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TARGET ARTICLE

Understanding Women's Responses to Sexual Pain After Female Genital Cutting: An Integrative Psychological Pain Response Model

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Abstract

The World Health Organization estimates that over 200 million women and girls have experienced female genital cutting (FGC). Many women and girls who have undergone FGC have migrated to areas of the world where providers are unfamiliar with the health needs associated with FGC. Both providers in Western healthcare systems and female immigrant and refugee patients report communication difficulties leading to distrust of providers by women who have experienced FGC. Sexual pain is one common problem requiring discussion with healthcare providers and possible intervention. Yet, existing clinical and research literature provides little guidance for assessment and intervention when sexual pain is a result of FGC. Several conceptual frameworks have been developed to conceptualize and guide treatments for other types of pain, such as back pain and headaches. In this article, we integrate four prominent models—the fear avoidance model, eustress endurance model, distress endurance model, and pain resilience model—to conceptualize sexual pain in women who have experienced FGC. The resulting integrative psychological pain response model will aid in providing culturally responsive clinical management of sexual pain to women who have experienced FGC. This integrative model also provides a theoretical foundation for future research in this population.

Keywords Female genital cutting · Pain models · Sexual pain · Immigrant women's health · Refugee women's health

Introduction

Female genital cutting (FGC; also known as female circumcision or female genital mutilation[1]) commonly occurs in 30 countries throughout Africa and the Middle East, affecting over 200 million girls and women worldwide (United Nations Children's Fund, 2016; World Health Organization, 2016). Many women who have experienced FGC have migrated to Europe and North America (World Health Organization, 2008). In the U.S., it is estimated that the number of girls and women who have experienced FGC has risen by 224% since 1990, resulting in a large population of females coping with the aftereffects of FGC in healthcare systems in Western countries (Goldberg et al., 2016). Healthcare providers are not fully prepared to treat women who have experienced FGC or understand the cultural nuances related to the experience, particularly as it relates to sexual and reproductive health. Providers and female immigrant and refugee patients report misunderstandings, poor communication, and distrust around this subject (Johnson-Agbakwu, Helm, Killawi, & Padela, 2014b; Lazar, Johnson-Agbakwu, Davis, & Shipp, 2013; Pavlish, Noor, & Brandt, 2010).

Sexual pain for women is a common sequela of FGC (Berg & Denison, 2012). For this reason, healthcare providers should

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[1] The term FGC will be used in this article due to concerns from several communities related to the term, female genital mutilation, which can be felt as shaming by women who have experienced FGC, and the lack of accuracy of the term female circumcision. For further information related to this decision, see Brady, Connor, Chaisson, Mohamed, and Robinson (2019).

be prepared to discuss and treat sexual pain with their patients who have experienced FGC. Several frameworks have been developed which conceptualize and guide treatment for other types of pain—most notably, back pain, headaches, and to a lesser extent, sexual or vulvar pain. In this paper, we combine several existing theoretical frameworks developed to conceptualize other types of pain into an integrative model to conceptualize sexual pain in women who have experienced FGC. This integrative model may aid in providing culturally responsive clinical management of sexual pain to women who have experienced FGC, as well as expand the research base on women's responses to sexual pain.

Female Genital Cutting and Sexual Pain

The World Health Organization (2008, 2016) categorizes FGC into four types, listed below.

1. Clitoridectomy [Type I]: Partial or total removal of the clitoris (a small, sensitive, and erectile part of the female genitals) and, in very rare cases, only the prepuce (the fold of skin surrounding the clitoris).
2. Excision [Type II]: Partial or total removal of the clitoris and the labia minora, with or without excision of the labia majora.
3. Infibulation [Type III]: Narrowing of the vaginal opening through the creation of a covering seal over the vaginal opening. The seal is formed by cutting and repositioning the inner, or outer, labia, with or without removal of the clitoris.
4. Other [Type IV]: All other harmful procedures to the female genitalia for non-medical purposes, e.g., pricking, piercing, incising, scraping, and cauterizing the genital area.

Practitioners around the world have noted numerous reasons for performing FGC, including guaranteeing virginity, "cleaning" the vagina, aesthetics, religious beliefs, and increasing the husband's pleasure (Kelly & Hillard, 2005). FGC often takes place when a girl is between ages 4 and 10 years (Kelly & Hillard, 2005). Most commonly, FGC is performed by a traditional practitioner, a local woman who holds this role in her community (Andro & Lesclingand, 2016). Less commonly, a healthcare provider may perform FGC in a setting such as a hospital (Andro & Lesclingand, 2016).

