

1 **A survey of Australian midwives' knowledge, experience, and training needs in relation to female**
2 **genital mutilation**

3 **Authors:**

4 Sabera Turkmani, RM, MPH¹

5 Caroline Homer, RM, PhD¹

6 Nesrin Varol, MIPH²

7 Angela Dawson, PhD¹

8 **Institutions:**

9 ¹Faculty of Health, University of Technology Sydney, Australia

10 ² Discipline of Obstetrics and Gynaecology, Sydney Medical School, University of Sydney, Australia

11 **Corresponding author:**

12 Centre for Midwifery, Child and Family Health, Faculty of Health, University of Technology Sydney,

13 Jones St, Ultimo NSW 2007, Australia.

14 Tel.: +61 2 9514 4852;

15 E-mail: sabera.turkmani@student.uts.edu.au (Sabera Turkmani)

16

17

18

19

20

21

22 **Abstract**

23 **Background**

24 Female genital mutilation (FGM) involves partial or total removal of the external female genitalia or
25 any other injury for non-medical reasons. Due to international migration patterns, health
26 professionals in high income countries are increasingly caring for women with FGM. Few studies
27 explored the knowledge and skills of midwives in high income countries.

28 **Aim**

29 To explore the knowledge, experience and needs of midwives in relation to the care of women with
30 FGM.

31 **Methods**

32 An online self-administered descriptive survey was designed and advertised through the Australian
33 College of Midwives' website.

34 **Results**

35 Of the 198 midwives (24%) did not know the correct classification of FGM. Almost half of the
36 respondents (48%) reported they had not received FGM training during their midwifery education.
37 Midwives (8%) had been asked, or knew of others who had been asked to perform FGM in Australia.
38 Many midwives were not clear about the law or health data related to FGM and were not aware of
39 referral paths for affected women.

40 **Conclusion**

41 As frontline providers, midwives must have appropriate up-to-date clinical skills and knowledge to
42 ensure they are able to provide women with FGM the care they need and deserve. Midwives have a
43 critical role to play in the collection of FGM related data to assist with health service planning and to

44 prevent FGM by working closely with women and communities they serve to educate and advocate
45 for its abandonment. Therefore, addressing educational gaps and training needs are key strategies to
46 deliver optimal quality of care.

47 **Key words**

48 Female Genital Mutilation, Midwives, Training needs, Experiences, Women, Australia, High Income
49 Countries.

50

51

52

53

54

55

56

57

58

59

60

61

62 **Introduction:**

63 Female genital mutilation (FGM) involves partial or total removal of the external female genitalia or
64 any other injury of the female genital organs for non-medical reasons (1). This practice is deeply
65 rooted in culture, with social obligation and marriageability considered to be two of the most
66 important reasons for its continuation(2). It has also been linked with a girl's transition from
67 childhood to womanhood (3, 4), perceived religious requirement, family honour through premarital
68 virginity and marital fidelity, aesthetics, and fear of exclusion from resources and opportunities as a
69 young woman (5). There are no health benefits associated with FGM and the practice has many short
70 and long term consequences, which significantly impact on women's lives (1). The World Health
71 Organization (WHO) and other international and national agencies and governments have been
72 advocating for the abandonment of FGM for many decades (1, 2). FGM is banned by law in 26 African
73 and Middle Eastern countries plus 33 countries with migrant populations from high prevalent FGM
74 practicing countries (6)

75 Despite the serious and often long-term adverse consequences of FGM, the practice remains
76 prevalent (1, 2). It is estimated that 200 million women and girls have undergone FGM worldwide
77 and another three million women and girls are at risk annually (1, 7). FGM is practised in 30 African
78 and Middle Eastern countries, and in some parts of Asia (7). Recently it has been reported in Russia
79 (8). However, in recent years there has been an increasing number of women with FGM residing
80 across Europe, the United States, Australia, New Zealand and Canada as a result of demographic
81 change due to widespread global migration (9-12). Although, FGM prevalence data is not collected in
82 Australia the number of women with FGM who have migrated from high FGM-prevalent countries is
83 estimated to be 83,000 of which 44% are women of childbearing age (13). Given the international
84 migration patterns, healthcare professionals in high income countries (HIC) are increasingly caring for

85 women with FGM (11, 14-20). This highlights the need for up to date data on FGM to inform
86 maternity health service planning (17).

87 Studies of healthcare professionals, including midwives, providing care for women who have
88 undergone FGM in HIC, have indicated major gaps in the technical knowledge and skills of providers
89 (19, 21-24). A study in Sweden found a lack of hospital policy in relation to FGM that resulted in
90 inconsistent care for women with FGM (25). The research found that doctors and midwives were
91 unclear about their professional roles and responsibilities with regard to the clinical care and referral
92 of women with FGM. This situation affected the monitoring of pregnant women and communication
93 between women and clinical staff. There is evidence from some HIC that health care professionals
94 are largely unaware of legal issues related to FGM. For example, in a survey of Belgium
95 gynaecologists more than half did not know that FGM was illegal (26). In contrast, in the United
96 Kingdom (UK) (27) the majority of doctors in a survey knew that FGM was illegal but they were
97 unable to provide details about the relevant Act.

98 Australia, like many other countries, has endorsed legislation against FGM (28). However, there have
99 been reports of FGM offences in Australia (29-31). A small number of health care professionals in
100 Australia have also reported that they have been asked by their patients to perform FGM (19, 32).

101 There are only two small qualitative studies in New South Wales, Australia that have explored the
102 knowledge and experiences of a midwives (17, 33). These studies found that midwives lack
103 knowledge, experience, and competency in providing care for women with FGM. Midwives
104 expressed their lack of confidence about interacting with women from different cultures where FGM
105 is practised and perceive this as a barrier to providing quality care to women (17).

