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Effects of music therapy on spirituality with patients on a medical oncology/hematology unit: A mixed-methods approach

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ABSTRACT

Despite considerable interest in the potential relationship between oncology and spirituality, it remains unclear how the spiritual wellbeing of patients is best addressed in health care environments. The purpose of this study was to determine the effect of three music therapy doses on spirituality in patients on a medical oncology/hematology unit ($N = 17$). The researchers measured participants' faith, peace, and meaning by using the FACIT-Sp. tool (Brady, Peterman, Fitchett, Mo, & Cella, 1999) at pre- and posttest during a randomized controlled design. The researchers also incorporated interviews from patients concerning potential effects of music therapy and spirituality. Quantitative results indicated significant between-group differences in peace and faith subscales, with participants in the music therapy condition having higher posttest means than participants in the control condition. Qualitative data tended to support the importance of music therapy in meeting spiritual needs: Results of a thematic analysis indicated music therapy helped participants feel closer to God and elevated their moods. Consistent with the literature base, participants noted that that spiritual needs should indeed be addressed during a person's time at the hospital. Limitations of the study, areas for future investigation, and implications for clinical practice are provided.

Literature review

While many people have used the terms spirituality and religion interchangeably, scholars have articulated differences between the two terms. Chappel and Mckee (1992) note that through spirituality, individuals search for meaning and purpose in life and attempt to promote virtues such as love, wisdom, and truth. Other definitions of spirituality can include relationships with the universe, people, and the self (Walker, 1995). However, religion can refer to a specific belief system by which an individual abides (Larson, 2003). Religion can involve particular rituals and practices and many people can find spirituality through religion (Anandarajah & Hight, 2001). However, not everyone is religious nor is religion a requirement for spirituality.

In 2009, a Consensus Conference took place in Pasadena, CA. The conference was based on the belief that spiritual care is an integral component in quality palliative care (Puchalski et al., 2009) and conference attendees agreed upon the following definition: "Spirituality is the aspect of humanity that refers to the way individuals seek and express meaning and purpose and the way they experience their connectedness to the moment, to self, to others, to nature, and to the significant or sacred" (Puchalski et al., 2009, p. 3). For the purpose of the current study, the researchers operationally defined spirituality in the same way as Puchalski and colleagues.

The experience of living with cancer may increase an individual's awareness of her or his spirituality (Brady et al., 1999; Olver, Peteron, & Whitford, 2008; Ramondetta & Sills, 2004; Hess, McDonald, & Stefanek, 2005; Taylor, 2003). Anandarajah and Hight (2001) found oncology patients requested that physicians and hospitals would address their spiritual needs. However, within health care environments, it remains unclear how patients' spiritual wellbeing should be best met. Traditionally, physicians and staff have often avoided spirituality because they may consider it too personal a topic to address. Hospital staff may only discuss personal spiritual issues if the patient first initiates these concerns (Cadge, 2009). Scholars have recommended that additional research is warranted to determine how best to approach the topic of spirituality in cancer care (Anandarajah & Hight, 2001; Hilliard, 2005; Lipe, 2002; Hess et al., 2005; Taylor, 2003).

Addressing spiritual needs in healthcare environments can yield positive results. Bredle, Salsman, Debb, Arnold, and Cella (2011) concluded that there were significant and positive psychosocial outcomes when spiritual wellbeing needs were met in health care settings: Patients were better able to cope with their illnesses and gained more hope in their recovery processes. As most physicians

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and hospitals fail to adequately address spiritual needs, these potential benefits are often unavailable to oncology patients.

Psycho-oncology is based on the psychological, social, and behavioral aspects of cancer (Holland, 2002). Psycho-oncology may address psychological dimensions of cancer including a patients reaction to cancer and the behavioral, social, and psychological aspects that may impact the disease process. Music therapy is a complementary and alternative treatment that may improve psycho-oncological care. Robb (2003) found positive outcomes with hospitalized children when using a music therapy model based on Skinner and Wellborn's (1994) motivational theory of coping. Practitioners utilizing this model focus on reducing the effects of psychological distress in children and attempt to influence how a child copes with stress (Robb, 2003). Robb (2003) proposed music therapy interventions based from three elements of contextual support: structure (session planning), autonomy support (music choices), and active involvement (development of the client-therapist relationship). Though this model was developed for pediatric oncology patients, it may be useful and beneficial in treating adult oncology patients.

