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REVIEW ARTICLE

A systematic review of doctors' experiences and needs to support the care of women with female genital mutilation

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ABSTRACT

Background: Female genital mutilation (FGM) involves partial or complete removal of the external female genitalia or other injury for non-therapeutic reasons. Little is known about the knowledge and skills of doctors who care for affected women and their practice in relation to FGM. *Objectives:* To examine the FGM experiences and educational needs of doctors. *Search strategy:* A structured search of five bibliographic databases was undertaken to identify peer-reviewed research literature published in English between 2004 and 2014 using the keywords "female genital mutilation," "medical," "doctors," "education," and "training." *Selection criteria:* Observational, quasi-experimental, and non-experimental descriptive studies were suitable for inclusion. *Data collection and analysis:* A narrative synthesis of the study findings was undertaken and themes were identified. *Main results:* Ten papers were included in the review, three of which were from low-income countries. The analysis identified three themes: knowledge and attitudes, FGM-related medical practices, and education and training. *Conclusions:* There is a need for improved education and training to build knowledge and skills, and to change attitudes concerning the medicalization of FGM and reinfibulation.

1. Introduction

Female genital mutilation (FGM)—also known as female genital cutting or female circumcision—is a practice that is performed on young girls and women in 29 countries in Africa and the Middle East, and in some Asian countries [1]. FGM has become more common as a result of migration: women with FGM live in Europe, Australia, New Zealand, and the USA. It is estimated that 130 million girls and women have undergone FGM, and that 30 million girls are at risk of undergoing FGM in the next decade [2]. Nevertheless, the incidence of women and girls with FGM is falling [2].

FGM is illegal in many countries [3]. Additionally, FGM is associated with adverse obstetric outcomes [4], and serious physical and psychosexual complications for girls and women [5]. However, the highly entrenched sense of social obligation is more powerful than any perceived legal, medical, or human rights arguments against the practice, thereby fuelling the continuation of FGM [2].

FGM involves partial or complete removal of the external female genitalia or other injury to the female genital organs for non-therapeutic reasons [6]. There are four different types of FGM described by WHO [1]. Infibulation—the most severe type, experienced by approximately 15% of all women with FGM [7]—involves leaving a small opening for the passage of urine and menstrual blood. Deinfibulation—or the opening of the scar to reverse the FGM procedure—can be performed to allow vaginal intercourse or in preparation for childbirth. Reinfibulation involves stitching the raw vulval edges together after childbirth or vaginal intercourse to create a neo-introitus.

Although usually performed by traditional practitioners in countries of low and lower-middle income (LMICs), an increasing trend toward the medicalization of FGM has been noted, with healthcare professionals including doctors undertaking the practice [2]. Many parents understand the complications of FGM and seek out healthcare professionals to perform the cutting to minimize the harm to their children. Harm reduction is based on the notion that by engaging skilled practitioners to perform FGM in controlled, sterile conditions, there will be a reduction in adverse conditions [8]. Because healthcare professionals are highly respected in communities, their involvement in FGM indicates an endorsement of this practice that could serve to prolong and legitimize it [9]. The medicalization of FGM has prompted the development of a global plan to stop healthcare providers from performing FGM [9].

Professional medical associations in countries such as the UK and Canada have issued statements opposing the practice and have

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produced practice guidelines [10,11]. Ministries of Health in countries including Kenya have contributed to the development of documents where FGM is noted as a harmful practice [12]. Nevertheless, doctors' involvement in FGM has been implicated in controversial news stories where doctors who have reportedly performed FGM are prosecuted [13]. Such stories could reflect only a small part of the larger picture whereby medical practitioners are not informed of the law or professional guidelines, do not understand the risks involved, or feel pressured by sociocultural obligations to perform FGM and reinfibulation after birth. Establishing the knowledge, attitudes, and practices of medical practitioners in relation to FGM is an important part of planning education and advocacy efforts, including targeting the dissemination of professional practice guidelines.

