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Knowledge, attitudes and practice of female genital mutilation and cutting;

# An observational cross-sectional study in primary care (FGM/C Study)

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#### ABSTRACT

#### Background

Female genital mutilation and cutting (FGM/C) describes procedures involving partial or total removal of the external female genitalia or other injury to the female genital organs for nonmedical reasons. Increasing migration means many communities living in the UK originate from countries where FGM/C is practiced. Consequently, clinicians in the UK are increasingly exposed to women and children who have experienced FGM/C.

#### Aim

To explore the knowledge, attitudes and practice of primary care general practitioners and practice nurses about FGM/C.

#### **Design and Setting**

An observational cross-sectional study with general practitioners (GPs) and practice nurses (PNs) working in primary care in the West Midlands, United Kingdom.

#### Method

An online survey was circulated to GPs and PNs between September 2019 and December 2019.

#### Results

137 survey responses were received. Study participants were predominantly female (81.8%) and general practitioners (59.9%) with a mean age of 47.3 (SD = 9.1). 19.7% of responders reported seeing more than one patient with FGM/C in the last 12 months. 91% of responders had received some form of FGM/C training; however the format and frequency of training varied and 34.3% felt they had received inadequate training to manage treatment of FGM/C.

# Conclusion

Results suggest varying degrees of competence and confidence associated with recognising and managing patients with FGM/C in primary care in the West Midlands. Given that FGM/C patients typically present in primary care it is important that clinicians can provide appropriate support underpinned by up-to-date training.

# Keywords

Primary healthcare, FGM, female circumcision, general practice

#### How this fits in

We explored the knowledge, attitudes and practices of primary care practitioners in the management of FGM/C. Global migration means that there are increasing levels of FGM/C patients presenting in primary care. Training for GPs is mandatory in the UK however there is clearly a wide variation in the frequency of contact with patients in primary care having undergone FGM/C. Results suggest varying degrees in confidence and competency in practitioners which has implications for training provision and emphasises the importance of training delivered to other healthcare professionals in primary care.

#### INTRODUCTION

Female genital mutilation/cutting (FGM/C), describes procedures involving partial or total removal of the external female genitalia or other injury to the female genital organs for nonmedical reasons (1). There are four main types of FGM/C, as defined by the WHO: Type 1: the partial or total removal of the clitoral glans (the external and visible part of the clitoris, which is a sensitive part of the female genitals), and/or the prepuce/ clitoral hood (the fold of skin surrounding the clitoral glans); Type 2: the partial or total removal of the clitoral glans and the labia minora (the inner folds of the vulva), with or without removal of the labia majora (the outer folds of skin of the vulva).; Type 3: Also known as infibulation, this is the narrowing of the vaginal opening through the creation of a covering seal. The seal is formed by cutting and repositioning the labia minora, or labia majora, sometimes through stitching, with or without removal of the clitoral prepuce/clitoral hood and glans; Type 4: all other harmful procedures to the female genitalia for non-medical purposes, e.g. pricking, piercing, incising, scraping and cauterising the genital area (2).

Over 200 million girls and women alive today have been subjected to the practice with more than 3 million girls estimated to be at risk of FGM/C annually (2). Large-scale representative surveys show that the practice of FGM/C is highly concentrated in a swath of countries from the Atlantic coast to the Horn of Africa, in areas of the Middle East such as Iraq and Yemen and in some countries in Asia (including Indonesia), with wide variations in prevalence (3).

Increasing global migration means there are many communities living in the UK who originate from countries where FGM/C is practiced and so clinicians in the UK are increasingly exposed to women and girls who have experienced FGM/C (4). An estimated 137,000 women and girls with FGM/C, born in countries where FGM/C is practised, were permanently residing in England and Wales in 2011. This represented a prevalence rate of 4.8 per 1,000 population. (5). A health economics report commissioned by the Department of Health estimated that the

annual cost of care for women and girls with FGM/C in England and Wales is £100million; a significant proportion of which is either unmet needs or non-recurrent. Provision of services to support women and girls with FGM/C will reduce the need for services, thus reduce this figure. Investment in good FGM/C services leads to long-term significant savings to the NHS (6).

