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Psychological impact of Female Genital Mutilation/Cutting (FGM/C) on girls/women's mental health: a narrative literature review

Abstract

Background: Female Genital Mutilation/Cutting (FGM/C) is the procedure of removing healthy external genitalia from girls/women for socio-cultural reasons. There is much scientific literature on the adverse physical health complications that can result from having FGM/C, but little is known about its psychological impact and treatment.

Objective: To identify psychological problems that may follow on from a woman having FGM/C and success of treatment herein, and relate findings to the role of the maternity care professional.

Study Design: A structured narrative review, which identified ten studies was carried out.

Findings: Eight out of ten studies reported psychological consequences, such as Post-Traumatic Stress Disorder (PTSD) and affective disorders. Also identified were socio-cultural differences in the meaning of perceived consequences between individuals. Two studies gave inconclusive results regarding the psychological impact of FGM/C on women's lives.

Key conclusion: Whilst these findings provide an indication of adverse psychological effects of women/girls having FGM/C, more studies are needed. In particular, studies that focus on the role that cutting extent, circumstances surrounding the cutting, and girls' level of knowledge of what was going to take place, and their relationships to psychological outcomes.

Implications for Practice: Raising awareness of the risk of negative psychological consequences is important, with maternal health care professionals requiring training on how to treat and care for women/girls who are suffering problems that result from having FGM/C.

Key words: anxiety, circumcision, Female Genital Mutilation /Cutting (FGM / FGC), midwifery, Post-Traumatic Stress Disorder (PTSD), psychological, trauma

Psychological impact of Female Genital Mutilation/Cutting (FGM/C) on girls/women's mental health: a narrative literature review

Introduction

The World Health Organisation (WHO) (2008) acknowledges that psychological trauma often results from women having FGM/C, particularly when physical complications are ignored. While midwives may be considered frontline staff in recognising recipients of FGM/C, the management of consequent psychological problems and their management require to be developed (Applebaum et al., 2008; Behrendt & Morritz, 2005; Chibber et al., 2011; Kizilhan, 2011).

Definition of FGM/C

The term FGM/C refers to procedures that involve partial or total removal of the external female genitalia for non-medical reasons (WHO, 2008). The WHO (2008) has categorised four types of FGM/C:

Type 1: Partial or total removal of the clitoris and or the prepuce (clitoridectomy).

Type 2: Partial or total removal of the clitoris and the labia minora, with or without excision of the labia majora (excision).

Type 3: Narrowing of the vaginal orifice with 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).

Type 4: All other harmful procedures to the female genitalia for non-medical purposes. For example, pricking, piercing, incision, labial stretching and cauterisation are classified under this group.

Several names are used to describe FGM/C:

Female Genital Mutilation (FGM) is the term used by most United Nations documents and the WHO, because it best describes what happens in the act of the practice.

Female Genital Cutting (FGC) is used by the United Nations Children Fund (UNICEF), and other groups working in practicing communities, since it is seen as a non-judgmental value-neutral term (Shell-Duncan et al., 2011).

'Female circumcision' is the name often given when the practice is translated from an indigenous language into English. Female circumcision can be misconstrued to be the same as 'male circumcision', where removal of the 'foreskin' (prepuce) of the clitoris is seen as equivalent to removal of the foreskin of the penis (Hastings Center Report, 2012).

An assortment of instruments is used to perform the procedure, which includes knives, glass, razor blades and scissors (Al-krenawi and Wiesel-Lev, 1999), and increasingly the practice is becoming 'medicalized' with doctors and other health professionals performing FGM/C (Pearce and Bewley, 2014; Serour, 2013; Shell-Duncan, 2001).