106 The aim of this study therefore was to explore the knowledge, experience and needs of a larger
107 number of midwives working in a range of contexts in relation to the care of women in Australia with
108 FGM. With the scarcity of data in this area, this paper provides further evidence to inform midwifery
109 education and training in order to improve the quality of maternity care.

110 **Method**

111 A self-administrated online survey was designed to explore the knowledge and experience of
112 midwives in caring for women with FGM across all states and territories of Australia. The survey
113 comprised 19 multiple choice and open ended questions, containing demographic data (i.e. age,
114 country of midwifery training, qualifications, experience and speciality areas including years of
115 experience as midwife), knowledge of FGM types based on WHO classification (see Table1), means
116 for access to technical updates, personal experiences (including their challenges in caring for women
117 with FGM and problems with data collection) and training needs. We also ascertained whether
118 midwives had been asked or knew someone who had been asked to perform FGM. The
119 questionnaire evaluated by AD and CH to ensure the questions does not contain common errors such
120 as leading or unclear as well as successfully captured aim of the study.

121 Following approval by university's Human Research Ethics Committee, the questionnaire was piloted
122 among midwives who had clinical experience, and their inputs were incorporated into the final
123 version. The survey was conducted between October 2014 and February 2015.

124 The online survey was posted on the Australian College of Midwives' (ACM) website and midwives
125 were invited to take part in the study. It was also advertised through the ACM e-bulletin and social
126 media. In addition, hard copies of the questionnaire were distributed during the ACM conferences in
127 Queensland and New South Wales in late 2014. Consent was obtained from respondents and the
128 data was collected anonymously. The quantitative and qualitative data were analysed using
129 descriptive statistics and content analysis, respectively.

130

131

132

133 **Findings**

134 Two hundred midwives responded to the survey. Two surveys were returned blank and were
135 excluded. A total of 198 surveys were included in the study. However, not all midwives responded to
136 every question so that the denominators were different for some questions.

137 The majority of the respondents were midwives from New South Wales (NSW) (74%, n=147),
138 followed by Queensland (10.1%, n=20), Victoria (6.6 %, n=13), South Australia (3.6%, n=7), Western
139 Australia (3%, n=6), Australian Capital Territory (ACT) (1.6%, n=3), and the Northern Territory (1.1%,
140 n=2)(see Table1).

141 The midwives' years of clinical experience ranged between 0-42 years. Of the respondents, 89%
142 (n=177) were educated in Australia, 10% (n=20) in Europe and 1% (n=2) in Asia.

143 Of the 198 midwives, 86.5% (n=173) were practising in public facilities and the remainder were either
144 employed as academics (n=22) or practised privately (n=6) or independently (n=7). Few midwives
145 (n=6) reported not working as midwives at the time of the survey.

146 All 198 midwives responded to the question regarding awareness of FGM and indicated that were
147 familiar with the issue. However, in response to the question on classification of FGM types, 53%
148 (106/198) were able to answer correctly, 24% (47/198) did not know the correct classification and
149 23% (45/198) provided an incorrect answer to the types of FGM (Table 1).

150 Among the 196 midwives who answered the question on training about FGM during their midwifery
151 pre-service education, less than half (43%, n=84) said they learnt about FGM during their midwifery
152 education (pre-service). Almost half of the respondents (48%) reported they had not received any
153 type of training during that time and 9% did not recall any training related to FGM over the course of
154 their midwifery education (see Figure 1).

155 All midwives responded to the question related to legal knowledge (n=198). Ninety-one percent
156 (n=180) reported that there was an Act against FGM in their state/territory, while around 8% (n=15)
157 were not aware of such a law, and less than 2% (n=3) believed there was no law in place in their
158 state. Some of the midwives indicated that they wanted more information related to the legal
159 aspects of FGM in Australia as demonstrated in the quotation below:

160 *'It would be very helpful to know relevant legislation specific to FGM in Australia.'*

161 Most midwives (74%, n=146) knew how and where to get information on FGM. The internet was the
162 most popular source of information about FGM.

163 Of the 198 respondents, 105 (52%) indicated they were aware of guidelines on the care of women
164 with FGM. Government documents such as the NSW Health guidelines on FGM, hospital policies, and
165 documents from the Royal Australian and New Zealand College of Obstetricians and Gynaecologists
166 (RANZCOG) were the most quoted sources.

167 Eighty-six percent of the respondents (n=171) answered the question on care for women with FGM.
168 Half of them (n=85) indicated they had provided direct care during pregnancy and childbirth for
169 women who had undergone FGM.

170 Midwives were asked if they had cared for women with FGM in other reproductive health settings
171 rather than childbirth in which they have been able to select more than one option of choices
172 provided. Of the 171 respondents to this question, 74 (43%) reported experience of care for women
173 with FGM in health settings such as performing a Pap smear or pelvic examination outside of
174 pregnancy or obtaining history for other medical reasons.

175 Of 171 respondents, 166 (97%) reported that there was a need to collect specific information in
176 relation to the women's FGM status and type during maternity care. The majority of these (42%)
177 reported they did not have access to any system or form to collect this data during maternity care.