FGM/C is typically performed during childhood or adolescence and is therefore relevant to paediatric services. However, due to the wide range of physical and psychological consequences of FGM/C, such as shock, post-traumatic stress disorder (PTSD), infection and problems related to sexual health, patients often present in primary care (7,8). Training for GPs on FGM/C is mandatory in the UK, and information is readily available from the Royal College of General Practitioners (9) and the Royal College of Nursing (10). There is, however, wide variation in the frequency of contact with patients in primary care having undergone FGM/C. We aimed to explore the knowledge, attitudes and practice of FGM/C within primary care healthcare professionals who are treating and managing these patients.

#### METHOD

#### **Study Population**

One hundred and thirty-seven general practitioners (GPs) and practice nurses (PNs) from 19 clinical commissioning groups (CCGs) in the West Midlands were recruited via email through the NIHR Clinical Research Network (CRN). An invitation email was sent to GPs and PNs in which contained a link to a participant information sheet, online consent form and online survey. To be eligible to take part in the study, GPs and PNs needed to be working within primary care in the West Midlands.

#### Study design and procedures

An observational cross-sectional online survey was circulated to GPs and PNs from 20 clinical commissioning groups (CCGs) in the West Midlands. To increase response to the survey reminder emails were requested to be sent after 2 and 4 weeks and additionally some areas chose to raise awareness of the survey among practice managers to facilitate completion of the survey.

The content of the survey was based on topics and findings from previously published work examining knowledge, attitudes and practices regarding FGM/C (11, 12, 6). Domains included questions about FGM/C training and experience, confidence in their knowledge of FGM/C. Additionally, baseline demographics such as age, gender, role and years in practice were collected. The survey was designed using an online survey builder, jotform (www.jotform.com)

(13), survey content underwent a process of review and refinement during the development of the survey with members of the research team to ensure its ease of use and that it was possible to complete within the timeframe. Suggestions from the testing process were then incorporated into the final survey.

#### RESULTS

A total of 137 surveys were completed between September 2019 and December 2019. Table 1 illustrates the baseline characteristics of responders. Study participants were predominantly female (81.8%) and general practitioners (59.9%). Responders had a mean age of 47.3 years (SD = 9.1) and a mean of 23 years' experience (SD = 10.5).

Table 2 illustrates responders experience with FGM/C. 73% of responders reported not seeing any patients who had undergone FGM/C in the last 12 months. 51.1% of responders had received FGM/C training within the last 12 months, while 8.8% reported never having received any training on FGM/C. The FGM/C training received was predominantly face-to-face with no formal assessment (51.2%). 48.2% of responders felt that they had received adequate training to manage treatment of uncomplicated FGM/C cases, whereas 34.3% felt they had inadequate training to manage treatment of FGM/C. 38.7% of responders said that the GP was the main continuing point of contact for patients with FGM/C, while 27% didn't know who the continuing point of contact was for their practice.

Responders were asked to rate on a scale of 0-10; 0 being not at all confident; 10 being completely confident to several statements relating to their confidence in their FGM/C knowledge, results are represented in Table 3. Responders rated their confidence higher for knowing what to do if they believe a child is at risk of FGM/C (mean 6.8), also for identifying patients from communities most at risk of FGM/C (mean 6.3). Responders rated their confidence during an examination (mean 4.8; 4.2 respectively). Responders rated their confidence lower in knowing what support can be offered to patients who have experienced FGM/C (mean 4.6).

Analysis was performed using Microsoft Excel, version 2202, frequency tables were used to collate responders survey data.

DISCUSSION Summarv

We aimed to explore the knowledge, attitudes, and practice of primary care clinicians about FGM/C in the West Midlands. Key findings from the survey showed that 19.7% of survey responders had seen patients in primary care in the last 12 months who had undergone FGM/C.

A high percentage of responders had received some form of FGM/C training (91%); however the format and frequency of when they had last received training varied and 34.3% felt they had received inadequate training to manage treatment of FGM/C, suggesting varying degrees of competency associated with recognising and managing FGM/C.

Results of this research suggest that improvements could be made in how patients who have undergone FGM/C are managed in primary care.

#### Strengths and limitations

The authors acknowledge that this study only represents a small number of healthcare professionals in the West Midlands and are unable to make any generalisations about rates of FGM/C in the UK, responses were received from 19 out of 20 CCGs in the West Midlands so the sample should be representative of the west midlands but not necessarily of the UK more generally. It is also possible that patients who had experienced FGM/C could have consulted but were not identified by the healthcare professional, additionally there could be inaccuracies with survey responders recall of how many FGM/C patients they had seen over the 12-month period.

