specifically, in the seven countries considered in this study, Togo

⁴ The Global Gender Gap Index was first introduced by the World Economic Forum in 2006 to benchmark progress towards gender parity and compare economies' gender gaps across four dimensions: economic opportunities, education, health, and political leadership (World Economic Forum, 2021).

Table 2 FGM/C prevalence and women who believe that female circumcision should be continued by country (%)

Country	Women circumcised (FGC)			Women who believe that female circumcision should be continued		
	Total	Age (5-year groups)		Total	Age (5-year groups)	
		15–19	45–49		15–19	45–49
Burkina Faso	75.8	57.7	89.3	9.3	10.3	11.7
Ivory Coast	36.7	27.4	41.5	14.0	14.4	9.1
Egypt	87.2	69.6	97.1	53.9	37.9	64.8
Ethiopia	65.2	47.1	78.7	17.5	13.6	21.7
Mali	91.4	90.3	92.1	71.9	70.0	70.3
Nigeria	24.8	15.3	35.8	23.1	23.2	23.3
Togo	4.7	1.8	10.2	1.4	2.3	1.9

Sources: DHS surveys, see Table 3 for details

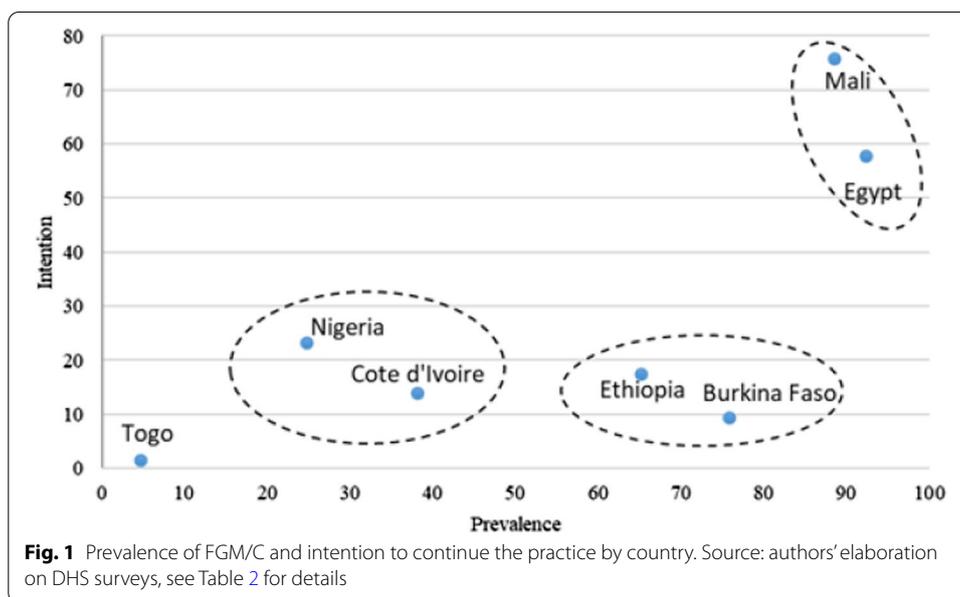


Fig. 1 Prevalence of FGM/C and intention to continue the practice by country. Source: authors' elaboration on DHS surveys, see Table 2 for details

and (in contrast) Egypt and Mali show high–high and low–low prevalence and intentions, respectively. Ethiopia and Burkina Faso represent two exceptions, showing the highest levels of opposition to the continuation of the practice despite its high prevalence, perhaps indicating that a transition toward the abandonment of FGM/C is underway in both countries.