Previous reviews have focused on the role of medical providers in caring for women with FGM and discuss clinical management in high income countries (HICs) [14]. Little is known about the knowledge and skills of doctors and their current practice in relation to FGM. There do not seem to be any syntheses of research that could inform the design of education programs for doctors. Therefore, the aim of the present review was to examine the experiences and educational needs of doctors in LMICs and HICs with respect to FGM. The overall goal was to identify ways to improve the medical training and continuing professional development of doctors so that they can best care for women and advocate against the practice.

2. Materials and methods

A narrative synthesis method was employed to analyze the literature. This method was selected because of the varied methods used in the studies identified for the review, which did not allow for the synthesis of findings. A Population, Interventions, Comparators, Outcomes, Study design (PICOS) question was developed to guide the present review [15]. The question was: what are the experiences and education needs of medical practitioners and students in relation to FGM? Knowledge, attitudes, and skills were explored among doctors from contexts where FGM is a common social practice and where it is not. Observational, quasi-experimental, and non-experimental descriptive studies published in English were considered suitable for inclusion. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines [16] were used to report the review process.

A systematic search was undertaken of the primary research published from January 1, 2004, to December 31, 2014. Five bibliographic databases (Medline, PubMed, Scopus, ProQuest Health and Medical Complete, and Web of Science), manuscripts from African Journals Online, and the reference lists of relevant papers were searched by A.D. and S.T. to identify peer-reviewed primary research literature. The key words used in the search were "female circumcision," "female genital mutilation," "medical," "doctors," "education," and "training". Retrieved records were screened for their focus as per the PICOS question and duplicates were removed by A.D. Discursive papers, those older than 10 years, or whose focus was outside of the aim were excluded.

The full-text of identified papers was retrieved and screened by A.D. and S.T. for relevance in relation to the PICOS question. Papers deemed relevant were appraised by all authors using the Critical Appraisal Skills Programme tool for qualitative research [17] and the McMaster University Quality Assessment Tool for Quantitative Studies [18]. Any reports of survey results that were not disaggregated by profession were excluded.

The narrative synthesis was conducted as per guidelines outlined by Popay et al. [19], allowing for different types of data collected via various methods to be examined to provide critical insights. The results sections of the remaining papers were analyzed to identify doctors' experiences and needs. A thematic analysis was undertaken by A.D. using tables, in discussion with other authors. The relationships within and between studies were explored and coded.

3. Results

3.1. Identified studies

Among 37 records screened, 10 were included in the qualitative synthesis (Fig. 1, Table 1). Eight were quantitative surveys [21–27,29] and two used qualitative interviews [20,28]. Three were undertaken in LMICs—two in Egypt [24,26], and one in Sudan [22]—and the remaining seven studies were done in HICs [20,21,23,25,27–29].

The papers from LMICs included medical students [24], doctors with range of specialties including obstetrics and gynecology [26], and doctors or those in training for whom the area of specialization was not provided [22]. The studies in HICs included obstetricians and gynecologists, registrars undertaking specialist training in obstetrics and gynecology, doctors working in obstetrics in their second and third years after qualification, and specialists from other disciplines [20,21,23,25,27–29].

The analysis of the findings sections of the papers revealed three key themes: knowledge and attitudes, FGM-related medical practices, and education and training (Table 2). Three areas emerged: lack of awareness, diverse practice, and communication issues.

3.2. Knowledge and attitudes

The three papers from LMICs where FGM is traditionally practiced [22,24,26] provided detailed information about participants' knowledge and attitudes. In the study from Sudan [22], personal experiences of FGM were reported: over 80% of the 200 young, Sudanese trained female doctors reported that they had experienced FGM themselves. Overall, 71% stated they would not accept reinfibulation if asked by their spouse and 97.5% would prefer their daughters to not undergo FGM. Although personal experience of FGM was not described in the other two LMIC studies (from Egypt) [24,26], awareness of the procedure was high and nearly half the participants in both studies regarded it as a priority health issue.

