

Application of Music as Therapeutic Support to some Medical Intervention Strategies

Sukanya Chatterjee

Research Scholar, Deptt. Of Instrumental Music, Rabindra Bharati University, Kolkata

Abstract

Music plays a vital role in some medical intervention strategies. The article is all about knowing and understanding the effect of applying music as a therapeutic support for some medical conditions. For this study, some remarkable work on music therapy has been chosen and reviewed to understand the concept better and in a clear way. The objectives of the present study are the following: 1. To know about the remarkable research works on music therapy, 2. To understand the effect of music as a therapeutic support, 3. To know the different areas where music has a very great impact, 4. To understand the level of effects, music can have to various medical conditions, 5. To study the ways, how music can be applied as an intervention strategy to different medical conditions. Present article is written about the study of music therapy on the basis of secondary and tertiary sources with special material already available on internet and books.

Key words: Music therapy, Autism spectrum disorders, Pathological disorders, Clinical Practices, Trained Musician

Research Paper

Music serves as one of the universal aspects of human existence, regardless of nationality, age, or ethnicity. Everyone experience music in some form or fashion in life. Even from ancient times, it seems that music-making is a human capability that is fundamental to human culture.[¹] Music exists in every culture and that signifies its importance and influence. Therefore, music plays an important role and has strong influence on human minds. Music has a prominent presence and great impact on human minds. This is clear through its presence in the history of different regions around the world.

In the past, music was primarily recognized as an enjoyable pastime, but the effects of music are much more than just elevating a person's mood. Scientists have discovered that music has huge positive effects on our cognition and physical health. The field of music therapy has been expanding and growing day by day. Clinicians are using music in therapeutic settings to help persons who are suffering from physiological or psychological problems like, kidney diseases, heart problems, brain damage or developmental disorders, especially in regard to children with Autism Spectrum Disorder and patients with traumatic brain injuries.

Music and medical treatment:

The place of music in the medical treatment is very important and particularly relevant to lot of researches in the same field. Music therapy may relate to the medical treatment of the patient in a variety of ways: 1) Supportive to medical treatment (e.g. The use of music listening during kidney dialysis) 2) As an equal partner to medical treatment (e.g. The use of singing in conjunction with medication as a treatment for respiratory disorders) 3) As a primary intervention for a medical condition (e.g. the use of music listening to directly suppress pain).

Medical practitioners use music as a relaxant in their chambers or waiting rooms, but this is totally different from the application of music in any treatment process. More commonly now-a-days, many of the surgeons use background music during operations to create a relaxing atmosphere for the operating team and for the patient, when the patient is conscious. This is how recorded music is used in various situations with or without having a therapeutic purpose. However, there are some researches on the use of music in surgical procedures, particularly in operations where the patient is conscious and under spinal anesthesia.[²]

In the field of music in medicine, more detailed and scientific experimental studies with quantitative methodology and design has been going on to fulfil the requirement for objective data indicating physical changes in the patients as a result of the application or intervention of music.

Music is a singular stimulus which can both pacify and stimulate in socially beneficial ways, with implications for future preference and interaction. The field of music in medicine is much focused and tends to be oriented around many clinical and pathological disorders. Professionals like music therapists and medical practitioners have been contributing to this field in various ways. The field is very well organized. A comprehensive analysis of some of the music in medicine studies was undertaken by the researchers who reviewed studies evaluating the effect of music in neo-natal intensive care, coronary and intensive care, pulmonology, surgery, specific medical procedures, radiology and oncology. Majority of the studies have used music therapy as a therapeutic intervention. Recent researches have been addressing the specific influences of musical elements such as rhythm, tempo, harmony, timbre, etc. on these parameters and also referred to the evidence of the effects of music on heart or pulse rate.

