Music therapy is a complementary therapy that has been used successfully with oncology patients to ease emotional and physical pain and serve as an important outlet for expression. Specifically, music therapy may reduce anxiety, increase relaxation, increase tolerance for treatments, reduce treatment-related symptoms, and give patients an identity beyond their cancer diagnosis.

It is estimated that as many as 80% of patients with cancer use complementary and alternative medicine (CAM) therapies to address their physical and psychosocial needs. Music therapy is one complementary therapy among others that may be used to address the unique challenges of the cancer survivor. People who have experienced music therapy report that it affects them on a physical, emotional, social, and spiritual level.

Over the past 2 decades, music therapy has gained significant acceptance as a simple and effective tool in oncology and other medical settings. Today, music therapy is offered in many hospitals and other types of medical facilities throughout the world.

**Definitions**

A music therapist is a person who has completed at least a bachelor’s degree in music therapy and, in addition to academic coursework, completes 1200 hours of clinical training including an internship. After completion of these requirements, the therapist is then eligible to take a national examination for certification to obtain the credential Music Therapist–Board Certified (MT-BC).

Music therapists therefore have in-depth understanding and training to use music as a tool to ease physical, emotional, and spiritual challenges faced by people with a variety of physical and psychologic conditions.

The American Music Therapy Association defines music therapy as "an established healthcare profession that uses music to address physical, emotional, cognitive, and social needs of individuals of all ages. Music therapy improves the quality of life for persons who are well and meets the needs of children and adults with disabilities or illnesses."

One review defines music therapy for cancer care as "the creative and professionally informed use of music in a therapeutic relationship with people identified as needing physical, psychosocial, or spiritual help, or with people aspiring to experience further self-awareness, enabling increased life satisfaction and quality." Another review states that this therapy is "the employment of music and its elements (sound, melody and harmony) aimed at improving the physical, intellectual or social functioning of people with problems associated to health or education." Finally, another review comments: "The role of the professional music therapist focuses on those processes whereby music is the main agent of therapeutic change."

Music therapy may be described as active (people participate in the process of creating music) or passive (people listen to music played by someone else). Music therapy may also include writing or recording songs, improvisation, storytelling, and other activities. Sessions may be held individually or in a group. A person experiencing music therapy does not need to have an ability to play an instrument or understand music, as these activities are facilitated by the music therapist.

A typical group music therapy session might begin with the therapist becoming familiar with the patients and then warming up to them to create an open and inviting environment. Next patients might choose from among a variety of available instruments such as drums, tambourines and other percussion instruments brought by the therapist. The music therapist then facilitates a session that is typically 30 minutes to 1 hour in...
duration, with interplay of shared rhythms and melodies. At the end of the session, the therapist might make a correlation to something that was experienced during the group process that uses words to encourage strength for each person’s journey ahead. The group process may also encourage in-group discussions and socializing and help individuals express themselves. An individual session is similar but it is one-on-one and individualized with attention directed to that person’s unique needs and interests. An excellent review on the use of music therapy in a cancer center notes:

Some people confronted with life-threatening illness, especially those with cancer, find it difficult to use words to express their emotional pain, fears, and daily physical and emotional suffering. For these individuals, the melody and rhythm of music can serve as a channel through which these difficult emotions may be expressed, even while evoking memories of a more positive or pain-free time in their lives. Both can ease patients’ stress levels and, in turn, lessen the physical effects of stress and illness.

Personal preference, cultural differences, and unexpected reactions can affect the way that music is perceived. Parents’ attitudes and expectations of the impact of music on pediatric oncology patients can be important as well because such feelings can influence their children's responses. One reviewer says: “Determining individual musical preferences and giving patients control over musical choices increases the likelihood of successful intervention.” To ensure success, this review also states that assessment of the patient’s needs, goal setting, an intervention, and measurement of the effects of that intervention are all important aspects of the process.