Many medical students surveyed in Mostafa et al.'s study [24] held positive attitudes toward FGM. Nearly half the students surveyed believed that FGM prevented promiscuity, maintained a girl's chastity, and helped to keep the genitalia clean. One-third felt that FGM was an essential part of culture and a religious requirement [24]. Despite not being able to list any medical reasons to perform FGM, half the medical students supported the continuation of FGM and most were in favor of its medicalization to reduce the pain and risks to health. One-third anticipated having their daughters cut [24].

Most doctors in Refaat's study [26] stated that they did not approve of the practice because it was painful and not required by religion. The minority who supported the practice did so for religious and cosmetic reasons. However, 40% of surveyed individuals believed doctors were the most suitable people to practice FGM [26].

Participants in the LMIC studies demonstrated knowledge of the different types of FGM and associated complications. Mostafta et al. [24] reported that knowledge of legal aspects of FGM was low: only 17% of participants were aware that the Egyptian law did not permit FGM to be performed by non-physicians at the time of the study. Although only 23% considered that a specific law was enough to protect girls from the practice, 53% believed that laws needed to be accompanied by community education. Two-thirds of doctors in the other Egyptian study [26] approved of the law banning FGM that was passed in 2008; those against the ban felt that such restriction would result in FGM being undertaken secretly. Despite many students showing support for the practice, half the medical students in Mostafa et al.'s study [24] thought they could contribute to abolishing this practice. Doctors in the Sudanese study [22] considered culture and tradition as barriers to behavior change.

In the eight studies from HICs, doctors were aware of the types of FGM and related complications. In one study from Sweden [27], some doctors believed that they had adequate knowledge of FGM. However,

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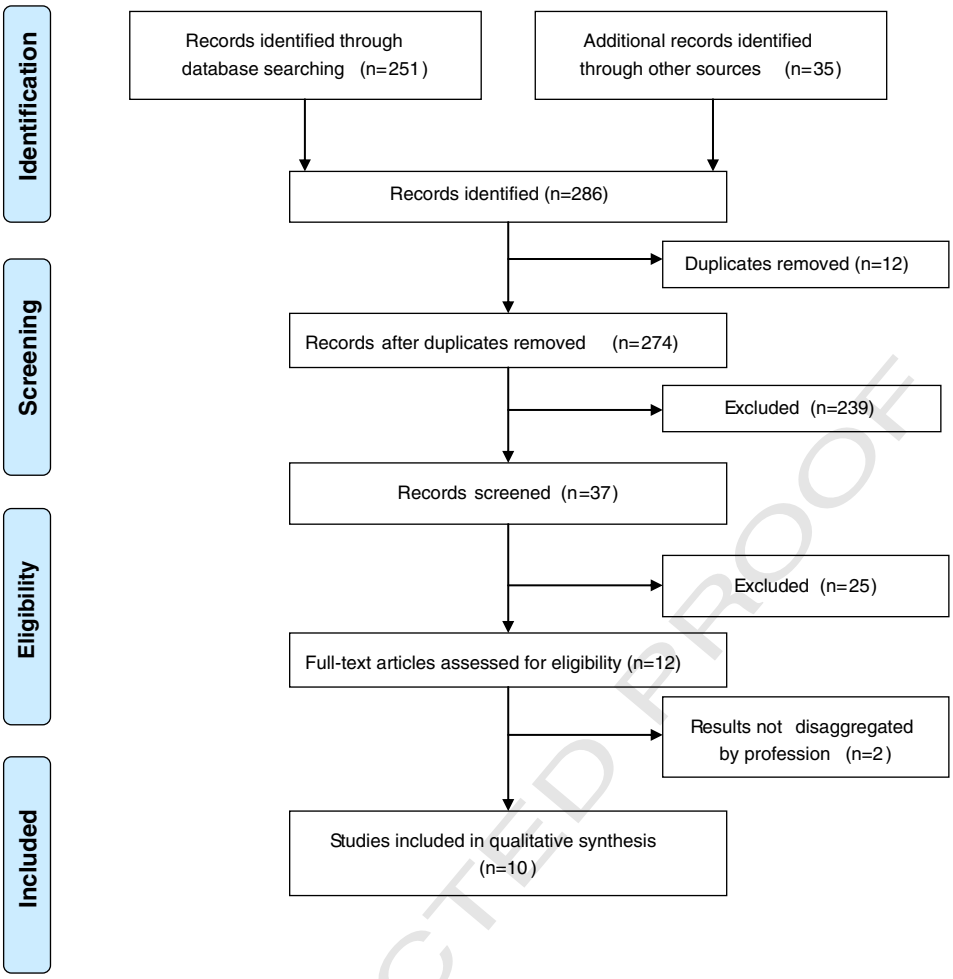

