



Received on 07 October, 2010; received in revised form 12 November, 2010; accepted 18 January, 2010

THE RHYTHMS OF LIFE: MUSIC THERAPY FOR THE BODY, MIND AND SOUL

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ABSTRACT

The main objective of the present study was to conduct an in depth study of the advances made in the therapy with music and the developments made in its applications in the health care, using primarily resources of published material in the internet. The current study was mainly aimed at understanding music therapy from the perspective of its applications in the field of medicine as a novel alternative therapy. Music therapy is defined as a holistic and utilitarian approach towards treatment by applying music or specialized sounds with a view to cure disease or disease conditions in a completely non invasive manner. Apart from the advantage that it does not have any side effects, it also have an added advantage that it is a completely patient friendly therapy, that is the therapy can be conducted in the comfort zone of the patient. It is the psychological and emotional approach towards treatment that makes this therapy stands out from the conventional therapies. The main objective of music therapy is to alter the patient's psychological condition and increase their receptivity towards the medication. Recent researchers are pointing out the effectiveness of this therapy in the treatment of Alzheimer's, Parkinson's and dementia and a lot of positive research conclusions are accumulating, promising the future of music therapy as a potential therapy.

Keywords:

Alterantive medicine,
Holistic approach,
Stress management,
Complementary therapy

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INTRODUCTION: *'For the common things of everyday, God gave man speech in the common way. For the deeper things man think and feel, God gave poets words to reveal. But for the heights and depths no words can reach, God gave man music, the soul's own speech'.* - Anonymous

From time immemorial, music has been an unavoidable part of any civilization, in every aspect is it cultural, social or educational. But in this twenty first century where nothing is left unexploited, our researchers are coming up with a new possibility of disease management with music. In the years that has passed by the transformation of music from a passion or art to a disease healing technique has been very fast. New researches being conducted all over the world is pointing to the promising fact that exposure to music therapy can substantially improve the mental and physical condition of patients receiving palliative care. Even though music has played a crucial role in the lives of the ancient Hindu religion, for that matter every religion in India and some have even taken it to the extent of using music to find solutions for the diseases, the technique did not get enough attention.

In the Indian tradition, the ancient rishis and maharishis have explored the miraculous healing effects of the different intonations of ancient music such as the rhythms, volume, beats and pieces of melodies; however, due to the prevalence of a large number of ragas they couldn't assign a particular raga for a particular disease. The wide spread use of music or its different forms as an integral part of the ancient Indian customs and rituals is in itself a historical proof for the prevalence of music as a therapeutical agent in India even in the ancient times. Unfortunately just like all other age old customs and traditions music therapy had a decline in the past few decades. However in the recent past the medical community has started accepting music therapy as an

alternative form of medicine and it has got global acknowledgment. The field of medicine is yet to see another drastic revolution with the incorporation of music therapy into the current medical field.

The Therapy with Music: "If emotions could express it would be through music, if feelings had color it would be through music, if the world has just one language and religion it would be music"

According to the American Music Therapy Association, music therapy can be defined "music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy program." Another definition offered by the World Federation of Music Therapy is:

"Music Therapy is the use of music and/or its musical elements (sound, rhythm, melody and harmony) by a music therapist, and client or group, in a process designed to facilitate and promote communication, relationship, learning, mobilization, expression and organization (physical, emotional, mental, social and cognitive) in order to develop potentials and develop or restore functions of the individual so that he or she can achieve better intra and/or interpersonal integration and, consequently, a better quality of life" -(Barcello 1996).

Music therapy is actually the interpersonal process wherein the therapist uses music in all its facets that can be physical, emotional, mental, social, aesthetic, and spiritual to assist their clients to improve or maintain their health. In many cases the therapist also makes use of the relationship developed between him and the client. With years of experience the therapy has found to be very effective in serving as a physical and psychological aid to individuals belonging to almost every stages

of their life and with a variety of illness including psychiatric disorders, medical problems, physical handicaps, sensory impairments, developmental disabilities, substance abuse, communication disorders, interpersonal problems, and aging¹. Researches are also being conducted to verify its effect on improving learning, building self esteem, reducing stress, supporting physical exercise and facilitating a host of other health related activities.