We aimed to distribute the survey to healthcare professionals in the most efficient way and to reduce their burden in completing the survey, as GPs are typically difficult to recruit for research (21). We distributed the survey through CRN networks to capture a larger number of responses and is a method that has been used previously. However this approach meant that it wasn't possible to calculate a true response rate to the survey and we were unable to collect any data on non-responders. Another limitation is that the survey was short to minimise survey completion time and the burden of participation, to aid with recruitment. Other data collection measures that went beyond practitioner confidence ratings, including care and referral pathways used by practitioners could have added depth to our findings. A high proportion of females completed the survey compared to males and so mechanisms to increase male representation in this type of research should be explored as well as ways to enhance recruitment more generally, such as using social media or other GP/ PN networks, or offering incentives for survey completion (22).

# Comparison with existing literature

Healthcare professionals who responded to our survey had lower confidence around knowing what support can be offered to patients who had experienced FGM/C, we know from previous research that FGM/C patients can require support from mental and sexual health services (14, 15). General practitioners and practice nurses' main role can be of identification (9), but this needs to be underpinned by the correct and up-to-date training and support to be able to help such patients. Firstly, by improvements in being able to recognise the 4 types of FGM/C to be able to diagnose that a patient has experienced FGM/C, our research is consistent with a 2013 study in London which showed that healthcare professionals surveyed had insufficient knowledge about the diagnosis and classification of FMC/C (16). A 2020 qualitative study exploring perspectives of GPs in England found that recent focus on FGM/C and safeguarding was helpful in raising awareness, it was only a relatively recent part of formal education and that seeing a patient with FGM/C could be both complex and stressful. The researchers heard concerns about the risks of offending women, breaching cultural sensitivities, or raising memories of a potentially traumatic experience. FGM/O is experienced as complex to manage in primary care, with challenges including consideration of how and when to talk about FGM/C, and how to meet the potential needs of both the woman who presents and her family. Managing FGM/C reporting and recording brings additional tensions into the consultation (17, 18).

Healthcare professional training requirements around this area are complex and the demand for adequate FGM/C training for UK healthcare professionals will only grow. Although FGM has declined globally over the past 30 years, prevalence remains high due to population growth. Therefore, if trends continue, the number of girls and women undergoing FGM will rise significantly in the next 15 years, in turn raising national health care cost of care (19). In addition, we are still realising the effects that the recent COVID-19 pandemic may have on FGM/C globally. Estimates provided by Avenir Health, Johns Hopkins University (USA) and Victoria University (Australia) predict that significant levels of lockdown-related disruption over 6 months may cause significant delays in programmes to end FGM/C, potentially leading to around two million more cases of FGM/C over the next decade than would otherwise have occurred (20) and therefore additional resources are urgently needed to scale up interventions that can prevent FGM in the future and reduce health complications.

The WHO have launched a training manual on person-centered communication (PCC), a counselling approach that encourages health care providers to challenge their FGM-related attitudes and build their communication skills to effectively provide FGM prevention counselling (2), further research which investigates the efficacy of this training and if this training approach can improve healthcare professional knowledge, attitudes and practice of FGM/C could be explored further.

#### Implications for Research and/or practice

In conclusion, given that FGM/C patients typically present in primary care in the UK it is critical that clinicians are given the adequate training required to provide appropriate care for patients presenting with FGM/C. In addition, it should be considered that training be delivered to other relevant healthcare professionals, given that treatment and management are often by those in other primary care roles such as practice nurses. Training needs to not only satisfy clinical requirements but also enable healthcare professionals to feel competent in the recognition and management of patients who have experienced FGM/C, and to contribute to FGM prevention. Future research which looks at evaluating training to improve healthcare professionals confidence particularly around identifying Type 3 and Type 4 FGM/C as well as the psychiatric syndromes patients who have experienced FGM/C may experience.

