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Review

Psychosocial interventions in breast cancer survivorship care

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ABSTRACT

Cancer distress screening and subsequent referral for psychosocial intervention has been mandated for continued cancer center accreditation. Increasing emphasis is being placed on the referral component of this mandate, ensuring that patient distress is not only identified but also effectively treated. Many evidence-based interventions exist for cancer distress. Specific interventions can effectively target biopsychosocial impacts of stress and promote adaptive coping, focusing on problem-solving, social support utilization, assertive communication, sexual health and intimacy, adherence to medical and supportive care recommendations, health behavior change, and emotional processing and expression. In randomized clinical trials, specific interventions have also been associated with biological improvements, including neuroendocrine and immune functioning, decreased rates of breast cancer recurrence, and improved survival rates. As cancer treatments advance and patients live longer, it is pertinent to treat the impacts of breast cancer with evidence-based interventions.

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1. Introduction

As of 2015, cancer distress screening and referral for psychosocial intervention has been mandated for continued cancer center accreditation by the American College of Surgeons Commission on Cancer [1,2]. Common concerns among cancer survivors and strategies for identifying distress have been recently summarized [3]. As cancer centers are gaining experience with screening, increasing emphasis is being placed on referrals for treatment of distress. The purpose of this review is to summarize the evidence base for different psychosocial interventions, which can be utilized to inform application of the referral component of this mandate. A 2017 systematic review and meta-analysis identified cognitive-behavioral therapy, a structured psychotherapeutic approach to solving current problems by modifying behavior and unhelpful thinking, as consistently demonstrating the most effective benefits on key psychosocial outcomes for breast cancer survivors [4]. Cognitive and Behavioral Cancer Stress Management (CBCSM) interventions, as defined here, refer to structured cognitive and behavioral interventions focused on cancer-related stress management. CBCSM interventions are among the most rigorously studied interventions for breast cancer survivors, with important clinical outcomes replicated in two National Institutes of Health (NIH)-funded randomized clinical trials [5,6]. Thus, we begin with a

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focused, narrative review of CBCSM interventions and then provide a brief overview of additional psychosocial and behavioral intervention programs that vary by clinical content focus.

1.1. Cognitive and Behavioral Cancer Stress Management (CBCSM) programs

CBCSM programs for breast cancer are comprehensive, group-based interventions designed to help survivors identify their individual physiological, emotional, cognitive, and behavioral symptoms of stress and learn management strategies that target these stress-related symptoms. Core components of stress management programs for breast cancer include education on the body's stress response, relaxation skills training (e.g., progressive muscle relaxation), approach-oriented coping and problem-solving strategies, and interpersonal skills training, such as assertive communication to promote effective social support utilization [7–11]. Some of these interventions emphasize cognitive components more heavily, such as reframing unhelping thinking patterns [8,10]. Others provide a focus on behavioral components, such as health behavior change (i.e., physical activity, nutrition, tobacco cessation), sexual health and intimacy concerns, and adherence to medical regimens [11]. Seminal stress management programs have been tested as group interventions, providing built-in peer support among breast cancer survivors. Intervention duration for stress management programs has varied, ranging from 5 weekly sessions [9,10] to 10 weekly sessions [7] up to 18 weekly sessions with 8 monthly booster sessions [11].