Principles of Music Therapy: Even though the system of music therapy poses enormous potential to grow into a well established constituency of the medicine, the entire subject is in experimentation and implementation stage while the data is accumulating rapidly from the innumerable research findings across the world.

The principal ways in which music therapy helps solve diseased conditions of the human body are

- The most accepted and the most used property of this system is its sedative action. In effect it can reduce the dose of tranquilizers there by reducing many side effects of these drugs.
- Another more physiological activity related to music therapy is the increase in the metabolic activity .It is also found to increase the rate of respiration, influence secretion of internal fluids and assists muscular activities².

The therapy is mainly an individualized one where a therapist cannot prescribe a particular music for a patient suffering from a particular disease. A large number of factors have to be considered before selecting the music, including the patient's likes and preferences. Due to the same reason the effect of music therapy may be slow or fast depending on innumerable factors including the subject, his mental status, the environment of treatment, and the type of music selected. The success of the therapy depends on these factors and how accurately they are followed.

Usually the three p's is considered by a music therapist which includes:

1. Perfect Time- It includes duration, span, interval and time to play the music.
2. Perfect Direction- It includes posture and conditions to listen the music.
3. Perfect Force- It includes Tone, Timber, sound quality and volume of Medicative Music.

The system has to be put to use with pure scientific and clinical approach and should be applied only after an in depth study of the nature and symptoms of the disease. It is heavily based on the correct intonation and the judicious use of the different basic elements of music like rhythm, volume, beats frequency, and piece of melody.

Effectiveness of Music Therapy: Lisa M Gallagher, a music therapist working in the Cleveland music school settlement says that their study clearly shows that music improves mood while decreasing pain, anxiety, depression, and even shortness of breath among seriously ill patients. A study was conducted between 2000 and 2002 with about two hundred subjects from across the world. The subjects selected were from a variety of phases of life and suffering from different illness including non cancerous tumors, pain disorders, sickle cell diseases, aortic aneurism, gardener's syndrome, AIDS, neuro degenerative diseases, and a long list of other so called life limiting diagnoses.

The patient's selected were of the age group between twenty four and eighty seven and the average age was sixty. About sixty percent of the subjects were women and thirty percent had some or the other kind of musical background. The sessions were started with the subjects given a chance to select the music he or she wanted to hear and the therapist played the selections on the keyboard for approximately twenty five minutes in

presence of the family. After the completion of the session both physical and psychological tests were conducted on the patients and the results were quite promising. In addition to marked improvement in the anxiety, mood, pain and shortness of breath about eighty percent of the subjects confirmed that their mood had improved after the session³.

Researchers have also found that healthy individuals can also make use of music for stress reduction through music making, drumming and also passive listening. It can also act as vital support for physical exercise. Music assisted labor and delivery is gaining more popularity worldwide. There have been several research studies indicating the efficacy of music in the therapy of patients with neurologic diseases and injury. Researchers have also found positive impact of music on memory, attention making skills, and executive functions like decision making and planning.

Music and the Human Brain: "Music is so naturally united with us that we cannot be free from it even if we so desired"- (Boethius cited by Storr). Our inner ear contains a spirally shaped sheet of specialized cells that the sound of music plucks like the strings of a guitar. The disturbance produced, triggers the firing of specialized auditory cells that makes up the hearing parts of the brain.

The variations in the patterns of firing excite other ensembles of cells and this in turn associates the music we hear with feelings emotions and past experiences. In a nutshell, vibrations in the air produced by music or sound causes disturbance in thousands of tiny hairs spread across a spiral sheet in the inner ear. The nerve cells which get excited due to the motion of the hairs trigger electrical impulses to the brain which then sense music or sound. Researchers are conducting extensive studies on how different kinds of brain damage interfere with the normal perception of music and

hearing. Tramo of Harvard University had a patient who lost most of his auditory cortex due to stroke and complained of not able to comprehend music and speech and found it difficult in recognizing harmonic patterns.