178 Twenty-eight percent of respondents reported having a form/database to gather data about FGM.
179 Another 27% did not know if they had a system of data collection (see Figure 2).
180 Most midwives (46%; 76/165) did not know the referral path for a pregnant woman with FGM. The
181 midwives who indicated a referral route reported they would refer women to an obstetrician,
182 specialist, a general practitioner (GP), or other clinics and hospitals (46%; 41/89). Some respondents
183 emphasised the importance of a clear referral pathway in the open questions where they stated that
184 clear paths were necessary as they felt they did not have enough knowledge and skills to effectively
185 care for women with FGM. For example, one midwife wrote:

186 *'I am from small rural community who had only one case where woman had FGM and referral*
187 *is the only option as I have no any knowledge and experience.'*

188 *'Clear referral pathways need to be initiated and all midwives should be aware of these.'*

189 Eight percent (16/193) of respondents reported they had been asked or knew of other midwives who
190 had been asked by their patients to perform FGM in Australia. However, no further details
191 concerning these requests were provided.

192 Most midwives (91%; 173/190) requested specific in-service training on FGM. Sixty-eight percent
193 requested e-learning, followed by study days and seminars (45% and 38%, respectively) (see
194 Figure3).

195 **Discussion**

196 The findings of this survey suggest that despite Australian midwives being well informed about FGM
197 as a public health issue, there are gaps in their knowledge. This is supported by the findings of earlier
198 qualitative studies among midwives by Dawson et al. (17) and Ogunsiji (33). The survey
199 demonstrated gaps in the technical knowledge of midwives despite 43% of our respondents
200 reporting clinical experience of caring for women with FGM.

201 There are other studies from high income countries which also indicate the lack of knowledge among
202 health professionals in different settings (14). In the UK, a study among obstetricians and midwives
203 found that less than 5% of participants were able to list FGM types correctly and that FGM was not
204 included in the midwifery curriculum. However, approximately 80% of the study participants had
205 encountered and cared for women with FGM during their practice (24). Similarly, studies in Italy (34,
206 35), Sweden (20), the United States of America (USA) (18) and Spain (36) have also reported poor of
207 health provider knowledge of FGM.

208 In recent years, several learning resources and guidelines have been developed by different
209 organisations in Australia to address the educational needs of healthcare professionals (37-46). Our
210 survey suggests that many midwives were not aware of the availability of such resources were not
211 able to access them. Other studies have also noted a lack of health professional access and uptake of
212 FGM resources. For example, Leye et al. (26) in Belgium reported that just 1% of participants in their
213 study were aware of available FGM guidelines and information due to the little attention to the area
214 in training curricula and poor communication between providers and women.

215 Many midwives in our study had a poor understanding of the legal aspects of FGM that concurs with
216 the findings of other research in Australia (17, 33). In a study in the US, almost 45% of healthcare
217 professionals did not know that FGM was illegal in their country. Similarly, in the UK around 60% of
218 respondents were not aware of FGM legislation. One way forward would be to raise awareness of
219 existing FGM laws, policies and guidelines by sharing these through networks in the health and legal
220 systems in a corporative and continuous manner as recommended by Australia's FGM Legal
221 Framework (47).

222 Women with FGM may require specialised counselling and procedure such as de infibulation prior to
223 child birth (15) therefore clear referral pathways and inter professional collaboration are an integral
224 part of care for these women (15). However, the midwives in our survey were unclear about referral
225 pathways for such women. In Australia, referral pathways are outlined in a number of existing

226 guidelines (39-42). The Royal Women's Hospital, Victoria clearly elaborates the appropriate services
227 that a women may require during pregnancy and childbirth (43). Effective and collaborative referral
228 arrangements between health professionals are also articulated in clinical guidelines in Australia and
229 other countries such as the UK (17, 24, 48).

230 The majority of respondents in this survey claimed that they did not have a system of data collection
231 for FGM in their clinical workplace or they were unaware of such information system. The challenges
232 associated with data collection have previously been identified by midwives and they admitted FGM
233 issues were often not properly recorded as they had no adequate experience and knowledge (17).

234 While, collecting information about FGM is critical for health service planning, such information can
235 also support policy development, awareness-raising and improve the evidence base around the care
236 of affected women (49).

237 As found in other Australian studies of obstetricians, gynaecologists and paediatricians (19, 32), our
238 survey also indicates that a small number of midwives (n=16) had been asked by their patients, or
239 knew of other midwives who had been asked to perform FGM. Evidence from other high income
240 countries such as Belgium, Switzerland , the UK and Sweden also show that health providers have
241 been asked to perform FGM either in adult women or girls (20, 26, 27, 50). This highlights evidence
242 that FGM is being sought by migrants and refugees hence the practice appears to be continuing.

243 While this is concerning, there is evidence from studies in Norway that migrant communities that
244 practise FGM do not support the practice in their adopted country that may result in a trend towards
245 it being abandoned (51, 52). Health professionals, including midwives, can play a crucial role in
246 primary prevention activities to facilitate behavioural change in migrant communities from FGM
247 prevalent countries (17, 53).

248 Many midwives who responded to our survey undertook their pre-registration education prior to the
249 current wave of migration to Australia from FGM prevalent countries. Therefore, it is not surprising
250 that most of them had poor knowledge on the clinical, legal and data related issues as they might not

251 have had the opportunities to access recent educational and training or resources. This highlights the
252 need for FGM to be incorporated into basic midwifery education that includes the early identification
253 of resources. Kaplan et al. (36) has argued that such strategies are associated with better outcomes
254 for women as many women with FGM present to health services in an ad hoc way when they have
255 clinical concerns or complications (22, 54). A national approach to training and education for
256 Australian healthcare providers might be the key solution in order to deliver optimal quality of care
257 (47).