Requirements for a girl/woman to undergo FGM/C are embedded in traditional beliefs. For example, some believe that it is a religious requirement (De Lucas, 2004; Keizer, 2003; Nienhuis et al., 2008), with refusal resulting in a woman being ostracised from her community (Boyle, 2002). An estimated 100-140 million women worldwide have had FGM/C, with around 3 million carried out each year in Africa alone (Yoda et al., 2013). Approximately 66,000 women who have had FGM/C are living in England and Wales, with a further 6,500 at risk of having the procedure carried out each year (Dorkenoo et al., 2007). Performing FGM/C is now considered by the westernized international community to be a crime, with for example the United Kingdom FGM Act (2003) making it an

offence for a resident to conduct the operation either at home or abroad (WHO, 2008). The law carries a maximum penalty of between 5-14 years imprisonment (Gordon, 2005; WHO, 2008). It is also possible in the United States of America (USA), United Kingdom and a number of other European Union countries to be granted asylum based on FGM/C (Kea and Roberts-Holmes, 2013).

Health complications

Regrettably, interventions designed around health messages have not led to FGM/C abandonment. Instead, changes have moved from more to less extensive forms of FGM/C, or medicalization of the practice. Types 1, 2 and 3 can accrue physical consequences, such as haemorrhage, infection, chronic pain, dysuria, pelvic inflammatory disease, keloid scarring, sexual dysfunction, infertility, and birth complications (Alsibiani, 2010; Banks et al., 2006; Behrendt and Moritz, 2005; Dare et al., 2004; Toubia, 1995). Whilst in contrast, other studies report positive outcomes, which include enhanced sexual desire, arousal, orgasm, satisfaction and more frequent sexual activity (Ahmadou, 2009; Catania, 2007; Esho et al., 2010).

It is often at the onset of pregnancy and/or during childbirth that the effects of FGM/C become problematic, with midwives often the first health care professionals to recognise that the woman has had the procedure. Although midwives do not have long-term involvement with their clients, their offering support and empathy for complications of FGM/C may prompt help-seeking behaviours (Momoh et al., 2001; Lundberg and Gereziher., 2008). With this in mind, the objective of this study was to identify psychological problems that may follow on from a woman having FGM/C and success of treatment herein, and relate findings to the role of the maternity care professional.

Method

A narrative review of the literature was considered the most suitable method to respond to the objective of this study. This is because a narrative review is intended to survey the state of knowledge on a particular topic. Such reviews provide useful overviews and integrations of an area, and as such can be valuable as a means of pulling together what is known about a particular phenomenon, such as for a grant proposal, or as a resource to teachers. A further purpose of a narrative literature review is problem identification. The purpose is to reveal problems, weaknesses, contradictions, or controversies in a particular area of investigation. The author may venture some tentative solutions to the problems he or she identifies, but is more concerned with simply informing the field that some difficulty exists. Thus, such articles typically raise more questions than they answer, leaving it to future researchers to straighten out the predicaments. Still, identifying problems in the empirical literature can serve a valuable scientific function (Baumeister and Leary, 1997). Having justified choice of method, the aim of this study was to educate maternity care professionals about the state of knowledge on the topic FGM/C and its psychological consequences and treatment, and identify where the literature requires to be developed. Also, to apply these findings to help midwives deliver more effective care to women with FGM/C.

Search strategies derived from Brettell and Grant's (2004) guidelines were followed. This approach involved combining Medical Subject Headings (MeSH) with terminology that relates to FGM/C, psychological impact and therapeutic interventions. Keywords included; FGM, Female Genital Mutilation/Cutting, Female Circumcision, psychology, psych*, therapies, interventions, mental health and well-being. Abstracts of Reviews of Effects (DARE) (CRD, 2008) and the Cochrane Database of Systematic Reviews (CDSR) (Cochrane Library, 2008) were searched. Databases explored included MEDLINE (R), PsychINFO, PsycARTICLES Full Text and PsycEXTRA and CINAHL). An internet search of Google Scholar, African Index Medicus, WHO, Population Reference Bureau (PRB) and searches of academic literature, journals and reference lists

were carried out. In order to capture relevant studies, the inclusion criteria was limited to all published research relating to psychological consequences of FGM/C, and success of therapeutic interventions used to treat women with FGM/C. Systematic Reviews, Qualitative Studies, Cohort Studies, Case-Control Studies, Randomised Controlled Trials and Cross-Sectional Studies were included. Inclusion criteria were as follow:

