

# Viewing Music Therapy as an Effective Psychological Intervention for the Clinical Population

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## Abstract

**Aim-** This study aims to examine the effectiveness of music therapy on the clinical population.

**Background-** Music transcends beyond different forms of communication, allowing people to express themselves fully. According to the American Music Therapy Association [1], music therapy is ‘*a clinical & evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy program*’. Music therapy, where people are not required to know how to play musical instruments or sing, is used as an intervention to help therapists and clients set goals and accomplish them. Different intervention techniques are implemented by trained musical therapists during the music therapy sessions, catering to the psychological needs of the patients.

**Methodology-** This study follows a narrative review methodology. Studies were scouted from online databases such as ResearchGate, ScienceDirect, Google Scholar, Frontiers, Indian Journal of Psychology, National Library of Medicine, and American Psychological Association. Keywords such as ‘music therapy’, ‘psychological disorders’, ‘rehabilitation’, ‘mental health’, and ‘intervention’ were used to gather relevant studies that analyze the benefits of music therapy on people with psychological problems. English language articles published in peer-reviewed or open-access journals, that specifically elucidate the use of music therapy for people with psychological disorders, intellectual disabilities, etc., have been considered, while content from blogs and irrelevant papers have not been selected

**Results-** Music therapy and music offer numerous benefits, such as increased motivation, improved moods, etc. They have also helped strengthen people’s motor and social skills, build relationships with others, etc. People recognize positive traits about themselves, such as an increase in self-confidence, self-esteem, self-awareness, etc.

**Conclusion-** After learning and developing constructive coping strategies in the sessions, people can effectively deal with stressful situations, leading to a healthy and functional life.

**Keywords:** Clinical Population, Music Therapy, Psychological Intervention

## 1. Introduction

The World Federation of Music Therapy [2] defines Music Therapy as ‘*the professional use of music and its elements as an intervention in medical, educational, and everyday environments with individuals, groups, families, or communities who seek to optimize their quality of life and improve their physical, social, communicative, emotional, intellectual, and spiritual health and wellbeing*’. Ancient societies and scriptures have observed and recorded the medicinal effects of music on the human soul, noting its ability to positively improve the state of souls, which facilitates catharsis [3]. Music therapy was assumed to have been established in ancient times, developing further as a scientific field through the integration of scientific concepts from neuroscience and biology [4]. Music is seen as a promising intervention, contributing to the development and strengthening of positive behaviors and emotions, such as empathy and cooperation [5].

Forinash and Gonzalez [6] developed a seven-step process of music therapy, which includes **Step 1**: collecting information about the psychosocial history of the client, **Step 2**: structuring the sessions according to the needs of the client, **Step 3**: analyzing the musical elements that will be used in the sessions, **Step 4**: facilitating discussions about the sounds produced by the client and therapist, and in the environment during the sessions, **Step 5**: encouraging spontaneous creation of sounds through clinical improvisation, **Step 6**: understanding the perspectives of the clients behind the improvisations, and **Step 7**: reviewing and discussing the strengths and weaknesses of the methods employed.

The American Psychological Association [7] defines Mental Disorders as ‘*conditions characterized by cognitive and emotional disturbances, abnormal behaviors, impaired functioning, or any combination of these*’. Environmental, genetic, physiological, social, and other factors influence the occurrence of mental disorders. Mental health concerns persist in many people from time to time. It becomes a problem when the signs and symptoms cause frequent stress and affect people’s functioning in school, work, or in their relationships with others [8]. This study aims to investigate the therapeutic benefits of music therapy for individuals experiencing psychological distress.

Music therapy is not merely listening to music [9]. Clinical music therapy, for health and educational purposes, considers the emotional experiences people undergo when listening to music [10]. Music therapy sessions can occur in personal settings or group settings [11]. Patients are encouraged to sing, dance, play musical instruments, and engage in other musical activities, without requiring any musical background [12]. Music therapists are trained and equipped with skills to assess, evaluate, and treat clients of different ages and backgrounds. They also encourage the patients to engage in receptive listening, lyric discussion, imagery, and more, to assess their emotional well-being [10]. Music therapists differ from other musical professionals. For each client, they create targets and help them achieve those targets in a positive and supportive environment [13]. This enables and encourages clients to express themselves, explore their hidden feelings, and develop self-awareness [11].

