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Healing Harmonies: Music Therapy and Dementia

Kaitlyn Miller

Dementia continues to plague the elderly population. It is a leading cause of death for this age group, and yet we still can only provide treatments to maintain and prolong the disease's symptoms. Music therapy has become an increasingly popular treatment option for dementia patients as it is almost universally accessible, and a popular pastime for a large part of society. Integrating music into treatment regimens over traditional conversational therapies, reduces agitation and anxiety, improves cognitive functioning and language skills, and improves overall quality of life for both patients and caregivers. Thus, providers should encourage, and patients should participate in musical therapy to combat dementia as it progresses.

Keywords: *music therapy, dementia, treatment*

Dementia is one of the most prominent diseases that affects the elderly population globally. It is a leading cause of death and one of the major causes of disability among this population.¹ Although millions are affected each year, we have yet to find a cure and can only provide patients with coping strategies and maintenance options as the disease progresses. Music therapy has emerged as a treatment option for dementia as it is accessible to all and has been shown to improve mood, reduce anxiety, and minimize behavioral disturbances.^{2,3} The positive benefits of music could explain why around 93% of the US population actively chooses to listen to music and why people spend about 25 hours a week listening to their favorite songs.⁴ Music is such a large part of society that it has led researchers to consider its benefits for patients suffering from dementia as a way to improve symptoms such as agitation and declined cognitive and language functions, with the goal improving their overall quality of life.

One benefit of using music therapy in dementia patients is its effect on reducing agitation, especially for patients living in nursing homes or assisted living facilities. Agitation, defined as a cluster of symptoms like abuse or aggressive behavior towards oneself or others, is recognized as the largest cause of patient distress.³ Being able to reduce such a significant stressor for these patients has been shown to improve their short-term quality of life. Ridder and colleagues conducted a randomized control trial among residents of 14 nursing homes looked at how music therapy intervention changed symptoms of agitation, reported quality of life, and use of psychotropic medications.³ Over this 14-week crossover study, 42 patients were randomly assigned to either individual music therapy or standard care without music; these groups then switched treatments at the halfway mark. Agitation was measured using the Cohen-Mansfield Agitation Inventory, while quality of life was measured using the Alzheimer's Disease-Related Quality of Life scale. Additionally, the dosage and frequency of

administered psychotropic medications such as donepezil, memantine or rivastigmine were recorded. Each of these assessments were recorded at week 0, week 7, and week 14 for each patient. This trial showed a significant increase in agitation disturbance in standard-care patients and a decrease among music therapy patients. For about half of participants, medications administered remained the same, but for 20% of participants, there was an increase in the number of psychotropic medications given during standard care compared to care with music therapy.³ These results emphasize the impact that music can have on patients' agitation and distress which can lead to improved quality of life for both the patient themselves and their caregivers.

More recently, Ting and colleagues studied whether music therapy improved anxiety in dementia patients, along with agitation and depression.⁵ Their meta-analysis included 13 studies conducted between 2009 and 2022 with a total of 827 participants. Their findings further support music therapy, as the intervention significantly reduced anxiety, agitation, and depression in the dementia patients included in the studies. Although they conclude that the effects can vary depending on the severity of dementia, they noted an improvement in overall mood and relaxation. They also found that these benefits carry into the physiological wellbeing of dementia patients with reductions in blood pressure and heart rate, increased levels of endorphins, and improved immune function.⁵ The authors concluded that the benefits seen with music therapy improves overall quality of life while coping with this disease.

Another potential benefit of using music therapy as a dementia treatment option is the improvement of cognitive functioning. With dementia, patients' memory, attention, and reasoning abilities decline.⁶ These symptoms tend to worsen with age as the disease progresses. Moreno-Morales and colleagues conducted a systematic review in 2020, examining 8 different studies and a total of 816

participants. Their findings provide evidence that listening to music helps stimulate many areas of the brain, such as the limbic system and subcortical circuits. A task like this requires attention to fine details like sound, rhythm, and lyrics while also being perceptive to other environmental stimuli which requires the use of brain regions that otherwise would not be used. This same review also discusses the de-stressing effects of music as it prompts the body to release cortisol and neurotransmitters including dopamine and endorphins. The release of these chemicals helps ease anxiety and agitation and allows for higher cognitive functions.⁷ The activation of this type of neurological reward pathway also promotes social engagement and activity.⁸ By surrounding these patients with music, providers and caregivers can promote a feeling of connection for those who may otherwise feel isolated and alone. The results of these studies further support that music and the use of music therapy can be beneficial treatment options for dementia.

Utilizing music therapy sessions for dementia patients can also combat one of this disease's most prevalent symptoms: the deterioration of language skills and functioning. Improving these skills for patients can lead to less agitation and frustration and ultimately a better quality of life. In 2000, Brotons and colleagues looked at how music therapy helped improve this area compared to typical conversation sessions.⁹ They studied 26 participants from a dementia care facility and divided them into groups of two to four. These groups were randomly assigned to either music therapy or conversational sessions and attended 30-minute sessions twice a week for two weeks before switching conditions. All participants went through three months of music therapy sessions before they were randomly placed into these subgroups for the remainder of the study. Cognitive function was tested in all participants using the Mini-Mental State Examination and language ability was assessed using the Western Aphasia Battery before and after each 2-week interval. For 20 out of the 26 participants, there was a statistically significant improvement in language content and fluency after music therapy sessions.⁹

Koger and colleagues conducted a systematic review of 21 studies with 336 participants suffering from dementia to analyze the relationship between type of music intervention and its effect on dementia symptoms.¹⁰ They compared active versus passive treatment, live versus taped music, and the use of a professional music therapist versus another type of professional. Their research concluded that music therapy, regardless of type, was an effective method for managing dementia symptoms, but were unable to identify the most effective technique.¹⁰ Future research should look into differences between these treatment methods, providing space for further improvements in music therapy as a strategy for reducing dementia symptoms.

Current and past research shows that music therapy is a beneficial tool to use in patients suffering from dementia. Since music is such an integral part of society, easily accessible and widely appreciated, delving deeper into its potential health benefits has become more and more important to researchers. Incorporating music into the treatment routine can reduce agitation and anxiety, improve cognitive functioning and language skills, and generally increase patient quality of life. While this is not a cure for this disease, it provides patients with a more engaging way to combat symptoms and hold off any further deterioration that comes with the progression of dementia. Although there is still room for additional research, there have already been resounding benefits discovered and more information can help providers better care for dementia patients in the future.

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