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Factors predicting sexual functioning in patients 3 months after surgical procedures for breast cancer: The role of the Sense of Coherence

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A B S T R A C T

Women with breast cancer may have significant problems adjusting to the disease and therapy, due to the significant changes in body image and sexuality associated. The aim of this study was to 1) assess sexual functioning 3 months after surgical procedures for breast cancer, and 2) prospectively investigate the usefulness of a Sense of Coherence (SOC) and beauty treatment as predictors of sexual functioning.
Methods: One hundred women with breast cancer were randomly assigned to a group receiving beauty treatments during hospitalization or a control group. SOC subscales were assessed the day before surgery. Psychological distress and body image were assessed on day 6 after surgery and sexual functioning was assessed at three months.
Results: Patients with breast cancer seem to experience significant issues in sexual functioning 3 months after surgery. Half of them declared no sexual activity and 42% had no interest for sex. In terms of Sense of Coherence, only the perception that resources were available to face the disease (i.e. manageability) had a positive influence on sexual functioning. Beauty treatment was also associated, but the most statistically significant predictor of sexual functioning was a younger age.
Conclusion: This study provides evidence that coping resources, and especially the perception that resources are available to face disease-related disturbances (i.e. manageability), have a positive influence on sexual functioning. Interventions aimed at improving patient perception of available resources might be useful to improve sexual functioning among patients with breast cancer.

Introduction

Breast cancer patients experience problems in many quality-of-life domains, including emotional and social functioning during and after therapy (Baucom et al., 2005; Broeckel et al., 2000; Chopra and Kamal, 2012; Hegel et al., 2006; Manganiello et al., 2011). The diagnosis of a life-threatening disease is one of the most stressful life events and often induces emotional disturbances (Schou et al., 2005). Moreover, chemotherapy has been associated with durable effects on cognitive function and fatigue, as well as triggering menopause (Ahles et al., 2005; Broeckel et al., 2000; Mols et al., 2005; Moore, 2007), while endocrine therapies may exacerbate menopausal or sexual symptoms and contribute to weight gain (Moore, 2007). Mastectomy may also induce significant levels of psychological distress, negative body image and changes in sexuality, although breast reconstruction can contribute to early restoration of psychosocial health following surgery (Al-Ghazal et al., 2000; Fobair et al., 2006; McGaughey, 2006). Consequently, women with breast cancer can have significant alterations in body image and sexuality (Baucom et al., 2005; Brandberg et al., 2008; Geiger et al., 2006; McGaughey, 2006). Some coping resources might however mitigate the negative impact of disease.

A Sense of Coherence (SOC), a personality characteristic proposed by Antonovsky (1987), refers to a disposition to look at life and its problems in a manner which makes coping easier. The SOC is defined as a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic, feeling of confidence that (1) events from internal and external environments are structured, predictable and explicable [Comprehensibility]; (2) the

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resources are available to one to meet the demands posed by stimuli [Manageability]; and (3) these demands are challenges, worthy of investment and engagement [Meaningfulness].

Based on the salutogenic orientation of SOC, Antonovsky suggests that a positive, but not directly causal, association exists between SOC and well-being. There are several studies which have supported this notion. A significant association between SOC and life satisfaction has been found in several studies (Langeland et al., 2007; Malinauskiene et al., 2011; Moksnes et al., 2012). However, no studies have focused on the relationship between SOC and sexual functioning in patients with breast cancer. In a previous study, we showed that, in addition to routine care, beauty treatments during the post-surgery hospitalization period may improve breast cancer patients' wellbeing (Quintard and Lakdja, 2008). These treatments did not seem to alleviate psychological distress directly, but they had a beneficial impact on body image and may provide additional social support for patients, thus raising their self-esteem.

Little is known from longer-term follow-up studies about the effect that SOC has on body image and sexual functioning after breast cancer surgery. The aim of this study was to perform secondary analyses using data collected in a previously published randomized study (Quintard and Lakdja, 2008) to 1) assess sexual functioning 3 months after surgical procedures for breast cancer and 2) prospectively investigate the associations between SOC and beauty treatment and sexual functioning.

Methods

Study design

The present study analyses data collected during a prospective, randomized, controlled study carried out at Bergonié Cancer Institute (Bordeaux, France) to investigate the effect of beauty treatment on patient with breast cancer.