Data and methods

Data

We used data collected in the Demographic Health Surveys (DHS) (Croft et al., 2018). The DHS are nationally representative surveys carried out in developing countries that gather evidence mainly in the domains of demography and health, thus enabling cross-country comparisons. We considered countries where recent information on

Table 3 Main characteristics of the Demographic and Health Surveys (DHS) selected for the analysis

Country	Year of the survey*	Original sample size	Original sample	References
Burkina Faso	2010	13,309	All women	Institut National de la Statistique et de la Démographie—INSD/Burkina Faso and ICF International (2012)
Ivory Coast	2011–2012	6195	All women	Institut National de la Statistique et de la Démographie—INSD/Burkina Faso and ICF International (2012)
Egypt	2014	20,399	Ever married	Ministry of Health and Population/Egypt—El-Zanaty and Associates/Egypt—ICF International (2015)
Ethiopia	2011	9,731	All women	Central Statistical Agency/Ethiopia and ICF International (2012)
Mali	2012–2013	8737	All women	Cellule de Planification et de Statistique—CPS/SSDSPF/Mali—Institut National de la Statistique—INSTAT/Mali—Centre d’Études et d’Information Statistiques—INFO-STAT/Mali and ICF International (2014)
Nigeria	2013	26,930	All women	National Population Commission—NPC/Nigeria and ICF International, (2014)
Togo	2013–2014	6230	All women	Ministère de la Planification du Développement et de l’Aménagement du Territoire—MPDAT/Togo—Ministère de la Santé—MS/Togo—ICF International (2015)

*Selected surveys are part of the VI wave of investigation in each country

FGM/C experience, attitude, and empowerment was available. We selected only women who were currently married or cohabitating with a partner. This choice was necessary to maintain consistency with the Egyptian survey, which was carried out on married women only, and to use items about women’s decision-making that were collected only for women who lived as part of a couple. Details and references for the selected surveys are shown in Table 3.

Measures

Dependent variable We aimed to understand personal support for the practice, irrespective of whether the respondent had a daughter. For this purpose, we used the DHS variable G119: “Circumcision should continue or be stopped” (DHS, 2013). We reclassified respondents who declared that the practice should continue as full supporters (code 1) and reclassified others as non-supporters (all other answers: the practice should be stopped, depends, don’t know; code 0). Conceptually, personal support represents a dimension of achievement from the Kabeer theoretical framework.

Independent variables We propose a measurement of empowerment that selects variables relevant to Kabeer’s theoretical model (see Tables 4, 5). We consider resources as preconditions that may be or not available to women, agency as the process of making choices, and achievements as the outcome (namely the dependent variable of this study,

Table 4 Empowerment indicators

Variable	Theoretical dimension	Theoretical motivation	Definition	Categories
Educational level	Resources	Education is a necessary but not sufficient condition for the availability of choices	Highest educational level (V106)	No education (ref), Primary, Secondary, Higher
Women's Experience of FGM/C	Resources	This is an indicator of the norm inside a woman's family and its strength therein, because the practice is performed before puberty, and cannot be attributed to an individual choice. Thus, we interpret it as the possibility to choose, namely a resource	Respondent is circumcised (G102)	No (ref), Yes, Don't know
Intimate partner violence (IPV) justification	Agency	This variable indicates a lack of agency that supports disempowerment, as well as the inability to achieve equal power in the couple*	This indicates the number of occasions the woman justifies IPV. It is built as the combination of variables V744A to V744E (Beating. Justified if the wife goes out without telling husband, neglects the children, argues with husband, refuses to have sex with husband, burns the food)	Never (the woman never justifies IPV; reference); Sometimes (the women indicates 1 or 2 reasons); Often (3–5 reasons)
Work experience	Agency	The work experience may lead to autonomy in personal life	Combination of variables V714 (Respondent currently working) and V741 (Type of earnings from respondent's work)	Not working (ref), Unpaid work (Not paid, In-kind only), Paid work (Cash only, Cash and in-kind)
Age at first cohabitation	Resources	An indicator of early marriages and consequently of fewer life possibilities	Age at first cohabitation or union (V511)	In years
Decision-making	Agency	It represents the capacity to decide autonomously in different contexts**	According to data availability, three separate domains were available: the person who usually decides on visits to family (V743D) or relatives, large household purchases (V743B; Additional file 1: Table S4), and respondent's health care (V743A; Additional file 1: Table S5)	Respondent and husband/partner (ref), Respondent alone, Someone else (including the partner alone)
Unmet need for contraception	Agency	Intended to represent the impossibility to choose and follow a personal wish	Recoding of V624	Unmet need (ref), No need, Using a method
The ideal number of children	Agency	It is an indicator of the personal willingness to adhere to the communitarian norm of the family	The ideal number of children (V613)	Number