Fig. 1. Identification of reports.

knowledge gaps were identified among British doctors, including failure to correctly identify FGM types [29] and low awareness of the prevalence of related mental health issues [25]. Half the respondents in Purchase et al.'s UK study [25] did not know how to refer women with FGM to specialist services. Awareness of hospital guidelines was found to be very low among Flemish gynecologists [21]. Only 1% were aware of hospital guidelines or information pertaining to FGM, and over half requested technical guidelines on the clinical management of complications [21].

In one UK study [29], over half the doctors were unaware that women with FGM at high risk of obstetric complications should be specifically identified at the booking prenatal visit. Many doctors thought that a cesarean delivery was the best way of managing a woman with FGM if vaginal examination was not possible. In another report from the UK [25], one-third were not aware that deinfibulation during pregnancy was recommended. In a Swedish study [28], there was no consensus among the doctors regarding what information was important to convey to women with FGM, clinical procedures that could be required during labor and birth, and how information could best be communicated between prenatal services and hospitals. Some doctors indicated that their facilities had clinical guidelines and policies concerning the care of women with FGM [28].

Doctors in the studies from HICs revealed knowledge of the legal situation in their nations. For example, most British doctors understood that FGM was illegal in the UK, but only one-fifth were aware of the existence of the specific FGM Act [25]. Another survey in the UK [30] found that the doctors were more knowledgeable, with 40% able to provide details of the Act. In the study from Belgium [21], fewer than half the Flemish gynecologists knew that FGM was illegal. Six respondents thought FGM was not prohibited if the woman consented, and three considered it legal if the woman was an adult. Most participants indicated they wanted more information regarding Belgian legislation on FGM [21]. There was no consensus among doctors concerning relevant Swedish laws [28].

In Moeed and Grover's investigation [23], most of the Australian and New Zealand doctors surveyed did not think FGM was being performed in their countries, nor did they know of any evidence that it was. Only 1%, or five of the respondents, stated that they were aware of such evidence. Qualitative comments indicated they were cognizant of occasions on which resuturing had been undertaken after birth and some expressed the belief that resuturing was needed for patient comfort [23]. In Belgium [21], one-third of gynecologists reported that they had heard that FGM had been performed in Belgium.

Obstetricians and gynecologists caring for Somali refugee women in the USA described knowledge gaps and their attitudes toward FGM [20], including a lack of knowledge regarding the Somali culture and the acceptance of the practice in the same way as male circumcisions.

3.3. FGM-related medical practice

Only one of the studies in LMIC contexts reported on the practice of doctors in relation to FGM [26]. Among the doctors who said they were practicing FGM, 30% reported they were undertaking the procedure to increase their income. Additionally, 19% stated they would do it to reduce the harm that could be caused by unlicensed practitioners [26].

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Table 1
Summary of included papers.

