Research Paper

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A Single Case Study on Effect Of Music Therapy to Reduce Stress Levels in a Cancer Patient.

Social Science

KEYWORDS : Cancer, integrative medicine, music, music therapy, oncology, pain, palliative care, quality of life.

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ABSTRACT

This article reviews the effects of music and music therapy with an adult oncology patient, summarizes major findings, discusses the difficulties inherent in research methodologies, and explores directions for future research. Although there is more qualitative than quantitative research, empiric investigations have found that music techniques are effective in managing pain and other physical symptoms, psychological distress, and mood. Health-related outcomes and quality of life have also been improved. Recommendations for future research include collaborative projects that (1) test established music therapy clinical protocols; (2) control for the presence of a music therapist; (3) identify the characteristics of patients who will potentially benefit most;(4) examine physiologic, psychological, behavioral, neurologic, immunologic, and spiritual outcomes; and (5) detect and control extraneous variability.

INTRODUCTION

In our case study we studied the effect of music therapy on the stress levels and there by the improvement in quality of life of a cancer patient named P.Bala Bhaskar aged 60 yrs who was diagnosed as having carcinoma lung .

Although the aim of inpatient cancer treatment can be either curative or palliative, each individual patient's prognosis is often uncertain. Patients, visitors, and staff are constantly exposed to the vulnerability of human life and make courageous efforts to maintain dignity and prolong survival.[3]Throughout the ages, music has been vital for human coping and adaptation, expressed in rituals facilitating enculturation into social mores, healing, and the transition from corporeal life to death[1]. As ritualized therapeutic uses of music for health arguably declined with the emergence of modern medical practices, Lucanne Magill, at Memorial Sloan-Kettering Cancer Center (MSKCC) in 1974, reawakened awareness of how music can help people live with life-threatening conditions[2,3]. Magill and colleagues' pioneering clinical and theoretic research illustrated how the supportive properties of live music in a therapeutic relationship can improve cancer patients' mood and vigor, promote supportive communications, and alleviate pain.[2,4,6]

Music therapy can heighten the intensity of memory recall, elicit powerful accompanying emotions, and validate one's presence as a significant person: loved and cared about. Patients may also find sessions supportive for reflecting on ambivalent relationships.[8] Feelings can be possibly reframed with musically supportive counselling techniques. Research on specific music therapy methods in oncology, including relaxation,[7] improvisation,[7] guided imagery,[8] music choice,[9] and songwriting,[10] also highlight how music therapy can relax, improve mood, and reduce anxiety.

Stress levels in the patient can be measured by both psychological as well as physiological parameters.[31]

METHODOLOGY

After obtaining institutional ethical committee approval and written informed consent from the patient and his relatives music therapy sessions were carried out by a music therapist at a frequency of weekly once for 10 weeks after chemotherapy and radiotherapy sessions. Stress levels are measured before the start of therapy and after completion of 10 sessions of therapy. Stress levels are measured both by psychological questionnaire and physiological parameters.

Psychological questionnaire included the following questions:

1. Does the music therapy improve your mood
2. Does the music therapy improved your life spirits and boosts energy & vitality
3. Does the music therapy help to relieve pain
4. Does this music therapy decrease your sleep disturbances

Answers for all the four questions were obtained in three gradings

Grade 1 – Satisfactory
Grade 2 – Good
Grade 3 – Very good

Physiological parameters include autonomic parameters like blood pressure and heart rate and measurement of salivary cortisol at 8am and 8pm of the day. Many recent studies have shown salivary cortisol estimation is more reliable than serum cortisol measurement for evaluating stress.[28,29]

Also it is favoured because of its non invasiveness. Physiological parameters are taken as an average of three days recordings prior to the therapy and three day recordings average after the completion of 10 sessions of music therapy.

The patient was subjected to music therapy sessions every week for 2 hrs in a private room. The selection of type of music is purely based on the choice and mood of the patient. Sometimes a personalised message is added to the music so that it can be more effective. The timing of the music therapy is organised so as that it does not interfere with the treatment sessions of the patient and it is also timed so that it can alleviate the agony of the patient due to treatment.