*Such dimension is taken from Ewerling (2017)

**Ibidem

Table 5 Control variables

Variable	Theoretical motivation	Definition	Categories
The regional level of presence of FGM/C	This is intended as an indicator of the normative force, which asks to be followed and thus diminishes access to alternatives, to independent decision-making, and results	Percentage of cut women (G102) at each country regional level	Percentages
Daughters at home	Intended to represent how much close to personal experience is the issue of FGM/C, thus indicating the need to make a choice (salience)	Daughters at home (V203)	Number
Age	The incidence of FGM/C is expected to rise with age	Age (V012)	In years
Country	We suppose countries share common policies and legislative frameworks, through their peculiar policies and history. On this basis, we expect to find a homologation effect among regions and communities	Country denomination	Egypt (ref), Burkina Faso, Ivory Coast, Ethiopia, Mali, Nigeria, Togo
Religion	Literature has brought examples of religious meanings attached to the practice	Recoding of Religion (V130)	Muslim (ref), Christian (Catholic, Protestant, other country-specific), None, Other (Traditional/animist, other country-specific)

see above). This variables’ definition is presented in detail in Tables 4, 5, which describes the variables included in the model, the theoretical motivation for their inclusion, their definition and coding.

Statistical analysis

For the main analysis, we fitted a random intercept logistic model where the binary dependent variable was represented by women’s support for continuing FGM/C. Of the original pulled sample, composed of 91,531 women, the model was fitted only on women who were familiar with the practice of FGM/C and were therefore asked about their opinions regarding its continuation (80.8% of the sample). Our final model was estimated at the regional level ($N=59$) as the second level of analysis, with individuals as the first level ($N=73,985$). The empowerment variables and covariates described above were inserted as predictors. Once model parameters were estimated, we calculated the predicted probabilities. Multilevel models allow researchers to properly consider in the statistical analysis the complexity of hierarchical data structures (e.g., at the spatial level), like that of women who live in different African regions. Parameter estimates were adjusted for the country indicator, which was not modeled as a random effect. We did not use country as a second or third level of analysis, since we had data available for only seven countries. Extensive simulation work has shown that when the number of units at the second level is too small, it becomes challenging to reliably identify distributional parameters (Bryan & Jenkins, 2016).

We ran several consistency checks for the analysis, shown in the Additional file 1. First, as women's experience of FGM/C is strongly associated with their support for the practice (circumcised women express stronger support to the continuation of the practice than non-circumcised women), we ran sub-models by FGM/C experience considering women who underwent FGM/C or were unsure about their experience (Additional file 1: Table S2) and women who had never undergone FGM/C (Additional file 1: Table S3). The results of these sub-models were entirely consistent with the full model. Another issue was the choice of an indicator for decision-making. DHS data include three domains of decision-making: visits to family or relatives, large household purchases, and the respondent's health care. These three domains are interrelated; therefore, we selected only the first in the full model as an indicator of decision-making to avoid collinearity issues. We ran supplementary models using the remaining indicators as an alternative for consistency checks; their results are broadly consistent with the main model.

To better substantiate our results, we calculated the predicted probabilities of supporting FGM/C based on the leading indicators of empowerment included in the model.⁵ We show and comment on significant indicators with the highest impact on predicted FGM/C support. Graphs for significant indicators showing overall limited variability in the expected probabilities of FGM/C support and non-significant indicators are available in the Additional file 1.

