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ORIGINAL PAPER

Knowledge, Attitudes, and Practices for Care of Women and Girls With FGM/C - A Survey of Health Workers at Swiss University Hospitals

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Abstract

There are approximately 24,600 women and girls with FGM/C currently living in Switzerland. Women and girls with FGM/C have health care needs related to FGM/C that Swiss health workers may not have adequate knowledge to address, or they may experience attitudes toward FGM/C and/or communities which practice FGM/C that result in poor experiences of care. Further, there are no current studies that assess Swiss health worker clinical practice in the care of this group. The aim of this study was to survey a national sample of Swiss health workers using a conceptual framework and valid measures of health worker knowledge, attitudes, and practices for care of women and girls with FGM/C. We conducted a cross-sectional web-based survey of multidisciplinary health workers including physicians, nurses, and midwives employed at the five Swiss University hospitals. 467 health workers completed the full survey. General knowledge of FGM/C and its associated health complications was high; however, knowledge of management of those complications was low. Health worker attitudes toward FGM/C overwhelmingly opposed the practice but demonstrated neutral or ambivalent attitudes toward ethical challenges and the provision of FGM/C-related care. There is a clinically important gap between health worker knowledge and practice with deficits in interpreter use, mental health screening and referral, and clinical documentation. This study is the first national assessment of health care provider knowledge, attitudes, and practices for FGM/C-related care in Switzerland. There are significant opportunities to improve health worker knowledge for FGM/C care, promote attitude and values clarification, and ensure that clinical practice is aligned with evidence-based practices for high quality FGM/C care. Competency-based strategies for health worker education can improve health care quality and outcomes for women and girls with FGM/C.

Keywords Female Genital Mutilation/ Cutting · Knowledge, Attitudes, and Practices · Switzerland · Health worker

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Abbreviations

FGM/C	Female genital mutilation/ cutting
KAP	Knowledge, attitudes, and practices
CEFR	Common European Reference Framework for Languages
WHO	World Health Organization

Introduction

Female genital mutilation/cutting (FGM/C) is a cultural practice that comprises all procedures involving the removal of the external female genitalia or other injury to the female genital organs for non-medical reasons.[1] FGM/C is associated with numerous adverse sexual, obstetric, and mental health outcomes, many of which are responsive to appropriate interventions and care.[2–4] While FGM/C is typically

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performed on children from infancy through adolescence, the health consequences can persist through the lifespan.[5].

There are ongoing debates regarding terminology, definitions, and classifications for practices commonly referred to as 'FGM/C.' Proposed alternative terms seek to encompass a broader range of genital modifications practiced on vulvas, penises, or intersex genitalia, among minors and adults, with or without consent, while also avoiding stigmatizing language and promoting terms acceptable to professionals, scholars, and affected individuals.[6–9] Nevertheless, *female genital mutilation* (FGM) is the terminology currently employed by the World Health Organization (WHO), headquartered in Switzerland, making this label with all its connotations particularly salient to the study population. As the KAP questionnaire used in the present study was derived from a WHO item bank, we found it appropriate to keep terminology consistent and utilized "FGM" in the questionnaire. In this manuscript, we use the term FGM/C (female genital mutilation/cutting) to both acknowledge the coexistence of the two terminologies and to recognize that womens' and girls' preferences regarding the terminology used to describe their experiences may vary.

In countries where FGM/C prevalence is mainly due to migration from countries where FGM/C is practiced (i.e. diaspora setting), a lack of health worker competence with FGM/C may put patients at risk of iatrogenic harm beyond the inherent health risks of FGM/C.[10] Clinical competence is a reflection of the health worker's knowledge, attitudes, and practices. Without specialized knowledge, health work practices may not reflect specific and beneficial recommendations for people with FGM/C, which includes screening, and referrals for treatment for FGM/C sequelae. Attitudes and practices that reflect cultural humility are also critical. Cultural humility is an approach to care grounded in self-awareness and appreciation for patients' expertise about their own social and cultural context.[11] In the absence of cultural humility, stigma and discrimination may be present in healthcare settings and contribute to poor outcomes, particularly for people who are marginalized because of their cultural practices (i.e. FGM/C), religion, nationality, racialization, linguistic need or other individual or community characteristics.[12,13].

In Switzerland there are approximately 24,600 women and girls who may have experienced, or may be at risk for, FGM/C[14, 15, 16]. Based on estimates using migration data, most women with FGM/C in Switzerland are believed to come from Eritrea, Somalia, and Ethiopia. [15] This is likely an underestimation because it does not include non-African women and girls nor individuals without a Swiss permit of residency; neither does it account for ethnicity, generational change, or the impact of migration and acculturation on the practice.[17] Although all types of Swiss health workers can provide care to people who have undergone FGM/C, they may not be adequately prepared to screen, assess, inform, counsel, manage, and/or refer these patients.[18–20] This reflects the lack of consistent pre- or post-graduate training across regions, canton, and university on how to care for women and girls with FGM/C.[21]

At present, there is no clear understanding of health workers' knowledge, attitudes, and practices (KAP) about FGM/C among health workers in Switzerland. Without this information, it is difficult to design appropriate learning activities to improve care. Other studies have attempted to describe health workers' KAP; however, the measures are often not well described, lack an underlying theoretical or conceptual framework, and/or are not context specific. Together, this makes it it difficult to accurately describe KAP related to FGM/C care.[22–24] Existing studies have explored some associations between health care provider characteristics including gender and past experiences related to FGM/C, personally or as a clinician.[25,26] Gender has been found to be associated with higher levels of knowledge and FGM/C care practices; however, existing studies have not controlled well for the covariance between gender and clinical specialties in nursing, midwifery, and obstetrics.

The purpose of this study was to use context-specific, conceptually informed, and evidence-based measures of knowledge, attitudes, and practices for care of women and girls with FGM/C in diaspora settings to assess a national sample of Swiss health workers. This paper presents the development of and findings from this nationally disseminated survey. These measures and our findings will inform ongoing efforts to improve the quality of pre-service and continuing education for health workers in Switzerland and other diaspora countries.

Materials and Methods

Measures

Expert Review, Item Revision, and Pre-testing

We used an item bank of 206 items (69 knowledge, 65 attitudes, and 72 practices items) derived from formative qualitative research with clinical and research experts in FGM/C, WHO Care of Girls and Women Living with FGM Clinical Handbook, and the WHO Guideline on the Prevention of FGM and Clinical Management of Complications to develop evidence-based assessments for knowledge, attitudes and practices.[27–29] Three health workers with expertise in FGM/C care (obstetrician/gynecologist, nurse-midwife, and pediatrics resident) independently reviewed each item according to whether it was (1) applicable to

the Swiss healthcare context, (2) specific to FGM/C care, and (3) reflected current evidence based best practices for FGM/C care. We removed items if they contained the answer in the root of the question (knowledge), were redundant, had responses susceptible to social desirability bias in Switzerland, or might lead participants to disclose illegal information or practices. The reviewers made recommendations to (1) keep the item for all respondents, (2) keep the item for a specific subset of respondents based on scope of practice (e.g. only applicable to pediatricians or obstetricians/ midwives), or (3) remove the item. We retained 31 knowledge items, 27 attitude items, and 33 practice.

We conducted cognitive interviews about the retained items with Swiss health workers ($n=5$) who speak English as a non-native language: a gynecologic nurse, two midwives and two primary care physicians. The goal of cognitive interviews is to ensure the coherence of a questionnaire and enhance its validity. We asked participants about their perception of each items' intended meaning and clarity of the language and concepts being addressed.[30] We then updated the interview guide to remove or revise problematic items. Following cognitive interviews, we excluded 8 items, added one, and rephrased 30 to improve coherence. The final survey had 104 items including: 20 demographic and clinical background, 27 knowledge, 22 attitudes, and up to 32 practice items depending on respondent scope of practice and exposure to types of patients (e.g. pediatric). See Additional File 1 for the full survey and branching logic. Finally, these 5 health workers pilot tested the survey to ensure acceptable participant burden with time to completion under 30 min; completion time ranged from 12 to 23 min.[31].

