Estimating the indirect prevalence of Female Genital Mutilation/Cutting in Switzerland

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Abstract

Objective

To update the indirect prevalence estimates for women and girls living with Female Genital Mutilation Cutting (FGM/C) in Switzerland, using data from the Swiss Federal Statistical Office of migrant women and girls born in one of the 30 high-prevalence FGM/C countries that are currently living in Switzerland.

Methods

We used Yoder and Van Baelen’s “Extrapolation of FGM/C Countries’ Prevalence Data” method, where we applied DHS and MICS prevalence figures from the 30 countries when FGM/C is practiced, and applied them to the immigrant women and girls living in Switzerland from the same 30 countries.

Results

In 2010, the estimated indirect prevalence was 9,059 whereas in 2018, the estimated indirect prevalence was 21,706 women and girls living with or at risk of FGM/C.

Conclusion

Over the past decade, there have been significant increases in the number of estimated women and girls living with or at risk of FGM/C in Switzerland due to the increase in the total number of women and girls originally coming form the countries where the practice of FGM/C is traditional.

Introduction

The practice of Female Genital Mutilation/Cutting (FGM/C) has been recorded in more than 31 countries around the world. The prevalence of the traditional practice has been widely documented, with standardized survey methodologies developed and refined over the past decades. The main surveys used to estimate prevalence of FGM/C are the Demographic Health Survey (DHS) developed by ICF International (1) and the Multiple Indicator Cluster Surveys (MICS) led by UNICEF. (2) These surveys provide national FGM/C estimates by sampling households that are representative of the national population and asking them a series of questions about FGM/C, such as whether and how the procedure was conducted, at what age, and by type of practitioner.

UNICEF’s most recent estimates report that the number of women and girls that have undergone FGM/C globally have reached 200 million. (3) However, their estimates lack data from countries where the traditional practice is carried out but no data exists (e.g. Saudi Arabia, India, etc.). Additionally, this estimate does not include data from high-income countries where first or following generations of women and girls with FGM/C live. (4) The real prevalence and incidence of FGM/C is unknown in Switzerland and many parts of Europe, as there are no representative surveys similar to DHS or MICS for European countries. Demographers predict that migrants coming from FGM/C-practicing countries towards high income and European countries such as Switzerland will continue to increase. (5) A study published in 2016 analyzing data from the European census carried out in 2011, estimated that, of the 1,353,970 women and girls in Europe aged 10 years and above coming from 1 of the 30 high-prevalence FGM/C countries, an estimated 578,068 women and girls have undergone some type of FGM/C. (4) As of February 2020, there are now 31 FGM/C high-prevalence countries with MICS/DHS estimates, with the addition of the Maldives. The surge of migrants from these countries thus affects the number of women and girls living with FGM/C in Europe. In 2016, estimates in Switzerland showed that around 14,700 women and girls were respectively living with FGM/C or were considered to be theoretically at risk of having undergone or undergoing in the future FGM/C due to their geographical origin only (6). Since then, estimates have not been updated.

Maria Roth Bernasconi’s parliament initiative to introduce a specific Swiss penal code article against female genital mutilation was the catalyst for the Swiss government’s involvement in the issue of FGM/C. (7) The Federal Office of Public Health (FOPH) has been funding awareness-raising and prevention measures aimed at preventing FGM/C through the national program Migration and Health since 2003. The State Secretariat for Migration, SEM, has been involved in these activities since 2010 as well. In 2015, the National Council decided to support a network to tackle female genital mutilation for the 2016–2019 period. Such period has been prolonged until 2021. (8)

More recent and regular estimates on women and girls affected by FGM/C need to be carried out in Switzerland to guide policies. One of the biggest challenges to getting up-to-date estimates is to determine a reliable number of migrant women and girls by country of origin, which usually requires access to census data of the country—limiting estimates to ten-year periods for many European countries. Switzerland is in a unique position because since 2010, the Swiss census is carried out annually, providing a modern statistical database for researchers, policy makers, etc. to observe various data points on a continuous basis. (9)

The aim of this study is to update the indirect prevalence estimates for women and girls living with FGM/C in Switzerland, using data from the Swiss Federal Statistical Office of migrant women and girls, born in one of the 30 high-prevalence FGM/C countries that are currently living in Switzerland. Such an update is the first step of a wider research project conducted in Switzerland in 2018 entitled “Female Genital Mutilation/Cutting with a focus on prevalence, risk factors and Swiss health care professionals’ capacities”.