258 The findings of this survey underline the increased need for further training on FGM as it has been
259 suggested by other studies in Australia (17, 33). Likewise, other HIC such as the UK (24, 27), US(18),
260 Sweden (20) and Italy (34, 35) also emphasised the need for specialised skills for healthcare
261 professionals who care for women with FGM during pregnancy and childbirth. Australian midwives
262 expressed the need for more comprehensive and specialised training as part of pre-service and in-
263 service midwifery training (33). FGM is not a defined compulsory part of the midwifery curriculum
264 content in many courses. In our previous study, Australian midwives could not recall the topic as part
265 of their midwifery training (17).

266 Midwives in our survey identified a preference for education in the form of e-learning or online
267 resources. Australian midwives stated that most of the education programs were some distance from
268 their hospital so they were not able to attend the training offerings (33). Education should reflect all
269 the barriers faced by midwives in providing care for women with FGM. Further study in collaboration
270 with relevant experts in this area might provide a better understanding of the required skills and
271 knowledge at a specialised level to be included as part of a professional development package for
272 midwives in the future.

273 **Limitations**

274 We tried to involve many Australian midwives as possible and to this end, advertised the online
275 survey through the ACM website. We could not exclude non-Australian midwives although the

276 instructions at the beginning made it clear that this was the inclusion criteria. Our study sample is
277 small in relation to the potential total number of midwives in Australia and may not represent the
278 knowledge and experience of Australian midwives as a whole. Moreover, the majority of the
279 respondents are midwives from NSW therefore our study mostly reflect the knowledge and
280 experience and training needs of NSW midwives. The low response rate may be because few
281 midwives have had experience with caring for women with FGM. Midwives who had not had the
282 experience were unlikely to contribute. However, even though the response rate is small, this is still
283 the largest survey of midwives in relation to FGM in high income countries. We developed the survey
284 specifically for this purpose and as such, we may not have captured all the expected aspects of
285 midwives' experiences and knowledge in relation to FGM. Despite these limitations, this study
286 provides a useful snapshot on the experiences and educational needs of these midwives.

287 **Conclusion**

288 This study indicates that Australian midwives encountering women with FGM while there are gaps in
289 technical and legal knowledge. The need for specialised training programs as a compulsory part of
290 professional development and pre-service education is important particularly for midwives who are
291 caring for women in hospitals, health centres and home who are from communities where FGM is a
292 traditional practice.

293 Addressing underlying issues such as poor communication and lack of collaboration between states
294 and territories in Australia should be discussed in order to develop a uniform approach within health
295 systems involving all stakeholders.

296

297 **Acknowledgements**

298 The authors would like to acknowledge funding by the Health System Capacity Development Flexible
299 Fund of the Australian Commonwealth, Department of Health and Aging.

300 This work was completed as part of a PhD project with the Faculty of Health, University of
301 Technology Sydney (UTS) through Australian Government Research Training Program (RTP)
302 Scholarship.

303 **References**

304

- 305 1. WHO. WHO guidelines on the management of health complications from female genital
306 mutilation. Geneva, Switzerland: World Health Organisation; 2016.
- 307 2. UNICEF. Female Genital Mutilation/Cutting: A statistical overview and exploration of the
308 dynamics of change. New York: Unicef, 2013.
- 309 3. Kaplan A, Cham B, Njie LA, Seixas A, Blanco S, Utzet M. Female genital mutilation/cutting: the
310 secret world of women as seen by men. *Obstetrics and gynecology international*. 2013;2013:643780.
311 Epub 2013/08/13. doi: 10.1155/2013/643780. PubMed PMID: 23935631; PubMed Central PMCID:
312 PMC3723317.
- 313 4. UN. Eliminating female genital mutilation: A Joint interagency statement. Geneva: UNAIDS,
314 UNDP, UNECA, UNESCO, UNFPA, UNHCHR, UNHCR, UNICEF, UNIFEM, WHO., 2008.
- 315 5. UNICEF. The dynamics of social change-Towards the abandonment of female genital
316 mutilation/cutting in five African countries. Florence, Italy: United Nations Children's Fund, 2010.
- 317 6. WHO. Female genital mutilation; Fact sheet Geneva, Switzerland: WHO; 2016 [cited 2017
318 03Jan]. Available from: <http://www.who.int/mediacentre/factsheets/fs241/en/>.
- 319 7. UNICEF. Female Genital Mutilation/Cutting: A Global Concern. New York 2015.
- 320 8. The Guardian. Russia orders inquiry into claims of FGM in Dagestan 2016 [cited 2016
321 December]. Available from: [https://www.theguardian.com/society/2016/nov/05/russia-orders-](https://www.theguardian.com/society/2016/nov/05/russia-orders-inquiry-into-claims-of-fgm-in-dagestan)
322 [inquiry-into-claims-of-fgm-in-dagestan](https://www.theguardian.com/society/2016/nov/05/russia-orders-inquiry-into-claims-of-fgm-in-dagestan).
- 323 9. Yoder S, Khan S. Numbers of women circumcised in Africa: The Production of a Total.
324 Calverton, MD: United States Agency for International Development, 2008.
- 325 10. Abdulcadir J, Margairaz C, Boulvain M, Irion O. Care of women with female genital
326 mutilation/cutting. *Swiss medical weekly*. 2011;140(8).