- Population: girls and women of all age and nationalities from FGM/C practicing communities affected by the procedure, as classified by the WHO (2008).
- Intervention: psychological consequences and therapeutic interventions available for girls/women with FGM/C.
- Comparison: Young girls and women who had not undergone any type of FGM/C, as defined by the WHO (2008) were compared to those who have been subjected to any type of FGM/C.
- Outcome: Combinations of words and phrases included: *health terms* such as psychology, psychosocial, emotional repercussions of FGM/C, therapeutic interventions for FGM/C victims, cognitive behaviour, mental health and wellbeing, trauma, depression, anxiety, mental health problems. *Specific terms* such as migrant women's health, asylum seekers/refugee women, or FGM/C practicing communities were also included, as well as *occupational terms* such as mental health care, psychologists, cross-cultural interventions, psychosocial therapy and counselling.

The search was conducted between Jan-May 2013 by the first author, under supervision of the other authors. All titles, abstracts and full-text of studies resulting from the search process were screened for inclusion, and those irrelevant were rejected. The search strategy integrated medical subject heading - MeSH- (Brette and Grant, 2004), terms and text words related to FGM, psychological impacts and therapeutic interventions. The keywords comprised 'Female Genital Mutilation',

‘Female Genital Mutilation/Cutting’; ‘Female Circumcision’; ‘psychology’, ‘psych*’, ‘therapies’, ‘interventions’, ‘mental health and wellbeing’; and several combinations of the above. A total of 1034 papers were retrieved (see *Table 1*). To ensure the study remained focused, the inclusion criteria were strictly adhered to. In doing so the search was limited to all published research that related to psychological and mental health consequences from having FGM/C and therapeutic interventions used in practice.

TABLE 1 HERE

To view the search strategy terms (see *Table 2*) and a flowchart of selected studies (see *Figure 1*).

TABLE 2 HERE

FIGURE 1 HERE

Findings

Out of the 1034 studies retrieved, only 10 papers reported psychological effects from having FGM/C.

To view a summary of the studies included (see *Table 3*).

TABLE 3 HERE

What is the difference between this review and others?

In a prior systematic review by Berg et al. (2010), the research team asked what the psychological, social and sexual consequences of having FGM/C were. Berg et al. (2010) concluded that the evidence-base was insufficient to draw meaningful conclusions. With similar interest to Berg et al. (2010), we wanted to explore the psychological consequences from having FGM/C and its treatment, but expand focus to relate to the role of maternity care experts. In essence, this narrative review has been written to inform midwives that the area of psychological treatment of FGM/C requires improved, tried and tested methods to advance care for childbearing women. In particular, midwives encounter problems directly related to childbearing women with FGM/C, and a broad overview of relevant information has been presented specifically to develop their practical understanding of

potential psychological problems that may ensue. We have included the systematic review of Berg et al. (2010), because it highlights that a paper is available that has used a system to grade papers, and as such can be referred to if required.

Results

All of the studies listed in *Table 4* omit to discuss psychological interventions specifically designed to treat women with psychological problems as a direct consequence of having FGM/C. Although several studies acknowledge that psychological consequences can result, the majority only indicate need to develop culturally adapted therapies to support experiencers, and specialist training for psychologists/counsellors already working with this specific group of women. Although there is no study that focuses specifically upon therapeutic interventions, potential psychological consequences were discussed within the 10 identified papers.

Psychological outcomes identified in the literature

Out of the ten studies identified, five solely addressed psychological consequences from having FGM/C (Al-Krenawi and Wiesel-Lev, 1999; Applebaum et al, 2008; Behrendt and Morritz, 2005; Kizilhan, 2011; Nnodum, 2002), whilst the other five included this as just one component amongst many outcomes (Berg et al, 2010; Chibber et al., 2011; Elnashar and Abdelhady, 2007; Osinowo and Taiwo, 2003; Vloeberghs et al, 2011). Details of findings from the ten studies included elements of the Population, Intervention, Comparison and Outcome(s) (PICO) framework with results summarised in *Table 3*. The following psychological problems were acknowledged in the literature.