Materials And Methods

We used a similar methodology to Yoder and Van Baelen, (4, 10) applying FGM/C DHS and MICS prevalence figures (for girls and women age 15–49) from high-prevalence countries to the number of migrant women and girls living in Switzerland.
We applied the total country prevalence estimates of women aged 15–49 to all migrant women and girls living in Switzerland from the same countries. We also conducted a separate analysis for girls aged 0–14, where we applied the prevalence estimates of girls 0–14 to all migrant girls 0–14 living in Switzerland from the same countries. Where no prevalence estimates for girls 0–14 were available, we applied the prevalence estimates for girls 15–19.

We used the most recent MICS or DHS estimates available for each year (Table 1) and multiplied them to the number of immigrant women and girls from each FGM/C high-prevalence country from 2010–2018 based on the Swiss Federal Statistical Office (FSO)'s Interactive Database. USAID’s Demographic and Health Surveys (DHS) and UNICEF’s Multiple Indicator Cluster Surveys (MICS) are large-scale population-based surveys that produce estimates of socioeconomic and health indicators in low- and middle-income countries. (1, 2) The DHS and MICS surveys have played an important role in the reporting of FGM/C prevalence data in low- and middle-income countries over the past thirty years. Table 1 shows the prevalence estimates from women and girls aged 15–49 that are available for 30 countries where FGM/C is practiced that we used in our study.

| Country            | Prevalence Estimate (Women ages 15–49), Source, Year of Publication |
|--------------------|---------------------------------------------------------------------|
| Benin              | (129 DHS 2006) (073 DHS 2011–2012) (092 MICS 2014)                  |
| Burkina Faso       | (.758 DHS 2010)                                                    |
| Cameroon           | (014 DHS 2004)                                                     |
| Central African Republic | (.242 MICS 2010)                                            |
| Chad               | (442 MICS 2010) (384 DHS 2014–2015)                               |
| Djibouti           | (931 MICS 2006)                                                    |
| Egypt              | (911 DHS 2008) (923 DHS 2014) (872 DHS 2015)                        |
| Eritrea            | (83 PHS 2010)                                                      |
| Ethiopia           | (743 DHS 2005) (.652 DHS 2016)                                     |
| Gambia             | (763 MICS 2010) (749 DHS 2013) (757 MICS 2018)                     |
| Ghana              | (038 MICS 2006) (038 MICS 2011)                                    |
| Guinea             | (956 DHS 2005) (969 DHS/MICS 2012) (968 MICS 2016) (945 DHS 2018)  |
| Guinea-Bissau      | (498 MICS 2010) (449 MICS 2014)                                    |
| Iraq               | (081 MICS 2011) (074 MICS 2018)                                    |
| Ivory Coast        | (364 MICS 2006) (382 DHS 2011–2012) (367 MICS 2016)                |
| Kenya              | (271 DHS 2008–2009) (21 DHS 2014)                                  |
| Liberia            | (582 DHS 2007) (498 DHS 2013)                                      |
| Mali               | (885 MICS 2010) (914 DHS 2013) (827 MICS 2015) (886 DHS 2018)      |
| Mauritania         | (.722 MICS 2007) (.694 MICS 2011) (.666 MICS 2015)                |
| Niger              | (022 DHS/MICS 2006) (02 DHS/MICS 2012)                             |
| Nigeria            | (296 DHS 2008) (27 MICS 2011) (248 DHS 2013) (184 MICS 2016–2017) (195 DHS 2018) |
| Senegal            | (257 DHS/MICS 2010–2011) (247 DHS 2014) (242 DHS 2015) (227 DHS 2016) (24 DHS 2017) |
| Sierra Leone       | (88 MICS 2010) (896 DHS 2013) (861 MICS 2017)                     |
| Somalia            | (979 MICS 2006)                                                    |
| Sudan & South Sudan| (876 SHHS 2010) (866 MICS 2014)                                   |
| Tanzania           | (.146 DHS 2010) (.1 DHS 2015–2016)                                |
| Togo               | (039 MICS 2010) (047 DHS 2013–2014)                               |
| Uganda             | (.006 DHS 2006) (.014 DHS 2011) (.03 DHS 2016)                     |
| Yemen              | (215 FHS 2003) (.185 DHS 2013)                                    |