# TABLES AND FIGURES

| Variable              | Subcategory                                      | Number (n=137) | Percentage (%) |
|-----------------------|--|----------------|----------------|
| Age                   | Mean (SD) 47.3 (9.1)                             | ~              | ~              |
|                       | 18-30  | 3              | 2.2            |
|                       | 31-40  | 30             | 21.9           |
|                       | 41-50  | 49             | 35.8           |
|                       | <50  | 59             | 43.1           |
| Gender                | Male   | 25             | 18.2           |
|                       | Female   | 112            | 81.8           |
| Years in practice     | Mean (SD) 23.0 (10.5)                            | ~              | ~              |
|                       | <5   | 5              | 3.6            |
|                       | 5-10   | 13             | 9.5            |
|                       | 11-20  | 44             | 32.1           |
|                       | 21-30  | 40             | 29.2           |
|                       | >30  | 35             | 25.5           |
| Healthcare profession | General Practitioner                             | 82             | 59.9           |
|                       | Practice Nurse                                   | 33             | 24.1           |
|                       | GP Registrar / Physician Associate <sup>a</sup>  | 4              | 3.0            |
|                       | Advanced Nurse Practitioner / Nurse Practitioner | a 13           | 9.5            |
|                       | Other  | 5              | 3.7            |

# Table 1. Baseline characteristics

 Table 2. Training and experience with FGM/C.

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|           |           |     |            |          | $\square$ |