Music as a therapy:

Music as a therapy has been in existence for centuries, and there are many examples of the healing powers of music in the different cultures. [3]

Use of music as therapeutic purposes is a burgeoning field. Certified music therapists are accomplished persons having deep knowledge of how music can evoke emotional responses to relax or stimulate people, or help them heal. They combine this knowledge with the wide variety of musical styles to find the specific kind that can provide a rehabilitation or guide people into meditation. Music therapy uses music as the tool for communication, healing, education and transformation. It is based on the idea that irrespective of age, sex, language or sickness anyone can enjoy music. It has been successfully used on children and adults for different problems. Recent publications have highlighted the wide application and enormous diversity of music therapy. [4]

Over the last fifty years, music has developed as a clinically applied treatment administered by trained professionals in different countries, alongside other paramedical

professions such as psychometry, speech therapy, occupational therapy and paramedical services and special educational services provided by health and educational centers. The art of work in music therapy vary considerably, and are influenced by the clinical practices.

Music has been proposed as a therapeutic intervention for stress and related disorders especially which have no clear organic origin present. This field has become a focus of interest for music therapist and doctors. Music can influence physical behavior it can also be found that music can affect psychological response by influencing mood and effective responses in individuals. In addition, studies demonstrate how the state of a patient and his or her mind may influence in music-making.

This has also been found to be useful in the use of music therapy as a medium for diagnostic assessment. To provide a better life to the persons with difficulties or disabilities, music or music therapy plays a very important role along with the other regular treatment and therapies. Music therapy is seen by music therapists as a useful contribution to the education of students with intellectual disability. Music therapy is becoming increasingly associated with special education, particularly with the education of students with severe disabilities. It is seen as a desirable component of education by some parents of students with intellectual disability. There are many examples of the efficacy of music therapy intervention to develop and improve communication and relationship building with patients with autistic disability, and in assessing communication disorder Neurological disorders, including Alzheimer's disease, Huntington's chorea and Parkinson's disease have apparently responded positively to music therapy, both in terms of movement activities, singing, and music listening. [5]

Music therapy and different approaches:

In Europe, Music therapy traditions have emerged from psycho-therapeutic approaches. There are different models where the therapists actively use music with clinical improvisation in order to establish a musical relationship with the patients through which it gets easier to understand the nature of their problem.

This active form of music therapy involves the development of music therapy training programs which require highly trained musicians in order to develop their skill in the therapeutic field. Therapists require knowledge

of the potential in therapy of the various elements of music for helping the patient, together with a theoretical framework of therapeutic intervention.

Behavioral approaches in music therapy have emerged mainly in the United States of America and they use music as a stimulant, a relaxant or a reward. In addition, they apply the structure and different properties of music and manipulate them to achieve development and growth in patients. In such therapeutic process, a dynamic and responsive interaction with the patient does not take place, but the music is arranged in order to help the patient overcome physical, emotional or psychological problems from which they are suffering. This is a more prescriptive and applied use of music.

Some remarkable works on Music as Therapy:

Lot of researches has been going on, which are based on the effect of music on various physiological and psychological conditions of human beings all over the world. Coming to the recent first,

In 2016, Madineh, Sanaz and Roghaieh worked on The Effects of Music Therapy on Anxiety and Depression of Cancer Patients. The study revealed positive effects of music therapy on decreasing level of depression and anxiety in patients with cancer. Therefore, it is recommended to include music therapy in the nursing care.

In 2015, Alfredo, Lapo, Giulia et al worked on Effects of music and music therapy on mood in neurological patients and they found that the studies supported the effectiveness of musical interventions in improving mood, depression, quality of life, functional recovery, and neuromotor performances. Therefore Music Therapy and other musical approaches seem to be effective, inexpensive and non-invasive, being that no adverse side-effects were observed

In 2015, Jini Varghese and Manju Joshi worked on Effect of Music Therapy on Blood Pressure and Anxiety in Hemodialysis patients. The findings reveal that the music therapy is effective in reducing anxiety and blood pressure among patients undergoing hemodialysis.

In 2015, Sumathi, Bhuvneshvar and Anandraj worked on effect of relaxing music on blood pressure and heart rate in hospitalized pre-hypertensive women in the third trimester of pregnancy. They found that listening to relaxing music can reduce BP and heart rates in

hospitalized pre-hypertensive pregnant women during third trimester. The BP lowering effect of relaxing music listening is more significant for systolic BP. Receptive music therapy seems to be safe in pregnant women.

In 2015 Seyyed, Mahbubeh, Irandokht, Saeid et al worked on Music therapy: An effective approach in improving social skills of children with autism. The study showed that Music Therapy is an effective method with deep and consistent effects on improving social skills of children with autism.