We used the Swiss Federal Statistical Office’s (FSO) publicly available interactive database STAT-TAB to obtain the number of female permanent and non-permanent residents living in Switzerland from 2010 to 2018 from high FGM/C prevalence countries. (11)
We included women and girls of all ages, who have a residence permit labeled “Swiss”, Residence permit (permit B), a settlement permit (permit C), a residence permit with gainful employment (permit D), a status of provisionally admitted person (permit F), or of asylum seeker (permit N), or who were diplomats, international civil servants with diplomatic immunity and international civil servants without diplomatic immunity. The citizenship countries that we included were the ones for which FGM/C estimates were available and is known to be practiced: Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Côte d’Ivoire, Djibouti, Egypt, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Somalia, Sudan and South Sudan, Tanzania, Togo, Uganda, Iraq, Yemen. (3) This differs slightly from than the UNICEF Switzerland estimates from 2012, as Zambia has since been excluded, and Iraq has been included (12).

| Country                      | Swiss 2010 [WOMEN & GIRLS] | Swiss 2011 [WOMEN & GIRLS] | Swiss 2012 [WOMEN & GIRLS] | Swiss 2013 [WOMEN & GIRLS] | Swiss 2014 [WOMEN & GIRLS] | Swiss 2015 [WOMEN & GIRLS] | Swiss 2016 [WOMEN & GIRLS] | Swiss 2017 [WOMEN & GIRLS] | Swiss 2018 [WOMEN & GIRLS] |
|------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Benin                        | 116                        | 124                        | 147                        | 156                        | 145                        | 150                        | 146                        | 143                        | 127                        |
| Burkina Faso                | 168                        | 180                        | 181                        | 180                        | 187                        | 189                        | 189                        | 199                        | 192                        |
| Cameroon                    | 2694                       | 2724                       | 2721                       | 2728                       | 2724                       | 2741                       | 2760                       | 2737                       | 2705                       |
| Central African Republic    | 28                         | 27                         | 31                         | 24                         | 25                         | 24                         | 29                         | 33                         | 33                         |
| Chad                        | 59                         | 57                         | 62                         | 73                         | 71                         | 70                         | 68                         | 64                         | 64                         |
| Djibouti                    | 11                         | 13                         | 14                         | 14                         | 15                         | 18                         | 19                         | 16                         | 16                         |
| Egypt                       | 668                        | 736                        | 761                        | 813                        | 826                        | 827                        | 834                        | 865                        | 864                        |
| Eritrea                    | 3558                       | 5017                       | 7321                       | 8388                       | 10300                      | 12859                      | 14339                      | 15600                      | 16543                      |
| Ethiopia                   | 1495                       | 1535                       | 1668                       | 1772                       | 1847                       | 1946                       | 2050                       | 2076                       | 2095                       |
| Gambia                     | 64                         | 68                         | 86                         | 98                         | 106                        | 123                        | 121                        | 130                        | 141                        |
| Ghana                       | 693                        | 688                        | 701                        | 707                        | 715                        | 708                        | 714                        | 715                        | 723                        |
| Guinea                      | 215                        | 229                        | 260                        | 269                        | 287                        | 299                        | 319                        | 335                        | 362                        |
| Guinea-Bissau               | 19                         | 34                         | 45                         | 49                         | 47                         | 54                         | 53                         | 54                         | 61                         |