- 327 11. Korfker D, Reis R, Rijnders MB, Meijer-van Asperen S, Read L, Sanjuan M, et al. The lower
328 prevalence of female genital mutilation in the Netherlands: a nationwide study in Dutch midwifery
329 practices. *International journal of public health*. 2012;57(2):413-20. doi: 10.1007/s00038-012-0334-4.
- 330 12. Stockdale J, Fyle J. *Royal College of Midwives - Female Genital Mutilation: Report of a Survey
331 on Midwives Views and Knowledge*. The Royal College of Midwives, 2012.
- 332 13. No FGM Australia. *New Report on FGM in Australia- 3 girls per day are "at risk" Australia*,
333 Sydney: NO FGM Australia; 2014 [cited 2015 7 November]. Available from:
334 <http://www.nofgmoz.com/2014/03/25/new-statistics-of-girls-at-risk-of-fgm-in-australia/>.
- 335 14. Zurynski Y, Sureshkumar P, Phu A, Elliott E. Female genital mutilation and cutting: a
336 systematic literature review of health professionals' knowledge, attitudes and clinical practice. *BMC
337 International Health & Human Rights*. 2015;15:1-18. doi: 10.1186/s12914-015-0070-y. PubMed
338 PMID: 111530032.
- 339 15. Family Planning Victoria. *Improving the health care of women and girls affected by female
340 genital mutilation/ cutting: A national approach to service coordination*. Melbourne: Family Planning
341 Victoria, 2013.
- 342 16. Dawson A, Turkmani S, Fray S, Nanayakkara S, N. V, Homer CSE. Evidence to inform
343 education, training and supportive work environments for midwives involved in the care of women
344 with female genital mutilation: A review of global experience. *Midwifery*. 2015;31(1):229-38. doi:
345 10.1016/j.midw.2014.08.012. PubMed PMID: WOS:000346051500033.
- 346 17. Dawson AJ, Turkmani S, Varol N, Nanayakkara S, Sullivan E, Homer CSE. Midwives'
347 experiences of caring for women with female genital mutilation: Insights and ways forward for
348 practice in Australia. *Women and Birth*. 2015;28(3):207-14. doi:
349 <http://dx.doi.org/10.1016/j.wombi.2015.01.007>.
- 350 18. Hess R, W. J, Saalinger N. Knowledge of Female Genital Cutting and Experience With Women
351 Who Are Circumcised: A Survey of Nurse-Midwives in the United States. *Journal of Midwifery and
352 Women's Health*. 2010;55(1):46-54. doi: 10.1016/j.jmwh.2009.01.005.

- 353 19. Moeed S, Grover S. Female genital mutilation/cutting (FGM/C): Survey of RANZCOG Fellows,
354 Diplomates & Trainees and FGM/C prevention and education program workers in Australia and New
355 Zealand. *Australian and New Zealand Journal of Obstetrics and Gynaecology*. 2012;52:523-7. doi:
356 10.1111/j.1479-828X.2012.01476.x.
- 357 20. Tamaddon L, Johnsdotter S, Liljestrand J, Essen B. Swedish health care providers' experience
358 and knowledge of female genital cutting. *Health Care Women Int*. 2006;27(8):709-22. doi:
359 10.1080/07399330600817741. PubMed PMID: 16893807.
- 360 21. Chalmers B, Hashi KO. 432 Somali Women's Birth Experiences in Canada after Earlier Female
361 Genital Mutilation. *Birth: Issues in Perinatal Care*. 2000;27(4):227-34. PubMed PMID: 6025472.
- 362 22. Chalmers BO-HK. What Somali women say about giving birth in Canada. *Journal of*
363 *Reproductive & Infant Psychology*. 2002;20(4):267-82. doi: 10.1080/0264683021000033183. PubMed
364 PMID: 8572449.
- 365 23. Murray L, Windsor C, Parker E, Tewfik O. The Experiences of African Women Giving Birth in
366 Brisbane, Australia. *Health Care for Women International*. 2010;31(5):458-72. doi:
367 10.1080/07399330903548928.
- 368 24. Zaidi N, Khalil A, Roberts C, Browne M. Knowledge of female genital mutilation among
369 healthcare professionals. *Journal Of Obstetrics And Gynaecology: The Journal Of The Institute Of*
370 *Obstetrics And Gynaecology*. 2007;27(2):161-4. PubMed PMID: 17454465.
- 371 25. Widmark C, Leval A, Tishelman C, Ahlberg BM. Obstetric care at the intersection of science
372 and culture: Swedish doctors' perspectives on obstetric care of women who have undergone female
373 genital cutting. *Journal of obstetrics and gynaecology : the journal of the Institute of Obstetrics and*
374 *Gynaecology*. 2010;30(6):553-8. doi: 10.3109/01443615.2010.484110. PubMed PMID: 20701500.
- 375 26. Leye E, Ysebaert I, Deblonde J, Claeys P, Vermeulen G, Jacquemyn Y, et al. Female genital
376 mutilation: Knowledge, attitudes and practices of Flemish gynaecologists. *European Journal of*
377 *Contraception and Reproductive Health Care*. 2008;13(2):182-90.