Women may experience medical problems (e.g., chronic UTIs, chronic vaginal infections, painful periods, neuromas, cysts) and obstetrical problems (e.g., prolonged labor, obstetrical tears, increased need for cesarean section, stillbirth) as a result of FGC (Abdulcadir et al., 2016; Andro, Cambois, & Lesclingand, 2014; Kelly & Hillard, 2005; Paliwal, Ali, Bradshaw, Hughes, & Jolly, 2014; Varol et al., 2016). Chronic sexual pain is one sexual problem that may arise from FGC (Andro et al., 2014; Berg & Dennison, 2012; Berg & Underland, 2013). In their meta-analysis, Berg and Denison found that FGC resulted in a 1.5 increased relative risk of pain during vaginal sexual intercourse. In previous community-based research, 52% of Somali-American women who experienced FGC reported that FGC had a negative impact on their sexual lives (Connor et al., 2016). This highlights the importance of being prepared to discuss and treat sexual pain among migrant and immigrant women who have experienced FGC.

Type of FGC may have an impact on whether or not sexual pain occurs (Connor et al., 2016). For example, if infibulated, there are challenges related to fitting the penis through the small infibulated vaginal opening. At marriage, husbands attempt to expand this small opening in order to achieve vaginal intercourse either by using their penis or a small tool to cut the sealed tissue open (Johansen, 2017). In a qualitative Norwegian study, Somali and Sudanese refugees reported "women's screams and cries of pain" during this opening process at the start of marriage (Johansen, 2017, p. 7). For some, but not all, this acute pain at first intercourse develops into chronic sexual pain (Berg & Dennison, 2012). Some adverse outcomes of Type I or II FGC, such as clitoral neuromas or vulvar cysts, may also create vulvar and sexual pain (Abdulcadir et al., 2016).

The effects of pain, including sexual pain, on quality of life and medical costs has been well documented (Arnold, Bachmann, Rosen, Kelly, & Rhoads, 2006; Xie et al., 2012). Studies of women with vulvodynia (unexplained vulvar pain) have indicated that depression, anxiety, and sexual dysfunction are higher than in comparable samples of women without vulvodynia (Khandker et al., 2011; Masheb, Lozano-Blanco, Kohorn, Minkin, & Kerns, 2004). Women diagnosed with vulvodynia or provoked vestibulodynia (pain at the entrance to the vagina, even with light touch) have also reported associated emotional distress such as guilt and shame (Connor, Robinson, & Weiling, 2008; Thomten & Linton, 2014), relationship distress (Smith & Pukall, 2014), and avoidance of intimacy (Connor et al., 2008). It is currently unknown whether the experience of FGC would have a similar impact on women's quality of life.

Acculturation and Care for Sexual Pain

We define acculturation as the process during which an individual changes following migration due to encounters with the larger culture of their new home country (Berry, 1997). Sexuality among women who have experienced FGC will vary based on the messages they have received about the impact of FGC on their sexual function. For example, exposure to Western-based media and advocacy messages related to female genital mutilation (FGM) can result in an expectation of poorer sexual function (Johnsdotter, 2018). Additionally, coping strategies may vary based upon acculturation level, such that those from collectivistic societies may be more inclined to prioritize the needs of family and community over oneself during challenging or traumatic events (Tummala-Narra, 2007).