| Iraq                        | 2768                       | 2821                       | 2794                       | 2809                       | 2901                       | 3490                       | 3719                       | 3725                       | 3804                       |
| Ivory Coast                 | 885                        | 921                        | 958                        | 976                        | 984                        | 978                        | 971                        | 1006                       | 1008                       |
| Kenya                       | 867                        | 907                        | 922                        | 934                        | 972                        | 999                        | 1023                       | 1028                       | 1072                       |
| Liberia                    | 64                         | 66                         | 69                         | 69                         | 63                         | 62                         | 60                         | 59                         | 56                         |
| Mali                        | 106                        | 103                        | 115                        | 117                        | 121                        | 104                        | 108                        | 108                        | 115                        |
| Mauritania                 | 30                         | 35                         | 35                         | 31                         | 31                         | 28                         | 27                         | 33                         | 32                         |
| Niger                       | 41                         | 39                         | 40                         | 42                         | 44                         | 48                         | 42                         | 41                         | 49                         |
| Nigeria                    | 695                         | 795                        | 880                        | 857                        | 889                        | 900                        | 909                        | 967                        | 987                        |
| Senegal                     | 498                        | 522                        | 547                        | 567                        | 591                        | 632                        | 656                        | 675                        | 672                        |
| Sierra Leone               | 79                         | 71                         | 75                         | 68                         | 64                         | 76                         | 71                         | 74                         | 72                         |
| Somalia                    | 2266                       | 2396                       | 2648                       | 2705                       | 2819                       | 3031                       | 3243                       | 3275                       | 3290                       |
| Sudan                        | 256                       | 274                       | 289                       | 286                       | 312                       | 324                       | 373                       | 373                       | 409                       |
| Tanzania                    | 163                       | 165                       | 162                       | 170                       | 174                       | 177                       | 184                       | 183                       | 188                       |
| Togo                       | 568                       | 599                       | 628                       | 649                       | 680                       | 697                       | 699                       | 688                       | 687                       |
| Uganda                     | 222                       | 214                       | 219                       | 222                       | 214                       | 204                       | 210                       | 235                       | 253                       |
| Yemen                       | 210                       | 225                       | 239                       | 250                       | 271                       | 277                       | 266                       | 270                       | 278                       |

| Total                     | 19506                       | 21585                       | 24618                       | 26023                       | 28425                       | 32035                       | 34202                       | 35707                       | 36898                       |
Table 3 shows the number of migrant women and girls aged 0–14 living in Switzerland from 2010–2018 from high FGM/C prevalence countries. We used the STAT-TAB database to obtain the information.