Reference	Setting	Method	Sample	Aim	Findings
Lazar et al. 2013 [20]	Columbus, OH, USA	Qualitative, individual semi-structured interviews	14 obstetricians/gynecologists and nurse midwives	To identify providers' experiences, training, practices, and attitudes surrounding the prenatal care, delivery, and management of women with FGM	Providers noted challenges in communicating with Somali patients and the lack of formal training or protocols guiding the management of circumcised women Providers expressed frustration with perceived resistance to obstetric interventions
Leye et al. 2008 [21]	Flanders, Belgium	Descriptive quantitative survey design	333 Flemish gynecologists	To explore the knowledge, attitudes, and practices of Flemish gynecologists	Gaps noted in provider knowledge and the provision of care FGM was not properly addressed in medical training Little was known about hospital guidelines and associated legislation
Magied, Shareef 2003 [22]	Sudan	Descriptive quantitative survey design	200 female doctors (medical officers and registrars)	To investigate the perception of and attitude to FGM among female doctors	Reasons behind the continuation of FGM and the role of culture and tradition in the perception of and attitude to female circumcision explained
Moeed, Grover 2012 [23]	Australia and New Zealand	Descriptive quantitative electronic survey	530 responses from RANZCOG Fellows, Trainees, and Diplomates; 34 FGM program workers.	To investigate doctors' and program workers experiences with women and children affected by FGM, and whether FGM is being performed in Australia or New Zealand	Five RANZCOG respondents and two FGM program workers cited anecdotal evidence that FGM is being performed in Australia and New Zealand 82 RANZCOG respondents had been asked to resuture after delivery 2 respondents had been asked to perform FGM
Mostafa et al. 2006 [24]	Alexandria, Egypt	Cross-sectional survey	330 5th-year medical students in Alexandria University	To explore the knowledge about, beliefs of, and attitudes to FGM, as well as the opinions of the medicalization of FGM and education	Gaps identified in knowledge about prevalence of FGM, FGM types, complications, and the ethical and legal aspects. 240 (73.2%) were in favor of its "medicalization" 287 (86.9%) thought that FGM should be incorporated into the undergraduate medical curriculum
Purchase et al. 2013 [25]	UK	Descriptive quantitative online survey	607 RCOG-affiliated doctors working in obstetrics and gynecology	To assess knowledge of the FGM guidelines	Gaps identified in knowledge about areas of FGM management Knowledge increased among doctors who had completed training and had more practical experience with women affected by FGM
Refaat 2009 [26]	Egypt	Cross-sectional study using survey	193 specialist doctors (surgery, medicine, obstetrics/gynecology, and pediatrics)	To explore FGM knowledge and related practice	169 (88%) knew at least one adverse physical or sexual consequence 35 (18%)approved of FGM 37 (19%) practiced FGM A negative correlation was found between knowledge of the adverse consequences of FGM and approval and practice
Tamaddon et al. 2006 [27]	Sweden	Descriptive quantitative survey	769 health professionals (134 gynecologists, 313 midwives, 103 pediatricians, 126 school nurses, 24 school doctors, 69 unspecified)	To evaluate the experiences and knowledge of healthcare providers in Sweden regarding FGM as a health issue	461 (60%) had encountered patients with FGM, of whom 7 (32%) providers, including 2 pediatricians, were suspicious of patients with signs of recent FGM 46 (10%) had been asked to perform reinfibulation after delivery 38 (8%) providers had received inquiries about the possibility of performing FGM in Sweden
Widmark et al. 2010 [28]	Sweden	Descriptive qualitative study	13 chief/senior obstetricians and 7 senior house officers	To explore how Swedish doctors describe, explain, and reason about their care and relevant policies	Inconsistent policy and praxis Uncoordinated care trajectories Diffuse professional role responsibilities Difficulties in monitoring labor and fetal status Inhibited communication
Zaidi et al. 2007 [29]	UK university teaching hospital	Descriptive quantitative survey	45 health professionals (15 midwives, 10 obstetric senior house officers, 14 specialist registrars, 6 consultants)	To assess health professionals' knowledge of FGM and adherence to the RCOG Guidelines on FGM	40% were familiar with the regulations in the FGM Act 58% were unable to list the different categories of FGM 47% incorrectly thought that cesarean delivery is the best way of managing pregnant women with FGM

Abbreviations: FGM, female genital mutilation; RANZCOG, Royal Australian and New Zealand College of Obstetricians and Gynaecologists; RCOG, Royal College of Obstetricians and Gynaecologists.

Table 2
Themes across the 10 included papers.