Research

Research suggests that music activates various neurohormonal processes in the nervous system and brain, which affect emotional responses and memories as well as autonomic functions, such as heart rate (HR) and respiratory rate and enhancement of the relaxation response. As most of us have experienced in day-to-day living, music may have stimulating and depressing effects on people’s emotions. One reviewer explains that the interplay of music within the human mind and body is complex:

The positive and [therapeutic] influence of music is a complicated issue, which is determined by the structure and functions of the central nervous system, neurovegetative system, internal secretive glands and the internal organs of the human body. So, the combination of the musical work, its melody, harmony, rhythm and timbre, together with the patient’s particular psychological disposition at that moment, results in a complex structure.

Mood

Cancer treatments and procedures, such as chemotherapy, radiation therapy, and surgery, can lead to significant physical and emotional distress. These treatments and procedures often cause significant stress, anxiety, and physical symptoms, such as nausea, vomiting, and pain. There is a great need to identify and implement complementary therapies, such as music therapy that can help ease these discomforts.

In one study, 50 men and women with cancer, ages 21–78, who were undergoing chemotherapy, were randomly assigned to receive chemotherapy along with music therapy or chemotherapy alone. Participants filled out pre- and post-test measurements of anxiety and had HR and blood pressure (BP) monitored at the beginning of treatment and after the intervention. The music-therapy group listened to 20 minutes of live familiar music. Results showed that anxiety decreased by as much as 57% in the music-therapy group and increased by 11% in the control group over the course of chemotherapy. The music-therapy group also experienced reductions in fear, worry, and fatigue, and improvement in level of comfort, while the median value for the control group increased in negative emotions and decreased in level of comfort. The participants described the music therapy as soothing, a positive distraction, comforting, relaxing, and fun, and stated that the experience elicited happy memories.

People undergoing bone-marrow transplants experience significant emotional and physical distress. One study examined the effects of music therapy, compared with standard care, on mood during hospitalization for patients with hematologic malignancies and who were undergoing high-dose therapy with autologous stem cell transplantation. In this study, 69 patients were randomly assigned to receive live music therapy from trained music therapists in their rooms or standard care. Sessions were individualized and typically lasted 20–30 minutes. Controls could listen to music if they chose but were not visited by a music therapist. The Profile of Mood States (POMS) Short Form was used to assess mood before and after the music therapy interventions repeatedly throughout the study. Participants received approximately five music therapy sessions over 10 days. Over the course of their hospitalization, the music therapy group scored 28% lower on the combined Anxiety/Depression scale (P = 0.065) and 37% lower (P = 0.014) on the total mood disturbance score, compared with the control group.

Pain

Mood and emotions may affect the intensity of pain that a person experiences and research has shown that pain perception is reduced when a person is directed away from his or her pain. Music therapy may help relieve pain experienced by people with cancer by relaxing them and facilitating communication, so that they are more able to share their fears and emotions, which, in turn, helps these patients relax. Some re-
search suggests that the longer therapy continues the greater benefit it may have.12

A meta-analysis that included 51 studies (1867 subjects exposed to music and 1796 controls) of the use of music therapy for pain, including malignant pain, concluded that, “[l]istening to music reduces pain intensity levels and opioid requirements, but the magnitude of these benefits is small and, therefore, its clinical importance unclear.”13

One study examined the effects of combined music therapy and relaxation imagery on pain and nausea frequency and intensity in 23 people, ages 5–65, who were undergoing bone-marrow transplants.14 The participants received 45-minute music therapy sessions twice weekly from the day of enrollment into the study until day of discharge. Participants rated pain and nausea on a visual analog scale (VAS) at the beginning and end of each music therapy session. Participants self-reported that pain and nausea were significantly decreased after music therapy with relaxation imagery, compared with the patients’ self-reported ratings before the intervention.