Post-Traumatic Stress Disorder (PTSD)

Six studies (Behrendt and Morritz, 2005; Applebaum et al., 2008; Chibber et al., 2011; Kizilhan, 2011; Nnodum, 2002; Vloeberghs et al., 2011) provided data on the prevalence of PTSD for women with FGM/C. Applebaum et al. (2008) was the only study that found no significant difference

between (n=19) circumcised Bedouin women and (n=18) age-matched controls in terms of psychological consequences. Behrendt and Morritz (2005) reported that 30.4%, Kizilhan (2011) 44.3%, Chibber et al. (2011) 30%, and Vloeberghs et al. (2011) 16% of women experience PTSD from having had FGM/C. Vloeberghs et al. (2011) identified that Sudanese women experience higher levels of PTSD compared with those from Somalia, Eritrea and Sierra Leone.

Affective disorders

Some women report experiencing affective disorders post FGM/C, which includes somatization, anxiety and phobia (Elnashar and Abdelhady, 2007). Behrendt and Morritz (2005) report that 47.9% of the women in their study developed affective and anxiety disorders. In comparison, Chibber et al. (2011) reported that 58% of the women in their study experienced affective disorders and 38% anxiety symptoms. To contradict these findings, Kizilhan (2011) reported no significant difference in development of affective disorders between the FGM/C group and their control. Berg et al. (2010) undertook a meta-analysis (n=12,755) of the results of studies that measured levels of anxiety, somatisation, depression and hostility, and also found no significant difference between groups. Such contradictions in findings between these reports make it difficult to draw meaningful conclusions.

Socio-cultural differences in the meaning of perceived consequences

Berg et al. (2010) recognised that women with FGM/C are more likely to experience marital dissatisfaction. Vloeberghs et al. (2011) identified that many women consider themselves ordinary, with FGM/C viewed as an integral part of their social convention. Such women find it easier to accept their situation, believing that consequent problems represent the norm (Lockhat, 2004). Vloeberghs et al. (2011) found no associations between socio-economic background and reports of mental ill-health, with no differences between marital status, type of marriage (arranged or choice), educational background, family makeup and PTSD, anxiety and depression. Participants' experiences of support/care from mental health providers was generally positive (Vloeberghs et al.,

2011), with all ten studies recommending that health professionals working in communities practising FGM/C receive specialised training.

Discussion

This review has confirmed that little empirical research has focused specifically upon psychological problems that can follow on from having FGM/C (Jaeger et al., 2002; Purchase et al., 2013). Two studies were inconclusive (Applebaum et al., 2008; Berg et al., 2010) and eight supported firm associations between having FGM/C and development of subsequent psychological problems (Al-Krenawi and Wiesel-Lev, 1999; Behrendt and Morritz, 2005; Chibber et al., 2011; Elnashar and Abdelhady, 2000; Kizilhan, 2011; Nnodum, 2002; Osinowo and Taiwo, 2003; Vloeberghs et al., 2011). Types of FGM/C alters the extent of psychological effects, with women who report high trauma more likely to have had Type 3 FGM/C (Obermeyer, 1999; Yoder and Khan, 2008).

Raising awareness of the risk of negative psychological consequences is important for health care professionals to do their job effectively. In particular, midwives require training about how to treat and care for women suffering psychological problems that result from having FGM/C, because their work relates directly to this locale. They also require to understand genesis and customs surrounding FGM/C (Momoh et al., 2001; Whitehorn et al., 2002), with knowledge embedded into curricula of professional degree programs. Care providers must acknowledge that having FGM/C may be considered by family members to be in the woman's best interests, with cultural reasons for performing including:

- Preparation for adulthood and marriage (Yoder et al., 1999; Ahmadu, 2000).
- Gaining entry into women's secret societies (Ahmadu, 2000; Behrendt and Moritz, 2005).
- Social pressure from peers and fear of stigmatisation and rejection from the community (Centre for Reproductive Rights 2003).

- Beauty and cleanliness (Toubia, 1995).
- Pride and rewards, such as celebrations, public recognition and receiving gifts (Behrendt and Moritz, 2005).