There are four intervention techniques used in music therapy sessions, out of which the therapists choose the most appropriate one to help clients accomplish their set goals [14]. The *receptive technique* is implemented when clients listen to music, mostly live music or recordings, and express their feelings through art, dance, or other unique forms of expression. Through this technique, therapists aim to develop auditory skills, reduce anxiety, and induce relaxation in clients who are nonverbal or prefer passive methods of conversation. The *re-creation technique* encourages clients to play different instruments or sing songs that support the achievement of the set goals. However, this technique depends on the musical abilities of the clients and their goals. It facilitates social interaction and strengthens

motor skills, providing benefits such as expression, self-awareness, and more. This method works on people with developmental delays, dementia, brain injuries, etc. The *improvisation technique* encourages spontaneous music-making through instruments, usually for non-verbal clients or those who are unable to express themselves verbally. After listening to the clients' creations, therapists interpret and respond to their clients' moods, as portrayed in the pieces. This facilitates the formation of social relationships and a sense of freedom within the clients, helping them realize that they can construct their own choices. The *composition/songwriting technique* encourages clients to create their own music and write their own lyrics, with the therapist's support, which they can perform or record later. This approach facilitates the development of creativity and individuality, helps in externalizing one's thoughts and emotions, and generates awareness of different ways of expression.

Saarikallio & Erkkilä [15] aimed to understand the impact of music on adolescents and determined that it helps in mood regulation and strengthens emotional stability, since music holds strong relevance to them. Mao [16] conducted a study on office workers to assess whether music therapy provided more psychological relief compared to traditional psychotherapy. It was concluded that music therapy has a higher possibility of providing psychological relief, playing a role in stimulating people's creativity, reducing stress, and more, which is essential to ensure that employees remain productive. Music therapy also plays a role in strengthening prosocial behavior among adults with disabilities, specifically by facilitating the development of social skills and expression of emotions [17]. Access to music therapy in general healthcare increases the likelihood of people accessing healthcare at a lower cost. It has also led to the strengthening of personal identity and resilience, and the development of stronger interpersonal and intrapersonal relationships, promoting overall health and well-being [18].

As people listen to music, there is an increase in blood flow into regions of the brain that generate and control emotions. As people listen to songs frequently, the process of *familiarization* occurs, where the brain learns to anticipate pleasure upon recognizing the first few notes of the familiarized songs. Hence, music can be used as an effective coping mechanism, encouraging catharsis [10]. Music therapy plays a role in improving pain tolerance, physiological responses, and cognitive domains such as attention and memory [19]. Giordano et al. [20] implemented music therapy on healthcare workers, who worked in hospitals during Covid-19. The sample experienced a significant decrease in the intensity of feelings and emotions such as tiredness, sadness, fear, and worry.

When people actively engage in listening to music and making musical choices, they learn to express themselves and explore their identities [21]. Researchers observed that they tend to reveal attitudes, values, and beliefs, when listening to music [21-23]. People accordingly develop a musical identity, where there is a link between their self-image and their taste in music. It is manifested through behaviors such as listening to musical albums in a genre of their choice, attending concerts of their favourite musicians, etc. [3].

Garrido & Schubert [24] have demonstrated that people diagnosed with clinical depression tend to listen to music that reflects their feelings, rather than choosing music that can help them feel better, intensifying the symptoms of depression [25]. McFerran & Saarikallio [26] have noted that highly self-aware people recognize that the music they listen to is not beneficial, and consciously make changes in their music taste accordingly, without peer influence. People with low self-awareness and poor mental health might be hesitant or might not be willing to change their music taste, which reduces the impact of the therapeutic benefits brought by music therapy [27]. Music therapists need to ensure that the kinds of

music (instrumental or lyrical) clients listen to, outside the sessions, are beneficial, health-wise, and in general.

Music therapy is a non-invasive therapy option, used on the general population as well as the clinical population, particularly patients diagnosed with psychological disorders, movement disorders, and neurodegenerative disorders. Pitzer [28] stated that music helps Alzheimer's patients recall positive memories through the process of associating music with memories. As studies have shown, it reduces the intensity of psychological disorders through relaxation techniques, improving pain tolerance, and improving overall Quality of Life [29].

## 2. Review of Literature

Hillecke, Nickel, & Bolay [30] proposed a '*heuristic working factor model for music therapy*', which included five factors that are affected by music therapy, namely attention, behavior, cognition, communication, and emotion. Music helps induce attention, providing distraction from negative stimuli such as pain, anger, etc., particularly in individuals with attention deficit disorders, patients undergoing medical procedures, etc. The biological basis of disorders such as depression, anxiety, and PTSD resides in the limbic and paralimbic structures of the brain, specifically the generation, modulation, and maintenance of emotions. Music can positively influence the functioning of these structures, therefore helping in the treatment of affective disorders. Music therapy improves musical memory processes, such as encoding, storage, and decoding of musical information, along with the analysis of musical experiences and meaning, helping Alzheimer's patients adapt to staying in a long-term care facility [31]. The combination of music therapy and physical rehabilitation has improved the symptoms of stroke patients through music performance, which involves the functioning of the auditory-sensorimotor circuits, a combination of fine motor skills, and auditory and cognitive functioning [32]. Since music is viewed as a means of communication, music therapy has been implemented for individuals with communication disorders like selective mutism. When people listen to music, certain cognitive areas are activated, providing insight into the desires and beliefs of the music producers [31].