Results

Table 6 shows the results of the multilevel random intercept logistic regression analysis. We noticed that education was strongly and negatively correlated with FGM/C support, along with age at first cohabitation. Experience of FGM/C, on the contrary, was strongly correlated with support for the continuation of FGM/C. The ideal number of children, the justification of intimate partner violence (IPV), and whether decision-making was mainly left to the respondent or other persons (compared with equal decision-making within the couple) were associated with more substantial FGM/C support. Interestingly, the unmet need for contraception and job conditions were not significantly correlated with FGM/C support.

The analysis of predicted probabilities confirmed the relevance of the link between indicators of empowerment and FGM/C. Education is one of the most relevant variables: support for continuing FGM/C decreases when the educational level increases, suggesting that the higher a woman's education level, the easier is for her to make empowered choices (see Figs. 2, 3, 4, 5).

Having experienced FGM/C was another significant variable, indicating that familiar normative behavior affects the empowerment process. Hence, choosing to support FGM/C could be a natural consequence of being a woman belonging to this family without discussing possible alternatives, which may be unknown. In addition, this variable shows a remarkable difference in support between those who have experienced FGM/C and those who have not, attesting to the strong influence of the norm,

⁵ All other variables are controlled at their mean level.

Table 6 Odds ratios and standard errors from multilevel random intercept logistic regression analysis assessing associations between empowerment indicators and the personal support to FGM/C continuation

Covariates	Odds ratio	Std.Err
Highest educational level: none	(ref.)	(ref.)
Highest educational level: primary	0.734***	0.024
Highest educational level: secondary	0.590***	0.019
Highest educational level: tertiary	0.385***	0.018
Experience of FGM/C: no	(ref.)	(ref.)
Experience of FGM/C: yes	8.221***	0.285
Experience of FGM/C: unsure	3.196***	0.232
Age at first cohabitation	0.988***	0.003
Intimate partner violence justification: never	(ref.)	(ref.)
Intimate partner violence justification: sometimes	1.505***	0.040
Intimate partner violence justification: often or always	1.737***	0.045
The ideal number of children	1.003***	0.000
The person who usually decides on visits to family or relatives: respondent and husband/partner	(ref.)	(ref.)
The person who usually decides on visits to family or relatives: respondent alone	1.104**	0.035
The person who usually decides on visits to family or relatives: someone else	1.163***	0.029
Unmet need for contraception: yes	(ref.)	(ref.)
Unmet need for contraception: no need	0.949	0.031
Unmet need for contraception: using method	1.004	0.025
Respondent Works: no	(ref.)	(ref.)
Respondent works: yes, unpaid work	0.958	0.040
Respondent works: yes, paid work	0.980	0.025
$\sqrt{\hat{\psi}}$ estimated residual standard deviation of the random intercept	0.574	0.059
ρ estimated residual intraclass correlation of the latent responses	0.091	0.017
Number of observations	73,985	
Number of groups	59	
Log-likelihood	- 32,005.862	
AIC	64,073.72	