In 2014, Geretsegger, Elefant, Mossler, Gold worked on Music therapy for people with autism spectrum disorder. The findings of this study shows evidence that music therapy may help children with ASD to improve their skills in primary outcome areas that constitute the core of the condition including social interaction, verbal communication, initiating behavior, and social-emotional reciprocity. Music therapy may also help to enhance non-verbal communication skills within the therapy context. Furthermore, music therapy may contribute to increasing social adaptation skills in children with ASD and to promoting the quality of parent-child relationships.

In 2013, Myriam Roberto Rebecca et al worked on impact of music listening on the psychobiological stress system and they found that listening to music prior to a standardized stressor predominantly affected the autonomic nervous system (in terms of a faster recovery), and to a lesser degree the endocrine and psychological stress response. These findings may help better understanding the beneficial effects of music on the human body.

In 2012, Prof. Sanjoy Bandopadhyay and Dr. D.K. Bhattacharya studied the effect of Indian Raga Music [IRM] on Autonomic Nervous System through the study of ECG data in general, and HRV data in particular. For pursuing this, they chose sitar recitals of some ragas. They selected one raga that had mostly the major tones [tivra svaras] and the other had mostly minor tones [komal svaras]. They also compared the effects between the slow renditions [alap, slow jod] and faster renditions [drut gat] of the music. They observed the effect on two types of subjects. One group had general understanding of IRM and the other had no or negligible understanding of the music genre. Finally they compared the results of the collected HRV data of the subjects in the normal conditions and while listening to music samples (each for ten minutes).

All the acquired signals were put to scientific study for their long term dynamics in the heart conditions of the subjects when they were listening to music of different parameters in terms of notes and speeds of execution to identify any significant changes in stress conditions as found in Yoga practitioners. From musical point of view, the results indicated that use of the minor tones or komal svaras always create positive impact in minimizing the stress of mind. But the use of tivra svaras mostly failed to be effective especially when applied on IRM ignorant persons. The raga showed positive effect in fast renditions when applied to IRM knowledgeable persons. Fast renditions always gave positive results in bringing down stress levels to all persons irrespective of their association with IRM. As a matter of fact, fast renditions, whether in raga Yaman or in raga Malkauns, always play a positive role in minimizing the stress of mind. So in addition to the preference of Komal Svaras, speed of rendition is also a determining factor in stress management.

In 1991, Aldridge and Brandt studied the value of music therapy for inflammatory bowel disease on the basis that this disorder could have an immunological basis influenced by chronic stress. Their research focused on the value of music therapy as a process that stimulated positive emotions, enhanced coping mechanisms and enabled recovery. In their study, Aldridge and Brandt sought correlations between the behavior of patients with inflammatory bowel disease and elements of their musical improvisation. This study is important in scientifically evaluating evidence of a pathological condition through improvisational music therapy.

Summing up:

Studying these works, we can conclude like, music's immensely powerful effects has great implications for healthcare in several ways. Music-based activities can provide a valid intervention without any side effect for reducing psychological and behavioral disturbances and also for promoting the functional rehabilitation. Specifically, one of the most significant results of the music interventions on the psychological side can be identified more closely in relation to mood, and in the improvement of quality of life. Those suffering from some biological social problems, acute stress or traumatic pain can use music therapy to help them decrease the level of stress and pain and improve their mood. Research shows that music creates significant

effects on brain activity. Likewise, music therapy also benefits differently able children like the children with autism by giving them tools to become more comfortable with social interaction and verbal communication. Music is very powerful in an uplifting and beneficial manner. Even the simplest music can generate significant and profound results. There are evidences that music or music therapy is helpful for normal human being to maintain the regularity in the body parameters like blood pressure, heart rate etc. It is also helpful to reduce stress, control acute pain and so many. Music therapy is suited for the patients suffering from anxiety due to different psychological, physiological reasons, heart disorder, dental problem, inflammatory bowels syndrome, diabetes and kidney diseases etc. Thus, music therapy can be used as an alternative medicine or support to medication to maintain good health and it is possible to use music in various ways that greatly benefit the persons in need because of the vast influence that music has on our lives.

FOOTNOTES

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