We conducted the survey in English. Switzerland has four national languages (Romansh, Italian, French, and German). English is routinely (and increasingly) used as the common language of health professionals who have different national languages and is also the required language for public presentations at some health professional conferences in Switzerland.[32] Swiss nationals are more likely to use English as a second language than any of the other national languages of Switzerland. As this study was the first KAP survey on FGM/C in different Swiss cantons, we elected to administer it in English to understand instrument performance and make adaptations before translating into four languages.

Knowledge

The knowledge assessment included items from the item banks for six knowledge domains adapted from the WHO KAP for FGM/C conceptual framework including: general knowledge of FGM/C, vulvar anatomy and function, ethical and legal considerations in FGM/C care, communication, health complications of FGM/C, and management of health consequences of FGM/C.[27] The knowledge assessment included an additional domain of questions applicable only to the intrapartum setting, and will be presented in a separate paper focused on sub-specialties. Question formats include multiple choice with four response options and true/false. All questions had one correct answer, and had an "I don't know" option in order to minimize error based on guessing. The items were scored as 1 if correct, and 0 if incorrect or "I don't know."

Attitudes

The attitudes assessment included questions related to five attitudes domains that we deemed clinically relevant in Switzerland, drawn from formative research including: more supportive attitudes towards those who practice FGM/C, less supportive attitudes towards those who practice FGM/C, attitudes favoring avoidance of FGM/C care, attitudes related to condemnation of FGM/C, and the affective response of caring for those with FGM/C.[27,33] The attitudes items were scored on a five-point Likert scale where 4 = Strongly Agree, 3 = Agree, 2 = Neither Agree/ Nor Disagree, 1 = Disagree, 0 = Strongly Disagree. Items were reverse coded to ensure consistency in scoring; more supportive/positive attitudes resulted in higher scores while more restrictive/negative attitudes lower scores. Items that inquire about participants' attitudes toward the value FGM/C holds for some women and stereotypes about communities who practice FGM/C serve as a reflection of cultural humility.

Practices

The practice items represent evidence-based approaches including questions regarding screening, assessment, documentation, counseling, and ethical-legal considerations. The items were coded with branching logic for those who: (1) care for girls under 18 years, (2) provide obstetric care, and (3) who have ever cared for a patient who had experienced FGM/C. All practice items ask participants to report their actual behavior in their clinical practice except for one hypothetical question about how health workers *would* respond *if* they identified FGM/C. We chose this format because of the low incidence in Switzerland, and to prevent participants disclosing behavior in conflict with local guidelines or laws. Practice items had variable response formats including yes/ no and five-point Likert response to assess for frequency or degree of agreement.

Setting and Participant Recruitment

We recruited a multidisciplinary group of health workers, including nurses, midwives, and physicians (health workers, henceforth) at the five Swiss University hospitals (Geneva, Lausanne, Bern, Zürich and Basel) were eligible to participate if they worked in the departments where FGM/C-related care was most applicable to the scope of practice: gynecology and obstetrics, urology, pediatrics, internal medicine, primary care medicine, psychiatry, infectious diseases, and tropical/travel medicine. Participants were ineligible if they had never heard of FGM/C and/or if they evaluated their English proficiency as less than "well" or "very well," or lower than a B1 level using the Common European Reference Framework for Languages (CEFR).[34].

We conducted recruitment from August 2021 to October 2021 via medical directors of the five Swiss University Hospitals who shared our recruitment email with health workers in the departments noted above. At one hospital, the medical director shared an email with the survey link with all physicians while nurses and midwives received it from their respective department heads. At the remaining hospitals the medical directors put us in contact with the department heads who then forwarded our email at their discretion. Reminder emails were sent to hospital contacts at 2 and 3 weeks, respectively. The contacts at the hospital facilities were willing to disseminate our survey but were not able to provide distribution lists or numbers of active contacts on existing email lists. There was a total of 4590 unique email addresses total, but given known limitations (inactive emails, duplicates, people no longer working) we cannot reliably estimate the number of individuals who received the survey. Interested participants were able to click on the survey link, complete an electronic consent, and complete the survey, which was managed using REDCap V. 13.6 hosted at Georgetown University.[35].

Statistical Analyses

We used SPSS version 26 and Stata Version 17 for the analyses. We performed descriptive analyses using frequencies and percentages for the demographic, clinical experience, attitudes, and practices items. The knowledge items had multiple responses formats, so we re-coded them to reflect correct versus incorrect responses prior to analysis. We included responses of "I don't know" as incorrect. We created a total score on the knowledge test that reflected the number and percentage correct out of 27 total items. We calculated mean knowledge score and standard deviations for the full sample, and minimum and maximum observed scores. Then, we used independent t-tests to compare mean scores of known groups that we hypothesized should have higher or lower knowledge of FGM/C (those who have provided care for those with FGM/C vs. not; ever received FGM/C training vs. not; read care guidelines for FGM/C vs. not). We assessed validity by comparing scores on the knowledge test between known groups using independent t-tests with statistical significance defined as $p<0.05$ among participants with no missing data in their knowledge test ($n=466$).

Ethical Review

We obtained ethical approval from the Swiss Ethics Committee on 21 June 2021 (Project Number 2018-01851) and the Institutional Review Board at the Georgetown University Medical Center on 29 August 2021 (Study Number 00004180). We obtained electronic consent from all participants. Participation was completely voluntary and anonymous. We did not offer any incentives.

Results

Participant characteristics

A total of 849 individuals completed the electronic consent. Among those, 568 completed the demographic questionnaire.101 participants did not submit any responses after the demographic questions. The remaining 467 participants were included in the analysis for a completion rate of 55%. There were no significant demographic differences between completers and non-completers, nor between language regions (French vs. German speaking). The final sample was mostly women and physicians, and nearly two-thirds work in French-speaking areas of Switzerland. See Table 1 for participant demographic and clinical characteristics.

Participants had diverse levels of exposure to FGM/C related to the awareness of the practice, guidelines, and previous training. Most of the participants were not aware of the WHO classification system for FGM/C, had not read FGM/C care guidelines, and had not received any training for FGM/C-related care. See Table 2 for participant FGM/C Clinical Experiences and Context.

Knowledge

We first scored the frequency of correct responses using percentages. Next, we generated knowledge scores for participants who completed 100% of the knowledge items ($n=466$). We calculated the scores by summing the total number of correct answers; therefore, higher scores indicate higher levels of knowledge. Out of 27 total knowledge items, there were 10 where >90% of respondents selected

Table 1 Demographic Characteristics

	N=467 *N* (%)	
Gender		
- Female/ Other**	337 (72.1)	
- Male	130 (27.9)	
Religion		
- None	213 (45.6)	
- Muslim	13 (2.8)	
- Christian	215 (46.0)	
- Jewish/ Other**	13 (2.8)	
- I refuse to answer	13 (2.5)	
How well do you read and speak English? *		
- Very Well (C1-C2)	235 (50.3)	
- Well (B1-B2)	232 (49.7)	
	Mean (SD)	**Range**
Age (in years)	36.9 (9.0)	23–65
Professional Title		
- Midwife	37 (7.9)	
- Hospital Nurse	84 (18.0)	
- Physician/ Doctor	346 (74.1)	
Department		
- Gynecology/ Obstetrics	127 (27.2)	
- Pediatrics	76 (16.3)	
- Urology	19 (4.1)	
- Psychiatry	34 (7.3)	
- Internal Medicine	116 (24.8)	
- Primary Care	36 (7.7)	
- Infectious Diseases/ Tropical Medicine	59 (12.7)	
Hospital Affiliation – University Hospital		
- Geneva	144 (30.8)	
- Lausanne	152 (32.5)	
- Bern	45 (9.6)	
- Zurich	36 (7.7)	
- Basel	90 (19.3)	
Do you ever care for patients under 18 years old?		
- Yes	313 (67.0)	
- No	154 (33.0)	
	Mean (SD)	**Range**
Years Working in Current Professional Title	9.2 (7.8)	0.5–36