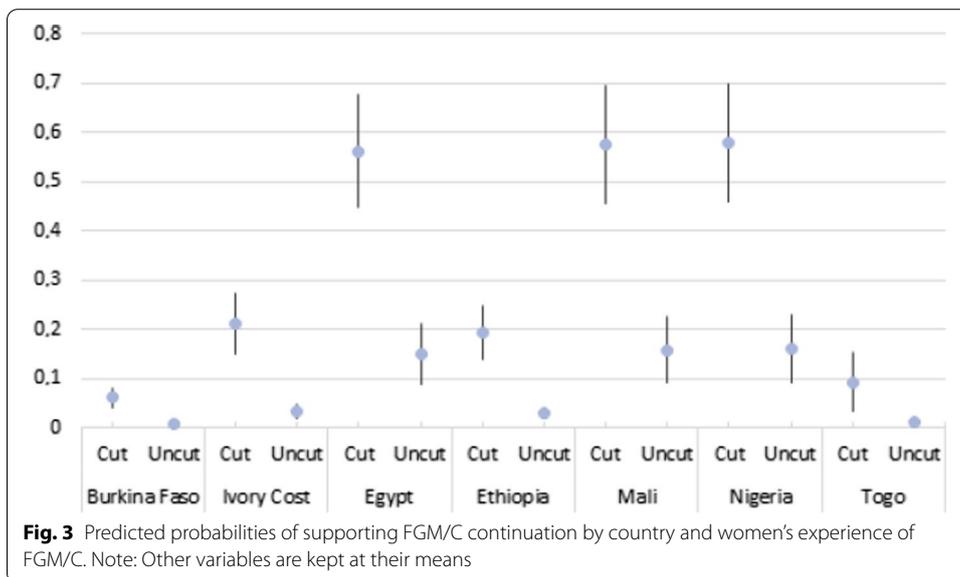
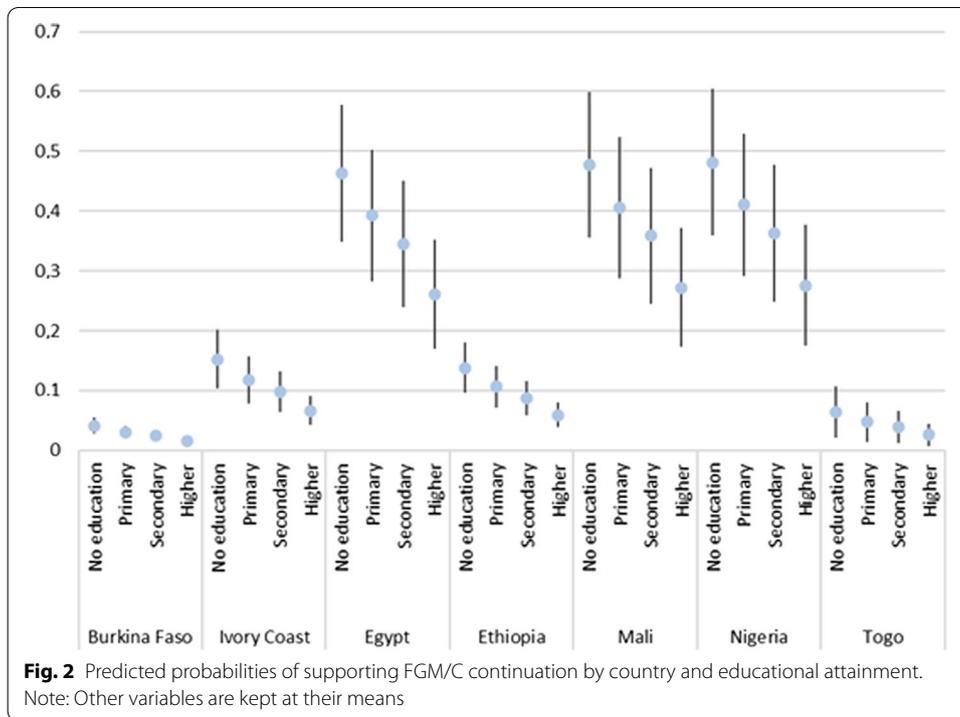
LR test of rho = 0: chibar2(01) = 1796.03 Prob >= chibar2 = 0.000

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

The model controls for age, country, FGM/C regional prevalence within the country, number of daughters at home, and religion. The full model, including also controls is available in Additional file 1: Table S1

which opposes the empowerment approach described by Kabeer. Having experienced FGM/C is thus highly related to a woman's attitudes toward the practice as an individual adult woman socialized into supporting it.