People undergoing brain surgery for brain disorders, including brain tumors, may benefit from music therapy. One study randomly assigned 27 patients, ages 8–73, to receive music therapy before and after brain surgery or standard care.15 Mood and pain along with other variables were measured using a pre- and
post-test VAS. Participants in the music-therapy group received 20–30 minutes of preferred live music therapy before their surgery and each day of their hospitalization. Anxiety, perception of hospitalization, and stress were all significantly reduced, and relaxation was improved in the music-therapy group, compared with the control group. There were no significant differences between groups for pain, medication use, or length of stay.

Children

Children may be particularly amenable to music therapy because of their natural affinity for play and interaction. In addition, one reviewer notes that music therapy is very positive for children with cancer because it “facilitates their adaptation to the new reality, increases their self-esteem and control of the situation, makes communication easier and improves their immune response to the disease thanks to the emotional support music provides.”

In one study, 45 parents of children with cancer (with an average age of 9) were interviewed about their attitudes and expectations about music therapy for their children. Results showed that 87% of the parents had played music for their children at home in the preceding week, but 67% never played music for or listened to music with their children during a pediatric oncology visit. Parents reported that the following types of music would be comforting for their children: pop; country; rock; religious; classical; and lullabies—in that order. Few parents believed that new-age music would be comforting for their children. Most parents thought that music would comfort their children, and most parents believed that music during a pediatric oncology visit would have positive effects, such as relaxation, comfort, distraction, energizing, etc. The reviewer notes that staff members should not assume that one kind of music fits all patients and that children and parents may be more responsive if their preferred music is played.

One case study reviewed the benefits of music therapy for children undergoing outpatient radiation treatments. This study involved setting up a music-therapy session in an outpatient radiation-therapy waiting room and included 26 weeks of sessions that involved 60 patients, ages 14 and younger, who had a total of 128 consultations with the radiation oncologists. Children attended varying numbers of music therapy sessions, from one session to multiple sessions, which were attended with or without friends and family members. The average music-therapy session was 30 minutes long. Twenty-one patients did not participate, and perceived reasons for nonparticipation included “they did not want to be involved, they did not need to wait, or that the music therapist’s attention with other children precluded her inviting their involvement.”

The researchers’ perception of the benefits of music therapy in a pediatric radiotherapy outpatient waiting area is that such an intervention can reduce anxiety and stress in patients, family members, and staff members involved in care, and the researchers note that music therapy has the potential to reduce treatment costs by reducing both pharmacologic treatments and preparation time. The researchers also state: “The ‘value’, however, of children’s improved adjustment to adverse hospital experiences, through cathartic musical experiences, which can also increase self-esteem and joy, cannot always be fiscally determined.”

End-of-Life Care

Music therapy is increasingly becoming an integral part of hospice and palliative-care units in hospitals. Music can provide a soothing environment during a sorrowful and difficult time of transition for patients and family members. In one survey of 300 hospices, massage therapy and music therapy were the most common complementary therapies used.

A study on the empirical data available on the use of music therapy in hospice and palliative care found that live music therapy sessions increased perceived quality of life (QoL) for people with terminal cancer and that QoL increased with each music therapy session. Specifically, music therapy may have positive effects on pain, physical comfort, fatigue and energy, anxiety, relaxation, mood, spirituality, and QoL. The researcher also notes that most of the research on music therapy and palliative care is qualitative, there is a lack of controlled studies with large sample sizes, and there is a need for controlled studies with randomization of subjects.

Conclusion

Through first-hand experience, those of us in the medical profession are all too aware of the degree of suffering that a person with cancer and their loved ones may experience. We must continue to raise awareness of modalities that can help ease stress, anxiety, depression, pain, and treatment-related symptoms. Music therapy may offer help by easing psychological, physical, and spiritual burdens experienced by patients with cancer. We must forge forward with improvements in research methodology, but we must also embrace and implement what we already know.

References


Jane Hart, M.D., a board-certified internist, is a clinical instructor and chair of the Committee on Integrative, Complementary and Alternative Medicine at Case Western Reserve University School of Medicine, in Cleveland, Ohio.

To order reprints of this article, e-mail Karen Ballen at: Kballen@liebertpub.com or call (914) 740-2100.