Table 2 FGM/C Clinical Experiences and Context (*n*=467)

	N (%)
Are you aware of the WHO FGM classification system?	
- Yes	203 (43.5)
- No	245 (52.5)
- I don't know	19 (4.1)
Has FGM been practiced within your family of close contacts?	
- Yes/ I don't know/ I don't want to answer	18 (3.8)
- No	449 (96.1)
Does your work setting have professional guidelines for FGM?	
- Yes	106 (22.7)
- No	216 (46.3)
- I don't know	145 (31.0)
Have you ever read guidelines for the care of women and girls with FGM?	
- Yes	134 (28.7)
- No	284 (60.8)
- A little	49 (10.5)
Are you familiar with local regulations about reporting of FGM in children?	
- Yes	87 (18.6)
- No	313 (67.0)
- A little	67 (14.3)
Are you interested in learning more about FGM?	
- Yes	357 (76.4)
- No	19 (4.1)
- A little	91 (19.5)
Have you ever seen a woman or girl with FGM in your clinical setting?	
- Yes	*210 (45.0)*
- No	226 (48.4)
- I am not sure	31 (6.6)
If yes, how many patients with FGM have you seen?	*N*=210
One patient	22 (10.5)
<5 patients	57 (27.2)
5–20 patients	78 (37.1)
>20 patients	53 (25.2)
Did you receive previous trainings about FGM?	
- Yes	132 (28.3)
- No	335 (71.7)
If yes, what kind of training? (Select all that apply)	*N*=132
- Brief mention in class	47 (35.6)
- Full Class lecture	59 (44.7)
- Independent Study	51 (38.7)
- Trained with FGM Expert	32 (15.2)
- Other	17 (12.9)

the correct answer, and 3 items where <20% of respondents selected the corrected answer. Most participants were able to identify the definition of FGM/C; however, roughly only one-quarter were able to correctly identify FGM/C type using photographic images. Despite most participants being able to identify landmarks of vulvar anatomy, 17% of participants responded that FGM/C may include removal of the entire clitoris, which is not correct and demonstrates a lack of knowledge about the full extent of clitoral anatomy. The lowest scores overall were related to care of specific types of FGM/C and management of complications of FGM/C. See Table 3 for frequencies of correct responses to the knowledge assessment questions.

To evaluate the known group validity of the knowledge assessment, we compared mean scores of those with previous FGM/C experiences compared to those without. As hypothesized, we found that participants who had ever cared for clients with FGM/C, had received FGM/C training, and had ever read FGM/C care guidelines had significantly higher knowledge test scores compared with those who

Table 3 Knowledge Test – Percentage of Participants who Selected the Correct Response ($n=467$)

	Correct *N* (%)
General FGM/C Knowledge – Definition and Types	
What is the definition of FGM/C?	380 (81.4)
What type of FGM/C (according to the WHO classification) does the diagram represent? (Type 1)	130 (27.8)
What type of FGM/C (according to the WHO classification) does the diagram ABOVE represent? (Type 3)	111 (23.8)
What type of FGM/C (according to the WHO classification) does the diagram ABOVE represent? (Type 4)	105 (22.5)
What type of FGM/C (according to the WHO classification) does the diagram ABOVE represent? (Type 2)	86 (18.4)
Female Genital Anatomy and Function*(color photograph of female genitals)*	
In the image, which anatomical structure is indicated by the white arrow? (Labium Minus)*	442 (95.3)
In the image, which anatomical structure is indicated by the white arrow? (Urethra)*	427 (92.4)
In the image, which anatomical structure is indicated by the white arrow? (Clitoris)*	424 (91.4)
In the image, which anatomical structure is indicated by the white arrow? (Hymenal Caruncle)*	416 (89.7)
FGM/C may include the removal of the entire clitoris	79 (17.0)
Ethical and Legal Considerations in FGM/C Care	
It is illegal to perform FGM/C in Switzerland	430 (92.3)
Women with FGM may not seek health care because they fear legal consequences	368 (79.3)
It is illegal to transport a person outside Switzerland for FGM/C (vacation cutting)	327 (70.2)
Communication	
Women with FGM/C may avoid coming to see some health professionals because they fear that they will be stigmatized	441 (94.6)
Women have the right to refuse defibulation during childbirth even if the health professional thinks that the woman should be defibulated	296 (63.9)
Health Complications of FGM/C	
Women with FGM/C may experience anxiety, depression or Post-Traumatic Stress Disorder (PTSD) related to their FGM/C	447 (96.8)
FGM/C may cause chronic pain at the site where the woman was cut	445 (95.9)
Women with FGM/C may not know that FGM can cause health problems	443 (95.1)
Women with FGM/C may experience traumatic flashbacks to their FGM during genital examination	441 (95.0)
FGM/C may be associated with recurrent urinary tract infections	425 (91.6)
FGM/C type 3 may cause slowed urinary emptying	278 (59.9)
Management of Health Consequences of FGM/C	
Can FGM/C-related sexual problems be treated?	300 (64.4)
After defibulation, women may report that the vagina feels more open	279 (60.5)
After defibulation, women may report faster urine flow	270 (58.3)
Clitoral reconstruction is a surgery that may decrease pain caused by scar tissue on or near the clitoris of a woman who has FGM/C	206 (44.2)
Clitoral reconstruction is a surgery that will reverse the FGM/C	189 (40.6)
FGM/C type 3 is a sufficient indication to perform a cesarean birth	66 (14.2)

did not. Additionally, respondents who work in obstetrics/gynecology and identify as female, respectively, had higher knowledge scores compared to those who do not; however, female gender and obstetric specialty are highly correlated. Those who rated their ability to speak and understand English "very well" had significantly higher knowledge scores. There were no statistically significant differences in knowledge scores between the predominantly French-speaking vs. German-speaking hospitals. See Table 4 for details of Known Group Validity testing.

Attitudes

Overall, participant attitudes demonstrated opposition to parents' right to have FGM/C performed on a daughter, including the "harm reduction/alternative ritual" practice of pricking the clitoral hood. Participants mostly disagreed (71.6%) and few neither agreed nor disagreed (17.2%) about the perceived social and cultural value of the practice. There was a wide distribution of responses as to whether FGM/C is a cultural practice, and whether adult women should be able to elect FGM/C; however, there was general agreement

Table 4 Knowledge - Known Group Validity ($n=466$)

Total Score (27 possible)	RANGE	Mean	SD
	1–27	17.7	4.6
PREVIOUS FGM/C EXPERIENCES			
	N (%)	Mean (SD)	p-value
Ever Cared for FGM/C-Affected patient	210 (45)	19.9 (4.3)	***<0.001***
- Yes	256 (55)	15.9 (4.0)	
- No/ Not Sure			
Received FGM/C Training	132 (28)	20.4 (4.1)	***<0.001***
- Yes	334 (72)	16.6 (4.3)	
- No			
Read FGM/C Care Guidelines	183 (39)	20.4 (3.8)	***<0.001***
- Yes/ A Little	283 (61)	15.9 (4.1)	
- No			
LINGUISTIC			
Speak English	234 (50)	18.6 (4.6)	***<0.001***
- Very Well	232 (50)	16.8 (4.4)	
- Well			
Hospital Linguistic Region	295 (63)	17.8 (4.5)	0.395
- French (Geneva, Lausanne)	171 (37)	17.5 (4.7)	
- German (Bern, Zurich, Basel)			
DEMOGRAPHIC and SCOPE OF PRACTICE			
Gender	337 (72)	18.1 (4.5)	***<0.001***
- Female/ Other	129 (38)	16.5 (4.5)	
- Male			
Department	127 (27)	21.5 (4.1)	***<0.001***
- Obstetric	339 (63)	16.3 (4.1)	
- Non-Obstetric			

Bold, italicized text indicates statistical significance $p<0.05$

(78.9%) that adult women should have the right to undergo genital cosmetic surgery. Most participants (67.8%) felt that it is wrong to cut the genitals of any child (including boys and intersex children) and that genital cutting of girls merits some punishment (62.6%). Most participants disagreed that they should avoid discussing FGM/C or that it was not their responsibility (84.0%); though responses indicate that there are diverse views about how clients may respond if FGM/C is raised by the health worker. Participant responses trended towards neutrality or ambivalence when asked if they should condemn the practice to patients, and whether they experience distress themselves when caring for patients with FGM/C. See Table 5 for complete Attitudes responses.

