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Sexual distress and sexual function in a sample of Iranian women with gynecologic cancers

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ABSTRACT

Purpose: This study aims to examine the correlation between sexual function and sexual distress, and to determine the predictive factors of sexual function and sexual distress in women with gynecologic cancers.
Methods: In this cross-sectional study, 387 subjects were referred to Velayat Hospital in Qazvin, Iran, using convenience sampling method between June and August 2016. Data were collected using a demographic questionnaire, the Female Sexual Function Index (FSFI), and the Female Sexual Distress Scale-Revised (FSDS-R).
Results: Mean scores of sexual function and sexual distress were 19.4 ± 6.7 and 29.2 ± 12.9, respectively. There was no significant correlation between sexual function and sexual distress. Multivariate predictors of FSFI were cancer stage ($p = 0.023$), cancer type ($p = 0.025$), duration of disease ($\beta = -0.10$, 95% CI [-0.17, – 0.02], $p = 0.017$) and social support ($\beta = 0.53$, 95% CI [0.24, 0.83], $p < 0.001$). Predictors of FSDS-R were economic status ($p = 0.040$) and type of cancer ($p = 0.016$). There was a negative relation between the overall score on FSDS-R and FSFI sub domains of desire ($\beta = -1.4$, $p = 0.033$) and arousal ($\beta = -2.1$, $p = 0.024$).
Conclusions: This study did not support a relation between sexual function and sexual distress. Other factors, however, including cancer type, economic status and social support may affect sexual function and sexual distress. Future studies needed to determine further factors which can affect the sexual distress and sexual function of gynecologic cancer patients.

1. Introduction

Cancer is a major public health problem worldwide and is the second leading cause of death in the United States (Siegel et al., 2016). In Iran, cancer is one of the most common diseases in the 21st century and is the third most common cause of death, after cardiovascular disease and accidents (Saadat et al., 2015). The prevalence of cancer, especially cancers specific to women, is growing worldwide. Approximately 13 percent of women around the world are diagnosed with various types of gynecologic cancers (Zhou et al., 2015).

Receiving any cancer diagnosis is an unpleasant experience, wrought with distress, which impacts a person's personal and family life (Soleimani et al., 2017). As a result of diagnosis, patients experience socio-economic problems, marital issues, and psychological problems (Brunault et al., 2016; Wilson et al., 2016). Intense psychological distress is common not only upon receiving a diagnosis, but also throughout treatment (Stafford and Miller, 2014). Patients experience anger, depression, pain, and suffering as a result of the gynecologic cancer. Physical consequences of cancer, such as impaired body image, hair loss, and removal of female sex organs, as well as psychological consequences of cancer, such as death anxiety, can affect sexuality (Benedict et al., 2016a; Hasanvand et al., 2015).

Changes in sexual function is a common complication of gynecologic cancer and related treatments (Hopkins et al., 2015). For example, a systematic review in 2016 shows that Female Sexual Dysfunction (FSD) prevalence was higher than 60% at all cancer sites, with the highest value for gynecological cancer. In addition, women with cancer showed low FSFI scores with a high prevalence of FSD (Maiorino et al., 2016). In women, sexual function is divided into six components including 1) the desire to engage in sexual activity 2) sexual arousal (i.e. physiological responses as a result of stimulation of sexual organs) 3) lubrication following sexual stimulation 4) orgasm 5) sexual

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satisfaction and 6) pain (i.e. frequency and amount of vaginal pain during intercourse; (Rosen et al., 2000). Women with ovarian cancer experience a reduction in estrogen and androgens, resulting in vaginal dryness, thinning of the vagina and vulva tissues, loss of vaginal elasticity, and hot flashes (Michael and O'Keane, 2000). In addition, a persistent lack of sexual interest and lubrication has been reported in this population (Carter et al., 2005; Jensen et al., 2003). Aside from the cancer itself, treatment also has an impact on sexual function. Women with gynecologic cancer who received radiotherapy had more problems with sexual desire and arousal compared to those who received another treatment (Stage, 1989). In another study, researchers found that patients who underwent a radical hysterectomy experienced severe orgasmic problems and uncomfortable sexual intercourse due to reduced vaginal size, severe dyspareunia, and sexual dissatisfaction (Jensen et al., 2004). Thus, sexual function in patients with gynecological cancer is impaired.

Sexual distress is a broad term encompassing any sexual discomfort and dysfunction and includes decreased libido, difficulty achieving orgasm, dyspareunia, vaginal dryness, and vaginismus. In fact, sexual distress can cause stress and anxiety in individuals (Kadkhodaian et al., 2015). Researchers have found that sexual distress is present in all stages of treatment and during follow up in patients with gynecologic cancer (Kadkhodaian et al., 2015; Oskay et al., 2011; Pinto, 2013; Plotti et al., 2012). Despite this, sexual distress is undertreated in patients with gynecological cancer (Plotti et al., 2012). Few researchers have investigated the factors underlying sexual distress in these patients (Colson et al., 2006; Hawton et al., 1994; Maughan and Clarke, 2001). An exception is a study by (Pazmany et al., 2013), who showed that cognitions about one's own vaginal penetration, body image and genital self-image each contributed independently to the variance in sexual distress in Premenopausal women.