With Alzheimer's being one of the most fatal progressive neurodegenerative disorders among the elderly [33], musical therapeutic intervention is used to focus on the cognitive, social, psychological, and physical areas of these patients [34]. When music accompanies events, it aids in the retrieval of memories and emotions experienced during events [35]. A study was conducted to assess the impact of music therapy on the cognitive functioning of Alzheimer's patients, before concluding that a certain amount of time was needed before changes in cognitive functioning were observable after the music therapy sessions. The study proposed alternative strategies to improve the overall mental functioning of Alzheimer's patients, such as meditation, using active music techniques (singing, dancing, etc), using familiarized songs, etc. [36].

ICU patients generally endure stressful factors such as sleeplessness, noise, pain, discomfort, etc., as well as communication problems, inability to relax, etc. This contributes to anxiety, which later affects recovery potential. Music therapy can help reduce anxiety and induce relaxation by reducing the occurrence of stressful stimuli and increasing the prevalence of positive emotions [37]. Hospitalized patients who suffer from illnesses, injuries, or other physical ailments are given music therapy and mental health services due to their effects on overall mental well-being. It can help reduce emotional stress and build confidence in themselves and the world around them. This helps during the recovery process, as they learn to build positive mindsets [38, 39].

Children and adults who experience difficulties in reading, writing, mathematical abilities, etc., are diagnosed with learning disabilities [40]. Musical training through singing prompts children to divide words according to their syllables and process speech sounds better [41]. Music is a highly motivational source for people with profound learning disabilities. Rushton & Kosyvaki [42] have noted its role in improving social skills, cognitive skills, motor skills, etc. This effect was observed in individuals with learning disabilities, particularly their moods and communication patterns, while engaging with it at home and at their place of study or work, which also supplements and reinforces other forms of therapy. Schizophrenic patients experience high levels of anxiety and depression, face employment problems, and have lower life expectancies [9]. Kavak, Ünal, & Yılmaz [43] proposed a combination of relaxation exercises and music therapy to improve the symptoms of schizophrenia. The relaxation exercises helped reduce their psychotic symptoms, while music helped reduce depressive symptoms. Direja, Juksen, & Sunarsih [44] analyzed the effects of classical music therapy on schizophrenic patients. Results showed reduced levels of depression in the patients after each session of classical music therapy. It also helped reduce feelings of stress and pain [45], increased appetite [46], and strengthened the immune system [13].

Schneider et al. [47] conducted a randomized clinical trial to assess the effects of the harp on patients' symptoms, namely, fatigue, anxiety, sadness, and pain, and on their overall Quality of Life. The patients experienced a significant decrease in the occurrence of symptoms and a strengthened Quality of Life. Zanini et al. [48] assessed the effectiveness of music therapy on hypertensive patients, specifically, their Quality of Life and blood pressure. There was a significant improvement in the Quality of Life and blood pressure regulation, hence, proposing its inclusion in healthcare programs for patients with hypertension.

Music has helped improve the body's physiological responses under stress by reducing heart rate, cortisol levels, etc. It also works as a distraction, reducing negative emotions and feelings like nervousness, fear, loneliness, etc. Group sessions for music therapy promote cooperation, togetherness, and synchronization among people and within people [49]. Leardi et al. [50] implemented music on pre-surgery patients as a stress reliever, and noted reduced levels of cortisol and lymphocytes. Wu [51] studied the effectiveness of music therapy on Taiwanese students with anxiety, depression, and low self-esteem. After a few sessions, the students marked an improvement and an increase in confidence, relaxation, and pleasure.

Torppa & Huotilainen [52] emphasized music as a rehabilitation approach towards the enhancement of speech and language skills of children and adolescents with hearing impairments. This facilitated the development of connections between musical skills, playing musical instruments as a hobby, and strengthening speech and language skills. Xu, He, Shen, & Huang [53] studied the potential impact of music therapy on stroke patients, noting that it contributed to an increased possibility of survival, cognitive function, and neurological recovery. Janzen, Koshimori, Richard, & Thaut [54] have shown that musical rhythms can facilitate and strengthen movement patterns in patients diagnosed with movement disorders, helping in movement and pace regulation, as well as in injuries or degeneration.