- 378 27. Purchase TCD, Lamoudi M, Colman S, Allen S, Latthe P, Jolly K. A survey on knowledge of
379 female genital mutilation guidelines. *Acta obstetrica et gynecologica Scandinavica*. 2013;92(7):858-
380 61. doi: 10.1111/aogs.12144.
- 381 28. Mathews B. Female genital mutilation: Australian law, policy and practical challenges for
382 doctors. *Med J Aust*. 2011;194(3):139-41.
- 383 29. Margetts J. Pair sentenced over genital mutilation of young sisters Sydney, NSW: ABC; 2016
384 [cited 2016 29 July]. Available from: [http://www.abc.net.au/news/2016-03-18/pair-given-jail-time-](http://www.abc.net.au/news/2016-03-18/pair-given-jail-time-over-genital-mutilation-of-young-sisters/7257222)
385 [over-genital-mutilation-of-young-sisters/7257222](http://www.abc.net.au/news/2016-03-18/pair-given-jail-time-over-genital-mutilation-of-young-sisters/7257222).
- 386 30. Jabour B. Australia's first female genital mutilation trial: how a bright young girl convinced a
387 jury Sydney, NSW: The Guardian; 2015 [cited 2016 29 July]. Available from:
388 [https://www.theguardian.com/society/2015/nov/13/female-genital-mutilation-trial-young-girl-](https://www.theguardian.com/society/2015/nov/13/female-genital-mutilation-trial-young-girl-convinced-jury-australia)
389 [convinced-jury-australia](https://www.theguardian.com/society/2015/nov/13/female-genital-mutilation-trial-young-girl-convinced-jury-australia).
- 390 31. Hall L. First female genital mutilation case to go to trial in NSW Supreme Court Sydney, NSW:
391 The Sydney Morning Herald (SMH); 2014 [cited 2016 29 July]. Available from:
392 [http://www.smh.com.au/nsw/first-female-genital-mutilation-case-to-go-to-trial-in-nsw-supreme-](http://www.smh.com.au/nsw/first-female-genital-mutilation-case-to-go-to-trial-in-nsw-supreme-court-20141209-1237h7.html)
393 [court-20141209-1237h7.html](http://www.smh.com.au/nsw/first-female-genital-mutilation-case-to-go-to-trial-in-nsw-supreme-court-20141209-1237h7.html).
- 394 32. Sureshkumar P, Zurynski Y, Moloney S, Raman S, Varol N, Elliott EJ. Female genital
395 mutilation: Survey of paediatricians' knowledge, attitudes and practice. *Child Abuse & Neglect*.
396 2016;55:1-9. doi: <http://dx.doi.org/10.1016/j.chiabu.2016.03.005>.
- 397 33. Ogunsi O. Female Genital Mutilation (FGM): Australian Midwives' Knowledge and Attitudes.
398 *Health Care for Women International*. 2015;36(11):1179-93. doi: 10.1080/07399332.2014.992521.
- 399 34. Caroppo E, Almadori A, Giannuzzi V, Brogna P, Diodati A, Bria P. Health care for immigrant
400 women in Italy: are we really ready? A survey on knowledge about female genital mutilation. *Annali*
401 *dell'Istituto Superiore di Sanità*. 2014;50:49-53.
- 402 35. Surico D, Amadori R, Gastaldo LB, Tinelli R, Surico N. Female genital cutting: a survey among
403 healthcare professionals in Italy. *Journal Of Obstetrics And Gynaecology: The Journal Of The Institute*

404 Of Obstetrics And Gynaecology. 2015;35(4):393-6. doi: 10.3109/01443615.2014.960826. PubMed
405 PMID: 25265525.

406 36. Kaplan A. Marcusan, Pere T. Monserrat, Moreno J. Navarro, Ma J.C. Fàbregas, Ortiz ML.
407 Perception of primary health professionals about female genital mutilation: from healthcare to
408 intercultural competence. BMC Health Services Research. 2009 9:11-8. PubMed PMID: 51517881.

409 37. NSW FGM Program. NSW EDUCATION PROGRAM ON FEMALE GENITAL MUTILATION. Annual
410 report. 2008 2008. Report No.

411 38. NSW Health. NSW education program on FGM Sydney: Department of Health, New South
412 Wales Government; 2014 [cited 2014 20 May]. Available from:
413 [http://www.dhi.health.nsw.gov.au/NSW-Education-Program-on-Female-Genital-Mutilation/NSW-
414 Education-Program-on-Female-Genital-Mutilation/default.aspx](http://www.dhi.health.nsw.gov.au/NSW-Education-Program-on-Female-Genital-Mutilation/NSW-Education-Program-on-Female-Genital-Mutilation/default.aspx).

415 39. RANZCOG. Female Genital Mutilation, Information for Australian health professionals. In:
416 Gynaecologists TRACoOa, editor. 2001.

417 40. Government of WA DoH. Female Genital Mutilation clinical guidelines obstetrics &
418 midwifery. In: Women And Newborn Health Service KEMH, editor. WA, Australia 2015.

419 41. NSW MoH. Maternity-Pregnancy and Birthing Care for Women Affected by Female Genital
420 Mutilation / Cutting. In: Families NKa, editor. NSW, Australia: Ministry of Health NSW; 2014.

421 42. Government of South Australia. South Australian Perinatal Practice Guidelines Female genital
422 mutilation. In: Network SMNC, editor. 2012.

423 43. Victoria Health. Female Genital Mutilation Guideline. In: Hospital TRWs, editor. Victoria: The
424 Royal Women's Hospital; 2015.

425 44. NSW Kids and Families Female Genital Mutilation/Cutting + Talking with Families + An
426 Educational Resource. In: Health N, editor. NSW: NSW Health; 2014.

427 45. ACN, ACM. FGM Learning Australia: Australian Government 2014 [cited 2016 Nov 16].
428 Available from: <http://www.fgmlearning.org.au/>.

