

# Music Therapy and Its Effects on Alzheimer's Related Anxiety and Depression-A Systematic Review

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## Introduction

Alzheimer's disease (AD) affects nearly 50 million people around the world.<sup>1</sup> With only 1-in-4 people being diagnosed,<sup>1</sup> many cases go undiagnosed or misdiagnosed. The rate of AD is 2-3 times higher in women than men. The rate is also higher in the white population compared to any other ethnic group.<sup>2</sup> AD is most common in individuals 65 years and older, but the disease can appear up to a decade earlier or later, meaning this disease is not a normal part of aging <sup>2</sup>.

The side effects of pharmaceutical treatment of AD have led to increased interest in non-pharmaceutical options to help patients live with the related anxiety and depression. The more common non-pharmaceutical treatment for AD is music therapy.<sup>3</sup> Current research suggests that focusing on music that is familiar to the patients and listening to this via active interaction like singing or dancing for an extended period, has positive effects on anxiety and depression experienced by patients with AD.

Therefore, the purpose of this study was to determine if patients 65 years and older who undergo music therapy have reduced AD related anxiety and depression, compared to those patients who do not undergo music therapy. These findings will help to improve Alzheimer's patients' quality of life.



Figure 1. Music therapist does a sing-along session.

## Methods

- PubMed and CINAHL database searches in January and February of 2021
- Search Terms: Alzheimer's Disease, Depression, Anxiety, Music Therapy
- Search started with 18 articles and was narrowed to 9
- Randomized Control (2), quasi-experimental (1), exploratory (3), Case Control (2), Clinical Study (1)

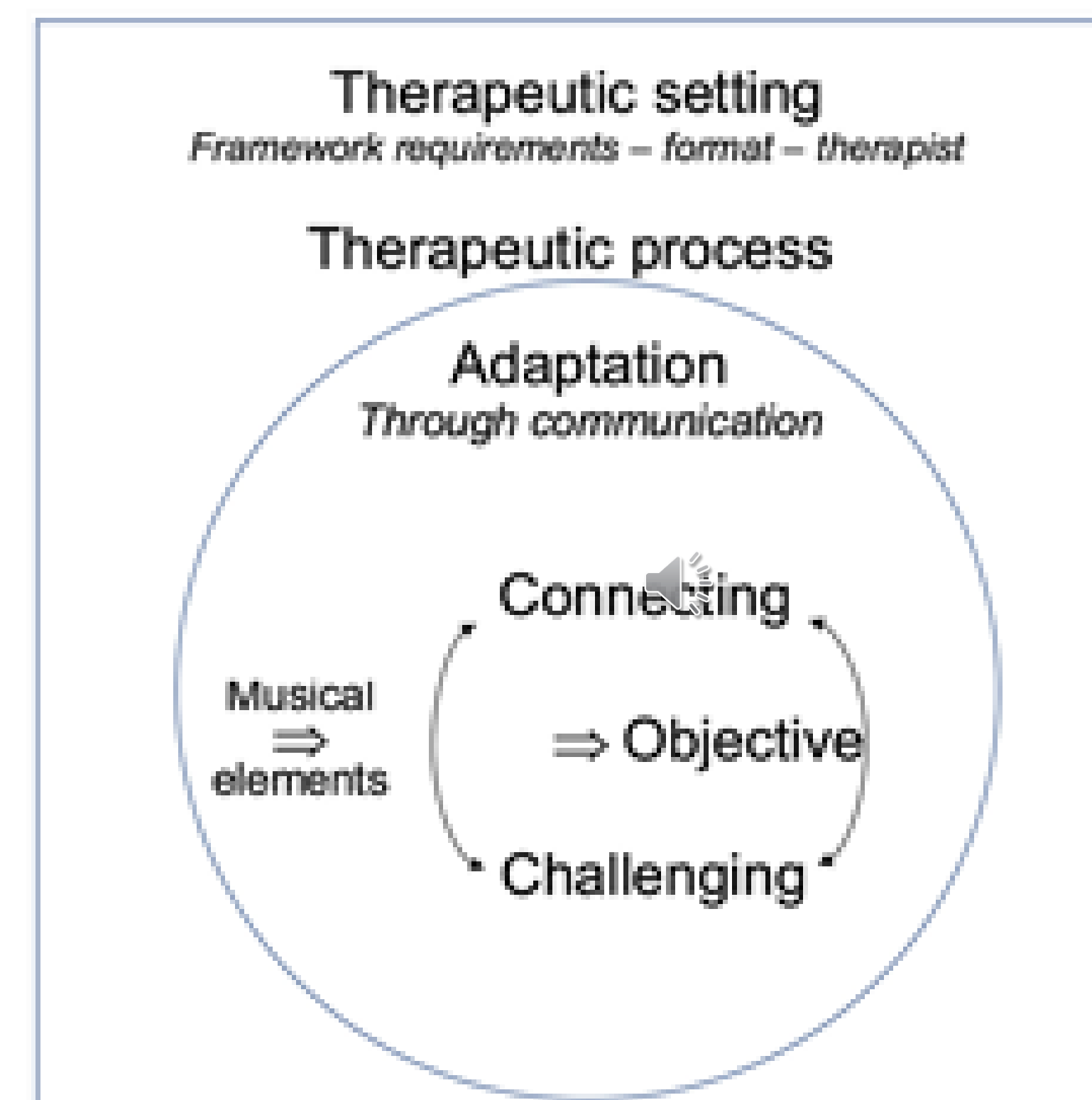


Figure 2. Therapeutic process used by music therapists.

## Results

- In all 9 of the reports reviewed, a significant reduction of AD related anxiety and depression occurred when music therapy was administered.
- The clinical study determined that music therapy restored hormone levels without side-effects, decreased anxiety and depression and was an overall good alternative for hormone replacement therapy.
- De La Rubia Ortí et al <sup>1</sup> found low cortisol levels contribute to the decrease of anxiety and depression.
- The reports found that music therapy is most effective when accompanied by medication already prescribed and incorporated into their daily routine.
- Music therapy is more cost effective than traditional drug treatments.

## Discussion

- The findings of this systematic review suggest that music therapy is useful non-pharmacological intervention for AD related anxiety and depression. These results are supported by all reports reviewed, and it was found to be most effective when combined with already prescribed medication and incorporated into daily life.
- Strengths of this systematic review include multiple types of studies, in various settings, which reduces bias.
- The primary limitation of this systematic review was the small sample sizes of the reports selected. The intervention time was also relatively short with each study, which didn't allow for proper exploration of music therapy.
- Further research will help decide the most effective music therapy interventions: singing, dancing, playing instruments, on AD related anxiety and depression.

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