Table 3 Migrant Girls in Switzerland 2010–2018

| Country                  | Swiss 2010 Migrants Girls 0–14 | Swiss 2011 Migrants Girls 0–14 | Swiss 2012 Migrants Girls 0–14 | Swiss 2013 Migrants Girls 0–14 | Swiss 2014 Migrants Girls 0–14 | Swiss 2015 Migrants Girls 0–14 | Swiss 2016 Migrants Girls 0–14 | Swiss 2017 Migrants Girls 0–14 | Swiss 2018 Migrants Girls 0–14 |
|--------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Benin                    | 29                             | 32                             | 41                             | 46                             | 36                             | 41                             | 40                             | 41                             | 31                             |
| Burkina Faso             | 27                             | 24                             | 27                             | 20                             | 23                             | 21                             | 24                             | 26                             | 28                             |
| Cameroon                 | 409                            | 407                            | 410                            | 413                            | 407                            | 419                            | 425                            | 406                            | 392                            |
| Central African Republic | 3                              | 3                              | 4                              | 0                              | 0                              | 0                              | 3                              | 4                              | 4                              |
| Chad                     | 15                             | 16                             | 20                             | 22                             | 26                             | 29                             | 27                             | 25                             | 24                             |
| Djibouti                 | 3                              | 4                              | 5                              | 5                              | 6                              | 7                              | 5                              | 2                              | 2                              |
| Egypt                    | 166                            | 178                            | 184                            | 212                            | 216                            | 213                            | 202                            | 207                            | 194                            |
| Eritrea                  | 1084                           | 1556                           | 2214                           | 2685                           | 3235                           | 3923                           | 4632                           | 5355                           | 5970                           |
| Ethiopia                 | 367                            | 360                            | 412                            | 417                            | 418                            | 435                            | 465                            | 496                            | 497                            |
| Gambia                   | 10                             | 12                             | 20                             | 26                             | 27                             | 34                             | 31                             | 33                             | 39                             |
| Ghana                    | 150                            | 144                            | 150                            | 156                            | 154                            | 150                            | 142                            | 138                            | 133                            |
| Guinea                   | 48                             | 49                             | 63                             | 62                             | 64                             | 80                             | 87                             | 89                             | 102                            |
| Guinea-Bissau            | 4                              | 7                              | 11                             | 11                             | 12                             | 13                             | 13                             | 13                             | 16                             |
| Iraq                     | 934                            | 918                            | 885                            | 895                            | 930                            | 1152                           | 1233                           | 1211                           | 1253                           |
| Ivory Coast              | 120                            | 135                            | 147                            | 160                            | 159                            | 158                            | 157                            | 167                            | 163                            |
| Kenya                    | 94                             | 115                            | 118                            | 117                            | 139                            | 134                            | 143                            | 136                            | 141                            |
| Liberia                  | 15                             | 16                             | 19                             | 18                             | 15                             | 15                             | 12                             | 12                             | 13                             |
| Mali                     | 22                             | 20                             | 23                             | 22                             | 20                             | 15                             | 20                             | 19                             | 16                             |
| Mauritania               | 5                              | 10                             | 9                              | 6                              | 5                              | 3                              | 4                              | 8                              | 6                              |
| Niger                    | 8                              | 10                             | 10                             | 11                             | 12                             | 13                             | 10                             | 9                              | 11                             |
| Nigeria                  | 172                            | 210                            | 225                            | 227                            | 228                            | 242                            | 240                            | 251                            | 260                            |
| Senegal                  | 75                             | 78                             | 85                             | 97                             | 107                            | 116                            | 121                            | 123                            | 119                            |
| Sierra Leone             | 18                             | 19                             | 20                             | 19                             | 19                             | 22                             | 20                             | 21                             | 17                             |
| Somalia                  | 754                            | 817                            | 925                            | 973                            | 1005                           | 1038                           | 1092                           | 1151                           | 1172                           |
| Sudan                    | 77                             | 87                             | 92                             | 83                             | 89                             | 84                             | 100                            | 93                             | 103                            |
| Tanzania                 | 22                             | 23                             | 22                             | 23                             | 21                             | 22                             | 27                             | 26                             | 30                             |
| Togo                     | 158                            | 175                            | 187                            | 187                            | 201                            | 205                            | 198                            | 185                            | 180                            |
| Uganda                   | 36                             | 28                             | 31                             | 34                             | 31                             | 24                             | 25                             | 31                             | 41                             |
| Yemen                    | 75                             | 77                             | 77                             | 84                             | 89                             | 85                             | 70                             | 67                             | 65                             |
| Total                    | 4900                           | 5530                           | 6436                           | 7031                           | 7693                           | 8692                           | 9568                           | 10345                          | 11022                          |