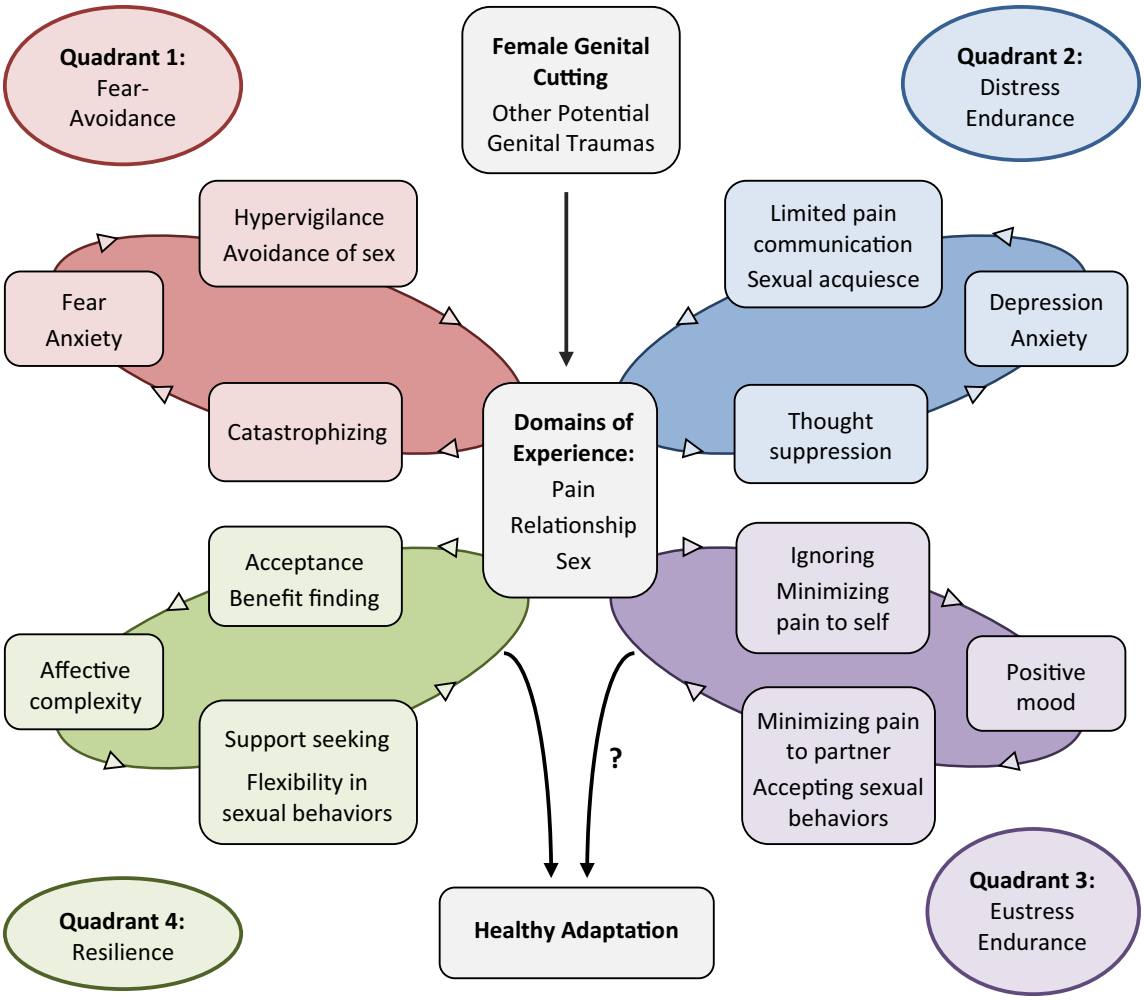

Fig. 1 The integrative psychological pain response model: potential responses to pain among women who have experienced female genital cutting

Integrative Psychological Pain Response Model

We propose a pain response model (Fig. 1) that integrates four possible pain responses to FGC. This proposed model is based on theory and research conducted on individuals' responses to other types of pain. Future research is needed to demonstrate the integrated model's predictive validity among women who have experienced FGC and to demonstrate the model's utility for guiding clinical care. We posit that different responses to pain increase or decrease the possibility of developing or exacerbating chronic sexual pain, and that the degree to which each response is adaptive or maladaptive depends, in part, on degree of acculturation. The four responses are based on pain response models found in the greater pain literature: the fear avoidance model (Vlaeyen & Linton, 2000), two types of endurance models, distress endurance and eustress endurance (Hasenbring & Verbunt, 2010), and the pain resilience model (Sturgeon & Zautra, 2010).

We examine how these models could be modified to address maladaptive or adaptive responses to sexual pain associated with FGC. Within each model, we identify cognitive, affective, and behavioral processes that may contribute to the experience of pain. Each potential response is conceptualized as a cycle of cognitions, affect, and behavior that is likely to continue (i.e., a feedback loop) unless a woman challenges her thoughts and behaves in a different way. In Fig. 1, each response is shown in a quadrant that depicts the theoretical response cycle. At the top of the model, the original injury (FGC) is shown as a key input, along with other potential vulvar traumas or conditions that may impact sexual pain (e.g., endometriosis) of the vulvar region. Injuries and trauma impact three key domains of experience with respect to physical, relationship, and sexual health—the experienced pain, impact on relationship quality, and impact on sexual experiences. How a woman thinks about these domains of experience will initiate a specific type of pain response. It is conceivable that a woman may engage in one

Table 1 Summary of core constructs in the integrative psychological pain response model and key references

