

## Mini Review

# Music Therapy and Coping in Caregivers of Children with Cancer

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## Abstract

Caregivers of children with cancer are at risk for distress, anxiety, and posttraumatic stress symptoms. In particular, fathers of children with cancer present with unique coping challenges related to traditional gender roles and societal expectations. Identifying effective interventions to help these caregivers is critical. Creative therapies, such as music therapy, may be particularly beneficial. Prior research suggests that music therapies such as rhythmic drumming help individuals to relax and decrease anxiety and stress. The present article reviews literature on music therapy, rhythmic drumming in particular, as a potential therapeutic option for fathers of children with cancer. Further, the authors also propose a study designed to assess the feasibility and efficacy of music therapy in caregivers of children with cancer.

## Keywords

- Pediatric cancer
- Childhood cancer
- Caregivers
- Music therapy
- Creative therapy

Improved medical treatments and supportive care have resulted in increased survival rates of children and adolescents diagnosed with pediatric cancers, with overall 5-year survival rates approaching 85% [1]. However, almost sixteen thousand youth are diagnosed each year [2], significantly altering life for these children and their caregivers [3]. In addition to providing physical and emotional support to their child [4], caregivers must tend to their own psychosocial needs. In about 80% of families, one or more caregivers experience posttraumatic stress symptoms while their child is receiving treatment for cancer [5]. There is growing evidence that creative therapies, such as music therapy, have a positive impact on the psychosocial well-being of both pediatric and adult patients being treated in medical settings [6-9]. Despite these findings, there is limited research examining the effect of music therapy on caregivers.

Music therapies typically involve the interaction between a trained musician, who uses music to help facilitate self-expression and relaxation, and patients, who can either listen to the live music, or better yet, take an active role in making the music themselves [10,11]. Because it is easily adaptable in length and structure, music therapy is well suited for medical settings where psychosocial intervention may be needed for as short as 15 minutes of relaxation prior to a procedure to as long as a 60-90 minute group- or individual-session to facilitate meaning-making and self-expression [12,13]. Also, there is no need for patients to have any prior experience with music, making it easier to facilitate patient involvement. Patients who may not have interest in or comfort with traditional therapy may find music therapy an acceptable alternative.

Music therapy is particularly well-suited for use among child and adolescent patients with cancer, who experience much uncertainty throughout the cancer journey [14-16] and sometimes struggle to express and resolve emotions related to this uncertainty [17]. Research suggests that music therapy helps individuals with cancer cope with loss, grief, and physical and emotional suffering, as well as make meaning and restore or reestablish identity [13]. In particular, music therapy has become popular for use with children with cancer. Children with cancer report finding support and comfort in challenging issues after participating in brief music therapy sessions [18,19], and their parents report improvements in family communication, as well as their child's self-expression and internalizing and externalizing problems. [12,20]. What is less well known, however, is the impact of music therapy on caregivers of children with cancer.

Over the past few decades, there has been an increased focus on exploring creative stress management strategies and interventions for family caregivers [21,22]. Among caregivers of adult patients, preliminary research suggests that music therapy promotes improved well-being. For instance, one study found positive effects on reducing anxiety, depression, and blood pressure among caregivers of adult patients with cancer following either a nurse-led or recorded music intervention that involved 30 minutes of listening to live or prerecorded relaxing music [23]. There has also been evidence supporting the use of music therapies for caregivers of adults with Alzheimer's or dementia, as well as for bereaved or palliative care caregivers [24,25]. Specifically, the quality of interactions and visits between caregivers and their patients with late-stage dementia was

improved with participation in a music intervention involving singing, dancing, and rhythm playing [26]. Qualitative research also suggests that music therapy in home-based hospice care settings facilitates self-expression and meaning-making among caregivers who have lost a loved one to advanced cancer, thereby promoting a sense of support for these caregivers [24].

Caregivers of children with cancer represent a unique group because they experience informational, practical, emotional, social, and existential stressors all at once [27]. There is data to indicate that parents of children with cancer are at risk for distress [28], anxiety, and posttraumatic stress [29,30], highlighting the need for effective psychosocial interventions. Fathers of childhood cancer patients are a particularly understudied group, as most research involving parents has targeted mainly mothers. Qualitative research with fathers suggest that they struggle to overcome the stress and emotional burden of having a child with cancer while also feeling pressured to maintain traditional gender roles and be a "rock" for the rest of the family [27,31]. Music therapy may be of special interest to fathers because of the potential to feel more comfortable expressing themselves in a group of other men when there is an activity to engage in and no pressure to engage in one particular style of coping.

Music therapy may be particularly beneficial for caregivers of children with cancer because it is easily facilitated in a hospital-setting, can be done individually or in a group setting, and can be utilized during all phases of treatment (diagnosis, treatment, bone marrow transplant, palliative care or treatment completion) [18]. One protocol in particular, HealthRHYTHMS, has shown promise as an empirically supported [32-36] drumming intervention that was developed by a neurologist, Dr. Barry Bittman, in collaboration with a well-known drumming company, Remo Inc. This protocol involves group therapy sessions in a drumming circle format, has been utilized in various medical specialties, including oncology, cardiology, and pulmonary, and appears to have a positive effect on both physical and psychosocial outcomes. For instance, among healthy adults, an improvement in stress-related hormones (e.g. cortisol) and natural killer cells was evidenced after just one session of group drumming [32,35]. Improved mood, decreased burnout, and group cohesiveness have also been reported by nursing students, corporate employees, and long-term care workers in a residential facility following participation in this drumming protocol [33,34,36]. Despite these promising findings, the efficacy of this protocol has not been examined among caregivers of children with cancer or fathers in particular.

Thus, the present investigation will involve implementing a rhythmic drumming intervention based on the HealthRHYTHMS protocol for fathers of children with cancer. Specifically, groups of fathers of children undergoing treatment or having undergone treatment for cancer will be recruited to participate in a 6-week drumming intervention. Fathers will be invited to attend as many sessions as they are able, depending on their level of comfort and engagement. In addition to collecting demographic and illness-related information, caregiver distress and burden will be assessed. Caregiver distress will be measured using psychological measures of distress such as the Brief Symptom Inventory 18 (BSI-18) [37] or the National Comprehensive

Cancer Network's Distress Thermometer (NCCN-DT) [38]. Caregiver burden will be assessed using the Care giving Burden Inventory [39]. An informal assessment using a Likert scale of each father's participation will be completed during each session by the trained facilitator with focus on the participant's level of engagement and self-disclosure. Similar assessments have been created by researchers and utilized in other studies of drumming interventions [12,40]. Once participants engage in the drumming protocol, we hypothesize that fathers will report less distress and psychosocial burden brought on by having a child treated for cancer. In order to measure the efficacy of the intervention, the researchers could administer similar assessments to a group of fathers from the same population participating in a therapy group without the drumming component. Results could be compared to assess whether the intervention provides a unique relief from distress. In addition to contributing to the limited research examining fathers of pediatric cancer patients, this research will provide much needed data on the feasibility and efficacy of music therapy for caregivers in a pediatric hospital setting.

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