Music therapy can improve relaxation (Ferrer, 2007), mood (Burns, 2001), quality of life (Burns, 2001; Hilliard, 2003), and decrease anxiety (Ferrer, 2007) in patients diagnosed with cancer. Researchers have consistently found positive outcomes when music therapists incorporate patient-preferred live music in oncology settings (Standley, 1986). Standley (1986) concluded that patient preferred live music can express a person's individuality and can function as a method of reviewing particular events in distinctive ways.

Hilliard (2003) studied the effects of long-term music therapy care on the quality of life of terminally ill cancer patients. The experimental group demonstrated a significantly higher quality of life than the control group. Likewise, Ferrer (2007) examined psychological and physiological effects of live preferred music on patients receiving chemotherapy treatment. Ferrer found a significant improvement for participants in the experimental music therapy group concerning measures of anxiety, fear, fatigue, and relaxation. In a recent systematic review and meta-analysis, Bradt and colleagues (2011) reviewed 30 music-based therapeutic studies that included 1891 patients with cancer. Control participants who received standardized treatment showed no significant differences in mood, anxiety, or quality of life. The researchers found that participants who had received music therapy had reduced anxiety levels and improved quality of life.

Aldridge (2003) emphasized that spirituality should comprise an integral element in music therapy. As music has an ancient connection with spirituality and religion (Davis & Gfeller, 2008), it would seem that music therapists may be uniquely equipped to address spiritual wellbeing using non-verbal and non-threatening techniques including active or passive listening, singing, songwriting, and analyzing song lyrics (Baker & Wigram, 2005; Bauer, 2010). Music therapists might even receive treatment referrals for services based on patients' spiritual needs.

Oncology nurses have utilized recorded music to enhance spiritual wellbeing among patients at the end of life (Halstead & Roscoe, 2002). With assistance from the nurses, music therapists developed music therapy programs for cancer patients. Halstead and Roscoe (2002) reported that "music enables patients to connect with God, themselves, others, nature, or religions" (p. 2). One patient, who could no longer speak, began singing "Alleluia, Alleluia" and reciting short prayers with a music therapist (Halstead & Roscoe, 2002).

Cerny, Renz, and Mao (2005) focused on the clinical relevance of spiritual experiences in illness and affliction in cancer care. These researchers found that music therapy was an important approach in the oncology medical setting that enhanced spiritual care. In their study, the researchers contacted 251 terminally ill cancer patients and found that 135 patients had spiritual experiences either in the music therapist's care or later during their hospitalization. Authors reported that spiritual experiences in music therapy sessions improved patient's moods, relaxed them, and broke depressive cycles and suicidal thoughts.

Music therapy can cater to the idiosyncratic spiritual needs of patients when they are nearing the end of life. Patients at this stage often report a lack of spiritual connection and have noted the need for spiritually based rituals (Hilliard, 2005; Houck, 2007). Wlodarczyk (2007) investigated the effect of music therapy on spirituality of 10 people newly admitted to a hospice unit. The researcher utilized a counterbalanced complete reversal research design wherein condition A consisted of cognitive behavioral music therapy for 30-min and condition B consisted of a 30-min non-music session. The researcher found there was a significant difference in spiritual wellbeing on the days that music therapy was provided (Wlodarczyk, 2007). These results supported the consensus that music therapy can increase spirituality and provide comfort for those who have terminally illnesses.