	Fear avoidance	Distress endurance	Eustress endurance	Resilience
Cognitive response	Self-focused attention Viewing pain as catastrophic	Self-focused attention Suppression of or limited analysis of thoughts about pain	Other-focused attention Ignoring pain Minimizing pain Accepting pain	Self-focused attention Accepting pain Benefit finding through meaning-making
Affective response	Fear Anxiety	Depression Anxiety	Positive mood	Affective complexity Positive mood outweighs negative mood
Behavioral response	Limited or full disclosure of and communication about pain with intimate partner Hypervigilance around partner Avoidance of sex and intimacy	Limited disclosure of and communication about pain with intimate partner Acquiescing to unwanted sexual behaviors despite pain	Minimizing pain to intimate partner Accepting or welcoming sexual activities despite pain	Full disclosure to and frequent communication about pain with intimate partner Support seeking Flexibility and negotiation of sexual behaviors Engagement in valued, enjoyable sexual behaviors
Proposed adaptiveness	Maladaptive	Maladaptive	Adaptive, particularly when acculturation is low	Adaptive, particularly when acculturation is high
Key references	Asmundson, Gomez-Perez, Richter, and Carleton (2014) and Thomten and Karlsson (2014)	Hasenbring and Verbunt (2010)	Hasenbring and Verbunt (2010)	Sturgeon and Zautra (2010)

or more of the response cycles represented in each quadrant, either concurrently or consecutively. In particular, she may remain in one of the less adaptive cycles until or unless she identifies a different means of responding, possibly through medical and/or psychological intervention.

The bottom of the model shows healthy adaptation, defined as no pain or limited pain, a satisfying relationship with one's partner, and a satisfying sexual life. Healthy adaptation is achieved when the woman responds to pain with resilience (Quadrant 4) or, possibly for less acculturated women, with eustress endurance. In most cultures, fear avoidance and distress endurance responses are likely to be viewed as maladaptive. However, among women who have experienced FGC, it is not clear that eustress endurance responses to pain—which are primarily focused on the well-being of others—and resilience responses to pain—which are primarily focused on the well-being of oneself—may not be uniformly maladaptive and adaptive, respectively. In non-Western societies, resilience is frequently conceptualized in terms of one's family or community rather than oneself (Tummala-Narra, 2007), and the concept of self-focus varies cross-culturally with respect to whether it is considered appropriate (Chentsova-Dutton & Tsai, 2010). Table 1 summarizes the pain response cycles of the model further, including proposed outcomes of traversing each possible pain response cycle. Below, we describe each pain response as described by the originators, discuss the applicability of each response to immigrant and refugee women who have experienced FGC and whether adaptiveness may vary by acculturation, and combine perspectives into an integrative psychological pain response model.

Quadrant 1: Fear Avoidance

The fear avoidance pain response has been widely studied in the back pain, headache, and to a lesser degree, vulvodynia literature. In Vlaeyen and Linton's (2000) original model, which focused on musculoskeletal pain, the experience of pain is interpreted through one's initial negative affect (e.g., depression or anxiety). This negative affect elicits negative cognitions, particularly viewing pain as catastrophic. These thoughts lead to increased fear and anxiety and a series of behaviors that serve to reinforce the fear avoidance cycle: hypervigilance about the body and pain, avoiding use of the affected body part, disuse, and deconditioning, and disability (e.g., inability to work due to back pain). Conversely, when one has little or no negative affect in response to the pain, this maladaptive response cycle is not activated and one is better poised to recover.

With regard to sexual pain (e.g., vulvodynia), a fear avoidance response has been characterized by initial anxiety, catastrophizing thoughts, and growing fear and anxiety in response to the idea of having vaginal sex, as well as hypervigilance around one's partner (e.g., alertness; tension, including vaginal muscle tension) and avoidance of sex and intimacy (Chisari & Chilcot, 2017; Thomten & Karlsson, 2014). Consistent with the fear avoidance response model, Rosen, Dewitte, Merwin, and Bergeron (2017) found that avoidance of sex due to sexual pain was associated with increased pain and lower relationship and sexual satisfaction in a sample of Canadian women.

We propose that a woman who has experienced FGC may respond similarly—in that she could develop catastrophizing

thoughts and a fearful, anxious response to vaginal sex if her first and/or subsequent penetrative experiences were very painful. Women who are classified in Quadrant 1: Fear Avoidance will experience catastrophic thinking (e.g., this pain will ruin my relationship; this pain will damage/tear my vagina). Catastrophic thinking elicits further fear and anxiety—creating hypervigilance around one's partner and tension of muscles in the pelvic region. We posit that increased fear and anxiety about vaginal sexual intercourse may also lead to reduced lubrication, less vasocongestion (swelling of the vaginal tissues), and myotonia (an inability to relax contracted muscles)—leading to sex that is painful, unpleasant, and unfulfilling. In this fashion, initial experiences of sexual pain may lead to chronic sexual pain. Women who respond to pain through fear and avoidance may provide limited or full disclosure of their pain experiences with partners. They will tend to avoid sexual contact and intimacy, which may serve to undermine the quality of their relationship and sexual experiences.