Practices

Among the full sample ($n=467$), most (53.2%) participants report that they never ask if women have experienced FGM/C. Among participants who have ever care for a woman or girl with FGM/C ($n=210$), the frequency of screening for mental, gynaecological, and sexual health concerns is highly variable. Gynaecological and sexual health concerns are addressed often with most participants either frequently (41.%, 37.6%, respectively) or always (29.3%, 22.4% respectively) screening. Mental health concerns are addressed less often, with only 27.3% screening frequently and 12.7% screening always.

Less than a third of all ($n=467$) participants ($n=32.8\%$) report that they always use an interpreter when they do not share a language with the patient. The most frequently cited reasons for not using an interpreter (among $n=312$ participants who do not always use an interpreter) were that none were available (79.2%) or they did not have time (32.9%).

Among participants who have ever cared for a patient with FGM/C ($n=21$), documentation practices are also variable. Most participants either frequently (31.2%) or always (35.3%) document FGM/C in the medical record; slightly fewer frequently (18.3%) or always (27.2%) document FGM type. Roughly a third (33.5%) of participants always counsel a woman with FGM/C against FGM/C for a girl child. The most common responses when asked about whether they provide education about sexual health were sometimes (27.8%) and frequently (31.2%).

Among participants who provide care for children ($n=313$), more than half (58.5%) of participants state that they *would* report FGM/C in a child to the authorities, and roughly one-third (36.3%) report that they do not know whether they would report or not. See Table 6 for complete Practice responses with frequencies and percents.

Discussion

Our findings demonstrate gaps in health worker knowledge, including knowledge of FGM/C types, clitoral anatomy, and management of health complications. In addition, there are gaps in practice, including screening for FGM/C, the use of interpreters, and documentation of FGM/C. Together, these findings demonstrate the need for increasing health workers' competence in caring for people with FGM/C. The results of our study can inform strategies to improve health workers' ability to provide evidence-based, culturally humble care to people with FGM/C.

Similar to other diaspora settings, Swiss health workers have limited training in, or familiarity with, evidence-based care guidelines for FGM/C, which may result in failure to prevent harm, treat complications, or provide referrals.[33,36,37] The level of expertise that a physician must possess at the beginning of their postgraduate training in Switzerland is determine by the Principal Relevant Objectives and Framework for Integrated Learning and Education in Switzerland (PROFILES).[38] This document from PROFILES is published in English, further evidence of the mainstream use of English among health professionals in Switzerland. PROFILES includes competencies for sexual and reproductive health and rights and genital anatomy, including of the vulva and clitoris.

Table 5 FGM/C Attitudes (N=465)

	N (%)				
	Strongly Disagree	Disagree	Don't Agree nor Disagree	Agree	Strongly Agree
Attitudes toward FGM/C					
More Supportive					
1. Parents have the right to have their daughters' genitals cut	439 (94.4)	20 (4.3)	2 (0.4)	0	4 (0.9)
2. Pricking (small puncture of) the clitoral hood, with a small needle, may be an acceptable alternative to more extensive FGM/C	328 (70.8)	65 (14.0)	47 (10.2)	8 (1.7)	15 (3.2)
3. The social benefits of FGM/C are more important than the health risks for some women	255 (54.8)	78 (16.8)	80 (17.2)	37 (8.0)	15 (3.2)
4. Communities that practice FGM/C are honouring an important cultural tradition	168 (33.4)	103 (22.3)	125 (27.1)	59 (12.8)	7 (1.5)
5. FGM/C is a religious practice	141 (30.5)	101 (21.9)	116 (25.1)	92 (19.9)	12 (2.6)
6. Adult women should have the right to undergo FGM/C if they choose to	69 (15.0)	90 (19.5)	148 (32.1)	115 (25.0)	39 (8.5)
7. Women with FGM/C deserve to feel that their genitals are attractive	15 (3.3)	16 (3.5)	115 (25.0)	174 (37.7)	141 (30.6)
8. Adult women should have the right to undergo genital cosmetic surgery	7 (1.5)	11 (2.4)	75 (16.2)	190 (41.0)	180 (38.9)
Less Supportive					
9. Parents who have their daughter's genitals cut should receive some punishment	28 (6.1)	33 (7.1)	112 (24.2)	138 (29.8)	152 (32.8)
10. It is wrong to cut/surgically alter the genitals of any child (boy, girl or intersex)	57 (12.3)	28 (6.1)	64 (13.8)	68 (14.7)	246 (53.1)
11. Women with FGM/C are less educated	152 (32.7)	147 (31.6)	113 (24.3)	47 (10.1)	6 (1.3)
12. Women with FGM/C are victims	10 (2.2)	11 (2.4)	71 (15.3)	197 (42.6)	174 (37.6)
13. FGM/C makes a woman less of a woman because her genitals have been altered	275 (59.4)	92 (19.9)	55 (11.9)	30 (6.5)	11 (2.4)
14. Communities that practice FGMC are oppressive towards women	3 (0.7)	13 (2.8)	109 (23.5)	208 (44.9)	130 (28.1)
15. Women with FGM/C do not frequently experience sexual pleasure	11 (2.38)	39 (8.4)	203 (43.8)	158 (34.1)	52 (11.2)
Attitudes toward providing care for those with FGM/C					
Avoidance and Condemnation					
16. Women may be offended if the health professional discusses FGM/C with them	51 (11.1)	148 (32.2)	92 (20.0)	150 (32.6)	19 (4.1)
17. During a clinical consultation, if a patient does not talk about FGM/C, the professional should not mention it either	157 (33.9)	245 (52.9)	50 (10.8)	9 (1.9)	2 (0.4)
18. It is not within my job responsibility to address FGM/C	204 (44.3)	183 (39.7)	52 (11.3)	14 (3.0)	8 (1.7)
19. It is not my place to condemn FGM/C	149 (32.2)	184 (39.7)	67 (14.5)	45 (9.7)	18 (3.9)
20. Health professionals should strongly condemn FGM/C when talking to patients	63 (13.6)	137 (29.5)	146 (31.5)	90 (19.4)	28 (6.0)
Affective Response					
21. I feel distressed when I deal with a woman or girl's experience of FGM/C	24 (5.23)	100 (21.8)	144 (31.4)	157 (34.2)	34 (7.4)
22. It is difficult for me to hide my distress when caring for women with FGM/C	65 (14.1)	156 (33.9)	175 (38.0)	53 (11.5)	11 (2.4)

*1 missing response for Item #20, 2 missing responses for Items #2, 8, 9, 10, 12, 13, 14, 15, 17, 19, 3 missing responses for Items #4, 5, 4 missing responses for Items #6, 7, 18, 5 missing responses for Items #16, 22, 6 missing responses from Item # 21

Despite existing standards, recent research has underlined the need for improving health professionals' education in sexual anatomy, physiology, and health.[39–41] Knowledge gaps in sexual anatomy and health can contribute to gaps in knowledge, attitude, and practices when it comes to recognizing and caring for the consequences, both short- and long-term, of FGM/C. Indeed, including FGM/C when discussing other topics in sexual and reproductive health curricula (e.g. violence, human rights, sexual pain, clitoral and vulvar anatomy and physiology, etc.) could be a key training strategy.

