Music Therapy in Diseases

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Abstract

The aim of this review was to study of effectiveness of music therapy (MT). Findings suggest that MT can improve the global and social functioning in schizophrenia and/or serious mental disorders, gait and related activities in Parkinson's disease, depressive symptoms, and sleep quality. Moreover, MT may have beneficial and potential for improving other diseases with no specific adverse effect or harmful phenomenon evident as MT is well tolerated by almost all clients.

Keywords: Mental Disorders; Depression; Diseases Treatment

Introduction

Music therapy (MT) is an internationally recognized treatment strategy in Naturopathy Medicine and used to treat various diseases [1]. In this context, the music therapist uses music and all of its facets such as physical, emotional, mental, social, aesthetic, and spiritual supports for helping clients to modify their psychophysical domains, such as cognitive functioning, motor skills, emotional development, social skills, and quality of life, by using music experiences such as free improvisation, singing, and listening to, discussing, and moving to music to achieve treatment goals. MT is also used in some medical hospitals, cancer centers, schools, alcohol and drug recovery programs, psychiatric hospitals, and correctional facilities [2].

The most commonly used MT modes incorporate: clinical therapy, psychotherapy, biomusicology, musical acoustics, music theory, psychoacoustics, embodied music cognition, aesthetics of music, sensory integration, and comparative musicology. Referrals to MT include: General Physicians of Naturopathy System of Medicine in psychology speciality or physical Medicine specialty, and occupational Medicine speciality. However, clients also use over-the-counter MT.

MT is two types (a) active and (b) receptive. In active therapy, the therapist and patient actively participate in creating music with instruments, their voice, or other objects, while in receptive therapy the therapist plays or makes music to the patients [3]. MT is beneficial to improve heart rate, anxiety, brain disorders, and learning. It is also used to relief stress before and after surgeries, mental disabilities such as Alzheimer's disease (AD) [4]. The objective of this review was to summarize evidence of the effectiveness of MT in the treatment of diseases.

Findings

MT may include: making a musical composition, or performing by singing or chanting, playing instruments, or musically improvising [5]. Models developing MT are: Neurologic Music Therapy (NMT), Nordoff-Robbins and the Bonny Method of Guided Imagery and Music [6]. Paul Nordoff-Robbins MT is mainly used to treat disabled children for improving their mental disorders, emotional disturbances, developmental delays, and other handicaps [7]. On the other hand, Gertrude Orff MT is used in developmental problems, delays and disabilities [8]. MT can be used as a co-therapy [9].

Most common methods of assessment in MT are [10]:

- Individual and/or family members interview
- Structured or unstructured observation
- Client records review
- Standard assessment tests

**Music in the treatment of diseases**

In a study, it was evident that children who listened to music during intra-venous (IV) insertion into their arms showed less distress and felt less pain than the music unused children [4]. MT is also helpful to manage AD and dementia, especially in the early years. Music can trigger memories in all ages [11]. MT was used in behavioral-emotional disorders [12] as well as cognitive and other psychological problems [13]. NMT, based on neuroscience model is used to improve behavioral functions [14].

MT is evident to reduce stress of the pregnant women and to maintain a relaxed state during labour and birthing process [15]. MT also maintains a good communication between the mother and fetus is essential during pregnancy as well as reduce the perception of pain, help relax breathing and prenatal language development [16]. MT has been shown to be very beneficial in stimulating growth and development in premature infants [17]. MT, when used with other rehabilitation methods, was increased the success rate of sensorimotor, cognitive, and communicative rehabilitation [18].

Music has calming and soothing effects and can be used as a sedative in rehabilitation in patients [19]. Rhythm of music has been found helpful in brain injury [20].

Singing training improves lung, speech clarity, and coordination of speech muscles, thus, accelerating rehabilitation of such neurological impairments [20]. In a study, it was found that play with a piano or strum chords on a guitar increased a child’s ability to hold eye contact and share in an experience [21].

MT as a form of rhythm can help mend disconnect, resulting in the reduction of stuttering [22]. Auditory-Motor Mapping Training is helpful in this context. MT is very useful to improve the mood disorders and depression in adolescents [23].

Music can control some physiological responses such as pulse rate, respiration rate, blood pressure in those with coronary heart disease, and muscle tension, even it can induce a calming effect in the cardiovascular system [20,24]. Moreover, MT is effective in treating symptoms of many disorders, including schizophrenia, amnesia, dementia and AD, Parkinson's disease, mood disorders such as depression, aphasia, anxiety and similar speech disorders, Tourette's syndrome, and so on [25].

MT can be used to improve function in stroke patients. MT motivates patients and controls their emotions [26,27]. Moreover, MT, when used with traditional therapy it improves success rates significantly [28]. In a study, it was evident that an incorporation of music with therapeutic upper extremity exercises gave patients more positive emotional effects than exercise alone [29]. In another study, MT was found more active in the improvement of the rehabilitation patients [30]. MT ass evident to improve in stride length, symmetry deviation, walking speed and rollover path length than the group that received traditional therapy alone [31]. MT is also used in post-traumatic stress disorder [32]. Moreover, music that is considered pleasurable releases dopamine in the brain, strongly associated with motivating stimuli. MT is evident to lower perceptions of pain [33].

**Conclusion**

MT is implemented for centuries to improve various disorders and to treat diseases, especially the neurological disorders as well as psychophysiological problems. Although, there is no detected harmful effects with MT but it is very important to concern its long-term effects, dose-response relationships, treatment cost, and effective mode of observation of the patients.
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