Quadrants 2–3: Distress and Eustress Endurance

Hasenbring, Hallner, and Rusu (2009) developed two endurance models that described the impact of enduring, tolerating, or suffering pain to one's detriment, such as ignoring back pain and overworking the muscles. These models incorporated the fact that pain is a signal to the body that something is wrong and changes in behavior may be necessary to avoid further injury (e.g., reduced activity or seeking medical help). Hasenbring et al. (2009) classified endurance pain responses into two subtypes: distress endurance and eustress endurance. A distress endurance pain response (Quadrant 2) is characterized by suppression of or limited analysis of thoughts about pain, symptoms of depression and anxiety (distress), limited disclosure of and communication about pain to supportive others, and engagement in activities despite pain. A eustress endurance pain response (Quadrant 3) is characterized by ignoring or minimizing one's experience of pain to oneself, while simultaneously focusing on other things like one's work, family, or relationship. One maintains a positive mood and readily engages in activities despite pain, while also minimizing pain to others. The distinction between the two endurance responses is in the cognitive, affective, and behavioral approaches to endurance. In the distress endurance pain response, one suppresses one's thoughts about pain, striving to disregard the pain completely—despite a significant resultant negative affect. In the eustress endurance pain response, one acknowledges pain while attempting to minimize and approach the pain positively. On the surface, eustress endurance may seem to be a form of healthy adaptation. However, individuals who engage in this response risk overestimating their ability to endure pain without causing further physical or psychological harm.

Only Flink, Engman, Ter Kuile, Thomtén, and Linton (2017) in Sweden examined endurance responses in the context of sexual pain; they were unable to link any endurance constructs (e.g., ignoring, minimizing, thought suppression) to increased sexual pain. Only catastrophizing and avoidance—two constructs associated with the fear avoidance model—were linked to increased sexual pain. Clearly, more research is needed to determine the role of endurance in sexual pain, including in diverse populations, and whether the sexual pain sequelae of distress endurance and eustress endurance differ.

In the case of sexual pain caused by FGC, we propose that women who engage in endurance behaviors despite sexual pain will be more likely to experience vaginal pain, vaginal injury, or soreness, leading to the creation of painful body memories. This sequence will likely curtail sexual arousal during future sexual encounters due to an expectation of pain. Women responding with distress endurance (Quadrant 2) may acquiesce to sexual activities after attempting to suppress negative thoughts about sex (e.g., becoming numb to their experiences) and experience a more depressed and anxious mood state. They may be unlikely to seek help and comfort from their partners, which may serve to undermine the quality of their relationship and sexual experiences over time. In contrast, women responding with eustress endurance (Quadrant 3) may approach sexual encounters with a more positive affect through the process of minimizing and ignoring pain sensations and playing down any painful experiences to her partner. Again, eustress endurance may seem to be a form of healthy adaptation on its surface. However, if women are unable to minimize and ignore pain over time, or unable to identify and communicate boundaries for their endurance, the quality of their relationship and sexual experiences may be undermined.

We posit that the extent to which a pain response to FGC-induced sexual pain is adaptive may depend, in part, on the degree of acculturation. We expect that for women with FGC who are less acculturated, a eustress endurance pain response may be a more adaptive approach to pain than other possible pain responses due to cultural beliefs around communal or "other" focused attention, sexual communication, appropriate sexual behaviors, and the role of duty-based sex in marriage (Talle, 2007). Thus, Fig. 1 displays a question mark between the eustress endurance cycle and healthy adaptation—reflecting this uncertainty.

Quadrant 4: Resilience

The *resilience pain response* model (Quadrant 4) identifies processes that can prevent chronic pain or ameliorate it over time, in addition to sustaining one's well-being. Rather than specifically articulating constructs that lead to greater resilience, the theories behind the fear avoidance, distress endurance, and eustress endurance pain response models imply that the absence of maladaptive responses will lead to less pain (Sturgeon & Zautra, 2010). Sturgeon and Zautra proposed that resilience to pain can be bolstered through positive affect, positive social interaction, and coping responses that recognize and attend to one's needs. They noted

that the "primary contributors to more effective pain adaptation are positive emotional states and meaningful social ties, which may predict lower levels of pain intensity and bolster more effective psychological responses under painful conditions" (Sturgeon & Zautra, 2016, p. 63). In support of this model, research shows that cognitive processes (coping responses) that support acceptance of chronic pain and benefit finding lead to greater physical and psychological adjustment (McCracken, Vowles, & Eccleston, 2004; Sturgeon & Zautra, 2010; Yeung, Arewasikporn, & Zautra, 2012). Maintaining a positive mood in the face of adversity has a multitude of physical health and psychological benefits (Fredrickson & Losada, 2005), making it an important aspect of the resilience model (Sturgeon & Zautra, 2010). Optimism and hope can decrease psychological distress in chronic pain patients (Wright et al., 2011). Sufficient social support has been a reliable predictor of reduced pain and better adjustment to pain. Having a supportive social system can assist in reducing stress, which in turn can reduce inflammation (Zautra et al., 2004).