Similarly, the variable accounting for respondents' attitudes toward IPV was significant: higher levels of acceptance of violence correspond with increased FGM/C support. This result is an expression of a gender-imbalanced society. The IPV variable measures women's positions in terms of their self-perceived subordinate role: They accept the idea of being punished because they do not conform to (self-perceived) legitimate expectations placed upon them (i.e., their gender role). It may also imply legitimization of a partner's violence in the case of perceived transgressive behavior. Violence is not chosen; it is imposed and justified because gender norms prescribe punishment in such cases. Thus, women's legitimization of violence describes



disempowerment due to deeply rooted and internalized gender discrimination in society, which is difficult for an individual to oppose, particularly if no alternative is known (Kishor & Johnson, 2004; WHO, 2008).

Among the significant variables, age at first cohabitation is a good indicator of low life possibilities (resources). A similar result is obtained for the ideal number of children, which is consistent with traditional family formation models leading an adult woman

to adhere to normative gender roles (of which FGM/C is a part) thus presenting limited agency.

The expected positive relationship between the unmet need for contraception and FGM/C support (Table 2) was not confirmed. While the unmet need for contraception describes a disempowered woman, it could also signal a lack of family planning public services. Moreover, job experience was not significant, likely because having a job does not per se represent a resource through which a woman can become autonomous or an occasion for personal agency, even when distinguishing between paid or unpaid jobs (Bergen Resource Centre for International Development, 2016).

The variable describing the person who mainly makes decisions about family visits shows that women who are the main decision-makers or who never make decisions are more likely to support FGM/C than women who share such decisions with their partners. One possible explanation for this unexpected finding is that having decision-making capabilities provides opportunities for women to choose not to perpetuate the practice of FGM/C. However, such freedom may also go in the direction of conforming to community and family social norms. Decision-making ability can thus be interpreted as a necessary but not sufficient condition for empowerment in the form of agency to manifest as disfavoring the practice of FGM/C.

Regarding the predicted probabilities calculated from the multilevel logistic models, Egypt, Mali, and Nigeria still indicate very high predicted support for FGM/C, while Togo and Burkina Faso show the lowest values. Such values imply different levels of attachment to the practice after controlling for the socioeconomic composition of the population, indicating that some countries could reach eradication well before others.

Conclusions

This paper highlighted the importance of the link between FGM/C support and empowerment, with major roles played by education, personal experience with FGM/C, and justification of IPV. These three dimensions describe different levels of empowerment, reflecting existing social and gender norms that act upon resources and agency and are internalized by individual women (e.g., IPV justification). Consequently, these dimensions represent the main policy-making priorities: enforcing educational opportunities, changing family and community norms, and promoting gender equity in family relationships.

According to the literature (Berg & Denison, 2012; Graamans & Ofware, 2017), policies related to FGM/C cannot ignore the value system of the local contexts. To attain this goal, communities and stakeholders need to be involved through an empowerment approach, which is central in shaping support for FGM/C (Aberese Ako & Akweongo, 2009; Berg & Denison, 2012; Boyle et al., 2002). Such an approach is crucial when considering FGM/C as a reason to belong to a certain ethnic community or as religiously motivated. This needs to be deconstructed through the involvement of the community as a whole, but particularly by the leaders able to act to stop FGM/C, which must be perceived as unrelated to cultural identity. In order to change, cultures must enjoy