As such, it is important to acknowledge that socio-cultural rewards are attached to the custom of FGM/C, which incorporates beliefs, behavioural norms, customs, rituals, social hierarchies, religious practices, political beliefs and economic systems (Momoh, 2005). Preserving virginity is just one of the more durable beliefs that direct the practice (Berggren et al., 2006; Gruenbaum, 2006). In some communities FGM/C is performed to ensure marital fidelity and prevent sexual activity that is considered to be deviant or immoral (Ahmadu, 2000; Gruenbaum, 2006). Such beliefs must be considered against a backdrop of well-documented complications that can arise during pregnancy, childbirth and the post-partum period (Daley, 2004; Momoh, 2005; Zaidi, 2007; Lundberg and Gerezgiher, 2008). When working with childbearing women from communities where FGM/C is custom, particular questions must be sensitively asked. A female interpreter trained to understand the complexities is an asset. Processes of questioning must be non-judgemental and include whether or not the woman:

- Has had FGM/C and if so what type?
- Experiences pain during intercourse?
- Experiences pain or difficulty passing urine (dysuria)?
- Experiences pelvic pain?
- Has problems with menstruation?
- Has experienced difficulties with prior births?
- Is suffering psychological consequences from having FGM/C?

An individualised care plan for pregnancy, delivery and the postnatal period should be generated in conjunction with the woman. Deinfibulation to reverse Type 3 FGM/C may need to be performed

around 20 weeks gestation to diminish risk of miscarriage and permit healing prior to childbirth, with this having potential to create yet again more psychological trauma. Some women opt for this incision during labour to circumvent experiencing two episodes of pain and healing, with deinfibulation performed by a trained professional with experience of incising FGM/C.

Health professionals play a crucial role in safeguarding young girls from procuring the illegal enactment of FGM/C. For example in the UK, when a childbearing woman presents with FGM/C and she has a younger sister, relative or friend at risk of having the procedure, the midwife is required to complete a Multi Agency Risk Assessment Form (available at: <http://www.caada.org.uk/resources/resources.html>), which is completed and handed to the safeguarding officer in the maternity unit. Post-completion, this form is forwarded to the Children and Family Services (Social Services) for social work action. When a midwife is uncertain of the processes involved, they must approach their manager/supervisor for advice. Also for example, the Royal College of Midwives (RCM) has published FGM/C guidelines (available at: <http://community.rcm.org.uk/consultations/female-genital-mutilation-practice-guidelines-professionals>). During process, midwives must respect the woman's cultural beliefs and provide information, and choice and control in relation to decisions made.

Strengths and Limitations

One strength of this narrative review is that psychological morbidity has been recognised as a real problem for women with FGM/C. Researchers require to develop culturally sensitive and appropriate tools to measure psychological well-being of women with different types of FGM/C, with for example guidelines made available to advise professionals about FGM/C (e.g., Scotland.gov.uk, 2014; Professionals Working in Ireland, 2013). Further exploration of perceptions of meanings about psychological well-being and sexual health are required (Jaeger et al., 2002; Purchase et al., 2013), in both African and European contexts. Another limitation is that the studies reviewed have focused on

European countries where women with FGM/C live as immigrants. Research findings should also focus on informing policy and practice in countries where FGM/C is a cultural ritual.

Conclusion

This narrative review has validated that FGM/C experiencers' can encounter psychological consequences from having had FGM/C, which is intertwined with suffering incurred from physiological complications. Lack of research about cause and effect of difficulties and beneficial psychological interventions has prohibited inventorying firm conclusions about what may or may not aid recovery. Extent of a woman's suffering will inevitably relate to the type of FGM/C she has had, complications that have arisen and the socio-cultural context of her belief system, marital relationship, and support networks. Those working in reproductive health are best placed to initiate and facilitate support for women with FGM/C both in the immediate and future context. Whilst findings of this narrative review provide an indication of adverse psychological effects from having FGM/C, many more studies are needed. In particular, ones that focus on the role that cutting extent, circumstances surrounding the cutting, and girls' level of knowledge of what was going to take place might play on adverse psychological outcomes. Providing clearer evidence about therapeutic interventions for effectively treating psychological trauma post FGM/C is a clear requirement to meet the changing needs of this distinctive population of women.