Table 6 FGM/C Related Clinical Practices (n=467)

Screening for FGM/C						
	Never	Rarely	Sometimes	Frequently	Always	Only if I suspect FGM
How often do you ask women if they have experienced FGM/C?[a*]	245 (53.2)	99 (21.5)	39 (8.5)	26 (5.64)	6 (1.5)	46 (10.0)
How often do you screen for FGM/C-related concerns in: **						
Mental health[c]	27 (13.2)	44 (21.5)	52 (25.4)	56 (27.3)	27 (12.7)	
Gynaecological health[c]	12 (5.9)	15 (7.3)	33 (16.1)	85 (41.5)	60 (29.3)	
Sexual health[c]	14 (6.8)	30 (14.6)	38 (18.5)	77 (37.6)	46 (22.4)	
Interpreter Use						
	Never	Rarely	Sometimes	Frequently	Always	
How often do you use an interpreter if you and your patient do not speak the same language?[b*]	3 (0.7)	25 (5.4)	72 (15.5)	212 (45.69)	152 (32.8)	
	Not Available	No Time	Do not trust the quality	Do not know how to access	Too expensive	
If you don't *always* interpreter when indicated, why not? *** (*select all that apply)*	247 (79.2)	112 (35.9)	9 (2.9)	16 (5.1)	17 (5.4)	
Documentation Practices						
	Never	Rarely	Sometimes	Frequently	Always	
How often do you document: **						
FGM status[d]	31 (15.4)	29 (14.4)	29 (14.4)	41 (20.4)	71 (35.3)	
WHO FGM type [e]	63 (31.2)	29 (14.4)	18 (8.9)	37 (18.3)	55 (27.2)	
Education and Counseling						
How often do you: **	Never	Rarely	Sometimes	Frequently	Always	
educate about sexual health[c]	22 (10.7)	32 (15.6)	57 (27.8)	64 (31.2)	30 (14.6)	
counsel against FGM for daughters[f]	38 (18.7)	34 (16.8)	26 (12.8)	37 (18.2)	68 (33.5)	
Pediatric Considerations						
	Yes, Depends Timing/ Setting	Yes, Always	No	I don't know		
If you were to identify a minor who had FGM, would you report it to the authorities? ****	83 (27.1)	96 (31.4)	16 (5.2)	111 (36.3)		

[a] 6 missing, [b] 3 missing, [c] 5 missing, [d] 9 missing, [e] 8 missing, [f] 7 missing

*All participants (n=467)

**Participants who have ever care for a woman or girl with FGM/C (n=210)

***Participants who do not always use an interpreter (n=312)

**** Participants Who Ever Care for Children <18 (n=313)

Consistent with other multidisciplinary samples in high and low resource countries, we found that general knowledge of FGM/C, its health complications, and illegality were high. Conversely, knowledge of FGM/C types, clitoral anatomy, and the clinical management of FGM/C was low, even among pelvic medicine specialists.[42–45] The knowledge deficits around clitoral anatomy, strikingly common among health workers, highlight the need to improve medical, nursing, and midwifery training and continuing education (CE) curricula in female sexual medicine for both specialists and general practitioners.[42,43] Knowledge of vulvar and clitoral anatomy, including physiologic and pathologic variations, can help clinicians understand what has been altered by the FGM/C, associated complications, and treatment options, including clitoral surgery and defibulation to improve genito-urinary symptoms.[46,47] Addressing knowledge deficits through didactic education

and precepted clinical training is imperative to improving quality of care and preventing iatrogenic harm.

Our results confirm findings from the US[25,48] and Belgium[23] which state that health workers with the highest level of knowledge about FGM/C were those with the most clinical experience caring for those with FGM/C, who have received FGM/C training, and/or have read FGM/C clinical guidelines. This finding reaffirms the feasibility of improving FGM/C related care via investments in education and training to ensure that quality of care does not rely on the chance of encountering a trained and experienced health worker.[49,50] There are a myriad of opportunities to integrate FGM/C content into preservice and CEU courses, including anatomy, obstetrics, gynecology, urology and human sexuality. Updated Swiss national recommendations (2023), endorsed by several Swiss medical societies, and the WHO's Clinical Handbook for FGM/C should inform curricula.[17,28].

Knowledge impacts attitudes, and negative attitudes are transmitted to the patient via stigmatizing language or behaviour. Therefore, health workers must also gain knowledge about cultural, ethical and interpersonal considerations in FGM/C care to avoid stigmatizing patients. Few health workers in this study recognized that some people who practice FGM/C believe that the social benefits for girls and women outweigh the health risks, or that continuing the practice is honouring an important cultural tradition. While not all people with FGM/C hold these beliefs, they are very common.[28] Negative health workers attitudes represent a fundamental gap in knowledge about FGM/C, a gap that contributes to stigma toward the practice and bias toward the individual with whom it is associated. Experience or fear of this bias can cause women and girls to delay or avoid care altogether.[51] This foundational knowledge and related attitudes about how FGM/C is viewed by some practicing communities can be addressed in FGM/C-specific courses and/or as part of broader discussions around health care ethics, gender-based violence, public and health policy, and advocacy.[52].

We evaluated health worker attitudes that formative research indicated were clinically relevant domains for the provision of quality care.[27] Health workers' attitudes toward providing FGM/C related care indicated that many may feel unsure if they would offend people by raising FGM/C; however, most did feel that addressing FGM/C was part of their job. Similar tensions arise in the global literature where health workers want to provide excellent care for those with FGM/C but feel limited by lack of training and insecurity around broaching the topic with patients, particularly when there is a cultural or linguistic barrier.[53] Health worker attitudes embracing their responsibility for FGM/C care were at odds with their reported practices: only 10% of respondents said they ask about FGM/C even when they suspect it may have occurred, which is similar to rates in other high resource settings.[54] This avoidance may be related to provider discomfort with FGM/C, which in the migratory context may reflect a lack of training in sexual health as early as the undergraduate level.[36] Qualitative research has demonstrated that health workers with minimal exposure to FGM/C may not have formed clear attitudes toward FGM/C, their clinical role and scope, and/or the ethical and legal dilemmas that may be present during FGM/C-related care.[55].

Health worker attitudes toward FGM/C can impact what care is offered[56]. Swiss health workers in our sample, similar to other high resource settings, overwhelmingly oppose FGM/C in children, including the harm reduction practice of "pricking" (making a small cut on the clitoris).[48] While opposition to the practice is in line with international human rights standards, a negative affective response from health workers can burden patients. Nearly 40% of our sample reported feeling distress when working with a client with FGM/C. While a health worker may have a negative attitude toward the practice of FGM/C and not necessarily the person with FGM/C, that negative regard can nonetheless create unnecessary and detrimental emotional labor for women with FGM/C as they prepare for and navigate a reproductive health care visit.[56] During a birth, health workers' negative attitudes about FGM/C can retraumatize women.[57] Health worker attitudes toward adult women electing FGM/C were ambivalent, with scores trending toward the median. Most respondents were supportive of adult womens' right to elective cosmetic genital surgery which presents interesting opportunities to explore cultural practices, autonomy, and moral relativism.[58] Scholars of cross cultural ethics have noted that public discourse about "FGM" is often highly racialized.[59,60] A study of Swiss media depictions of FGM/C found that it is typically characterized as "primitive", whereas cosmetic surgery is considered "scientific" and therefore more acceptable.[61] Other ethical issues arise when cosmetic genital surgery is compared to male circumcisions. Health workers who are not regularly exposed to FGM/C may not have had the opportunity to develop attitudes or to resolve cultural dissonance.[62,63].