Participants

The study protocol was submitted for approval to the local research ethics committee and informed consent was obtained from all participants. All female patients aged 18–75 years who had undergone surgical treatment for breast cancer were eligible. Exclusion criteria were psychiatric history, inclusion in another psychosocial research group, obvious intellectual impairment, inability to communicate in French, and refusal. The following data were collected: age in years (three categories: <40, 40–60, >60), marital status (living alone or with a partner), and children (yes/no). Several medical variables were also recorded: previous history of cancer (yes/no), tumor size (>2 cm; <2 cm), type of surgery (lumpectomy/mastectomy), and presence of metastases (yes/no).

Procedure

Main study. Consecutive patients were alternately allocated to two groups. Patients in the experimental group received beauty treatments in combination with routine medical care during the first week post-surgery, whereas those in the control group received routine medical care only. The beauty treatments were non-invasive treatments compatible with medical constraints, including manicure, pedicure, make-up, hair removal, hairstyling (one day post-surgery), body massage (three days post-surgery), and facial massage (five days post-surgery). Patients were assessed before hospitalization (baseline), 6 days post-surgery during their hospitalization (Time 2), and a follow-up assessment was performed three months later (Time 3).

Psychological distress was assessed using the French version of the Hospital Anxiety and Depression Scale (HADS), which is widely used to measure psychological morbidity in cancer patients [33]. The HADS consists of 14 items, 7 on the anxiety subscale (HADS-A) and 7 on the depression subscale (HADS-D). Each item is rated from 0 (not present) to 3 (maximum), and total scores range from 0 (no anxiety/depression) to 21 (high level of anxiety/depression). Body Satisfaction was assessed using the Body-Image Questionnaire (BIC), which consists of 19 items rated on a 5-point scale assessing a general Body Satisfaction dimension (Koleck et al., 2002). Total scores range from 19 (low body satisfaction) to 95 (high body satisfaction). Study protocol and primary results are described elsewhere (Quintard and Lakdja, 2008).

Secondary analysis. Data collected during the same study were used in secondary analysis to investigate the associations between SOC and beauty treatment and sexual functioning.

Baseline. SOC was assessed at baseline with the short-form of the SOC questionnaire (Antonovsky, 1987). This 13-item version includes items measuring each of the three dimensions of SOC. The scale consists of five Comprehensibility items, four Manageability items, and four Meaningfulness items. Each item is presented on a 7-point Likert scale. Five of the items are negatively stated and reversed in scoring, so that a high score always indicates a stronger SOC. The short-form SOC is reported to be reliable and reasonably valid, with sixteen reports using the SOC-13 including alpha reliabilities between 0.74 and 0.91 (Antonovsky, 1993).

Follow-up assessment (3 months later). The EORTC QLQ-BR23 (Aaronson et al., 1993) is a 23-item disease-specific questionnaire measuring health status in breast cancer patients. The BR-23 is a supplementary module of the EORTC QLQ C30, which covers the physical, personal, cognitive, emotional, and social domains. In the present study, outcomes of interest are limited to sexuality. Patients were asked to rate on a 4-point scale their interest in sex and their sexual activity (1 = not at all; 2 = a little; 3 = quite a bit; 4 = very much) over the past four weeks (1 = not at all; 2 = a little; 3 = quite a bit; 4 = very much for both variables). Cronbach's Alpha indicated a high level of consistency between the two subscales ($\alpha = 0.79$). Scores were accordingly summed to obtain an overall sexual functioning score (range 2–8). Mean scores were standardized by converting the original values linearly to a range of 0 (lower score) to 100 (higher score).

Statistical analyses

Scores are expressed by means and standard deviations. Because SOC-13 has no cut-off value, mean scores were standardized by converting the original values linearly to a range of 0 (lower score) to 100 (higher score) to facilitate readability of the tables. Categorical variables were compared at baseline between patients who received beauty treatment and those who did not with χ^2 test. Potential predictors (beauty treatment; psychological distress; body image and Sense of Coherence subscales) were entered in a hierarchical regression model using sexual functioning as the dependent variable, to determine which combination of variables best accounted for the variance in the outcome.

Results

Population

One hundred women diagnosed with breast cancer for the first time were included in the study within 3 months of diagnosis. All patients were treated with surgery in the first intention. Women who reported being single at baseline ($n = 13$) were excluded from analyses in order to control for availability of sexual partners. The