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Table 1: Search results for databases

DATABASE	HITS	RELEVANT STUDIES FOR INCLUSION
Cochrane	3	1
Centre for Reviews and Dissemination (CRD) DARE (1) HTA (Health technology assessment) (3)	4	1
PubMed (NCBI)	397	2
Ovid SP(Cross search of 4 databases): - MEDLINE(R): 1946 to January Week 4 2013, - PsycINFO: 1967 to January Week 5 2013, - PsycARTICLES Full Text, - PsycEXTRA 1908 to January 28 2013 (Search story attached)	15	12
EBSCO (Cross search of 3 databases): - Academic Search Premier - MEDLINE - CINAHL AB (fgm or fgc or female circumcision) AND AB psycho*	Academic Search Premier (58) MEDLINE (43) CINAHL (17)	Academic Search Premier (6) MEDLINE (0) CINAHL (0)
Reference, hand searching of key journals, and Internet: (No records from other visited sources).	BMJ: 10 The British Library: 5 WHO Library: 482	BMJ (0) The British Library (0) WHO Library (0)

Total number of papers: 1034

Table 2: Search strategy terms – Medical Subject Headings and text words

MeSH terms	Additional, associated text words
<p>A: Nursing Mental Health Nursing Mental Health care Health care professionals</p> <p>B: Study aim FGM Critical appraisal Evidence-based practice: FGM health consequences/interventions</p> <p>C: Study design Systematic review</p> <p>D: Mental health Mental health Mental disorders Stress, trauma, psychological / Anxiety</p> <p>E: Therapeutic intervention(s) Counseling Psychiatric/psychological interventions Cognitive Behaviour Therapy Cultural counselling/psychology</p> <p>F: Vulnerable groups FGM practicing communities Migrant women populations Emigrants and Immigrants / Refugees, Asylum seekers</p>	<p>FGM specialist clinics/ services</p> <p>Culturally Adapted Intervention(s)</p> <p>Literature review Systematic review</p> <p>Well-being Social exclusion / socially excluded Pre-existing mental illness Well-being / well-being / wellness</p> <p>Well Women Clinics Specialist/adapted/cultural Intervention(s)</p> <p>Black and Minority Ethnic (BME) population African women</p>

Search Plan

Search 1 – A and B and C and D

Search 2 – A and B and C and E

Search 3 – A and B and C and F

Table 3: Details of summary of findings from included studies

Study	Study method quality	Participants	Study design	Intervention	Outcomes	Results
Al-Krenawi and Wiesel-Lev (1999)	Moderate	24 participants (aged 18-36 yrs) from Bedouin-Arabs of the Negev, Israel: 12 circumcised women compared to 12 uncircumcised women, but who had witnessed or been told about the practice.	Cross sectional comparative study	No psychosocial and/or psychological/mental health treatments suggested.	Psychosocial impacts of FGM. Instrument: a structured questionnaire, and a semi-structured open-ended interview	Structured questionnaire revealed that: circumcised women gave legitimization and cognitive rationalization to it. Semi-structured interview revealed that: circumcised women reported narcissistic insult; described PTSD, direct negative influences, and emotional difficulties during the research interviews. The findings indicate that they had difficulties in mother-daughter relationships and trust.
Applebaum et al. (2008)	Moderate	37 participants: 19 circumcised Bedouin women compared to 18 age-matched uncircumcised women, from March to July 2007	Cross-sectional comparative study	No psychosocial and/or psychological/mental health treatments suggested.	PTSD, general psychiatric illnesses, impact of event, quality of life. Instrument: PTSD Scale, Symptom Checklist, Impact of Event Scale and a demographics and background questionnaire	No statistically significant differences were found between the 2 groups.
Behrendt and Morritz (2005)	High	47 participants: 23 circumcised Senegalese women compared to 24 uncircumcised women in Dakar, Senegal.	Cross-sectional comparative study	No psychosocial and/or psychological/mental health treatments suggested.	PTSD, other anxiety disorders, affective disorders, psychiatric Diagnoses. Instrument: Mini International Neuropsychiatric Interview.	The circumcised women showed a significantly higher prevalence of PTSD (30.4%) and other psychiatric syndromes (47.9%) than the uncircumcised women. PTSD was accompanied by memory problems.
Berg et al (2010)	High	women who had been subjected to FGM/C with women who had not been subjected to FGM/C. 12,755 participants from communities	Systematic review of quantitative studies	No psychosocial and/or psychological/mental health treatments suggested.	Psychological consequences of FGM/C. Instrument: Checklists; Mantel-Haenszel random effects meta-analyses for dichotomous outcomes	There is insufficient evidence to draw solid conclusions concerning psychological consequences. Results from psychological studies suggested that