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| More than 5 years ago<br>Never received training on FGM/C 12 8.8<br>Type of FGM/C<br>training received Day or weekend face-to-face courses with no formal<br>assessment Day or weekend face-to-face courses with no formal<br>assessment S8 46.4<br>Courses or module with no formal assessment 58 46.4<br>Courses or modules with formal assessments (exams,<br>marked assignments etc)<br>Other 10 8.0<br>Adequate training received to manage patients who have undergone FGM/C<br>I feel I have had adequate training to manage treatment of<br>complex FGM/C cases<br>I feel I have inadequate training to manage treatment of<br>FGM/C<br>I feel I have no training to manage treatment of<br>FGM/C<br>I feel I have no training to manage treatment of<br>FGM/C   |   | 3-5 years ago   | 12  | 8.8   |
| Never received training on FGM/C       12       8.8         Type of FGM/C training received       Day or weekend face-to-face courses with no formal assessment       Number (n= 125)       Percentage (%)         Day or weekend face-to-face courses with no formal assessment       64       51.2         Online course or module with no formal assessment       58       46.4         Courses or modules with formal assessments (exams, marked assignments etc)       7       5.6         Other       10       8.0         Adequate training received to manage patients who have undergone FGM/C       Number (n=137)       Percentage (%)         I feel I have had adequate training to manage treatment of complex FGM/C cases       7       5.1         I feel I have had adequate training to manage treatment of FGM/C       66       48.2         I feel I have inadequate training to manage treatment of FGM/C       47       34.3         I feel I have no training to manage treatment of FGM/C       17       12.4  |   | More than 5 years ago   | 3   | 2.2   |
| Type of FGM/C<br>training receivedDay or weekend face-to-face courses with no formal<br>assessmentNumber (n= 125)Percentage (%)Day or weekend face-to-face courses with no formal<br>assessment6451.2Online course or module with no formal assessment5846.4Courses or modules with formal assessments (exams,<br>marked assignments etc)<br>Other75.6Adequate training received to manage patients who have undergone FGM/CNumber (n=137)Percentage (%)I feel I have had adequate training to manage treatment of<br>complex FGM/C cases75.1I feel I have had adequate training to manage treatment of<br>FGM/C6648.2I feel I have inadequate training to manage treatment of<br>FGM/C4734.3I feel I have no training to manage treatment of<br>FGM/C1712.4   |   | Never received training on FGM/C  | 12  | 8.8   |
| Day or weekend face-to-face courses with no formal assessment       64       51.2         Online course or module with no formal assessment       58       46.4         Courses or modules with formal assessments (exams, marked assignments etc)       7       5.6         Other       10       8.0         Adequate training received to manage patients who have undergone FGM/C       Number (n=137)       Percentage (%)         I feel I have had adequate training to manage treatment of complex FGM/C cases       7       5.1         I feel I have had adequate training to manage treatment of FGM/C       66       48.2         I feel I have inadequate training to manage treatment of FGM/C       47       34.3         I feel I have no training to manage treatment of FGM/C       17       12.4   |   |   |   |   |
| Online course or module with no formal assessment       58       46.4         Courses or modules with formal assessments (exams, marked assignments etc)       7       5.6         Other       10       8.0         Adequate training received to manage patients who have undergone FGM/C       Number (n=137)       Percentage (%)         I feel I have had adequate training to manage treatment of complex FGM/C cases       7       5.1         I feel I have had adequate training to manage treatment of uncomplicated FGM/C cases       66       48.2         I feel I have inadequate training to manage treatment of FGM/C       47       34.3         I feel I have no training to manage treatment of FGM/C       17       12.4   | Type of FGM/C<br>training received  | 2   | Number(n= 125)  | Percentage (%)  |
| Courses or modules with formal assessments (exams, marked assignments etc.) Other       7       5.6         Other       10       8.0         Adequate training received to manage patients who have undergone FGM/C       Number (n=137)       Percentage (%)         I feel I have had adequate training to manage treatment of complex FGM/C cases       7       5.1         I feel I have had adequate training to manage treatment of uncomplicated FGM/C cases       66       48.2         I feel I have inadequate training to manage treatment of FGM/C       47       34.3         I feel I have no training to manage treatment of FGM/C       17       12.4  | Type of FGM/C<br>training received  | Day or weekend face-to-face courses with no formal assessment   | <b>Number(n= 125)</b><br>64   | Percentage (%)<br>51.2  |
| Other     10     8.0       Adequate training received to manage patients who have undergone FGM/C     Number (n=137)     Percentage (%)       I feel I have had adequate training to manage treatment of complex FGM/C cases     7     5.1       I feel I have had adequate training to manage treatment of uncomplicated FGM/C cases     66     48.2       I feel I have inadequate training to manage treatment of FGM/C     47     34.3       I feel I have no training to manage treatment of FGM/C     17     12.4  | Type of FGM/C<br>training received  | Day or weekend face-to-face courses with no formal<br>assessment<br>Online course or module with no formal assessment   | <b>Number(n= 125)</b><br>64<br>58   | Percentage (%)<br>51.2<br>46.4                                |
| Adequate training received to manage patients who have undergone FGM/C       Number (n=137)       Percentage (%)         I feel I have had adequate training to manage treatment of complex FGM/C cases       7       5.1         I feel I have had adequate training to manage treatment of uncomplicated FGM/C cases       66       48.2         I feel I have inadequate training to manage treatment of FGM/C       47       34.3         I feel I have no training to manage treatment of FGM/C       17       12.4   | Type of FGM/C<br>training received  | Day or weekend face-to-face courses with no formal<br>assessment<br>Online course or module with no formal assessment<br>Courses or modules with formal assessments (exams,<br>marked assignments etc)  | Number(n= 125)<br>64<br>58<br>7   | Percentage (%)<br>51.2<br>46.4<br>5.6                         |
| I feel I have had adequate training to manage treatment of<br>complex FGM/C cases75.1I feel I have had adequate training to manage treatment of<br>uncomplicated FGM/C cases6648.2I feel I have inadequate training to manage treatment of<br>FGM/C4734.3I feel I have no training to manage treatment of FGM/C1712.4  | Type of FGM/C<br>training received  | Day or weekend face-to-face courses with no formal<br>assessment<br>Online course or module with no formal assessment<br>Courses or modules with formal assessments (exams,<br>marked assignments etc)<br>Other   | Number(n= 125)<br>64<br>58<br>7<br>10   | Percentage (%)<br>51.2<br>46.4<br>5.6<br>8.0                  |
| I feel I have had adequate training to manage treatment of<br>uncomplicated FGM/C cases6648.2I feel I have inadequate training to manage treatment of<br>FGM/C4734.3I feel I have no training to manage treatment of FGM/C1712.4   | Type of FGM/C<br>training received  | Day or weekend face-to-face courses with no formal<br>assessment<br>Online course or module with no formal assessment<br>Courses or modules with formal assessments (exams,<br>marked assignments etc)<br>Other<br>eived to manage patients who have undergone FGM/C  | Number(n= 125)<br>64<br>58<br>7<br>10<br>Number (n=137)   | Percentage (%) 51.2 46.4 5.6 8.0 Percentage (%)               |
| I feel I have inadequate training to manage treatment of FGM/C       47       34.3         I feel I have no training to manage treatment of FGM/C       17       12.4  | Type of FGM/C<br>training received  | Day or weekend face-to-face courses with no formal<br>assessment<br>Online course or module with no formal assessment<br>Courses or modules with formal assessments (exams,<br>marked assignments etc)<br>Other<br>eived to manage patients who have undergone FGM/C<br>I feel I have had adequate training to manage treatment of<br>complex FGM/C cases   | Number (n= 125)           64           58           7           10           Number (n=137)           7 | Percentage (%) 51.2 46.4 5.6 8.0 Percentage (%) 5.1           |
| I feel I have <b>no training</b> to manage treatment of FGM/C 17 12.4  | Type of FGM/C<br>training received  | Day or weekend face-to-face courses with no formal<br>assessment<br>Online course or module with no formal assessment<br>Courses or modules with formal assessments (exams,<br>marked assignments etc)<br>Other<br>eived to manage patients who have undergone FGM/C<br>I feel I have had adequate training to manage treatment of<br>complex FGM/C cases<br>I feel I have had adequate training to manage treatment of<br>uncomplicated FGM/C cases  | Number(n= 125)<br>64<br>58<br>7<br>10<br>Number (n=137)<br>7<br>66                                      | Percentage (%) 51.2 46.4 5.6 8.0 Percentage (%) 5.1 48.2      |
|  | Type of FGM/C<br>training received  | Day or weekend face-to-face courses with no formal<br>assessment<br>Online course or module with no formal assessment<br>Courses or modules with formal assessments (exams,<br>marked assignments etc)<br>Other<br>eived to manage patients who have undergone FGM/C<br>I feel I have had adequate training to manage treatment of<br>complex FGM/C cases<br>I feel I have had adequate training to manage treatment of<br>uncomplicated FGM/C cases<br>I feel I have inadequate training to manage treatment of<br>FGM/C | Number(n= 125)<br>64<br>58<br>7<br>10<br>Number (n=137)<br>7<br>66<br>47                                | Percentage (%) 51.2 46.4 5.6 8.0 Percentage (%) 5.1 48.2 34.3 |