The responses to the *Practices* questions help contextualize participant knowledge and attitudes. More than 80% of participants disagreed or strongly disagreed that they are *not responsible* for interviewing for or managing short- or long-term effects of FGM/C, this does not translate into proactive responsibility. Consistent with data from Belgium, most Swiss participants (75%) never or rarely asked women if they had experienced FGM/C.[23] Nearly all (96.8%) participants knew that FGM/C may cause mental health

problems; however, only 40% frequently or always screen those with FGM/C for mental health concerns. Addressing the health worker knowledge-to-practice gap is a critical area for educational interventions which can improve quality of care.

While interpreter service is not specific to FGM/C care, most of those with FGM/C in Switzerland are migrants and can experience stigmatization. Minimizing communication barriers through consistent interpreter use is an important component of high-quality FGM/C care.[64,65] Participants reported inadequate use of interpretative services with lower levels reported in the German-speaking regions compared to the French, which may reflect differences in health system capacity for interpreter services.[66] The reasons for not consistently using interpreter services were consistent with barriers documented internationally, leading with *no interpreter available*.[67,68] In addition to availability, interpreters must be well prepared to discuss sexual health and FGM/C to ensure an accurate and complete interpretation of health care interactions.[69] A health systems level commitment is needed to ensure the availability, preparedness, and usage of interpreters.

We uncovered additional individual practices that can be improved by health worker education and health system support. Health workers' responses varied widely regarding their documentation of the presence of FGM/C, counsel against FGM/C, or hypothetical generation of a report if they believed a child had undergone FGM/C. The lack of documentation is consistent with a review of hospital records in Switzerland that suggested a low capacity for documentation of FGM/C in the medical record.[15] Coding is critical because without it, direct estimates of the number of persons with FGM/C, their possible health complications, associated procedures, and possible indicators of quality of the care offered will remain inaccurate. If these numbers remain inaccurate, the gaps in care will be invisible and therefore no systemic changes will be implemented to reach the quality of care desired.

When health workers display cultural humility, they recognize cultural contexts outside of their own and share power in decision making with their patients.[70] Without accurate information about the cultural significance of FGM/C for affected communities and culturally sensitive treatment approaches, we cannot address the FGM/C related gaps evident in our study. This gap could deprive women and girls of quality care and expose them to the risks of untreated sequelae, particular in the context of migration. This gap can be addressed by competency-based education - a system of instruction-based demonstration of knowledge, attitudes, and skills considered essential for quality care in a given setting.[71] Experts must develop competency-based learning resources on FGM/C and integrate them into existing pre-service and continuing education opportunities. This will accelerate efforts to decentralize FGM/C-specific expertise and bridge the knowledge gap among providers.

Limitations

This study had limitations. We surveyed only in the Swiss university hospitals, thus cannot generalize to private care settings. We recruited via medical and nursing directors within hospitals, which have limited reach. The staff at the hospital facilities were willing to disseminate our survey but were not able to provide distribution lists; thus, we cannot reliably estimate the number of individuals who received the survey. Future national surveys in Switzerland may achieve better participation rates via professional societies. Survey engagement may have been suppressed due to the COVID-19 pandemic, when many health workers were overworked. We did not provide incentives. Our survey required 10–25 min to complete, which may have impacted the completion rate. However, most participants who started the survey did not proceed past the demographic's questions, but those who moved past the demographics portion completed the survey fully, indicating that lack of completion was likely not due to survey length. Because we did not use a random sample of health workers, our findings may be influenced by response bias. Due to the convenience sample and high correlation between gender and health worker specialty area, we did not disaggregate responses by gender; however, future research should explore the role of gender and health worker specialty areas for FGM/C care. Our sample was weighted towards participants from French speaking areas (~ ⅔) compared to German (~⅓) where cantons may differ in terms of training, sensitization campaigns, and migrant/immigrant populations. We did not translate the questionnaire into all of Switzerland's national languages, thus excluding health workers with less English proficiency (below the CEFR B-1 standard). We did limit eligibility to those who self-assess their ability to understand English as "well" or "very well," but it is possible that some did not accurately self-assess their fluency in ways that impacted their responses. Inversely, participants with higher English fluency may have increased access to education and training on FGM/C. Despite these limitations, our study's findings are made more valuable because it is one of few which based its KAP measures on formative research and was guided by a conceptual framework. We were able to survey health workers at all five Swiss university hospitals and had a diverse national sample.

Conclusion

We conducted the first multidisciplinary national survey of Swiss health worker knowledge, attitudes, and practices for the FGM/C-related care. We created a KAP measure that was context-specific and derived from evidence.[27] Our findings show gaps between health worker knowledge and practice, and an opportunity for the clarification of health workers' attitude and values. Our work can inform the development of competency-based learning activities to improve health workers' ability to provide evidence-based, culturally humble care for people with FGM/C and therefore improve both short- and long-term outcomes. Teaching modalities must address health worker knowledge for FGM/C care, promote and cultural humility, and ensure that clinical practice is aligned with evidence-based practice.

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Data Availability The datasets used and analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Competing interests The authors declare no competing interests.

References

1. World Health Organization. Female Genital Mutilation. 2023. Available from: https://www.who.int/news-room/fact-sheets/detail/female-genital-mutilation [Last accessed: 10/31/2023].
2. Nzinga A-M, De Andrade Castanheira S, Hermann J, et al. Consequences of Female Genital Mutilation on Women's Sexual Health – Systematic Review and Meta-Analysis. J Sex Med. 2021;18(4):750–60. https://doi.org/10.1016/j.jsxm.2021.01.173.
3. Lurie JM, Weidman A, Huynh S et al. Painful gynecologic and obstetric complications of female genital mutilation/cutting: A systematic review and meta-analysis. McGovern T. edPLOS Med. 2020;17(3):e1003088; https://doi.org/10.1371/journal.pmed.1003088
4. O'Neill S, Pallitto C. The Consequences of Female Genital Mutilation on Psycho-Social Well-Being: A Systematic Review of Qualitative Research. Qual Health Res. 2021;31(9):1738–50. https://doi.org/10.1177/10497323211001862.
5. Sylla F, Moreau C, Andro A. A systematic review and meta-analysis of the consequences of female genital mutilation on maternal and perinatal health outcomes in European and African countries. BMJ Glob Health. 2020;5(12):e003307. https://doi.org/10.1136/bmjgh-2020-003307.
6. Fusaschi M. Gendered genital modifications in critical anthropology: from discourses on FGM/C to new technologies in the sex/gender system. Int J Impot Res. 2023;35(1):6–15. https://doi.org/10.1038/s41443-022-00542-y.
7. Ahmadu FSN, Bader D, Boddy J, et al. Harms of the current global anti-FGM campaign. J Med Ethics. 2025. https://doi.org/10.1136/jme-2025-110961.
8. von Fritschen U, Strunz C, Scherer R, et al. Postoperative Course of Reconstructive Procedures in FGM Type III-Proposal for a Modified Classification of Type III Female Genital Mutilation. Int J Environ Res Public Health. 2023;20(5):4439. https://doi.org/10.3390/ijerph20054439.
9. Shahvisi A, Abdulcadir J, Garcés de Marcilla M, et al. Problems in defining medicalised FGM and proposed solutions. Lancet. 2024;404(10466):1924. https://doi.org/10.1016/S0140-6736(24)02183-4.
10. Johnson-Agbakwu CE, Michlig GJ, Koukoui S, et al. Health outcomes and female genital mutilation/cutting: how much is due to the cutting itself? Int J Impot Res. 2023;35(3):218–27. https://doi.org/10.1038/s41443-022-00661-6.
11. Lekas H-M, Pahl K, Fuller Lewis C. Rethinking Cultural Competence: Shifting to Cultural Humility. Health Serv Insights. 2020;13:1178632920970580. https://doi.org/10.1177/1178632920970580.
12. Stangl AL, Earnshaw VA, Logie CH, et al. The Health Stigma and Discrimination Framework: a global, crosscutting framework to inform research, intervention development, and policy on health-related stigmas. BMC Med. 2019;17(1):31. https://doi.org/10.1186/s12916-019-1271-3.
13. Johnson-Agbakwu CE, Manin E. Sculptors of African Women's Bodies: Forces Reshaping the Embodiment of Female Genital Cutting in the West. Arch Sex Behav. 2021;50(5):1949–57. https://doi.org/10.1007/s10508-020-01710-1.
14. Federal Office of Public Health. Measures against Female Genital Mutilation. n.d. Available from: https://www.bag.admin.ch/bag/en/home/strategie-und-politik/nationale-gesundheitsstrategien/gesundheitliche-chancengleichheit/chancengleichheit-in-der-gesundheitsversorgung/massnahmen-gegen-weibliche-genitalverstuemmelung.html [Last accessed: 6/16/2023].
15. Cottler-Casanova S, Abdulcadir J. Estimating the indirect prevalence of female genital mutilation/cutting in Switzerland. BMC