However doctors were able to find that a part of his brain called the auditory association cortex and regions associated with it survived injury. Further studies indicated that he could still call on implicit knowledge to recognize his favorite song. The activities of our brain, while we listen to music and its variations are also being researched upon across the world with sophisticated imaging and brain mapping systems. Researchers have identified the increase in the blood flow and oxygen during passive listening to music. Many mysteries of the brain are unrevealing itself with the use of sophisticated technology like using metal or glass electrodes smaller than a few millionth of an inch to monitor each cells electrical activity.

Evidences also suggest that music can improve students math and puzzle solving skills to a great extend. In a research study scientists have found that students with musical back ground scores better in the Scholastic Aptitude tests than students with no musical background⁴. Many studies have confirmed that exposure to music can aid in memory functions. One idea is that music may stimulate the formation of several neural connections to a single memory from different angles so that recalling that memory is made easier. There is an interesting anecdote of a woman who could not remember critical periods and situations in her life due to dementia but could recall every song that she had sang in her career as a singer (Skloot, 2002). There is also an indication that simple tunes are easier to recall than complex ones (Shouse, 2001)⁵. All these pointed out the intimate connection of the music with human brain.

Music Therapy as Stroke Therapy: Researchers from across the world have confirmed the effectiveness of music therapy in patients suffering from depression, anxiety, mood disorders, and developmental problems. Another newly emerging application of music therapy is in the treatment of stroke patients. Music therapy has found to increase positive social interaction, positive emotions, and improved motivation in stroke patients. After his extensive research work on music therapy wheeler et al has come to the conclusion that after music therapy sessions the ease at which stroke patients responded to social interaction and positive attitude was increased substantially. In another study where the researchers focused on the mood of the patient also showed decreased fatigue, anxiety, hostile mood states and increased social interaction.

Another significant application of music therapy in stroke patients is in the recovery of motor skills. Current research shows that when music therapy is used in conjunction with the traditional therapeutic exercises', the results were much improved than when using the traditional methods alone. Rhythmically stimulating the auditory senses with music when used in combination with the time tested gait therapy drastically improved the ability of stroke patients to walk. When a group that received gait therapy alone was compared with another group that received music therapy the later group showed more improvement in their stride length, walking speed, rollover path length and symmetry deviation.

Music therapy has also found to be effective in developing pain perception in stroke victims. In a research study the stroke victims participated in an eight week long upper extremity exercises namely of the hand wrist and shoulder joints accompanied with any of the three: song, karaoke or no music. Even though there was no

significant variations in the pain rating among the three conditions video profiles showed more positive results with the music accompanied test group.

Even with all the positive results with this new therapy considerations must be taken before administering the therapy for patients. There may be a number of intervening factors for the success of the therapy including environment of treatment, time of exposure to music, psychological status of the patient etc ⁶.

Music Therapy for Pain Management: Music therapy is proving to be a boon to millions of people around the world who are suffering from post operative pain and related pains. Researchers studying on the effect of music and other relaxation techniques on pain management are getting more and more positive results. Researchers who have been studying the effect of music on post operative pain following major abdominal surgeries have come to the conclusion that music therapy in conjunction with the traditional pain medications can prove to be more effective than pain medication only.

Dr Marion Good of the National Institute of Nursing Research (NINR) at the National Institute of Health (NIH) and her research team studied three groups of patients undergoing abdominal surgeries. Along with the conventional pain medications one of the groups received jaw relaxation technique, another listened to music, and the third group underwent a combination of relaxation and music. Further studies revealed that following surgery the three groups reported much reduced pain than the control group which received only the pain medications ⁷. According to Joke Bradt, a music therapist who bases his treatment methods on the Entrainment principle and the Gate control theory, a typical pain management session would start with the patient verbally sharing the pain with the

shut which in turn reduces the perception of pain. Another promising implication of music therapy in pain reduction is that it can effectively reduce the unwanted side effects associated with pain medications⁸. Further researches are continuously being conducted worldwide to explore the scope of music as an analgesic.