		where FGM/C is practiced, in Norway.			and inverse variance random effects meta-analyses for continuous outcomes; GRADE.	circumcised women may be more likely than uncircumcised women to experience psychological disturbances. Meta-analyses for anxiety, somatisation, depression, and hostility failed to reach significance and were soiled by high heterogeneity.
Chibber et al. (2011)	Moderate	4800 pregnant women over a 4-year period. The mean age of participants was 23: range 15-46 years. Women are from Egypt, Somalia, Sudan, Nigeria, Senegal and Uganda.	Cross-sectional comparative study	No psychosocial and/or psychological/mental health treatments suggested.	Cognitive and emotional effects of FGM. Instruments: the Mini international Neuro-psychiatric interview and Rey memory test	Psychiatric sequelae included: 80% continued to have flashbacks to the FGC event; 58% had a psychiatric disorder (affective disorder); 38% had other anxiety disorders, and 30% had post-traumatic stress disorder. FGM is associated with psychiatric sequelae. Many will need psychiatric as well as gynecological care.
Elnashar and Abdelhady (2007)	Moderate	264 circumcised newly married women in Benha City, Egypt.	Cross-sectional comparative study	No psychosocial and/or psychological/mental health treatments suggested.	Somatisation, anxiety, phobia, depression, hostility. Instrument: Symptom Checklist-90.	Circumcised females had significant mental problems such as somatization, anxiety and phobia (P<0.001).
Kizilhan (2011)	Moderate	79 circumcised Kurdish girls who were between 8 and 14 years of age, in Northern Iraq: Thirty uncircumcised girls from the above area and thirty-one uncircumcised girls from other areas of Iraq	Cross-sectional comparative study	No psychosocial and/or psychological/mental health treatments suggested.	PTSD and general psychiatric illnesses. Instrument: psychological interview and further questionnaires	Circumcised girls showed a significantly higher prevalence of PTSD (44.3%), depression disorder (33.6%), anxiety disorder (45.6%) and somatic disturbance (36.1%) than the uncircumcised girls. No significant differences between the two control groups was found.
Nnodum (2002)	Poor	There are no details given on participants, study	Cross-sectional comparative	No psychosocial	Depression amongst circumcised women Vs. non-circumcised	Circumcised women experience depression more than

		was based in Nigeria.	study	and/or psychological/ mental health treatments suggested.	women. Three null hypotheses guided the study. Instrument: T-test statistics.	uncircumcised Women.
Osinowo & Taiwo (2003)	Moderate	99 participants: 53 circumcised women compared to 46 uncircumcised women, in Ajengule, Nigeria.	Cross-sectional comparative study	No psychosocial and/or psychological/ mental health treatments suggested.	Self-esteem. Measurement: Single item.	Circumcised women expressed statistically significant lower self-esteem ($t=2.6$, $df=97$, $p<.01$) compared with the uncircumcised women. Psychological treatment especially post-traumatic stress disorder intervention for circumcised women is recommended.
Vloeberghs et al. (2011)	High	66 circumcised women originating from 5 different African countries: Somalia, Ethiopia, Sudan, Eritrea, and Sierra Leone. They have all migrated to the Netherlands. Selection of women through snowball sampling.	Mixed method approach: qualitative and quantitative data.	No therapeutic interventions reported.	PTSD, general psychiatric illnesses, and potential risk factors. Instrument: in-depth interview and 4 standardized questionnaires.	1/3 of the circumcised women met criteria for affective or anxiety disorders; 16% of the subjects presented PTSD indices; A lively memory of the circumcision, an avoidant coping style, infibulation as type of circumcision were amongst significant factors associated with psychopathology. Somali women reported the least problems.

Figure 1: Flowchart for selected studies