Results

Table 4 describes the estimated total number of women and girls in Switzerland that are living with FGM/C. Indonesia was excluded because there are no DHS and MICS prevalence estimates for the country. In 2010, there were 914 women and girls from Indonesia living in Switzerland, and in 2018, there were...
The migration of girls and women throughout the past years has had an effect on the total number of female migrants from these high-prevalence FGM/C countries (Table 2). Between 2010 and 2018, the total number of female migrants has increased, particularly from Eritrea (5-fold increase), with smaller increases from Ethiopia, Egypt, Gambia, Iraq, Kenya, Nigeria, Senegal, Somalia, and Sudan & South Sudan. The number of women from Chad, Sierra Leone and Liberia has slightly declined, while others have stayed stable. Thus, the number of girls and women affected by FGM/C has changed as well.
Over the past decade, there have been significant increases in the number of estimated women and girls living with FGM/C in Switzerland. Our estimates show that in 2010, of the 19,506 women and girls living in Switzerland coming from 1 of the 30 countries where FGM/C is documented, an estimated 9,059 were subjected to the harmful practice. In 2018, of the 36,898 women and girls living in Switzerland coming from 1 of the 30 high prevalence FGM/C countries, an estimated 21,706 have been subjected to the harmful practice.

More than 16,000 of the 36,898 migrant women from the FGM/C high prevalence countries in 2018 come from Eritrea. The indirect prevalence of Eritrean women living in Switzerland, where FGM/C estimated prevalence is among the highest in the world, is 13,730. The second highest migrant group of this population comes from Somalia, where the FGM/C estimated prevalence is almost 98%. Out of 3,290 women and girls living in Switzerland from Somalia, the applied indirect prevalence is 3,220 women.

Some countries have made improvements to their prevalence rates over the past years, for example Ethiopia, whose prevalence rate was .742 in 2010 and has decreased to .650 in 2016, which has an impact on the number of women and girls originating from these countries estimated to be living with FGM/C in Switzerland. In 2010, out of 1495 women and girls from Ethiopia, 1110 were estimated to be living with FGM/C. Fast forward to 2018, 1365 women and girls are estimated to be living with FGM/C out of 2095 total migrant women from Ethiopia.

[Table 5] Applied Indirect Prevalence Estimates for Girls 2010–2018
Table 5 describes the estimated total number of girls ages 0-14 in Switzerland that are living with FGM/C. This number is based on the indirect prevalence calculation, using data from the Swiss Federal Statistical Office of migrant girls born in one of the 30 high-prevalence FGM/C countries that are currently...
living in Switzerland, and multiplied by each country’s most recent DHS and MICS prevalence estimates for ages 0-14. Where estimates for this age group were not available, estimates for the 15-19 age group were used. In 2018, of the 11,022 girls living in Switzerland coming from 1 of the 30 high prevalence FGM/C countries, 3,512 are estimated to have been subjected to the harmful practice. Migrant girls from countries such as Eritrea, Gambia, Guinea, Senegal and Somalia all saw increases in the number of girls aged 0-14 that are estimated to be living with FGM/C in Switzerland between 2010 and 2018. Over the past 10 years, some countries saw a decrease in the number of girls aged 0-14 that are estimated to be living with FGM/C in Switzerland, such as Egypt, Ethiopia, Kenya, Liberia, and Yemen.

The applied indirect prevalence estimates for 2018 show a significant decrease for the number of migrant girls with FGM/C from Iraq. New Prevalence estimates reported that .005 percent of girls are reported to have undergone any form of FGM/C. Out of 1253 girls from Iraq, only 6 girls are estimated to have undergone FGM/C.

Discussion

The increase in overall migration from the 30 high-prevalence FGM/C countries should not be overlooked. This increased migrant population leads to an increased estimated FGM/C indirect prevalence. (11) Take for example, the large number of Eritreans present in Switzerland. In 2017, 18,088 people sought asylum in Switzerland. (13) The main country of origin of asylum seekers was Eritrea, with 3375 applications, accounting for over 10% of all applications. (13) Eritreans have been fleeing compulsory military service and dictatorship in their country. (14) However, these asylum applications have continued to fall the past couple of years both in Europe and Switzerland. (13) In 2017, asylum applications were down 33% from 2016—one of the main reasons being that Eritrean arrivals had significantly fallen and that had a direct impact on the number of asylum applications.