Public Health. 2021;21(1):1011. https://doi.org/10.1186/s12889-021-10875-w.
16. OFSP O fédéral de la santé publique. Mesures contre les mutilations génitales féminines. n.d. Available from: https://www.bag.admin.ch/bag/fr/home/strategie-und-politik/nationale-gesundheitsstrategien/gesundheitliche-chancengleichheit/chancengleichheit-in-der-gesundheitsversorgung/massnahmen-gegen-weibliche-genitalverstuemmelung.html [Last accessed: 12/12/2023].
17. Reseau suisse contre l'ecision. Situation En Suisse - Information, Éducation et Conseil. n.d. Available from: https://www.excision.ch/reseau/excision/situation-en-suisse [Last accessed: 6/16/2023].
18. Mauri F, Cottler-Casanova S, Cavassini M, et al. Female Genital Mutilation/Cutting in the Swiss HIV Cohort Study: A Cross-Sectional Study. J Immigr Minor Health. 2023;25(1):136–41. https://doi.org/10.1007/s10903-022-01390-0.
19. Horowicz M, Cottler-Casanova S, Abdulcadir J. Diagnoses and procedures of inpatients with female genital mutilation/cutting in Swiss University Hospitals: a cross-sectional study. Reprod Health. 2022;19(1):104. https://doi.org/10.1186/s12978-022-01411-z.
20. Abdulcadir J, Dugerdil A, Boulvain M, et al. Missed opportunities for diagnosis of female genital mutilation. Int J Gynaecol Obstet Off Organ Int Fed Gynaecol Obstet. 2014;125(3):256–60. https://doi.org/10.1016/j.ijgo.2013.11.016.
21. Balfour J, Abdulcadir J, Say L, et al. Interventions for healthcare providers to improve treatment and prevention of female genital mutilation: a systematic review. BMC Health Serv Res. 2016;16:1–6. https://doi.org/10.1186/s12913-016-1674-1.
22. Abdulcadir J, Say L, Pallitto C. What do we know about assessing healthcare students and professionals ' knowledge, attitude and practice regarding female genital mutilation ? A systematic review. Reprod Health. 2017;1–13. https://doi.org/10.1186/s12978-017-0318-1.
23. O'Neill S, Richard F, Alexander S, et al. Knowledge of female genital cutting among health and social care professionals in Francophone Belgium: A cross-sectional survey. PLOS Glob Public Health. 2024;4(7):e0002225. https://doi.org/10.1371/journal.pgph.0002225.
24. Hamdy A, Aboushady AT, Moty HIAE, et al. Knowledge, attitudes, and practices of Female Genital Mutilation / Cutting among healthcare providers in two public hospitals in Egypt: A cross-sectional study. PLOS Glob Public Health. 2023;3(12):e0002724. https://doi.org/10.1371/journal.pgph.0002724.
25. Marea CX, Warren N, Glass N, et al. Factors Associated with Health Care Provider Attitudes, and Confidence for the Care of Women and Girls Affected by Female Genital Mutilation/Cutting. Health Equity. 2021;5(1):329–37. https://doi.org/10.1089/heq.2020.0130.
26. Kaplan A, Torán-Monserrat P, Moreno-Navarro J, et al. Perception of primary health professionals about female genital mutilation: from healthcare to intercultural competence. BMC Health Serv Res. 2009;9:11. https://doi.org/10.1186/1472-6963-9-11.
27. Marea CX, Warren N, Glass N et al. Advancing the measurement of knowledge, attitudes and practices of health workers who care for women and girls who have undergone female genital mutilation/ cutting (FGM/C): A qualitative exploration of expert opinion. Cheptum JJ. ed. PLOS ONE. 2023;18(4):e0284900; https://doi.org/10.1371/journal.pone.0284900
28. WHO. WHO | Care of Girls and Women Living with Female Genital Mutilation. 2018.
29. World Health Organization. WHO Guidelines on the management of health complications from female genital mutilation. 2016;64.
30. Balza JS, Cusatis RN, McDonnell SM, et al. Effective questionnaire design: How to use cognitive interviews to refine questionnaire items. J Neonatal-Perinat Med. 2022;15(2):345–9. https://doi.org/10.3233/NPM-210848.
31. Sharma H. How short or long should be a questionnaire for any research? Researchers dilemma in deciding the appropriate questionnaire length. Saudi J Anaesth. 2022;16(1):65–8. https://doi.org/10.4103/sja.sja_163_21.
32. Federal Statistical Office SC. Languages: Main Languages, Languages Spoken at Home and at Work. Federal Population Census Structural Survey. 2022. Available from: https://datawrapper.dwcdn.net/5740cf2038eb32d363ad86c02f257a59/6/ [Last accessed: 12/18/2024].
33. Marea CX, Warren N, Hopkins J et al. Assessing the Reliability and Validity of Attitudes and Condence Scales for the Care of Women and Girls Affected by Female Genital Mutilation/Cutting. n.d.;1–28.
34. Council of Europe. The CEFR Levels - Common European Framework of Reference for Languages (CEFR). n.d. Available from: https://www.coe.int/en/web/common-european-framework-reference-languages/level-descriptions [Last accessed: 6/16/2023].
35. Harris PA, Taylor R, Minor BL, et al. The REDCap consortium: Building an international community of software platform partners. J Biomed Inf. 2019;95:103208. https://doi.org/10.1016/j.jbi.2019.103208.
36. Levy AT, Beausang JK, Finley ED, et al. Provider Knowledge and Attitudes About Female Genital Mutilation/Cutting in Philadelphia. J Immigr Minor Health. 2021;23(1):45–53. https://doi.org/10.1007/s10903-020-01018-1.
37. Molina-Gallego B, Mordillo-Mateos L, De Corral GM, et al. Female Genital Mutilation: Knowledge and Skills of Health Professionals. Healthcare. 2021;9(8):974. https://doi.org/10.3390/healthcare9080974.
38. Michaud P, Jucker-Kupper P. memberes of the Profiles working group. PROFILES: Principal Relevant Objectives and Framework for Integrated Leaning and Education in Switzerland. 2017.
39. Clegg M, Pye J, Wylie KR. Undergraduate Training in Human Sexuality—Evaluation of the Impact on Medical Doctors' Practice Ten Years After Graduation. Sex Med. 2016;4(3):e198–208. https://doi.org/10.1016/j.esxm.2016.04.004.
40. Di Dionisio CM, Bitzer J, Greil-Soyka M. A model curriculum in sexual medicine for undergraduate education in Europe. Open Res Eur. 2023;3:153. https://doi.org/10.12688/openreseurope.16146.2.
41. Olímpio LM, Spessoto LCF, Fácio FN. Sexual health education among undergraduate students of medicine. Transl Androl Urol. 2020;9(2):510–5. https://doi.org/10.21037/tau.2020.02.13.
42. White M, Byrne H, Molphy Z et al. How well do we truly understand clitoral anatomy? An Irish maternity hospital's perspective. Aust N Z J Obstet Gynaecol n.d.;n/a(n/a); https://doi.org/10.1111/ajo.13758
43. Codispoti N, Negris O, Myers MC, et al. Female sexual medicine: an assessment of medical school curricula in a major United States city. Sex Med. 2023;11(4):qfad051. https://doi.org/10.1093/sexmed/qfad051.
44. Zurynski Y, Sureshkumar P, Phu A, et al. Female genital mutilation and cutting: a systematic literature review of health professionals' knowledge, attitudes and clinical practice. BMC Int Health Hum Rights. 2015;15(1):32. https://doi.org/10.1186/s12914-015-0070-y.
45. Thomas HS, Mmonu NA, Amend G, et al. Awareness, Clinical Experience and Knowledge of Female Genital Mutilation/Cutting Among Female Pelvic Medicine and Reconstructive Surgeons in the United States. Urology. 2022;159:59–65. https://doi.org/10.1016/j.urology.2021.10.023.
46. Auricchio V, Garzon S, Pomini P, et al. Clitoral reconstructive surgery after female genital mutilation: A systematic review. Sex Reprod Healthc. 2021;29:100619. https://doi.org/10.1016/j.srhc.2021.100619.