From the few studies investigating factors that contribute to sexual distress, we see that patients with gynecological cancer experience physical, mental and economic changes, which all contribute to sexual distress (Fernandes, 2009; Raggio et al., 2014; Tojal and Costa., 2015). These changes can lead to sexual dissatisfaction not only in patients, but in their spouses as well (Woertman and van den Brink, 2012; Ye et al., 2014). Sexual dissatisfaction has a direct impact on the quality of life of patients, and it reduces the quality of their sexual relationships (Fahami et al., 2014). Impaired sexual function is also a factor that contributes to sexual distress in women with gynecologic cancer(Plotti et al., 2012).

Sexual distress also impacts the mental health of the patient (Michael and O'Keane, 2000; Pinto, 2013). In fact, sexual distress may lead to anger and aggression, separation, divorce, depression and other mental health problems (Mazinani et al., 2013). The negative effects on patients' mental health in turn impacts the relationship between spouses, which in turn can negatively impact sexual satisfaction and can lead to sexual dysfunction (Lau et al., 2006). Health care providers, however, pay more attention to the survival of the patient, controlling the signs and symptoms of disease and physical symptoms of patients, and do not often address the mental health of patients (Javadi et al., 2010; Paterson et al., 2015).

Although extensive research has substantiated that patients with cancer report lowered sexual satisfaction and sexual function, and high psychological distress (Benedict et al., 2016b; Wettergren et al., 2017), there has been limited research investigating sexual distress and sexual function among patients with gynecologic cancer (Stafford and Miller, 2014). Further, although factors such as age, sex, socioeconomic status, and health have been shown to impact sexual function and the experience of distress (Jackson et al., 2016; Rottmann et al., 2017), little is known about relations of these factors to sexual function and distress in women with cancer specifically (Fahami et al., 2014). Even less in known about factors associated with sexual function and sexual distress among Iranian patients with gynecologic cancer, who are a part of a culture dominated by Islamic religious and social practices. The purpose of this exploratory study was to examine the relations between sexual distress and sexual function among Iranian patients with gynecologic cancer who are receiving or preparing for anticancer treatment. Further, we examined if sociodemographic factors (age, education, and socioeconomic status), health factors (cancer stage, type of cancer, type of treatment received, and time lapse since diagnosis), were associated with sexual distress and sexual function in this sample of Iranian women with gynecologic cancer.

2. Methods

2.1. Study design and participants

A descriptive cross-sectional correlational design was used to examine the relationship between sexual distress and sexual function. A convenience sampling approach was adopted to collect the data of gynecologic cancer patients who were referred to the oncology clinic of Velayat Hospital in Qazvin, Iran, between June and August 2016. To determine adequate sample size, we chose the Cohen approach (Cohen, 1988; Cohen et al., 2003). The Cohen approach evaluates both the relative and absolute values of the changes between groups and allows statistical analyses. The sample size necessary was 387, with an $\alpha = 0.05$, power = 0.80 ($\beta = 0.20$), and effect size ($d = 0.3$). During the above-mentioned time period, 506 patients were referred to the study. Of these patients, 468 patients fulfilled inclusion criteria, and 387 patients were recruited with an overall survey response rate of 82.6%.

In order to be eligible to participate in this study, participants had to 1) have a confirmation of a gynecologic cancer and it's stage, 2) be between the ages of 20–65, 3) be aware of the disease, and 4) have the ability to communicate with researcher. The experience of any sexual distress before being diagnosed the cancer was considered an exclusion criteria.

2.2. Instruments

Participants completed a questionnaire which consisted of three parts: 1) Basic questions regarding demographics, 2) the Female Sexual Function Index (FSFI) and 3) the Female Sexual Distress Scale-Revised (FSDR). The demographic portion of the questionnaire collected information about each patients' age, age at marriage, length of marriage, duration of marriage, educational level, economic status, number of children, duration of the disease, stage of the cancer based on pathologist report, and type of treatment. Social support was measured by an analogue scale ranging from 0 to 10 (0 = no social support to 10 = sufficient/adequate/lots of social support).

2.2.1. Female Sexual Distress Scale-Revised (FSDS-R)

This is a self-report questionnaire designed by Derogatis et al. (2008). It consists of 13 items assessing different aspects of sexual activity-related distress in women. All items are scored on a five-point Likert-type scale ranging from 0 (never) to 4 (always), with a higher score indicating more sexual distress (Derogatis et al., 2008). The validity and the reliability of FSDS-R have been well established in Iranian population (Azimi Nekoo et al., 2014; Ghassami et al., 2014). In our sample, Cronbach's alpha for the FSDS-R was 0.86 indicating good internal consistency.

2.2.2. Female Sexual Function Index (FSFI)

This questionnaire was designed by Rosen et al. (2000). It consists of 19 items that cover 6 domains of women's sexual functioning including sexual desire (items 1, 2), arousal (items 3,4,5,6), lubrication (items 7,8,9,10), orgasm (items 11,12,13), satisfaction (items 14,15,16), and pain (items 17,18,19). All items are scored on a Likert-type scale ranging from 0 (or 1) to 5, with higher scores indicating better sexual functioning (Rosen et al., 2000). The validity and the reliability of FSFI have been previously well established (Hasanzadeh