The resilience pain response has not been widely investigated and has never been applied specifically to sexual pain. By integrating the work of Sturgeon and Zautra with sexual pain research (Connor et al., 2008; Flink, Thomtén, Engman, Hedström, & Linton, 2015), we include a resilience pain response for women who have experienced FGC. Assets-based responses to adversity among marginalized populations, such as immigrants and refugees, are worthy of further study. It is common for those who have experienced FGC to feel stigmatized by Western medical providers (e.g., Jacobson et al., 2018); thus, including a resilience response to pain can assist providers in building bridges to clients who may be wary of being "pathologized." Within our integrative pain response model, a resilience pain response is characterized by cognitive processes that allow for acceptance of pain and benefit finding; recognizing and permitting oneself to experience both positive and negative feelings (affective complexity), resulting in an overall positive mood; seeking social support by engaging in communication about pain, stopping painful sexual activities while not avoiding less painful forms of sexual contact, and finding alternative pleasurable sexual activities. We further propose that resilience is the sexual pain response most likely to lead to healthy adaptation and prevent maladaptive sexual pain response cycles. This is particularly likely to be true among women who have experienced FGC and are more acculturated to Western settings, where it is culturally permissible to be self-focused and prioritize one's needs when coping with stressors.

Women who have experienced FGC and who engage in a resilient pain response may be more actively engaged in the process of benefit finding with regard to FGC—finding positive benefits in having experienced FGC. We are not suggesting there is a benefit per se to FGC, but rather that the meaning attached to FGC can contribute to pride in oneself, family members, and culture. Women may create personal meaning, perhaps related to the preservation of their culture, by placing value on the cultural norms related to the practice. Perceived benefits may coexist with a recognition that FGC has adverse health effects. Though it may seem improbable to have pride in a procedure linked to adverse health effects, we believe that many women are currently living in this seemingly opposing and counterintuitive reality. For example, in our research with Somali-American women, many women viewed their own FGC as culturally appropriate while also reporting they would not allow their own daughters to experience FGC (Connor et al., 2016). Thus, they honored the intergenerational connection to their female elder relatives who, like them, had experienced FGC, while also choosing not to have their daughters be cut due to the medical, interpersonal, and legal risks associated with FGC. In this fashion, women engaging in the resilience response cycle will be able to experience positive emotions, while also coming to terms with negative emotions that may be associated with pain and the resulting impact of pain on sexual and relationship experiences. A resilient pain response cycle is different from a eustress endurance cycle in that both positive and negative emotions are acknowledged and experienced, and women are more willing to identify and prioritize their own needs.

For women who have experienced FGC, social support may include turning to their partner or family members for assistance in coping with sexual pain. Some research has shown that many male partners are not in favor of FGC because of the pain their wives experience during sexual intercourse, as well as other complications such as painful menstrual flow, infections, and difficulty during childbirth (Abathun, Sundby, & Gele, 2016; Johnson-Agbakwu et al., 2014b). Thus, husbands can be sources of support in seeking out pain reduction methods, such as deinfibulation prior to initiation of intercourse (see Brady et al., 2019) or later through the use of lubricants and different sexual positions. Additionally, we believe that women may obtain advice from friends and relatives about sexual pain reduction methods.

Many studies have found that women who have experienced FGC report positive sexual experiences, contrary to common misconceptions (Abdulcadir et al., 2016; Alsibiani & Rouzi, 2010; Catania et al., 2007; Jacobson et al., 2018). This may be due, in part, to remaining clitoral tissue or increased sensitivity in other body parts, such as breasts (Jacobson et al., 2018). Flexibility and adaptability of sexual behaviors, particularly in response to sexual pain, could prove to be advantageous for women. Good communication between partners in exploring alternatives to penile–vaginal intercourse and finding pain-free sexual activities is an important component of sexual resiliency in response to sexual pain (Connor et al., 2008, Flink et al., 2015). Altering sexual behavior to better adapt to pain may include avoiding contact when there is too much pain and engaging in sexual encounters when pain is minimal or not present. By altering their approach to sexuality, women and their partners may continue to experience sexual pleasure and

connect to each other through physical intimacy. A challenge for women who have experienced FGC and their partners is that many come from cultures in which penile–vaginal intercourse is viewed as the only acceptable form of sexual expression (Connor et al., 2016).