47. Okusanya BO, Oduwole O, Nwachuku N, et al. Deinfibulation for preventing or treating complications in women living with type III female genital mutilation: A systematic review and meta-analysis. Int J Gynaecol Obstet Off Organ Int Fed Gynaecol Obstet. 2017;136(Suppl):13–20. https://doi.org/10.1002/ijgo.12056.
48. Lane JL, Johnson-Agbakwu CE, Warren N, et al. Female Genital Cutting: Clinical knowledge, Attitudes, and Practices from a Provider survey in the US. J Immigr Minor Health. 2018;0(0):0. https://doi.org/10.1007/s10903-018-0833-3.
49. Diaz MMP, Brown AE, Fleet J-A, et al. Effectiveness of female genital mutilation/cutting education for health professionals: An integrative review. Nurse Educ Pract. 2023;69:103621. https://doi.org/10.1016/j.nepr.2023.103621.
50. Market M, Grondin M, Boucher DM, et al. Canadian medical student knowledge and attitudes toward female genital mutilation. Educ Health Abingdon Engl. 2023;36(1):38–46. https://doi.org/10.4103/efh.efh_18_22.
51. Michlig G, Warren N, Berhe M, et al. Female Genital Mutilation/Cutting among Somali Women in the U.S. State of Arizona: Evidence of Treatment Access, Health Service Use and Care Experiences. Int J Environ Res Public Health. 2021;18(7):3733. https://doi.org/10.3390/ijerph18073733.
52. Mayhew J, Gishen F, Kavanagh J. Twelve tips for teaching medical students about female genital mutilation (FGM). MedEdPublish. 2019;8:117. https://doi.org/10.15694/mep.2019.000117.1.
53. Dawson A, Homer CSE, Turkmani S, et al. A systematic review of doctors' experiences and needs to support the care of women with female genital mutilation. Int J Gynaecol Obstet Off Organ Int Fed Gynaecol Obstet. 2015;131(1):35–40. https://doi.org/10.1016/j.ijgo.2015.04.033.
54. Young J, Knuti K, Basel R, et al. Female Genital Mutilation / Cutting — Pediatric Physician Knowledge, Training, and General Practice Approach American Academy of Pediatrics. J Immigr Minor Health. 2019. https://doi.org/10.1007/s10903-019-00938-x.
55. Ogunsiji O. Australian midwives' perspectives on managing obstetric care of women living with female genital circumcision/mutilation. Health Care Women Int. 2016;37(10):1156–69. https://doi.org/10.1080/07399332.2016.1215462.
56. Jacobson D, Grace D, Boddy J, et al. Emotional Health Work of Women With Female Genital Cutting Prior to Reproductive Health Care Encounters. Qual Health Res. 2022;32(1):108–20. https://doi.org/10.1177/10497323211049225.
57. Hamid A, Grace KT, Warren N. A Meta-Synthesis of the Birth Experiences of African Immigrant Women Affected by Female Genital Cutting. J Midwifery Womens Health. 2018;63(2):185–95. https://doi.org/10.1111/jmwh.12708.
58. Earp BD. Between Moral Relativism and Moral Hypocrisy: Reframing the Debate on FGM. Kennedy Inst Ethics J. 2016;26(2):105–44. https://doi.org/10.1353/ken.2016.0009.
59. DeLaet DL. FGM and genital cutting across borders: cultural biases in the contestation of global human rights. Identities n d;0(0):1–20; https://doi.org/10.1080/1070289X.2024.2373607
60. Earp BD, Johnsdotter S. Current critiques of the WHO policy on female genital mutilation. Int J Impot Res. 2021;33(2):196–209. https://doi.org/10.1038/s41443-020-0302-0.
61. Bader D. Picturing female circumcision and female genital cosmetic surgery: a visual framing analysis of Swiss newspapers, 1983–2015. Fem Media Stud. 2019;19(8):1159–77. https://doi.org/10.1080/14680777.2018.1560348.
62. Min M, Wong T, Akinsulure-Smith AM. Exploring Beliefs and Attitudes Toward Female Genital Mutilation/Cutting Among Healthcare Providers in New York City. Violence Women. 2022;28(12–13):3174–93. https://doi.org/10.1177/10778012211045710.
63. Van Eekert N, Barrett H, Kimani S, et al. Rethinking the Definition of Medicalized Female Genital Mutilation/Cutting. Arch Sex Behav. 2024. https://doi.org/10.1007/s10508-023-02772-7.
64. Gil-Salmerón A, Katsas K, Riza E, et al. Access to Healthcare for Migrant Patients in Europe: Healthcare Discrimination and Translation Services. Int J Environ Res Public Health. 2021;18(15):7901. https://doi.org/10.3390/ijerph18157901.
65. Theys L, Krystallidou D, Salaets H, et al. Emotion work in interpreter-mediated consultations: A systematic literature review. Patient Educ Couns. 2020;103(1):33–43. https://doi.org/10.1016/j.pec.2019.08.006.
66. Jaeger FN, Pellaud N, Laville B, et al. The migration-related language barrier and professional interpreter use in primary health care in Switzerland. BMC Health Serv Res. 2019;19(1):429. https://doi.org/10.1186/s12913-019-4164-4.
67. Vange SS, Nielsen MR, Michaëlis C, et al. Interpreter services for immigrants in European healthcare systems: a systematic review of access barriers and facilitators. Scand J Public Health. 2023;14034948231179279. https://doi.org/10.1177/14034948231179279.
68. Blay N, Ioannou S, Seremetkoska M, et al. Healthcare interpreter utilisation: analysis of health administrative data. BMC Health Serv Res. 2018;18(1):348. https://doi.org/10.1186/s12913-018-3135-5.
69. Michel N, Abdulcadir J. Access to Interpretation and Cultural Mediation for Patients Having Undergone Female Genital Mutilation. The Situation in 5 Swiss University Hospitals. Cutting: University of Geneva: Switzerland; 2023.
70. World Health Organization. Refugee and Migrant Health: Global Competency Standards for Health Workers. 1st ed. World Health Organization: Geneva;; 2021.
71. Gervais J. The operational definition of competency-based education. J Competency-Based Educ. 2016;1(2):98–106. https://doi.org/10.1002/cbe2.1011.