



## Effects of music therapy on positive and negative affect and pain with hospitalized patients recovering from a blood and marrow transplant: A randomized effectiveness study



Hilary A. Fredenburg, MA, MT-BC\*, Michael J. Silverman, PhD, MT-BC<sup>1</sup>

University of Minnesota, USA

### ARTICLE INFO

#### Article history:

Available online 6 February 2014

#### Keywords:

Affect  
Blood and marrow transplant  
Cancer  
Music therapy  
Oncology  
Pain

### ABSTRACT

Due to the extensive procedures surrounding treatment, cancer patients often experience a variety of physical and psychological symptoms and side effects that negatively impact their quality of life and ability to cope with and manage an illness. Providing a choice of music during a receptive music therapy session may not only distract the patient from negative affective states, but also may provide a sense of autonomy and control over a patient's immediate environment. The purpose of the study was to determine whether receptive music therapy can improve two general dimensions of emotional experience and pain in a single session for hospitalized patients recovering from a blood and marrow transplantation (BMT) procedure. The guiding research question was: Will participants experience improved positive and negative affect and pain immediately following a patient-preferred live music therapy session? Participants ( $N = 32$ ) were randomly assigned to experimental or wait-list control conditions and completed the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988) Short Form version and a Likert-type Pain Scale as a pre- and posttest within a single-session design. In an attempt to provide support, autonomy, and distraction, patient-preferred live music was used in receptive music therapy sessions as previous music therapy researchers indicated patient-selected live music is preferred and can be effective. There were no between-group differences at pretest. Concerning posttest analyses, there were significant between-group differences in positive and negative affect and pain, with experimental participants having more favorable scores than control participants. From the results of this randomized effectiveness study, it seems that a single receptive music therapy session can be an effective intervention concerning positive and negative affect and pain for hospitalized BMT patients. As higher levels of patient engagement may result in stronger treatment effects, future research encouraging hospitalized BMT patients to engage in different types of active music therapy interventions is warranted. Limitations of the study, implications for clinical practice, and suggestions for future research are provided.

© 2014 Elsevier Ltd. All rights reserved.

### Introduction

The number of cancer patients and survivors is growing in the United States. Exceptional treatments have led to a greater number of positive outcomes for cancer patients. As more people are surviving, these individuals are living with symptoms of cancer that can affect every day life, both during and after their hospitalization. Some physical and psychological symptoms of cancer or side effects

of cancer treatment, such as chemotherapy or radiation therapy, involve nausea, pain, mouth sores, lack of appetite, atypical bowel movements, fatigue, anxiety, or abnormal sleep patterns. Psychosocially, cancer diagnoses can change people's lives, prevent fulfilling life plans or daily activities, and create dependence on caretakers. Moreover, a cancer patient or survivor may feel a loss of control or autonomy, which may be frustrating, agitating, and stressful. People who undergo a blood and marrow transplant (BMT) for specific cancer, blood, or immune-deficiency diagnoses experience similar symptoms as other cancer patients due to the extensive treatment process. These physical and psychological symptoms can affect all aspects of the quality of life for cancer and BMT patients creating a need for intervention. This study provided supportive evidence concerning the effects of receptive music therapy on positive and negative affect and pain of recovering and hospitalized BMT patients.

\* Corresponding author. Tel.: +1 651 492 3399.

E-mail addresses: [hfredenburg.mt@gmail.com](mailto:hfredenburg.mt@gmail.com) (H.A. Fredenburg), [silvermj@umn.edu](mailto:silvermj@umn.edu) (M.J. Silverman).

<sup>1</sup> Address: University of Minnesota, School of Music, 100 Ferguson Hall, 2106 4th Street South, Minneapolis, MN 55455, USA. Tel.: +1 612 624 1091; fax: +1 612 626 2200.

## Literature review

Globally, there are 25 million people living with cancer (Kamangar, Dores, & Anderson, 2006). As estimated by the American Cancer Society (ACS) (2012), one-half of men and one-third of women in the U.S. will develop cancer during their lifetimes. Based on trends from 2007 to 2009, 12.5 million Americans are currently living with a previous diagnosis of cancer, and approximately 1.6 million people were diagnosed with the disease in 2012 (Howlader et al., 2012). Due to its high prevalence, cancer has become a major social problem, affecting those who are diagnosed as well as their family members, caregivers, companions, and social networks. Due to population growth, longer life expectancies, and greater survival cancer rates, the number of new cancer diagnosis is expected to increase to 2.6 million people by 2050 (ACS, 2012).

According to the ACS (2012), cancer is a general term categorizing many diseases characterized by the uncontrolled growth and spread of abnormal and malfunctioning cells within the body. Various types of cancer are treated with surgery, radiation therapy, chemotherapy, hormone therapy, biological therapy, or targeted therapy where drugs or other substances interfere with the growth and spread of cancer cells (ACS, 2012). When certain types of cancer, including lymphoma, leukemia, myeloma, or breast cancer, as well as severe blood diseases, sickle cell anemia, and immune-deficiency diseases prevent the body from producing enough healthy blood cells (National Heart, Lung, and Blood Institute [NHLBI], 2011), patients are often treated with a blood or marrow transplant (BMT). A BMT procedure replaces a patient's abnormal stem cells with healthy ones after he or she undergoes radiation, chemotherapy, radiation and chemotherapy, or receives anticancer drugs. Healthy stem cells are found in bone marrow—the “spongy” tissue inside the bones—as well as in the blood or umbilical cord (NHLBI, 2011). Stem cells have the ability to develop into red blood cells, white blood cells, and platelets that carry out specific bodily needs (NHLBI, 2011). Depending on a patient's general health, medical situation, and whether chemotherapy or chemotherapy and radiation are needed, hospitalization may be necessary for weeks or even months after a BMT procedure depending on a patient's general health, medical situation, and whether pharmacological treatments may be needed (NHLBI, 2011).