Clinical Implications

The integrative psychological pain response model has implications for clinical healthcare providers and mental health providers. Physicians, nurses, and midwives are in the best position to assess and treat sexual pain when women who have experienced FGC present for healthcare needs. Given the high incidence of sexual pain in women who have experienced FGC, providers should broach the topic of sexual pain during clinic visits. Other than deinfibulation, which is applicable only for those who have been infibulated (Type III FGC), or removal of vulvar cysts, there are no medical interventions known to be effective in decreasing sexual pain due to FGC (Johnson-Agbakwu & Warren, 2017); these interventions still need to be developed. Cognitive, affective, and behavioral approaches to pain prevention and management can be used to assist in preventing the development of pain or treating and mitigating chronic pain. Providers trained within Western cultures may assume that resilience responses to the pain of FGC are more adaptive than endurance pain responses. However, a provider who attempts to shift a woman's pain response to more resilient responses may be perceived as culturally insensitive, as cultural factors may discourage or prohibit women from focusing on the self and altering usual sexual behaviors. It is possible that such an approach will cause distress among women and be counterproductive. At the same time, a clinician who does not assess a woman's receptivity to resilience processes may be limiting her treatment options and opportunities for growth and comfort. If a woman prefers a eustress endurance response to pain rather than a resilient response, an important task for the provider is to assist the woman in exploring what a reasonable limit would be to her endurance. The provider can also assist the woman in exploring how she could communicate this limit to her partner in a way that feels consistent with her values and culture.

As noted above, women who have experienced FGC do not universally report poor sexual outcomes. The integrative psychological pain response model presented in this paper can assist providers in helping women who are responding to sexual pain in maladaptive ways (e.g., high fear). In addition to discussing a woman's current pattern of responding to sexual pain and how she would like to respond, providers can help women to understand that mutually satisfying sexual experiences with one's partner are possible. Women may find it helpful to learn that even after Type III FGC, clitoral tissue remains (Hernlund & Shell-Duncan, 2007). They may also find it helpful to discuss pleasurable sensations that can be felt through other erogenous zones (Dopico, 2007; Hernlund & Shell-Duncan, 2007).

Prevention

From a prevention perspective, women intending to have vaginal intercourse for the first time may consult a medical professional to mitigate the impacts of scar tissue from FGC and infibulation (Type III FGC). By introducing the topic to young women, medical professionals can provide information to help prevent the development of chronic pain. For example, we know that excessive fear and avoidance may contribute to vulvar pain (Flink et al., 2015; Rosen et al., 2017). Women may benefit from education about relaxation of the pelvic region during intercourse. Preparation for and acceptance of some pain may lead to greater resilience in the event of pain (McCracken et al., 2004). Additionally, teaching communication techniques around sexual health, pain, and associated emotional experiences with sexual partners should be encouraged. If medical providers discover barriers to anxiety reduction and communication strategies, a referral to a mental health provider specializing in sexual health is warranted. As mental health therapy is not commonly utilized in many cultures, an explanation of how and why mental health services could be of benefit to a woman engaged to be married may be needed (Sue & Sue, 2013). Partnerships with community organizations may facilitate prevention work. For example, educational workshops on FGC led by women from countries where FGC is practiced can help reach a wider audience.

Assessment by Medical and Mental Health Providers

For women who have engaged in vaginal intercourse, assessment should include pain intensity at first intercourse, pain intensity currently, behavioral adaptations to pain (e.g., avoidance, enduring pain, communicating needs to partner), affective outcomes with particular attention to anxiety and mood, and cognitive approaches to coping such as ignoring or expecting pain. In addition, women who have experienced FGC and report sexual pain may experience pain due to factors other than FGC, and thus, this should be assessed and ruled out (e.g., endometriosis, interstitial cystitis). By asking questions related to each of the possible pain responses, healthcare providers can attain information related to needed interventions. Women who appear to be engaging in cognitive, affective, and behavioral approaches in line with the fear avoidance cycle or the endurance cycles, particularly distress endurance, can be referred for mental health interventions to discuss more adaptive approaches. Women who are less acculturated may see eustress endurance as an appropriate response to FGC pain. In this circumstance, the provider can monitor the patient's pain and well-being without necessarily intervening. Alternatively, providers could tactfully broach the topic of what a reasonable limit would be to the woman's pain endurance, and how the woman might go about confiding in her partner if the pain became difficult to endure. Thus, the patient's acculturation should be