Reference	Knowledge and attitudes	FGM-related medical practice	Training experiences and needs
Lazar et al. 2013 [20]	✓	✓	✓
Leye et al. 2008 [21]	✓	✓	✓
Magied, Shareef 2003 [22]	✓	–	✓
Moeed, Grover 2012 [23]	✓	✓	–
Mostafa et al. 2006 [24]	✓	–	✓
Purchase et al. 2013 [25]	✓	–	✓
Refaat 2009 [26]	✓	✓	✓
Tamaddon et al. 2006 [27]	✓	✓	✓
Widmark et al. 2010 [28]	✓	✓	–
Zaidi et al. 2007 [29]	✓	✓	–

A range of experiences of caring for women with FGM in the associated medical practices were described in HIC settings. In one of the UK studies [29], 76% of the 30 doctors surveyed said they had experiences of examining women with FGM. In the Belgian study [21], 195 (59%) of the 333 Flemish respondents stated that they had seen women or girls with FGM in their consultations. Caring for an infibulated patient was reported by 168 (51%) of 328 respondents, of whom 34 (20%) stated they were asked to perform reinfibulation. Among 168 respondents who had cared for an infibulated women, 18 (11%) gynecologists reported they had performed a reinfibulation after birth, and 60 (19%) of 316 respondents explained they would perform reinfibulation if a woman requested it. Only 6 (2%) of 328 respondents reported that they had been asked to perform FGM. Among the 120 respondents who had been consulted by a pregnant woman with FGM, 78 (65%) felt it would be difficult to discuss prevention with women and their families because of perceived language barriers or fear of offending women [21].

In the Swedish study by Tamaddon et al. [27], 95% of gynecologists, 11% of pediatricians, and 46% of school doctors reported they had met a patient with FGM. Two pediatricians and one gynecologist suspected that they had seen a patient with evidence of recently performed FGM, and 25% of gynecologists asserted they had been asked to perform reinfibulation after birth.

Doctors in the qualitative Swedish study [28] described challenges to the provision of quality of care for women with FGM. They cited problems stemming from uncoordinated care and unclear professional role responsibilities that resulted in difficulties monitoring labor and fetal status. Moreover, inhibited communication was quoted by most participants to be another barrier to effective care. Most doctors emphasized the importance of communicating with men about issues of care for the women, and to ensure that the women follow "doctor's orders." The doctors, however, expressed frustration at women's lack of compliance [28].

In the study from Australia and New Zealand [23], 160 (40%) of 396 medical respondents who said that they see women and children from countries where FGM is prevalent reported that they had seen one to five women over the past 5 years who had had a FGM procedure, while 42 (11%) reported having seen 11–20 women. Of the 387 doctors who responded to the question "Have you been asked to re-suture after childbirth?", 71 (18%) stated that they had never resutured after birth and 82 (21%) reported that they had been asked. These 82 doctors were then asked "On how many occasions have you performed re-suturing or reinfibulation?", to which 71 (87%) responded; 10 (14%) disclosed that they had performed reinfibulation and had done so on between one and five occasions. When the medical participants were asked whether they had been asked to perform a FGM procedure on an infant, child, or young girl in the past 5 years, 384 (99.5%) of 386 RANZCOG respondents replied "No," while 2 (0.5%) replied "Yes." Of the two doctors who said "Yes," one reported being asked on five or fewer occasions, while other had been asked six to ten times [23].

Among the US obstetricians and gynecologists interviewed by Lazer et al. [20], communication difficulties were described as a barrier in their care of Somali women with FGM. They cited language problems, issues with interpretation and translation, and discomfort discussing FGM with women. Doctors felt that the presence of family members in the consultation process affected the women's ability to make their own decisions. Providers perceived a sense of patient mistrust and were frustrated by women's resistance to obstetric interventions [20].

3.4. Training experiences and needs

Participants in the Sudanese study [22] reported that FGM knowledge had been largely gained from medical college; a small number conveyed that they had learned of FGM while working in hospitals and in their own practice. Most Egyptian medical students stated that they had gained knowledge of FGM from the print and broadcast media and the internet [24]. Many medical students felt the existing curricula did not provide them with adequate knowledge and skills. These students called for FGM to be incorporated into undergraduate medical curriculum, a view echoed by Egyptian doctors in Refaat's study [26].