Effect of Music on Depressed Older Patients:

According to a recent survey conducted in United States, about 121million people, world wide suffer from depression or other related problems. The situation is further worsened as it is the sole cause of about one million deaths each year. With the growth of music therapy a whole new array of non invasive treatment for depression is arising out of researches conducted globally. Even though drugs provide somewhat satisfactory treatments the side effects associated with these drugs are so innumerable that sometimes they can prove to be fatal⁹.

In a recent study conducted by the Cochrane researchers the role of music in fighting depression has been established. The researchers studied various international research papers and internet journals of music therapy and art therapies. Five studies were short listed which met their criteria of review. Four of the five studies unanimously reported marked differences in the symptoms of depression in the subjects randomized to music therapy than to those in the standard care conditions; however the fifth study did not report any change in the mental states of the subjects after the therapy sessions¹⁰. In another study conducted at the Stanford University School of Medicine, researchers studied thirty older adults who have been diagnosed with any major or minor depression related problems and were assigned to any one of the three eight week conditions which included;

1. A home based programme where the patient with the assistance of a therapist studied stress reducing techniques at home.
2. A self administered study where the subjects applied the same techniques with a weekly telephonic communication with therapist.
3. The subject was put in waiting list and used as a control group.

The results of the study were surprising. Both the groups in the music condition reported significant improvement in the standardized tests for depression, anxiety, self esteem, distress, and mood which were maintained through a nine month period of follow up¹¹.

Music and Children with Development delay:

Since time immemorial pediatricians across the world have accredited that music can have significant positive impact on the character development and personality of a child. But until very recently there have not been any solid clinical evidence to support this assumption. Researchers at the institute of Music Therapy at Germany conducted a study involving twelve children of the age group one to three and a half years aimed at understanding the effect of music on child development.

Children were randomly classified into two groups and the first group received individual music therapy for three months while the second group was made the control group. The study group was reversed during the subsequent three months. After the first three months- the first group reported significant improvement in the overall development patterns including better hearing and speech abilities, improved eye hand coordination, and improved communication skills that were found to be absent in the control group¹².

Recently music therapists have been making use of musical interactions and interventions to help children with special needs cope up and improve their functional and academic skills and lead an independent life. Music therapy can be made use to improve the condition of children suffering from disorders including, attention deficit disorder, cerebral palsy, autism spectrum disorders, pervasive developmental disorders and other basic skills like improving motor skills, communication skills and also in addressing skills such as attention span, following directions and eye contact. The children can be provided with the therapy either in a school set up or at the home in the presence of their parents.

Music can be called as a universal language and music therapists across the world is making use of this property of music therapy to encourage patients to engage themselves in musical question and answer sessions. Through this process the therapists are trying to provide an example of verbal communication through music. Action songs are another novel system where the therapist uses music that has lyrics with directions for movement. These types of active sessions can enable the patient to integrate rhythm, body percussion and vocalization and thereby become more aware of his/her surroundings and how to practically interact with them.

Music therapy can play an important role in developing a Childs social and emotional state thereby minimizing sensory overload, destructive behavior etc. Children with special need can also learn to be more social by indulging in singing, dancing, and instrument playing while imitation, eye contact and taking turns are considered musical responses. A bit of self introspection can show us that most of us needed a little bit of twinkle twinkle and johny, Johnny to memorize our ABCs. This is a solid example to prove the effectiveness of incorporating music with

academics. Therapists across the world are using music as a carrier of academic facts and to reinforce the social and the emotional concepts of a child. These new methods of music therapy are found to be particularly effective in children with autism spectrum disorders (ASD). The therapist may also use songs with specifically designed lyrics or sound that are a prime focus of improvement. Active music making in group is found to enhance sociability and encourage imaginative play in children with special needs. The researchers concluded that music therapy if applied in the right procedure can bring about drastic developmental changes in children with developmental delays including improved personal relationships and social mannerisms¹³.