### 3. Methodology

The literature review was conducted by using online databases such as ResearchGate, ScienceDirect, Google Scholar, Frontiers, Indian Journal of Psychology, National Library of Medicine, and American Psychological Association. Keywords such as 'music therapy', 'psychological disorders',

‘rehabilitation’, ‘mental health’, and ‘intervention’ were used to gather relevant studies that analyze the benefits of music therapy on people with psychological problems. English language articles published in peer-reviewed or open-access journals, that specifically elucidate the use of music therapy for people with psychological disorders, intellectual disabilities, etc., have been considered, while content from blogs and irrelevant papers have not been selected.

#### **4. Findings and Discussion**

Music therapy is a field that integrates concepts from psychology, neuroscience, and other fields to support the holistic development of individuals with a broad range of disorders [55]. Targeted therapeutic areas include emotion regulation, induction of sensation and perception, facilitation of social interaction, etc. [56], through stimulation of multisensory circuits responsible for social and emotional understanding [57].

Several studies have been analyzed, referring to the positive impacts of music therapy on various domains like the social, emotional, spiritual, and physical aspects of overall wellbeing, providing a holistic approach to healthcare [58]. Music therapy has been implemented on children and adults with intellectual disabilities, helping in improving their attention and language skills [59]. It has also assisted in treating emotional, cognitive, psychosocial, and communicative disorders [60]. Research notes the potential of music therapy sessions in providing a secure and supportive environment for people dealing with trauma, helping in strengthening resilience [61]. When family members are involved in music therapy sessions, it strengthens parent-child bonds, supporting emotional well-being while reducing general anxiety [62]. It is not only the therapists’ choices of approaches that impact the effectiveness of the music therapy sessions, but also the relationship between the client and the therapists that makes a difference [63]. Strong relationships increase the likelihood of healing and recovery of the clients, compared to weaker relationships. Music therapy involves the concept of key modulation, the transition from one musical key to another, which helps activate brain structures like the limbic system, frontal cortex, etc. [64]. This helps stimulate attention and focus [65], and strengthens communication between these regions, specifically in people diagnosed with Generalized Anxiety Disorder [66]. It is also used as a tool of expression, on a spectrum ranging from bright (major keys) and melancholic (minor keys) [67]. These benefits, ranging from neurology to interpersonal connection, outline the effectiveness of music therapy as a therapeutic tool.

The self-determination theory proposed by Ryan & Deci [68] emphasizes the fulfillment of basic needs, which leads to a higher chance of achieving success, goals, and experiencing enhanced wellbeing. It is said that treatment programs that facilitate autonomy building and self-determination are likely to be more effective compared to traditional forms of treatment. One such treatment is Music Therapy for Illness Management and Recovery (MT-IMR). Music therapists use this framework during their sessions to understand the motivators, goals, and values of the clients, as well as the aspects that induce self-fulfillment. It also helps clients, under psychosocial rehabilitation, develop social skills, and maneuver through life without much assistance [69].

Numerous attempts have been made to improve the overall effectiveness of music therapy, with one such study integrating technological advancements like virtual reality (VR), interactive music applications, and telehealth, into music therapy practices [70]. This can help enhance the overall musical experience, prompting clients and patients to interact with their environment, facilitating development, and enhancement of creativity [71]. There has also been a focus on increasing education, accessibility,

and collaboration with music tools, as demonstrated by the launch of projects like *Project Torino*, which aimed to enhance accessibility. It functions by touch, where children use circuit boards and controllers to create music, increasing accessibility of music therapy for the visually impaired [72]. The *MuSS-Bits++* system combines vibrations and tactile feedback, amplifying the confidence of hearing-impaired children in their music classes [73]. Tools such as *Tactile Teacher fingerless gloves* were invented to synchronize hand and finger movements of piano teachers and their students [74]. These projects effectively utilize mobile sensors to provide audio, tactile, and visual information to increase the effectiveness of musical instruments for a variety of users [75].

## 5. Conclusion

Music therapy involves the use of musical elements in therapeutic settings and can be used as an effective therapeutic tool. It differs from regular therapy, where it has provided physical and psychological benefits to the well-being of individuals belonging to the clinical population, specifically observing a reduction in anxiety and symptom occurrence, and an improvement of skills in various domains. Technological advancements have further amplified the accessibility and effectiveness of music therapy, with the development of various innovative tools targeting multiple physical domains. Further research should include different data collection methods such as statistical investigation or empirical observation. Furthermore, researchers must focus on proposing alternative techniques to music therapy, and explore cost effective ways to make music therapy accessible to all.

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