

# The Effect of Mindfulness-Based Music Therapy on Attention and Mood in Women Receiving Adjuvant Chemotherapy for Breast Cancer: A Pilot Study

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Cancer treatments, such as chemotherapy and radiation therapy, are thought to damage normal cognitive functioning of women with breast cancer (Reuter-Lorenz & Cimprich, 2013; Von Ah & Tallman, 2014). Mindfulness, a type of contemplative practice, improves cognitive functions, including attention and working memory, in adults (Jha, Krompinger, & Baime, 2007; Jha, Stanley, & Baime, 2010; Tang et al., 2007). Music stimuli are an ideal source of focus for mindfulness practice (Graham, 2010). No study, to date, has used mindfulness-based music therapy (MBMT) to address the attention deficits and symptom distress reported by women who receive chemotherapy treatments. This pilot study explores the efficacy of MBMT to reduce attention problems and mood distress experienced by women receiving adjuvant chemotherapy for breast cancer.

Neurocognitive deficits in women with breast cancer have been associated with a phenomenon referred to as “chemobrain” (Hurria, Somlo, & Ahles, 2007; Reuter-Lorenz & Cimprich, 2013). Chemotherapy treatments are reported to negatively affect domains of attention, working memory, and several psychomotor abilities (Correa & Ahles, 2008; Hurria et al., 2007; McDonald & Saykin, 2011). A meta-analysis that evaluated the effects of chemotherapy on women with breast cancer revealed significantly lower cognitive ability for executive function, information processing speed, verbal memory, and visual memory as compared to normative data (Reuter-Lorenz & Cimprich, 2013). Deficits in cognitive function were also found in women who had received adjuvant chemotherapy for breast cancer six months postchemotherapy (Jim et al., 2012). In addition, brain-imaging techniques revealed a reduction of brain gray matter density in patients who received chemotherapy for breast cancer (McDonald & Saykin, 2011). The reduced density was observed bilaterally in the frontal and temporal brain regions one month after chemotherapy treatments relative to baseline density. The changes in gray matter were not found in patients with breast cancer who were not

**Purpose/Objectives:** To explore the efficacy of mindfulness-based music therapy (MBMT) to improve attention and decrease mood distress experienced by women with breast cancer receiving adjuvant chemotherapy.

**Design:** Quantitative, descriptive, longitudinal approach.

**Setting:** A comprehensive cancer hospital and a university in southern Florida.

**Sample:** 15 women with a diagnosis of breast cancer, stages I–III, receiving adjuvant chemotherapy.

**Methods:** Participants individually received MBMT for one hour per week for four weeks. The sessions consisted of varied music activities accompanied by mindfulness attitudes, or mental strategies that enhance moment-to-moment awareness, and weekly homework. Demographic information was collected at baseline.

**Main Research Variables:** Attention was measured using Conners’ Continuous Performance Test II. Mood was measured using the Profile of Mood States–Brief Form. Narrative comments collected from the homework assignments served to reinforce quantitative data.

**Findings:** Repeated measures analysis of variance showed that attention improved significantly over time. Although all mood states significantly improved from the beginning to the end of each MBMT session, the mood state of fatigue decreased significantly more than the other mood states.

**Conclusions:** MBMT enhances attention and mood, particularly the mood state of fatigue, in women with breast cancer receiving adjuvant chemotherapy.

**Implications for Nursing:** A preferred music listening and mindfulness exercise may be offered to women with breast cancer who experience attention problems and mood distress.

**Key Words:** mindfulness-based music therapy; breast cancer; attention; mood

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treated with chemotherapy or who were healthy controls. One year later, patients showed partial recovery of gray matter (McDonald & Saykin, 2011).

Women with breast cancer receiving adjuvant chemotherapy report frequently having problems with focus, attention, and short-term memory; one typical