Due to the extensive procedures surrounding cancer treatment, patients experience uncomfortable side effects from medications and procedures, negatively impacting cognitive and affective experiences during hospitalization. According to the NHLBI (2011), the high dosage of chemotherapy and radiation therapy can cause side effects including nausea, vomiting, diarrhea, and exhaustion. Additionally, painful sores in the mouth, intestinal cramps, skin rashes, hair loss, liver damage, and pneumonia affecting certain tissues in the lungs can occur a few days after a BMT (NHLBI, 2011). Patients may experience symptoms of cancer as well including weight loss, fever, fatigue, pain, and skin changes such as darker pigmentation, jaundice, reddening of skin, or itching. These side effects and symptoms negatively affect the physical, cognitive, emotional, and spiritual wellbeing of cancer patients. When a patient's quality of life is negatively affected, the ability to cope with and manage an illness may lessen, possibly affecting a patient's overall health outcome.

The symptoms associated with cancer and its treatment present a major public health concern. Current self-relief interventions intended to alleviate the negative symptoms of cancer or side effects of treatment include psychosocial therapies, including cognitive behavioral interventions that have proven to be effective in improving psychological and behavioral adjustments during cancer treatment and survivorships (Compass, Haaga, Keefe, Leitenberg, & Williams, 1998). Mitchell (2011) noted that psychoeducational interventions can be effective in

finding solutions to a patient's immediate psychological challenges surrounding cancer. Pothoulaki, MacDonald, and Flowers (2012) suggested non-pharmacological therapies, or therapies that addressed psychological aspects of cancer patients without drug administration, to be utilized in the management symptoms related to chronic illness by providing a form of psychological care to patients. For example, the National Comprehensive Cancer Network (2006) recommended implementing integrative non-pharmacologic behavioral interventions for effective management of cancer symptoms or side effects. Cancer patients need emotional support, education, and engagement in positive strategies to enhance stress management (Burns, 2012). Additional research is needed to contribute to the body of evidence, particularly concerning self-relief interventions for cancer patients (Mitchell, 2011).

While hospitalized, BMT and cancer patients may receive excellent medical care, they do not often experience a high sense of control over their bodies or environments. Cancer patients are affected by a potentially fatal disease where psychological factors are sometimes viewed as a secondary importance (Arraras, Wright, Jusue, Tejedor, & Calvo, 2002). Researchers found that the feelings of personal effectiveness and mastery were important for successful health-related behavior and adjustment (Bandura, 1977; Calhoun, Cheney, & Dawes, 1974; Wallston & Wallston, 1982; Watson, Pruyne, Greek, & Van Den Borne, 1990). Bohachick, Taylor, Sereika, Reeder, and Anton (2002) found that personal control was related to positive psychological outcomes and indicated that patients with a higher sense of personal control during their hospital stay reported higher levels of optimism, satisfaction with life, and wellbeing at six-month follow-up. Moreover, a patient's tendency to adopt desirable or positive behaviors or adhere to recommended treatments has been found to be influenced by health locus of control beliefs, the perception that the causes of specific events will be attributed to personal, or internal control, or situational, or external control, elements (Watson et al., 1990).

Bringing concepts of control, support, and autonomy to music therapy, Robb (2000, 2003a, 2003b) developed a theoretical foundation concerning the contextual support model of music therapy as related to hospitalized pediatric cancer patients. This model may be applicable to the adult hospital population as well. She indicated that the three basic elements of the contextual support model were structure, autonomy support, and involvement (Robb, 2000, 2003a, 2003b). While structure and involvement are fundamental and their importance should not be negated, autonomy, or the extent to which a person feels free to show behaviors of choice (Patrick, Skinner, & Connell, 1993), is the focus of the intervention within the current study. Incorporating Robb's (2000, 2003a, 2003b) theories in a medical setting concerning music therapy and patient autonomy, a patient might make a number of decisions regarding the music therapy interventions, such as choice of song, tempo, genre, treatment type, or length of intervention or session. Utilizing this model, the patient can manipulate the music therapy session, potentially providing a sense of control, mastery, and autonomy. Additionally, the patient should first be provided the choice of accepting or denying music therapy services, a luxury not often afforded to hospitalized patients by other healthcare providers.

Researchers and clinicians have demonstrated how music therapy can improve health outcomes in surgery, cardiology, obstetrics, and oncology (Aldridge, 1993; Burns, Sledge, Fuller, Daggy, & Monahan, 2005). Pothoulaki et al. (2012) indicated positive effects of music therapy interventions on a range of psychological and physiological responses including reduced stress and anxiety levels, improved mood, and enhanced overall wellbeing and positive attitudes toward life. Bradt, Dileo, Grocke, & Magill (2011) conducted a systematic review and meta-analysis examining the improvement as a result of music-based interventions on

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات