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Factors Associated With Specific *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* Sexual Dysfunctions in Breast Cancer Survivors: A Study of Patients and Their Partners

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ABSTRACT

Background: Many women develop sexual problems after breast cancer (BC) treatment. Little is known about BC survivors with a *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV) sexual dysfunction and their partners, and the factors associated with their sexual functioning.

Aim: To evaluate (i) patient-related and clinical factors associated with (a) specific DSM-IV sexual dysfunctions and (b) level of sexual functioning and sexual distress as reported by BC survivors and (ii) the association between the sexual functioning of BC survivors and that of their partners.

Methods: We analyzed baseline data from a study of the efficacy of online cognitive-behavioral therapy for sexual dysfunction in BC survivors.

Outcomes: Women completed self-report questionnaires assessing sexual functioning, sexual distress, relationship intimacy, marital functioning, menopausal symptoms, body image, and psychological distress. Their partners completed questionnaires assessing sexual functioning.

Results: The study included 169 BC survivors and 67 partners. The most prevalent female sexual dysfunctions were hypoactive sexual desire disorder (HSDD; 83%), sexual arousal disorder (40%), and dyspareunia (33%). Endocrine therapy was associated with HSDD ($P = .003$), and immunotherapy was associated with dyspareunia ($P = .009$). Older age was associated with lower sexual distress ($P < .001$). Depressive symptoms were highest in women with sexual arousal disorder ($P = .004$). An indication for erectile disorder was present in two thirds of partners. Lower overall partner sexual satisfaction was associated with lower overall BC survivor sexual functioning ($P = .001$), lower female arousal ($P = .002$), and lower female sexual satisfaction ($P = .001$). Poorer male erectile function was related to higher female sexual pain ($P = .006$). Partners of women who underwent breast reconstruction reported marginally significantly better orgasmic functioning ($P = .012$) and overall sexual functioning ($P = .015$) than partners of women who had undergone breast-conserving treatment.

Clinical Implications: BC survivors and their partners experience sexual problems after BC treatment. This suggests that not only the BC survivor but also her partner could benefit from sexual counseling.

Strengths and Limitations: This is the first study focusing on BC survivors with a DSM-IV sexual dysfunction and their partners. The results cannot necessarily be generalized to women experiencing milder sexual problems or who have no interest in receiving sexual counseling.

Conclusion: Endocrine therapy and immunotherapy are relevant risk factors for HSDD and dyspareunia in BC survivors. The sexual functioning of women and their partners is affected, underscoring the importance of involving both partners in sexual counseling after BC treatment. **Hummel SB, Hahn DEE, van Lankveld**

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Key Words: Breast Cancer; Sexual Dysfunction; DSM-IV; Sexuality

INTRODUCTION

Sexual problems are a frequent, long-term effect of the treatment of breast cancer (BC).[1] BC survivors report more sexual problems compared with healthy controls.[2–5] It has been estimated that 45% to 77% of BC survivors develop sexual problems after treatment.[5,6]

In most studies of BC survivors, the presence of a sexual problem is defined as a score above a given threshold on a patient-reported outcome measure (PROM). This is in contrast to the procedure used in clinical practice, where a diagnosis of sexual dysfunction is typically based on a clinical interview by a trained therapist using the criteria of the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV)[7] or, more recently, the DSM-5.[8] It is generally accepted that an interview is the optimal manner of generating an accurate diagnosis, because it allows the clinician to take factors into account that can affect the patient's sexual functioning, such as current general health, sexual experiences, the quality of the partner relationship, and the presence of adequate sexual stimuli.[9] The clinician also can evaluate whether the sexual problem is of sufficient severity that it causes marked distress and whether it does not primarily reflect another DSM disorder.

According to the biopsychosocial model,[10] sexual dysfunction is the result of a disturbance in the biological, psychological, and/or social aspects of an individual's sexual functioning. The relationship with the partner is an important social factor in the assessment and treatment of sexual problems.[11] The sexual functioning of couples is interrelated,[12,13] and research has shown that the partner's sexuality and feelings of intimacy can be affected by the patient's disease and treatment.[14] Although past research on the sexual functioning of BC survivors has often involved the partner,[14–18] these studies have not explicitly investigated the association between the women's and their partners' reports of sexual functioning. In this article, we focus on an understudied population, BC survivors with a formal DSM-IV diagnosis of sexual dysfunction, and the factors associated with their and their partners' sexual functioning.

AIMS

Our specific focus was on BC survivors who were motivated to undergo internet-based cognitive-behavioral therapy for their problems. We investigated the association between sociodemographic and clinical factors and (i) specific DSM-IV diagnoses of sexual dysfunction and (ii) self-reported levels of sexual functioning and sexual distress of BC survivors. In addition, we investigated differences in levels of sexual distress, psychological distress, menopausal symptoms, body image, marital functioning, and relationship intimacy as a function of specific DSM-IV diagnoses of sexual dysfunction. We also evaluated the association between the sexual functioning of BC survivors and that of their partners, and whether the partner's sexual functioning was associated with the woman's BC treatment.

METHODS

The present analysis was based on baseline data derived from an ongoing randomized controlled trial (RCT) investigating the efficacy of an internet-based cognitive-behavioral therapy program for sexual dysfunctions in BC survivors. Patients were recruited from 10 community and university hospitals in the Netherlands. A detailed description of the design of the trial has been published previously.[19] The institutional review boards of The Netherlands Cancer Institute (Amsterdam, The Netherlands) and of all participating hospitals approved the study.

Study Sample

Inclusion criteria for the trial were: age 18 to 65 years; a diagnosis of histologically confirmed BC 6 months to 5 years before study entry; completion of BC treatment (with the exception of maintenance endocrine therapy and immunotherapy); free of disease at time of study entry; sufficient command of the Dutch language; and a formal diagnosis of sexual dysfunction according to DSM-IV criteria, as determined by a psychologist or a sexologist during an intake interview. Single and partnered women and women with different sexual orientations were eligible for the trial.

The most important study exclusion criteria were serious cognitive or psychiatric problems (ie, major depressive disorder, alcohol dependency, or psychotic disorders) as determined by the Mini International Neuropsychiatric Interview[20]; treatment for another type of cancer (with the exception of cervix carcinoma in situ and basal cell carcinoma); and presence of severe relationship problems that would pre-empt treatment of sexual problems.

The partners of those women who were randomized to the intervention group (as part of the RCT; see below) also were invited to complete study questionnaires.

Study Design and Procedures

As part of the RCT, women who met the initial age and BC-related eligibility criteria were sent an invitation letter and a