- 429 46. RANZCOG. FGM Resources for Health Professional 2015 [cited 2016 November]. Available
430 from: <https://www.climate.edu.au/course/view.php?id=169>
- 431 47. Australian Government. Review of Australia's Female Genital Mutilation legal framework.
432 Report. ACT, Australia: Australian Government, 2013 March 2013. Report No.
- 433 48. Relph S, Inamdar R, Singh H, Yoong W. Healthcare professionals more knowledgeable about
434 female genital mutilation but still some way to go. *Bmj*. 2012;344:e2744. Epub 2012/04/20. doi:
435 10.1136/bmj.e2744. PubMed PMID: 22514227.
- 436 49. European Service Network. Female genital mutilation. Belgium: European Institute for
437 Gender Equality, 2013.
- 438 50. Jager F, Schulze S, Hohlfield P. Female genital mutilation in Switzerland: a survey among
439 gynaecologists. *Swiss medical weekly*. 2002;132(19/20):259-64.
- 440 51. Gele AA, Johansen EB, Sundby J. When female circumcision comes to the West: Attitudes
441 toward the practice among Somali Immigrants in Oslo. *BMC public health*. 2012;12(1):697.
- 442 52. Gele AA, Kumar B, Hjelde KH, Sundby J. Attitudes toward female circumcision among Somali
443 immigrants in Oslo: a qualitative study. *International journal of women's health*. 2012;4:7.
- 444 53. Balfour J, Abdulcadir J, Say L, Hindin MJ. Interventions for healthcare providers to improve
445 treatment and prevention of female genital mutilation: a systematic review. *BMC Health Services*
446 *Research*. 2016;16(1):409.
- 447 54. Carolan M, Cassar L. Antenatal care perceptions of pregnant African women attending
448 maternity services in Melbourne, Australia. *Midwifery*. 2010;26(2):189-201. doi:
449 <http://dx.doi.org/10.1016/j.midw.2008.03.005>.

450

451

452

453

454 **Tables**455 *Table 1 FGM classification (WHO 2016b)*

456

Type	Classification of each type
Type I: Partial or total removal of the clitoris (clitoridectomy) and/or the prepuce	Ia: removal of the prepuce/clitoral hood Ib: removal of the clitoris with the prepuce (clitoridectomy)
Type II: Partial or total removal of the clitoris and the labia minora, with or without excision of the labia majora (excision)	IIa: removal of the labia minora only IIb: partial or total removal of the clitoris and the labia minora IIc: partial or total removal of the clitoris, the labia minora and the labia majora
Type III: Narrowing of the vaginal orifice with the creation of a covering seal by cutting and appositioning the labia minora and/or the labia majora, with or without excision of the clitoris (infibulation) Note: Re-infibulation is the procedure to narrow the vaginal opening in a woman after she has been deinfibulated (i.e. after childbirth); also known as re-suturing	IIIa: removal and appositioning the labia minora with or without excision of the clitoris IIIb: removal and appositioning the labia majora with or without excision of the clitoris
Type IV: All other harmful procedures to the female genitalia for non-medical purposes	Practices include pricking, pulling, piercing, incising, scraping and cauterization

457 FGM classification (1)

458

Variable	N = 198	Percentage
	n	(%)
State or territory of practice:		
New South Wales	147	74
Queensland	20	10.1
Victoria	13	6.6
South Australia	7	3.6
Western Australia	6	3
Australian Capital Territory	3	1.6
Northern Territory	2	1.1
Years of experience (median=16)		
<5	53	26.5
5-10	20	10
11-15	25	12.5
16-20	29	14.5
21-25	12	6
26-30	40	20

>30	20	10
Type of practice/ role		
Public Health Facility (clinical)	173	86.5
Private Health Facility(clinical)	6	3
Independent practice(clinical)	7	3.5
Not currently working as midwife or academic	6	3
Academic, PhD students	22	11
Country of initial midwifery education		
Australia	177	89
Europe	20	10
Asia	2	1

