Effects of cognitive-behavioral music therapy on fatigue in patients in a blood and marrow transplantation unit: A mixed-method pilot study

Hilary A. Fredenburg, MA, MT-BC*, Michael J. Silverman, PhD, MT-BC

School of Music, University of Minnesota, Minneapolis, MN 55455, USA

Abstract

Cancer-related fatigue (CRF) is an under-treated condition frequently experienced by cancer patients, which can negatively affect wellbeing during and after hospitalization. The purpose of this mixed-method pilot study was to determine if and how cognitive-behavioral music therapy (CBMT) might reduce fatigue in hospitalized patients in an adult blood and marrow transplant (BMT) unit. The researchers measured the effects of CBMT on five aspects of participant fatigue using a convergent parallel mixed-method design. The participants (N=11) were randomly assigned to experimental or wait-list control conditions and completed the Multidimensional Fatigue Inventory (Smets, Garssen, Bonke, & De Haes, 1995) at pre- and posttest. The experimental participants completed a semi-structured interview prior to hospital discharge. The quantitative results indicated no significant between-group differences regarding fatigue. However, the experimental participants tended to have decreases in the mean fatigue scores from pre- to posttest, whereas the control participants had increases in the mean fatigue scores from pre- to posttest. The qualitative data tended to support the quantitative data and indicated that CBMT: (a) cognitively influenced fatigue by increasing motivation and self-efficacy, (b) affectively influenced fatigue by promoting relaxation and restful states, and (c) represented a meaningful, unique, and holistic service for hospitalized BMT patients. CBMT may be an effective intervention regarding various aspects of fatigue in hospitalized BMT patients. Because of the small sample size, the results should be interpreted with caution. The limitations of the study, implications for clinical practice, and suggestions for future research are provided.

Introduction

Cancer continues to represent a major social problem, which affects the individuals who are diagnosed, as well as their family members, caregivers, companions, and social networks. As a result of population growth, longer life expectancies, and increased cancer survival rates, the number of new cancer diagnoses in the United States is expected to reach 2.6 million individuals by 2050 (American Cancer Society [ACS], 2012). With the lofty prevalence of cancer, there is a heightened need for awareness toward the different types of cancer, as well as the available treatments.

When certain types of cancer, including lymphoma, leukemia, and multiple myeloma, prevent the body from producing sufficient healthy blood cells (National Heart, Lung & Blood Institute, 2011), patients are often treated with a blood and marrow stem cell transplant (BMT) that replaces a patients abnormal stem cells with healthy stem cells. Cancer-related fatigue (CRF) represents one of the most commonly reported, under-treated, and debilitating symptoms in patients with cancer and cancer survivors (Bower et al., 2006; Mitchell, 2011; Mustian et al., 2007). The National Comprehensive Cancer Network (NCCN), (2012) defined CRF as a distressing, persistent, and subjective sense of tiredness or exhaustion related to cancer or cancer treatment, which is not proportional to recent activity and interferes with typical functioning. Because most BMT patients will undergo some form of treatment, including chemotherapy or radiotherapy prior to receiving a BMT (National Cancer Institute at the National Institutes of Health [NCI NIH], 2012), BMT patients are likely to experience similar negative side effects, including CRF. Additionally, CRF can be experienced at different stages during and after cancer.

Cancer-related fatigue (CRF) is a prevalent and under-treated symptom frequently experienced by cancer patients (Bower et al., 2006; Mitchell, 2011; Mustian et al., 2007), which negatively affects physical, cognitive, emotional, and spiritual wellbeing (Givens et al., 2002; Hann et al., 2006; Hofman, Ryan, Figueroa-Moseley, Jean-Pierre, & Morrow, 2007; Janda et al., 2000; Mock, McCorkle, Ropka, Pickett, & Poniatiowski, 2002) both during hospitalization and after discharge from the hospital (Schubert, Hong, Natarajan, Mills, & Dimsdale, 2007). While there is an awareness of CRF, there is limited evidence regarding the most applicable and effective treatments that target CRF. According to the fatigue coalition, the criteria have not become widely accepted or implemented by clinicians (Andrykowski, Schmidt, Salsman, Beacham, Sahler, Hunter, & Liesveld, 2003; Zhang et al., 2012), there is limited literature regarding the details concerning how and why these interventions might be effective (Pothoulaki et al., 2012). A current mixed-method pilot study was conducted to determine if and how cognitive-behavioral music therapy might be an effective psychosocial treatment for fatigue in hospitalized BMT patients.

### Literature review

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1. Can cognitive-behavioral music therapy reduce various aspects of cancer-related fatigue?
2. How may cognitive-behavioral music therapy reduce various aspects of cancer-related fatigue?
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