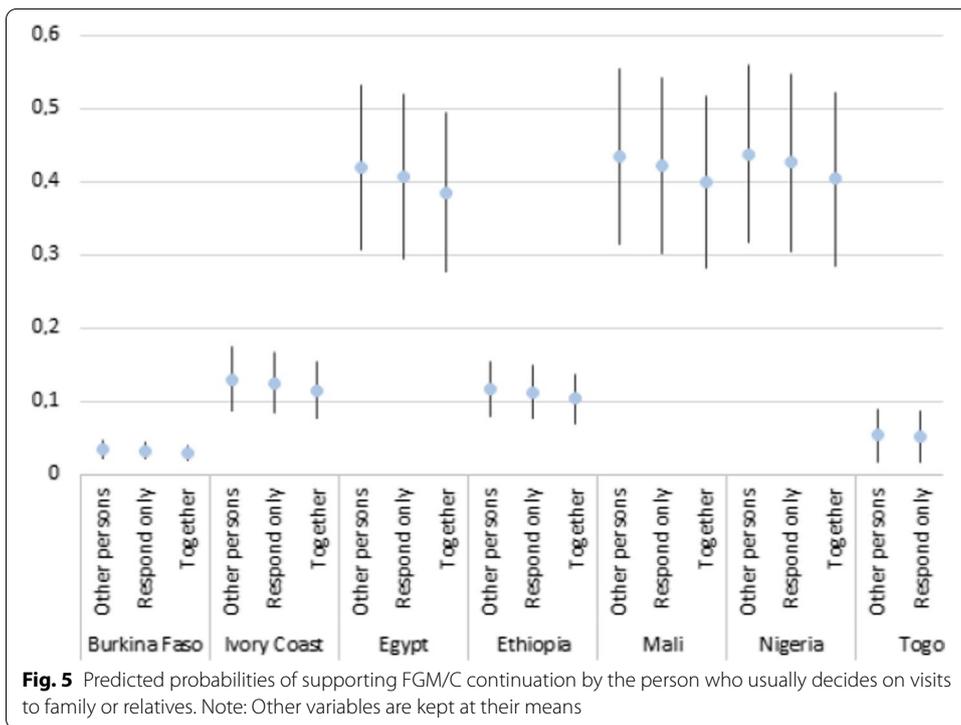
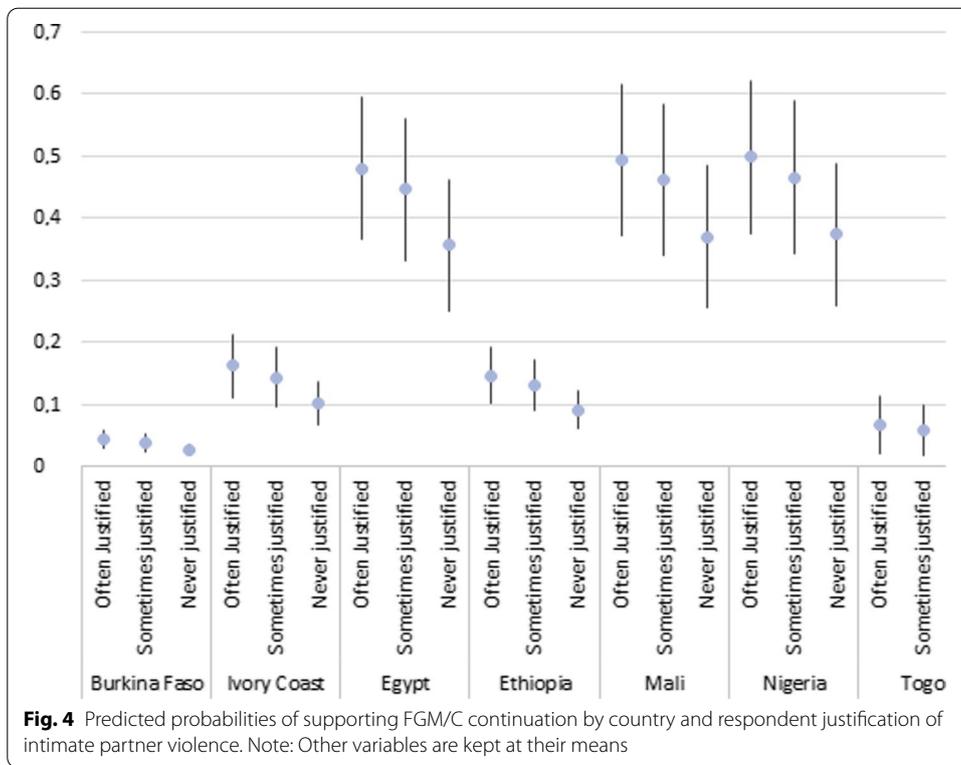
opportunities of alternatives (resources), awareness raising, and de-socialization without punishment (agency) that specifically target the discriminatory effects of gender norms and patriarchy to result in achievements.