taken into account when determining treatment recommendations. Assessment may be aided through the use of an acculturation measure, such as the bicultural involvement questionnaire. This questionnaire has been adapted into many languages and assesses identification with one's original culture as well as identification with one's host culture (Johnson-Agbakwu, Flynn, Asiedu, Hedberg, & Breitkopf, 2014a; Szapocznik, Kurtines, & Fernandez, 1980). Sexual trauma and relationship dynamics that may contribute to sexual dysfunction should be assessed (e.g., whether a partner provides social support versus pressure to endure pain). Though FGC may be a major contributing factor to sexual pain, there may be other psychological, social/relational, or physiological factors to assess.

Mental Health Intervention

The integrative psychological pain response model highlights the importance of mental health intervention. Following assessment, the mental health provider should attend to cognitive, affective, and behavioral processes that may contribute to the development and amelioration of chronic pain, for example, challenging catastrophic thoughts that lead to hypervigilance and tightening of the pelvic region. Resilience can be built through creating positive meaning, attending to anxiety and depression, and enhancing social support, in particular, communicating needs to one's partner. In addition, finding sexual activities that are both culturally appropriate and do not result in pain should be explored.

Cognitive behavioral therapy or acceptance commitment therapy (ACT) both are potential therapeutic modalities to move a patient toward resilience. Both of these therapeutic models address maladaptive thoughts that may exacerbate pain (e.g., Brotto, Yong, Smith, & Sadownik, 2015; Dahl, Wilson, & Nilsson, 2004). With a focus on acceptance, ACT may also assist women in finding meaning (benefit finding) and adaptive strategies for sexual experiences. Mindfulness is often used in sexual pain treatment and could address anxiety, mood, avoidance, and thought suppression. In patients with provoked vestibulodynia, one approach that has been studied is a manualized group therapy model that combines mindfulness and cognitive behavioral therapy (e.g., *Moving on with our Sexual Lives,* Basson et al., 2014). A family systems approach can be useful in attending to relational dynamics that affect both coping with FGC and decision-making regarding FGC-related interventions (Parikh, Saruchera, & Liao, 2018). Couples therapy may be considered to assist partners in communicating effectively and altering, as necessary, sexual behaviors to minimize pain without fear of rejection or negative interactions. These treatment approaches should be adapted to meet the cultural needs of the patient (Hinton, Rivera, Hofmann, Barlow, & Otto, 2012).

Research Implications

Research is needed to understand how each pain response model applies to populations outside of the West. Women's utilization of cognitive, affective, and behavioral pain response strategies represented by all four quadrants of the integrative psychological pain response model should be studied. Exploration of resilience factors is an essential component to future research endeavors. Possibly, there are resilience factors for women not identified in the current model. Qualitative research could help identify these unknown factors. Identified resilience factors within the presented model should be investigated, such as social support, to determine whether these concepts are salient for women who have experienced FGC. Research should explore whether pain responses/cycles work similarly in women with FGC as in previously studied pain populations. For example, does eustress endurance result in greater sexual pain than a resilience response for women who have experienced FGC? Does acculturation moderate the hypothesized effects of different pain responses on women's experiences of sexual pain, relationship quality, and sex? Longitudinal research is needed to track how women may begin in one pain cycle and, through intervention or experiential learning, change to either a less adaptive or more adaptive cycle. Likewise, once a woman has entered an adaptive cycle, what might lead to her slipping back into a maladaptive cycle? Several of the authors are currently examining these questions empirically through qualitative interviews and quantitative assessment.

In this paper, we recommend the development of a preventive approach for women who have undergone FGC and are approaching their first vaginal intercourse experience and adaptation of current psychotherapy approaches to sexual pain for women who have undergone FGC. Efficacy of these approaches is another area for future research. In particular, attention to acceptability of each response to sexual pain within the worldview of a particular culture is essential, while also assessing the potentially moderating impact of acculturation. Effective treatments should demonstrate an ability to decrease sexual pain intensity, increase positive mood, and increase relationship and sexual satisfaction.

Conclusion

Given the lack of theoretically informed clinical literature and research for treating sexual pain in patients with female genital cutting, the integrative psychological pain response model can guide clinicians and researchers. This integrated model builds upon previous literature by taking into account cultural differences and acculturation, as well as the possibility for beginning with a response cycle that is maladaptive and transitioning to an adaptive one. The integrative psychological pain response

model may be further adapted as more becomes known about how sexual pain is experienced and best treated for women who have experienced FGC.

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