Doctors in three studies from HICs reported learning about FGM from undergraduate and postgraduate medical training [21], on-the-job training [20], or both [25]. In one of the UK studies [25], a higher knowledge score was associated with post-specialist training and experience of caring for five or more women with FGM. Some US providers asserted they needed more formal training, but others felt it was unnecessary because they had become competent on the job [20]. Swedish providers expressed the need for clinical guidelines and more education of FGM issues led by professionals with experience of FGM [27].

4. Discussion

The present review has identified gaps in knowledge among doctors concerning the practice and consequences of FGM, in clinical guidelines for the care of women with FGM, and in the law as it relates to FGM.

Medical students and doctors in the Egyptian studies [24,26] supported the medicalization of FGM, which appears to be consistent with reports of the practice being increasingly undertaken by a doctor or nurse rather than a traditional practitioner [30]. However, the Egyptian studies largely comprised male participants, and their views differed from those of female Sudanese doctors [22]. In the Sudanese study, most participants were aged 20–30 years, had experienced FGM themselves, and were opposed to FGM and reinfibulation. In countries where FGM is not traditionally practiced, small numbers of doctors seem to be practicing FGM and/or reinfibulation [21,23,27].

Limited research is available concerning the clinical care of women with FGM in LMICs. The available evidence from the perspective of women suggests that there are considerable gaps regarding provider performance [31]. Despite doctors reporting that they had cared for women with FGM in HICs, awareness of clinical guidelines appears to be low. It is not clear whether doctors were unaware that such guidelines existed, or whether the guidelines had not been well circulated by the hospital or health authority in which they worked. Clinical guidelines do exist at national and hospital level in countries included

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in the present review [10]. In addition, intercollegiate recommendations for identifying, recording, and reporting FGM have been developed by professional bodies in the UK, including the Royal College of Obstetricians and Gynaecologists, the Royal College of Midwives, and the Royal College of Nurses [32]. Efforts are needed to raise clinicians' awareness of such guidelines.

Doctors in the HIC studies cited issues with language and communication in their efforts to care for women with FGM. Other studies have indicated the importance of interpreters for healthcare providers in HICs to support the care of migrant women [33]. Reported doctor frustration at women's lack of compliance and difficulties discussing FGM [20] could be addressed through improved cultural competence. Culturally competent care has been shown to have positive effects on patient care by enabling doctors to deliver services that are respectful of, and responsive to, the health beliefs, practices and cultural and linguistic needs of patients [34]. A commitment to cultural competency is also visible in a number of professional associations [35]. Evidence of the positive impact of cultural competency training on health professional knowledge and patients' ratings of care [36] has led to its incorporation in medical education curricula [37].

The use of a narrative synthesis method in the present review could have led to a reduction in detail in terms of contextual factors, which is a possible study limitation. However, efforts were made to maintain detail in the review through rich textual descriptions of the study's findings that provided a narrative across all studies. The heterogeneity of the methods and samples of the research included in the review prevent generalizations from being made across all studies. However, patterns have been identified that require further investigation with rigorous methods.

The present review has identified a need for improved education and training opportunities for medical students and doctors to build knowledge and skills and to change attitudes concerning the medicalization of FGM and reinfibulation. Although not included in the review, women's voices would enable doctors to learn from authentic scenarios relevant to their own work. Moreover, the view of midwives and nurses are also necessary to ensure quality education and coordinated care. There are few models to guide the development of curricula in this area. Some courses other than those described in the United Nations Population Fund's and United Nations Children's Fund's Joint Program of action [38] are specifically targeted at doctors or available to doctors in LMICs. An Africa Coordinating Centre for the Abandonment of FGM has been established in Kenya and one of its mandates is education of healthcare professionals. This center and initiatives at country level will better support Ministries of Health, professional bodies and healthcare providers to care for women with FGM and advocate for its abandonment.

Conflict of interest

The authors have no conflicts of interest.

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