Indirect estimation is a systematic and affordable method for estimating the number of women with FGM/C in high-income countries. (15–17) Leye et al. outline that these estimations allow policy makers to look for trends as well as evaluate the impact of prevention programs based on reliable approximations. (18) However, it has methodological limitations and may not reflect the actual FGM/C prevalence among migrants in Switzerland or any community.

There are several demographic characteristics that can influence a woman or girl's likelihood of having undergone FGM/C that are not taken into account when calculating using indirect measures. The migrant population in Switzerland may or may not be representative of the population in their country of origin due to socio-economic status, regional origin, religion or ethnicity and therefore may not accurately emulate the prevalence of FGM/C in their home country. (19) For example, we cannot accurately rely on indirect measures for migrants from countries where FGM/C prevalence differs greatly according to ethnicity, without taking into account the migrant's ethnicity, which is often not included in demographic or census data. (20, 21)

Indirect estimates do not account for factors that may influence migrant's change of behavior, attitudes and beliefs towards FGM/C such as laws prohibiting the practice of FGM/C as well as social pressure not to carry out the traditional practice. However, laws do not always explain the diminishing trend of the practice, as similar trends are observed in countries with and without legislation forbidding the practice. (22) The longer migrants stay in Switzerland, the more acculturation is likely to occur, which could lead either to the abandonment of the practice, or to the preservation of the tradition (23).

Prevalence estimations do not account for the many women and girls that are unaware if they underwent the cutting or of the type of FGM/C they may be living with because there is no physical examination of the genitalia, and therefore the estimations of the prevalence in their country of origin may be underreported. (24) Because of that, surveying samples of migrants might inform future estimates and inform interventions, but would also have limitations.

The real prevalence and incidence of FGM/C and the number of minors at risk remains unknown in many countries, including Switzerland. Our estimates look at major age groupings of girls 0–14 and women over 15. We did not take into account age-adjusted groupings by 5-year groups. Additionally, prevalence estimates that would look at both the Swiss region and canton would allow us to implement more targeted interventions.

Despite the various limitations to using indirect measures, we can nevertheless show that there has been a significant increase in the number of women and girls living with or at risk of FGM/C in Switzerland since the previous estimates were conducted. Although we must improve our future estimates, our data show that we must also improve the Swiss capacity for FGM/C monitoring, prevention, treatment and training needs of this population across diverse settings (medical, social, school, asylum, police, etc.).

Our indirect estimates can only partially inform future policy and public health programs. We believe that indirect estimates should be conducted alongside direct estimates, and our estimates are meant to be compared with direct data obtained from Swiss University Hospitals in the next steps of a wider research project conducted in Switzerland in 2018 entitled “Female Genital Mutilation/Cutting with a focus on prevalence, risk factors and Swiss health care professionals’ capacities. Direct measures may provide more accurate estimates that could guide policy and clinical decision-making. As a follow-up to these estimates, we conducted a study to assess the coded diagnoses of FGM/C in the five Swiss University Hospitals (paper under review).

Declarations

Synopsis

Between 2010 and 2018, there were significant increases in the number of women and girls estimated to be living with FGM/C in Switzerland.

Ethics approval and consent to participate

Not applicable.

Consent for publication
Not applicable.

Availability of data and materials

The datasets generated and/or analysed during the current study are available in the Swiss Statistical Office’s interactive database, STAT-TAB available at: https://www.bfs.admin.ch/bfs/en/home/services/recherche/stat-tab-online-data-search.html

The DHS and MICS data used in this paper are publicly available on the respective websites (www.dhsprogram.com; www.mics.unicef.org/surveys).

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

SCC: Conceptualization, Data collection, Data Analyses, Interpretation, Discussion of Findings, Review of Literature
JA: Conceptualization, Interpretation, Discussion of Findings, Review of Literature

All authors read and approved the final manuscript.

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Abbreviations

DHS: Demographic and Health Survey
FGM/C: Female Genital Mutilation/Cutting
MICS: Multiple Indicator Cluster Survey

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