In a literature review concerning music, spirituality, and health, Lipe (2002) reviewed published manuscripts from 1973 to 2000 and identified 52 reports. Lipe discussed seven dominant patterns that emerged in this literature:

1. Music's structure provided patients with comfort, peace, and reassurance.
2. Music opens up avenues of communication between people and with the 'divine.'
3. Music facilitates altered states of consciousness and transpersonal experiences (through GIM research).
4. Music experiences provide access into the deeper, inner nature of being.
5. Experiences with music enable one to risk the experience of openness within a safe, structured environment.
6. Engagement with music provides ways to access and energize the imagination, leading to new ways of listening, thinking, and being.
7. As individuals engage with music, concepts such as hope, meaning, and purpose emerge and open up paths to growth and healing (p. 233).

Music therapists can tailor patient-preferred live music therapy sessions to directly engage patients concerning their spiritual wellbeing. Although Bradt and colleagues (2011) found that oncology patients receiving music therapy had reduced anxiety and increased quality of life, there is a lack of randomized controlled literature concerning music therapy and spirituality in oncology care. Therefore, the purpose of this study was to determine the effect of music therapy sessions on a patient's spirituality in a medical oncology/hematology unit. Specific research questions were as follows:

1. Quantitatively, how might three music therapy sessions affect meaning in life, peace, and faith in oncology patients?
2. Qualitatively, what are oncology patients' perspectives concerning how music therapy might affect spirituality?

Methods

Research participants

Participants were inpatients at an oncology–hematology unit in a Midwestern hospital. All patients on the unit were eligible for the study if they could read and understand English, were an inpatient

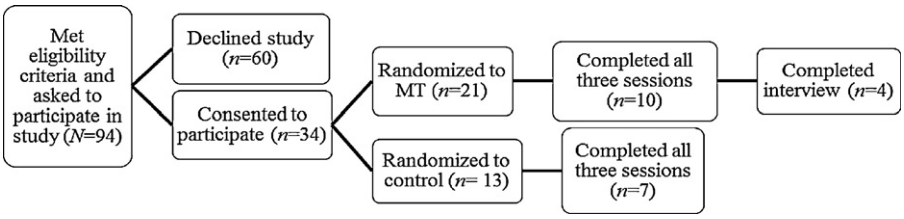

Fig. 1. Participant flow chart.

on the medical oncology unit, completed three sessions with the researchers, and were 18 years or older. Exclusion criteria consisted of a documented psychiatric diagnosis or a cognitive impairment. Ninety-four patients who met initial inclusion criteria were asked to participate in the study. Sixty patients declined and a total of 34 participants (17 females and 17 males) voluntarily consented to participate in the study. There were 21 participants randomized to the experimental condition and 13 participants randomized to the control condition. A total of 17 participants received three treatment sessions and thus completed the study in its entirety. If an experimental participant received five or more music therapy sessions, the researchers asked this participant to voluntarily partake in a brief semi-structured interview. Inclusion criteria for the qualitative interview included being an inpatient on the oncology/hematology unit, being 18 or older with a cancer diagnosis, being able to read and understand English, being an experimental participant in the current study, and having received five or more music therapy sessions (Fig. 1).

There were six females and four males in the experimental group (mean age 58.00 years; SD = 17.96) and 3 females and 4 males in the control group (mean age 61.71 years; SD = 7.95). Five experimental participants and two control participants had leukemia while 5 participants from both conditions noted their cancer types were "unspecified" or "other." The researchers conducted *t*-tests to determine if there were between-group differences in participants' ages and Chi-square tests to determine if there were between-group differences in participants' types of cancer and sex. Results were not significant, all $p > 05$.

Instrument

The researchers utilized the Functional Assessment of Chronic Illness Therapy-Spiritual Well Being Scale (FACIT-Sp.) (Brady et al., 1999) to assess spiritual wellbeing in participants. Cancer patients, psychotherapists, and religious and spiritual experts provided input into the development of the 12-item questionnaire and the self-report assessment uses separate 5-point scales ranging from "Not at All" (0) to "Very Much" (4). The tool has three subscales: meaning, peace, and faith. The FACIT-Sp. has strong reliability quotients, ranging from 0.81 to 0.88 (Bredle, Salsman, Debb, Arnold, & Cella, 2011; Noguchi, 2004). In studies, researchers have utilized the FACIT-Sp. to show that spiritual wellbeing can be considered a core domain in patient medical care (Bredle et al., 2011; Canada, Murphy, Fitchett, Peterman, & Schover, 2008; Noguchi, 2004). The FACIT-Sp. takes 1–3 min to complete.