|  |                  | 5              |
|--|------------------|----------------|
| Who is the main, continuing point of contact for patients with FGM/C | C Number (n=137) | Percentage (%) |
| GP   | 53               | 38.7           |
| Practice nurse   | 9                | 6.6            |
| Patients are referred to specialist care                             | 22               | 16.1           |
| Other  | 15               | <b>J</b> 10.9  |
| Don't know   | 37               | • 27.0         |
| Missing  |                  | 0.7            |

# Table 3. HCP confidence in FGM/C knowledge

| Variable  | Mean Score (scale 0-10 0=Not at all<br>confident - 10 Completely<br>confident) | SD  | Missing data (%) |
|---|--|-----|------------------|
| Identifying patients from communities most at risk of FGM/C   | 6.3  | 2.3 | 0.7              |
| Discussing FGM/C with a patient consulting with<br>symptoms suggesting FGM/C  | 5.8  | 2.6 | 1.5              |
| Identifying that FGM/C Type 1 (Clitoridectomy) has<br>occurred during an examination  | 5.1  | 3.1 | 0.7              |
| Identifying that FGM/C Type 2 (Excision) has occurred<br>during an examination  | 5.1  | 3.2 | 1.5              |
| Identifying that FGM/C Type 3 (Infibulation) has<br>occurred during an examination  | 4.8  | 3.4 | 0.0              |
| Identifying that FGM/C Type 4 (pricking, piercing,<br>incising, scraping and cauterising) has occurred during<br>an examination | 4.2  | 2.9 | 0.0              |
| Recognising the short-term complications of FGM/C   | 5.5  | 2.7 | 0.0              |
| Recognising the long-term complications of FGM/C  | 5.5  | 2.7 | 1.5              |
| Knowing what psychiatric syndromes a patient could have as a result of FGM/C  | 5.0  | 2.9 | 0.7              |
| Knowing what to do if you believe that a child may be at risk of FGM/C  | 6.8  | 2.7 | 0.0              |
| Knowing what support can be offered to patients who have experienced FGM/C  | 4.6  | 2.8 | 0.7              |

# **Competing interests**

The authors declare no conflict of interest.

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# Authors' contributions

All authors contributed to the conceptualisation and the design of the study. All authors were involved in the manuscript writing and have read and approved the final version.

# **Ethics** approval

All procedures were approved by Keele University FMHS Faculty Research Ethics (reference MH-190013) and the Health Research Authority (HRA) (IRAS reference 254818).

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