461

462

463

464

465

466

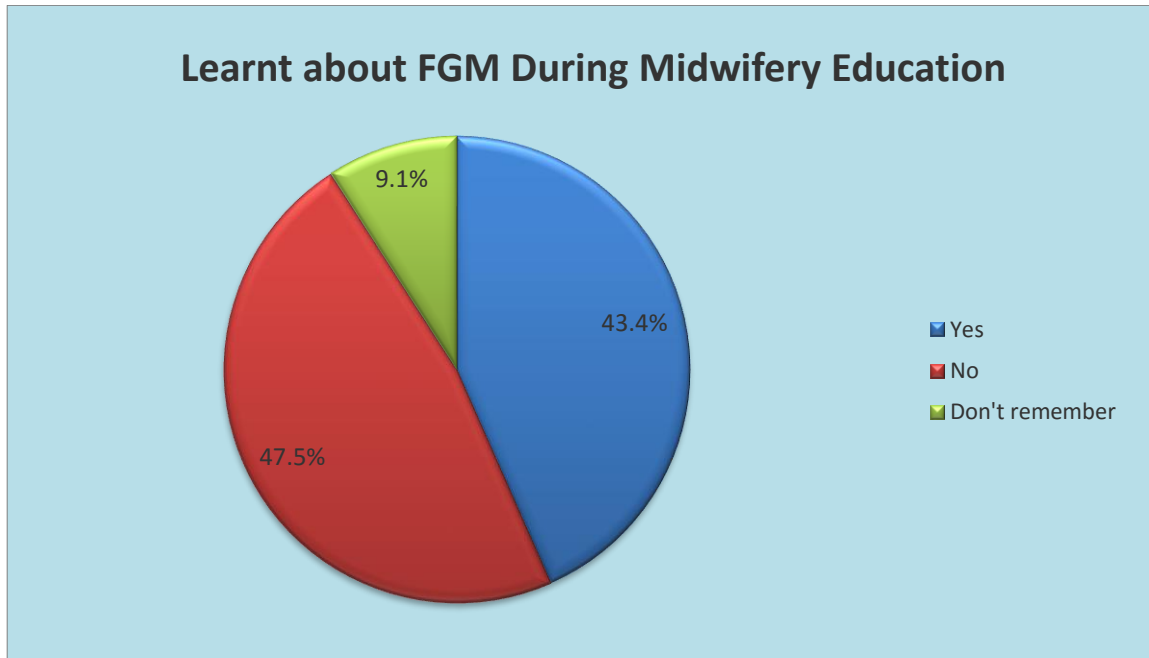
467

468

469 **Figures**

470 *Figure 1 FGM training*

471



472

473

474

475

476

477

478

479

480

481

482

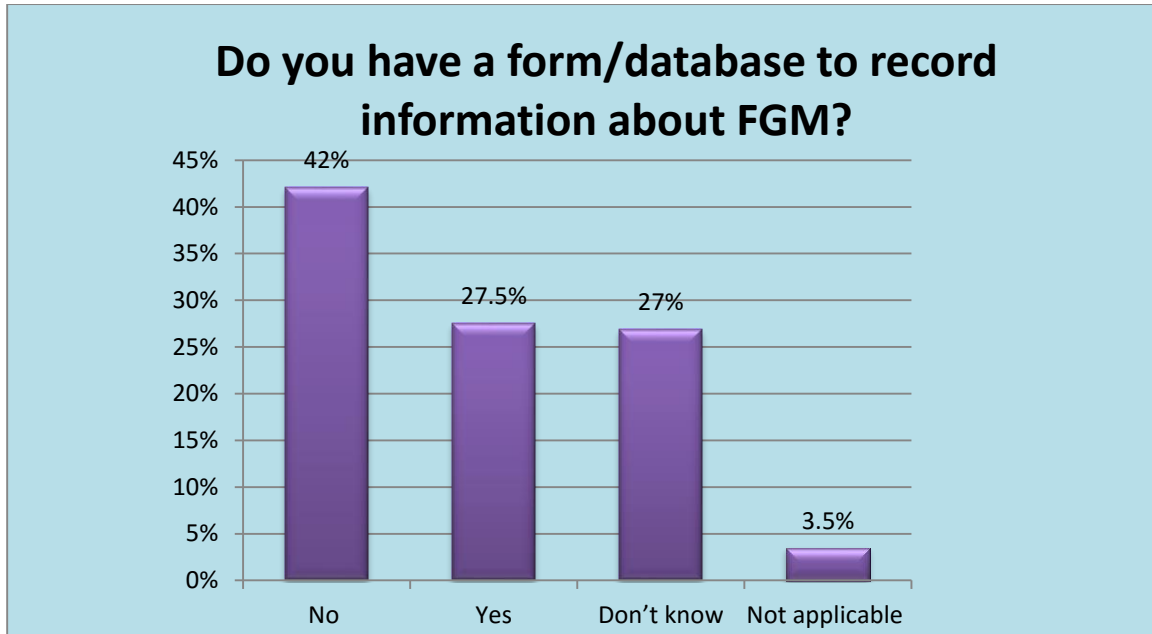
483

484

485

486

488



489

490

491

492

493

494

495

496

497

498

499

500

501

502

503

504

505

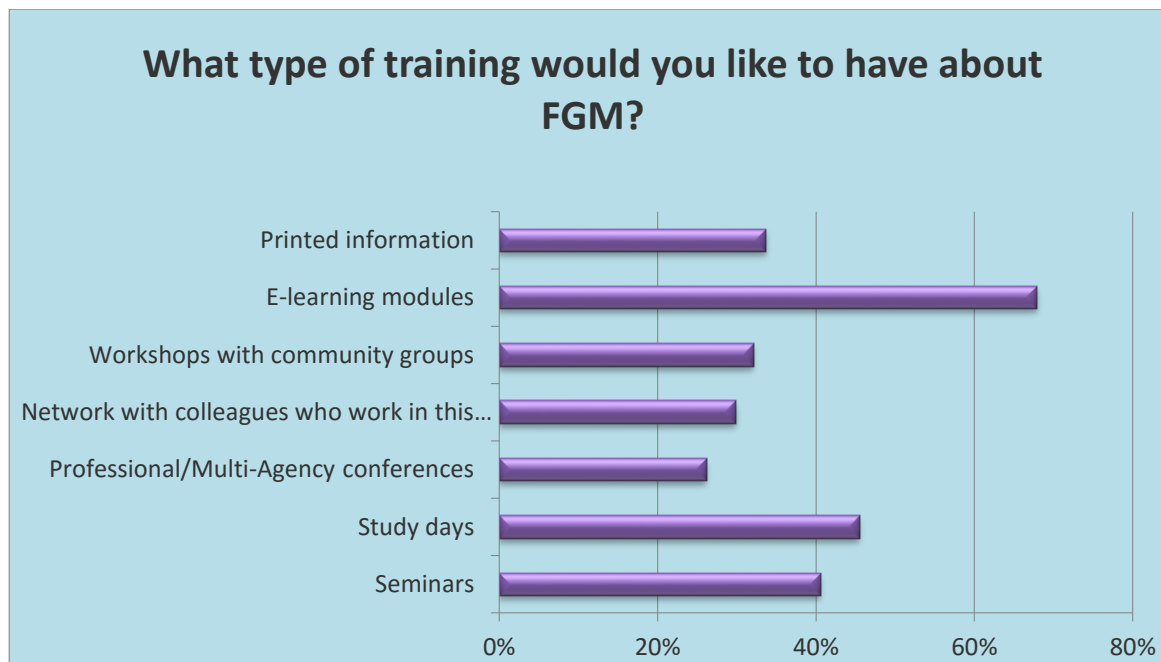
506

507

508

509 *Figure 3 Training needs*

510



511

512