Five questions were included in semi-structured interviews. The interviews were recorded using a digital voice recorder and lasted from 10 to 15 min. The principal investigator (PI) asked participants demographic questions and inquired about perceptions of music therapy and spirituality. Semi structured interview questions concerning music therapy and spirituality included: What does spirituality mean to you? Did music therapy address your spiritual needs? If so, how? As patients were often tired and coping with cancer-related symptoms and fatigue, interviews were purposely kept brief.

Other materials included music therapy session materials and data recording materials. Music therapy session materials included the PI's guitar (Fender FA100 Acoustic) and music repertoire. Data recording materials included a digital voice recorder, informed consent forms, questionnaires, and pens.

Design

The researchers utilized a randomized controlled wait-list design. The PI explained and obtained informed consent. All participants signed an informed consent form and, after they signed the consent form, were randomly assigned to a control condition or an experimental music therapy condition via a computer program. After signing the informed consent form, all participants completed the FACIT-Sp. pretest. There was a three-day waiting period for the control condition wherein patients received treatment as usual (i.e., no music therapy). The PI offered music therapy sessions to control participants after she administered the posttest on the third day. The experimental group received the same pre- and posttest before the first music therapy session and after the third session. Although the posttest was collected on day three, the PI still offered music therapy to experimental participants each day after the posttest was completed. If an experimental participant received music therapy more than five times, she or he qualified for an interview. The researchers affiliated university and the hospital approved this study in advance and the researchers completed all the required training to conduct the study.

Procedure

The PI provided music therapy in the form of patient preferred live music and collected data in the participants' hospital rooms. The PI visited the unit daily over the course of 11 weeks. Once on the unit, the PI asked nurses for referrals concerning patients who might benefit from music therapy. The PI then entered each hospital room with the patient's permission, introduced herself as a board certified music therapist, and offered to provide live patient preferred music. If the patient declined, the PI left the patient's room. If the patient expressed interest in patient preferred live music, the PI also explained that she was conducting a music therapy study and asked if the patient was interested in participating. The PI explained that the patient could be assigned to the experimental or the control group. The PI defined the control and experimental groups and explained what participation entailed. The PI also gave the patient the option to receive music therapy services but decline participation in the study. If the patient expressed interest in voluntarily participating in the study, the PI provided and obtained informed consent.

Control and experimental participants completed the FACIT-Sp. pretest on day one. The PI informed control group participants she would return to the participant in two days to administer the posttest and then offer music therapy services. The PI administered the FACIT-Sp. posttest to experimental participants after three days of consecutive music therapy sessions. After participants provided informed consent, the PI assessed the participant's

Table 1
Posttest descriptive statistics.

Dependent measure	Experimental group ($n = 10$)		Control group ($n = 7$)	
	M	SE	M	SE
Meaning	14.07	0.70	13.61	0.83
Peace	14.26	0.51	12.06	0.62
Faith	16.12	0.53	12.26	0.67
Total	42.58	0.94	39.89	1.13

preferred music genres and suggested relevant songs from her repertoire. The PI then played live music accompanied on the guitar for each patient. Each session included three to eight songs for durations of approximately 15 to 30 min. Treatments were framed upon Robb's (2003) assertion that music therapy interventions should be based from three elements of contextual support: structure, autonomy support, and active involvement. In an attempt to control the independent variable, the PI purposely did not discuss aspects of spirituality unless a patient first initiated it. Rather, as Standley (1986) concluded that patient preferred live music can express a person's individuality and can function as a method of reviewing particular events in distinctive ways, the PI engaged the each patient in her or his preferred live music to promote autonomy support and active involvement. The intervention was supported by Lipe (2002), who noted that as "individuals engage with music, concepts such as hope, meaning, and purpose emerge and open up paths to growth and healing" (p. 233).