1.2. What are the benefits of CBCSM intervention?

Recent systematic reviews and meta-analyses of multiple types of psychosocial interventions for breast cancer survivors have highlighted the consistent beneficial effects of cognitive and behavioral interventions in reducing symptoms of anxiety and depression [4,12] and improving quality of life [4]. In one clinical trial, beneficial effects on depression and quality of life were maintained 8–15 years following CBCSM intervention [13]. Additional evidence suggests that CBCSM can increase self-efficacy (confidence in one's ability to cope), reduce fatigue, improve social functioning, enhance social support, and increase women's sense of growth and ability to find benefits in the cancer experience [14]. Beyond these psychosocial effects, group cognitive and behavioral therapies involving relaxation exercises have been shown to reduce menopausal symptoms related to adjuvant treatment [15–17] by increasing women's belief in their control and ability to cope with symptoms and by improving mood and sleep [17]. Stress management interventions for breast cancer survivors have also been shown to impact biological processes, including neuroendocrine functioning (e.g., cortisol) and immunity (e.g., TH1 cytokine production and lymphocyte proliferation) [18,19]. Finally, there is some evidence to suggest that CBCSM interventions could potentially impact more long-term clinical endpoints. Two independent randomized clinical trials have reported reduced risk of recurrence and mortality among non-metastatic breast cancer survivors at 11-year median follow-up [5,6], though additional research is needed to determine potential mechanisms. Current hypothesized mechanisms suggest that improved mood and improved ability to cope adaptively with stress may increase adherence to medical treatment [6] and/or impact neuroendocrine and immune processes related to cancer progression [20].

1.3. When should we offer CBCSM?

Timing is an important consideration for any intervention during cancer survivorship. Most stress management intervention programs for breast cancer survivors have started within weeks to months following surgery, either before [7,9,11] or during [10] adjuvant chemotherapy or radiation treatment. Fewer studies have examined CBCSM intervention delivered after treatment [21,22]. One study found no significant difference in treatment outcomes for two CBCSM interventions initiated post-surgery versus post-treatment, suggesting that interventions offered after surgery or after treatment completion may offer equal benefit [21]. The pre-operative time period just after diagnosis could represent another important opportunity for intervention. A recent systematic review suggests that psychological “prehabilitation” interventions before surgery can improve psychological outcomes, quality of life, and somatic symptoms for cancer survivors, including breast cancer survivors [23]. Well-designed studies comparing stress management interventions initiated at different points in treatment are still needed to determine the best timing of intervention delivery [21]. It may be that the best timing differs by individual patient circumstance and preference. Implementation research studies are testing a more flexible patient-centered approach to treatment timing and delivery [24–26].

1.4. Who has participated in CBCSM interventions, and who benefits?

Seminal studies of CBCSM interventions included mostly Caucasian women in early NIH-funded research studies [7,11], limiting the generalizability of results to more diverse populations. One more recent phase of an early stress management intervention demonstrated nearly equal representation of Hispanic and non-Hispanic white women, helping increase generalizability [9]. Additionally, CBCSM interventions have now been tested in trials specifically targeting African-American women [22,27], Latina women [28,29], and women in India [30,31], with beneficial psychosocial effects similar to those of earlier studies. Notably, CBCSM intervention has also been shown in randomized clinical trials to benefit men with prostate cancer [32], broadening the scope of survivors who benefit. Implementation research is in progress with broader eligibility criteria inclusive of all cancer types [24–26].

In the context of required cancer distress screening, another important question is whether breast cancer survivors' initial distress level impacts intervention effects. Is the intervention more effective for those who start out high in distress? Early CBCSM interventions did not exclude women based on initial distress level, including women endorsing a wide range of cancer distress in the intervention [7,11]. Moderator analyses of initial distress level have shown mixed results in these studies. For example, while one study reported greater intervention-related improvements in stress and anxiety for those who started out high in global stress [10], another reported that the intervention was equally effective in reducing anxiety whether women started at low or high levels of cancer-related stress [11]. Differences in study findings may be attributable to differences in intervention length, method of analysis, or measures used. In light of these mixed quantitative results, qualitative reports of women's experience and perceived benefits from CBCSM across distress levels are needed. Given the broad applicability of stress management coping skills to life domains outside of cancer, women who would be excluded from interventions based on low self-reported cancer-related stress may miss an important opportunity to develop general stress management skills and interact with a peer support group.

1.5. Intervention delivery methods

The vast majority of CBCSM interventions have been delivered