RESULTS:

At the end of music therapy sessions the response to the psychological questionnaire was put to patient and the response was:

1. Does the music therapy improve your mood --- Good(GR 2)
2. Does the music therapy improved your life spirits and boosts energy & vitality—Very Good(GR 3)
3. Does the music therapy help to relieve pain----Good(GR 2)
4. Does this music therapy decrease your sleep disturbances--- Satisfactory (GR 1).

Physiological parameters were compared before and after therapy and are displayed in a table below:

Table 1: Physiological parameters

	BEFORE THERAPY	AFTER THERAPY
HEART RATE	78/min	74/min
BLOOD PRESSURE	138/94mmhg	124/82mmhg
SALIVARY CORTISOL(8am)	24.3NMOL/L	14.8NMOL/L
SALIVARY CORTISOL(8PM)	3.9NMOL/L	3.0NMOL/L
SALIVARY ALPHA AMYLASE	0.58U/L	0.42U/L

DISCUSSION:

The research on music listening and music therapy in adult oncology is promising. There are many positive outcomes, particularly when music listening is accompanied by GIM, other imagery or suggestions, and live or active music experiences conducted by a music therapist. Music techniques are effective in managing pain,other physical symptoms, psychological distress, and mood.

A number of studies have found significant changes in health-related outcomes and quality of life.[3,6,17] Yet, there exist immense complexities to conducting credible, experimental investigations of music's effects and comparing the results of one study to another. Music therapy meets individualized needs through a wide variety of techniques. This diversity presents many complications for controlling experimental variables and measuring their effects.

Musically, music therapy may be characterized by passive music listening or active composing, improvising, singing, moving, performing, incorporating guided imagery, and engaging in other creative musical activities. There are an infinite number of musical styles, artists, instruments, and selections available to the patient, providing a dizzying number of combinations and permutations of musical offerings. The music therapy researcher must decide to control and limit the pieces of music used or allow the patient to select music within the defined methods

In our case study we have used music therapy in a 60 yr old person named P.Bala Bhaskar who has been diagnosed as having carcinoma lung and is presently undergoing chemotherapy and radiotherapy sessions. He has been given music therapy for 10 sessions with each session lasting 2 hours and weekly once in frequency. Music therapy was carried out in a quiet private room. 3 days before starting of music therapy daily autonomic variables like blood pressure and heart rate were measured. Also salivary cortisol levels were measured at 8 Am and 8 Pm on those three days taking circardian rhythm into consideration. Also the levels of salivary alpha amylase were noted. Average of the three days readings are taken. Also after completion of 10 sessions of music therapy three days readings are taken of the autonomic variables and hormonal levels and compared.

We found there is a significant decrease in the levels of salivary cortisol levels after the music therapy compared to the level before the therapy. Also the levels of salivary alpha amylase levels were decreased compared levels before therapy. The average salivary cortisol level at 8 am in the morning decreased from 24.3 nmol/l to 14.8 nmol/l after therapy and the average salivary cortisol level at 8 pm decreased from 3.9 nmol/l to 3.0 nmol/l. The salivary alpha amylase levels decreased from a value of 0.58u/l to 0.42 u/l after music therapy. These two changes were significant and indicates decrease in stress levels of the patient. Also the average blood pressure reading decreased from a value of 138/94 mmhg to 124/82 mmhg after therapy. Also the average heart rate decreased from a value of 78 /min to 74 / min although the change is not so significant.

Overall we found the music therapy to be useful in reducing the stress levels of our patient as indicated by both psychological and physiological variables. Also it improved the overall morale of the patient and also his quality of life as well as his pain scores.[6] The proper selection of music and timing of the therapy are vital in the success of the music therapy.

As music therapy researchers hone their techniques, refine their samples, find the most appropriate means to measure expected outcomes, and conduct rigorously controlled investigations, the precise impact of music therapy for adult oncology patients will become clearer. Music therapy is, potentially, an extremely cost-effective strategy that can reach patients at all levels of cognitive and physical functioning.

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