Four participants met inclusion criteria for the interviews and participated in the qualitative aspect of the study. A separate independent researcher not associated with the current study assessed the transcribed interviews for credibility. The researchers used Braun and Clarke's (2006) six-phase analysis guide for the thematic analysis of qualitative data. The phases included: transcribing data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the conclusive report (Braun & Clarke, 2006).

Results

Quantitative analyses

As pre- and posttest scores were significantly correlated ($p < .05$), the researchers fit a linear mixed model with posttest scores as the dependent measures, treatment group as the fixed effect, and pretest scores as covariates using the univariate function in SPSS Version 19.0.0. The researchers reported posttest descriptive statistics in Table 1 and the overall F test for group differences in Table 2. Significant between-group posttest differences were found in peace and faith subscales. In peace and faith subscales, the music therapy condition had higher mean posttest scores than the control condition. No other differences were significant, all $p > .05$.

Qualitative analyses

Four experimental participants qualified for an interview and volunteered to take part in this aspect of the study. In phase one of the thematic analysis, the researchers transcribed the interview data. The researchers coded the data in phase two. All interviewees stated music therapy addressed their spiritual needs, noticed a positive difference in their faith, peace, and meaning in life after music therapy sessions, and agreed that spiritual needs should be addressed during a patient's time at the hospital. In phase three, the researchers produced potential themes.

In phases four and five, the researchers examined themes and sub-themes. The researchers defined these themes during phase six when producing the report. Two themes emerged from participants' responses concerning music therapy and spirituality. Participants stated music therapy (a) helped them feel closer to God and (b) elevated their mood. The participants' answers were coded as relationships with "God", "community or church", "nature", and "music." The findings were consistent with the operational definition of spirituality used in the study. Three out of the four participants stated that hospitals could provide better spiritual care by providing music therapy.

Discussion

The purpose of this study was to determine the effects of music therapy on spirituality in patients on a medical oncology/hematology unit. The researchers measured patients' faith, peace, and meaning in life using the FACIT-Sp. tool (Brady et al., 1999) during a randomized controlled trial. After three music therapy doses, there were significant between-group differences in peace and faith subscales at posttest. For participants in the music therapy group, peace and faith scores were significantly higher than wait-list control participants. No other between-group differences were significant, all $p > .05$. Qualitative data results also supported the use of music therapy on an oncology unit for addressing and positively affecting spirituality. Results of a thematic analysis indicated two emerging themes from participants' responses concerning music therapy and spirituality: Participants reported that music therapy (a) elevated their mood and (b) helped them feel closer to God. Qualitative data also supported the definition of spirituality used in this research study and the concept that music therapy can be utilized in hospitals to provide better spiritual care for patients.

Results are somewhat congruent with existing research, as Wlodarczyk found that hospice patients tended to have higher levels of spirituality when the therapist provided music therapy than when the therapist provided talk-based therapy. However, Wlodarczyk (2007) investigated effects of music therapy on spirituality using complete reversal design while the current researchers used a randomized controlled design.

Potential mechanisms of change are difficult to conjecture. Participants often requested what might be considered non-religious and non-spiritual music. As the PI did not always play "traditionally" religious or spiritual music at participants' requests, it seems that secular patient preferred music may promote spiritual well-being. Thus, perhaps music, autonomy support, structure, active involvement, and therapeutic alliance may have served as types of catalysts to increase spirituality. In future studies, it may be interesting to compare sacred and secular music in a systematic

Table 2
Results of statistical analyses.

Dependent measure	Overall statistic			Experimental versus control group	
	(df) F	p, partial η^2	Mean difference	p values	95% CI
Meaning	(1,14) 0.181	.677, .013	0.416	.677	−1.864, 2.787
Peace	(1,14) 7.205	.018, .340	2.193	.018	0.441, 3.945
Faith	(1,14) 15.625	.011, .527	3.856	.001	1.764, 5.948
Total	(1, 14) 3.345	.089, .193	2.694	.089	−0.465, 5.854

inquiry. Future researchers could explore different musical genres and how certain songs may enhance a person's idiosyncratic sense of spirituality.