Moreover, the dimension of IPV attests that any initiative to reduce disparities between men and women can help combat the continuation of FGM/C. Policies must go in the direction of breaking the paradigm of a punitive husband and a “disrespectful” wife; women need to be able and entitled to make decisions by themselves (Ewerling et al., 2017) without fear of intrafamilial violence.

We highlight that empowerment links multiple factors along women’s life courses and must involve resources and agency to be achieved. Hence, policies that focus on only one aspect, such as awareness, without considering inequality in power and opportunities will be inadequate. FGM/C eradication by 2030 is one of the goals of the action program of the 17 SDGs. The path to reinforcing empowerment policies and reducing the gender gap has already been pointed out in international directives since the 1995 World Conference on Women (UN, 1995). This comprehensive policy framework is in line with SDG 5, which aims to eliminate all practices harmful to women, such as FGM/C. This may have a substantial impact on the next generations that will shift away from the practice. A generation of mothers who are likely to stop or disapprove of the practice of FGM/C could reinforce the virtuous circle, leading to a subsequent generation of FGM/C-free women.

Despite the relevance of our findings, our study has some limitations. First, the relationship between women’s empowerment and FGM/C continuation could present with local peculiarities and masked epiphenomena, which are difficult to capture with a relatively static theoretical model. Because of local peculiarities, we assume that in similar contexts, the same variables may be similarly related to the women’s empowerment construct. In different geographical or cultural contexts, however, some variables might have more robust or limited effects for specific reasons that need to be contextualized to the relevant historical, geographical, and social background. Thus, different components of empowerment can potentially act differently. Yet we believe that such limitations can represent an opportunity for future research that can investigate the nature of each dimension, using both quantitative and qualitative approaches to understand how the dimensions of empowerment interact. A second limitation concerns the operationalization of the decision-making indicators, which might consider aspects that already belong to women, such as opportunities, without gaining more power or the possibility of agency. Finally, we focused only on women, assuming that as the practice is considered a female-specific issue (Shell-Duncan et al., 2013), women are the main drivers of the continuation or interruption of FGM/C from generation to generation. Such assumptions cannot be further tested because of the lack of DHS data relative to the partner,⁶ whose role is worth investigating (Alradie-Mohamed et al., 2020). Furthermore, our sample only considered married women because the Egyptian sample included only them, and only 2 out of 7 countries had men’s opinions.

⁶ The information on personal support for the practice of men is available only for Burkina Faso, Togo, and Mali. The difference among partners in the first two countries is less than 1% in favor of men while in Mali the difference reaches 7%.



In conclusion, this study confirmed that the relationship between empowerment and support for the continuation of FGM/C is relevant, complex, and deserving of further investigation. Our results indicate that the justification of gender-specific violence by the

woman, the women's level of education and the FGM/C personal experience are essential components of empowerment, i.e., women who do not justify gender violence or who justify less, or that are more educated or with no FGM/C are indeed more empowered and tend to not support FGM/C continuation. Autonomy in decision-making is also a dimension correlated with FGM/C support. These variables represent crucial components of the women's empowerment process and indicate to policymakers and social agents where their first actions should take place.

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s41118-022-00155-9>.

Additional file 1. Supplementary results and consistency checks.

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Authors' contributions

PF contributed to the conception and design of the study, acquisition of the data, statistical analyses, interpretation of the data, drafting of the manuscript, and gave final approval for submission of the manuscript. LO contributed to the conception and design of the study, acquisition of the data, statistical analyses and interpretation of the data, drafting of the manuscript, and gave final approval for submission of the manuscript. TP contributed to the statistical analyses and interpretation of the data, drafting of the manuscript, and gave final approval for submission of the manuscript. ER contributed to the statistical analyses and interpretation of the data, drafting of the manuscript, and gave final approval for submission of the manuscript. All authors read and approved the final manuscript.

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Declarations

Competing interests

None.

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