Recent Developments and Research Directions:

Music therapy in itself being a relatively new addition to the field of medicine is in the way of growing and that too in a very fast pace. The field is growing at a very large and global scale and is gaining new dimensions day by day. With the innumerable research works being conducted across the world the data in support and proof of the credibility of music therapy is fast accumulating. In the global field of medicine the clinicians are beginning to accept the effectiveness of music therapy in improving the psychological status of the patient. In the past 25 years of the growth of music as a therapy it has grown to staggering heights, some of the radical changes that has happened In this field during this time include ,

1. Music therapy is getting itself branched into four main categories including Music in medicine, Music in psychotherapy, Sound and music healing, and Music in special education.
2. Music therapy has been put to use in a larger and wider clinical populations and is being practiced in a variety of settings that have a

great bearing on the quality of Therapy provided.

The number of materials concerning music therapy has significantly grown in the past decade. The area of theory and research is expanding to both qualitative and quantitative types and there are more research publications and art journals than in the past.

Researches being conducted all over the world are opening up new vistas of opportunities for the medical community. Very soon a time will arise when the music therapist will become an unavoidable part of a clinician in assisting him throughout the treatment plan. Studies are pointing out that music can have significant positive impact on patients suffering from many psychological and neurological diseases including Alzheimer's, Parkinson's disease, autism, amnesia, dementia etc.

In a study conducted in US researchers evaluated the effect of music on the bathing cooperation of a randomly selected group of individuals diagnosed with Alzheimer's. They played individualized music for each subject in a non threatening atmosphere and found that the use of specifically selected music will significantly delay the onset of agitation in the subjects. Researchers are also trying to figure out the effect of music in preserving the language and the motor skills of patients doomed with Alzheimer's. There have also been positive indications in researches done in verifying the impact of music on memory loss in case of people with Alzheimer's. Researchers have found that music can play an important role in retrieving information from the stored sites of the brain in a study where they compared the memory retrieval capacity in two groups, one that was musically oriented and another by verbalization. Also dementia patients

were able to retrieve long term memory after hearing familiar tunes¹⁴.

Ongoing studies about the effect of music therapy on Parkinson's patients are also drawing attention of the medical community. Studies have proved beyond doubt that certain songs can drastically reduce the severity of Parkinson's disease and also contribute a long way in improving the motor and physical responses and control of the body so that the patients can lead a normal and self dependent life. Studies have also proved that music can act as an auditory stimulus for muscle movement especially in case of Parkinson patients. Researchers investigated the muscle activity of the test subjects by measuring the changes in the electromyography (EMG) patterns of the triceps and the biceps and arrived at promising results¹⁵.

Researchers are also in the process of verifying the scope of music therapy as an assistive therapy for cancer patients. Music is found to improve their psychological and emotional wellbeing which can go a long way in the physiological responses of the body to the cancer treatment. The usually found feeling of loneliness, lack of interest in life and the feeling of being a burden to family has been found to be significantly reduced in patients who were given a periodic session of music therapy throughout the treatment course and the response to medications were also increased¹⁶. Further researches are being conducted all over the world to explore the immense opportunities' that may be lurking behind this novel and non invasive treatment method.

CONCLUSION: Since the beginning of medicine our physicians have been trying to reduce the pain and suffering of the patient whether it is caused due to the disease or as a side effect of the medications prescribed. In this context the emergence of music therapy is going to be a revolutionary breakthrough in the field of medicine. Even though the research

Strategies and protocols need to be developed and standardized much of the studies so far conducted can be taken as a pointer in the general direction of the advantages of music therapy rather than as a conclusive statement. However these research results are sure to break new grounds for further in depth studies and standardized research options and also demonstrates the capacity of music therapy to prove as a valuable weapon in the fight against a whole new variety of diseases.

Rather than the physiological action of the therapy the psychological effect is also considered. The therapy is making the patient ready to undergo the treatment mentally and thereby increasing his/her receptivity towards the conventional treatment. It is surely going to take some time before the treatment gets global recognition and reliability among the medical community; it is definitely going to be a boon for the thousands of suffering patients across the world. The only possible way to get this system accepted among the medical community is by proving its scientific credibility beyond any shadow of doubt and this can be done only with greater than ever focus on research works and thereby explore the limits of this therapy. Any way we can start imagining a time when we will be able to enjoy our favorite piece of music in the surgical bed while the doctor will be busy toying with our internal organs.

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