During treatment, the PI was repeatedly impressed by participants' willingness to share personal information concerning life experiences, relationships, and beliefs. Many patients revealed that they eagerly anticipated music therapy as it was unique, soothing, and something different in the hospital setting. Perhaps this led them to share more personal details with the PI. For example, after singing *Amazing Grace*, a participant stated she would not trade her cancer for anything. This participant stated she felt taken care of and had never felt "closer" to God as a result of music therapy. She also related the PI to a messenger from God who shared His music. Another participant disclosed that she felt "loved" during music therapy sessions. When the PI sang, the participant would hug herself, close her eyes, and smile. At the conclusion of each song, the participant thanked the PI profusely for visiting and communicated how much the music therapy session meant to her.

Two separate participants thanked the PI for "letting" them cry. One participant, who verbalized she was not religious at all, shared that it had been difficult for her to come to terms with her cancer and music therapy helped her feel peaceful, relaxed, and transferred her to a "more spiritual place." From anecdotal evidence, it seems that music therapy can enhance aspects of spirituality in oncology patients in a number of idiosyncratic ways. Future researchers might consider utilizing purely qualitative research methods in an attempt to capture more breadth and depth concerning how music therapy might affect oncology patients in a spiritual manner.

Recruiting potential participants for the study was challenging. Of the 94 potential participants the researchers initially attempted to recruit for study participation, 60 patients declined. This may be a result of cancer-related symptoms: Potential participants may have perceived themselves as too symptomatic to participate in the study or wanted to be left alone. Perhaps the topic of spirituality negatively impacted patients' willingness to participate. Additionally, before the study began, the researchers were declined the opportunity to provide music therapy in-services to educate staff. In-service sessions for the hospital staff may have facilitated participant recruitment. Other limitations included the inability to control for chemotherapy or surgeries, patients being discharged due to insurance or financial limitations, and various types and stages of cancer. Another limitation included the lack of a follow-up measure with participants. It is unknown if or how long the beneficial treatment effects were maintained. Additional research is warranted to determine the durational effects of gains. Moreover, the PI's dual role as music therapist and researcher is a limitation and may have resulted in biased participant responses.

The interactions between spiritual wellbeing and music therapy warrant further research. One clinical and research opportunity may include researching the effects of music therapy and spiritual wellbeing on both patients and their family members: Does music therapy have effects on caregivers' senses of meaning in life, peace, and faith? Another area for potential empirical exploration concerns active music making versus passive music listening with patients on an oncology unit. Ghetti (2011) found that active music making with emotional approach coping improved wellbeing in post-operative liver and kidney transplant patients. Active music engagement led to improved positive affective states within patients, significant decreases in pain, and a decrease in negative affect (Ghetti, 2011). Thus, would there be differences in a patient's spirituality if music therapy sessions were structured differently and utilized active music engagement rather than receptive listening? It also may be interesting to determine the effect of music therapists and chaplains co-treating patients.

In the current study, the researchers measured effects of three music therapy sessions. Future researchers might consider measuring different doses of music therapy and attempt to determine a potential relationship between dose and clinical outcome to ascertain the optimal treatment dosage. Future researchers also might consider including a follow-up measure in an attempt to determine maintenance of treatment gains.

The purpose of this study was to determine the effect of music therapy on spirituality in patients on a medical oncology/hematology unit. Conclusions from this study should be interpreted with caution due to the small sample size. However, concerning faith and peace, quantitative results were significant: Participants who received three music therapy sessions had higher faith and peace scores than control participants. Qualitative data also tended to support the use of music therapy on an oncology unit. Though results are positive and support the clinical use of music therapy to address spirituality in oncology patients, future randomized controlled research is warranted in the contemporary era of evidence-based practice and heightened accountability.

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