

Evidence from a Systematic Review and Systematic Review Meta-Analysis on the Effectiveness of Music Therapy for Dementia Patients is Summarised

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Abstract: This rapid review's aim was to determine, examine, and synthesize the strongest supporting data for using music therapy to enhance the health of dementia patients. The effect of music therapy on dementia patients will be the main topic of this review. The datasets used to research this topic were from CLINICAL, MEDICAL and Google Grey Literature Articles will only be in English and could only be systematic reviews or meta-analyses. According to the results, music therapy can benefit dementia sufferers by enhancing cognitive performance, enhancing quality of life and wellbeing, and reducing symptoms like depression.

1. Introduction

Dementia affects about 55 million individuals globally, and as the proportion of the senior population rises in almost every nation, this number is anticipated to keep growing over the next 20 years (WHO, 2022). A range of diseases and conditions collectively known as "dementia" are characterized by the escalating effects of behavioral changes, such as depression and anxiety, as well as cognitive impairments, including those in language and memory. (Moreno-Morales et al., 2020)[1].

In addition to depressive symptoms, anxiety, sleep issues, irritation, and apathy, dementia is characterized by a decline in cognitive, behavioral, social, and emotional functioning (Steen et al., 2017). Currently, there are both pharmacological and non-pharmacological treatments for dementia. Cholinesterase inhibition is a commonly used drug to treat dementia (Yang, 2011). However, music intervention are primarily intended to treat, but not limit, the progression of the disease. And the drug comes with many side effects such as nausea, vomiting and diarrhea (Casey & Antimisters & Brien, 2010). Therefore, non-drug treatment methods are particularly important. There are several types of non-pharmacological treatment, including counselling or sensory stimulation. Particularly, music therapy has a long history of improving the health of elderly people with dementia (Moreno-Morales et al., 2020). According to research, music has various beneficial impacts on dementia patients, enhancing cognitive function as well as emotional and behavioral control. (Raglio & Attardo, 2020). Studies also indicated that music therapy reduces aggressive behavior, depression, and other negative feelings in dementia patients. (Li et al., 2019). Music therapy

reduces agitation and aggression in older adults with dementia (Odell-Miller, 2021). Conversely, other research continues to emphasize the fact that music therapy may not significantly enhance elderly people with dementia and may possibly elicit unpleasant emotions (Dementia UK, 2017). As a result, this paper will provide a brief analysis and evaluation of the efficacy of music therapy, which is primarily evaluated considering three factors: cognitive function, psychology, and quality of life for dementia patients[2].

2. Findings

A total of 846 papers were found through searches of articles from 2012 to 2022 in the MEDICAL and CLINICAL databases, and another 8 articles were acquired through a Google grey search. Because of screening did not satisfy the requirements of the enquiry, 18 articles were eliminated, 808 article titles and abstracts were censored, and 780 studies were discarded. Following a thorough read of the remaining 28 papers, 16 were found to not match the requirements for inclusion. A critical review of 12 articles resulted in the exclusion of two studies by Schaeffer (2020) and Lin et al. (2020) due to low study quality and assessment scores below 4. The other 10 references in the reference list were manually searched, and it was discovered that 3 of them satisfied the requirements for accelerated review; the other 3 were also examined, and 12 important reviews were finished. The 10 papers included in the quick review process were all thoroughly graded using AMSTAR, with four being of qualitative nature and six being of high quality. (Shea et al., 2007). According to the scoring method, resulted in poor is scored 0-4; intermediate quality is scored 5-7; and high standard is scored 8-11 (Lapkin et al., 2016). Reports frequently involve the risk of bias that hasn't been published[3-4].

3. Discussion

The primary goal of the research was to conduct a systematic review and meta-analysis in order to investigate the effects of music therapy on dementia patients' cognitive ability, the quality of life, and/or mental status (Zhang et al.,2016).

For elder persons with dementia, music therapy has significant positive impacts on emotions, behavior, cognition, and quality of life (Raglio&Attardo, 2020). The cognitive function of senior dementia patients can be improved with music therapy. This is since music listening combines the perception of sound, rhythm, and lyrics with the response to sound and the requirement to pay attention to one's surroundings, which causes the activation of numerous brain regions. Like other intense stimuli for neuroplastic changes, musical instruction[5-6]. As a result, music helps slow down neuronal degeneration by increasing brain plasticity and encouraging the formation of new neural connections (Zhang et al.,2017).There are various different types of music, and when the elderly with dementia hear their favourite songs, it might uplift their spirits. In humans, music therapy has an impact on cortisol levels. Numerous studies have shown that different neurotransmitters can be stimulated by music, indicating that music has a role in arousal(Moreno-Morales et al., 2020).Likewise, music therapy helps Alzheimer's sufferers feel less depressed and anxious, and regular music therapy prevents cognitive decline (Chu et al.,2013). Also, music stimulates attention and memory in older persons with dementia, particularly through song recall, and music therapy aids those with psychosocial problems. These actions may result in flow and excitement, which can enhance cognitive function in dementia patients (Odell Miler, 2021). The co-localization of memory and emotional processes in the hippocampus can be used to explain how cognition and music-evoked emotion interact (Fusar-Poill et al., 2017).

Additionally, music therapy dramatically lessened depression and anxious feelings in dementia patients. High-frequency music intervention relieves anxiety in elderly people with dementia

(Moreno-Morales et al., 2020). This is because one way music therapy interventions might support mental health is by decreasing stress, which therefore lowers plasma cortisol levels (Chu et al., 2013). Aging people' apathy and hostility decreased following therapy and listening to soothing music may lessen depressed symptoms. (Lam et al., 2020)[7]. Opportunities for mood and emotional state improvement can be found with music therapy. Patients who receive music therapy can control their emotions, experience joy, and find calm. In group music therapy, patients can assist one another. Increased self-assurance, less anxiety brought on by issues and emotional stress, and improved melancholy mood are all outcomes of music therapy (Chang et al., 2015).

Additionally, Moreno-Morales et al. (2020) revealed that was unclear how music therapy affected the quality of life of elderly people with dementia. (Moreno-Morales et al., 2020). Chu et al., (2013) also demonstrated that the quality of life for older individuals did not increase due to the lack of support for long-term music treatments (Chu et al., 2013).

4. Limitation

It was discovered during the findings of systematic review and systematic review meta-analysis that this article has numerous shortcomings. First, there is a lack of sample size, which will provide biased data that cannot be properly assessed. Researchers may be able to gather a wider scope of dementia patients from daycare facilities and community centers, which would enable them to comprehend the potential applications of music therapy in these contexts. (Zhang et al., 2016). Secondly, dementia is classified as mild, moderate and severe. However, the severity of dementia was not differentially analyzed and described by music therapy. Additionally, there are many different music therapies and ways to measure quality of life, making it challenging to explain how they are superior to standard medical therapy (Chanda&Levitin, 2013).

5. Conclusion

Therefore, supportive music therapy has been discovered through systematic reviews and meta-analyses of systematic reviews to improve mood and cognitive performance in patients with dementia and to prevent the deterioration of the elderly with dementia, however the effect on quality of life is less clear. Frontline clinical staff can more readily and effectively establish an environment that is supportive of dementia patients' wellbeing by using music, a non-drug, non-invasive, affordable intervention with no negative side effects (Chang et al., 2015).

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