



ELSEVIER

JAMDA

journal homepage: www.jamda.com

Review Article

Receptive Music Therapy Is More Effective than Interactive Music Therapy to Relieve Behavioral and Psychological Symptoms of Dementia: A Systematic Review and Meta-Analysis

Kelvin K.F. Tsoi PhD^{a,b,*}, Joyce Y.C. Chan MPH^c, Yiu-Ming Ng PhD^c, Mia M.Y. Lee BSc^a, Timothy C.Y. Kwok MD^c, Samuel Y.S. Wong MD^a

^aJockey Club School of Public Health and Primary Care, The Chinese University of Hong Kong, Hong Kong

^bStanley Ho Big Data Decision Analytics Research Center, The Chinese University of Hong Kong, Hong Kong

^cDepartment of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong

A B S T R A C T

Background: Music therapy is demonstrated to be effective to relieve the agitation among people with dementia, but the comparative effectiveness of methods of music engagement for people with dementia is uncertain.

Objective: To evaluate the effects on cognitive functions and behavioral symptoms between interactive and receptive music therapies for people with dementia.

Methods: Prospective studies evaluating interactive and receptive music therapies were identified from the OVID databases, included MEDLINE, EMBASE, PsycINFO, and CINAHL. Supplementary search was conducted in Google Scholar. The primary outcome focused on cognitive function; the secondary outcomes were apathy, anxiety, depressive symptoms, agitation, and other behavioral problems. All outcomes were measured by the standard assessment tools. The heterogeneity of studies was examined, and the effects were pooled by meta-analysis. Quality of studies and risk of bias were assessed.

Results: Thirty-eight trials involving 1418 participants with dementia were included. The mean age ranged from 75 to 90 years, and the percentage of male participants ranged from 6% to 83%. No significant difference was found between participants receiving interactive or receptive music therapy and usual care in cognitive function; the mean difference (MD) of Mini-Mental State Examination was 0.18 [95% confidence interval (CI) –1.34 to 1.69], and –0.15 (95% CI –0.55 to 0.25), respectively. Participants with receptive music therapy had significant decrease in agitation (Cohen-Mansfield Agitation Inventory: MD = –7.99, 95% CI –5.11 to –0.87) and behavioral problems (Neuropsychiatric Inventory: MD = –3.02, 95% CI –5.90 to –0.15) compared to usual care, while no significant difference was found between interactive music therapy and usual care in behavioral problems and psychiatric symptoms.

Conclusions: This study demonstrated that receptive music therapy could reduce agitation, behavioral problems, and anxiety in older people with dementia, and appears to be more effective than interactive music therapy. It is easy and convenient to implement receptive music therapy; therefore, we recommended the use of receptive music therapy in nursing homes, day care centers, and client homes.

© 2017 AMDA – The Society for Post-Acute and Long-Term Care Medicine.

Dementia is a global burden of disease because of aging population. There are approximately 47 million people with dementia worldwide.¹ Individuals with moderate-to-severe dementia frequently present with cognitive deterioration and behavioral and

psychological symptoms of dementia such as agitation, aggression, depression, anxiety, and apathy.

Pharmacologic interventions such as acetylcholinesterase inhibitors) and memantine are able to relieve the symptoms of dementia, but their effectiveness remains controversial, especially in patients with moderate-to-severe dementia.^{2,3} Antidepressants are commonly used as add-on therapy, but the 2 common antidepressants, selective serotonin reuptake inhibitor and serotonin-noradrenaline (norepinephrine) reuptake inhibitor, were shown to have no benefit from placebo for patients with depression in Alzheimer's disease.⁴

The authors declare no conflicts of interest.

* Address correspondence to Kelvin K.F. Tsoi, PhD, 4/F, Jockey Club School of Public Health and Primary Care, Prince of Wales Hospital, The Chinese University of Hong Kong, Shatin, Hong Kong.

E-mail address: kelvintsoi@cuhk.edu.hk (K.K.F. Tsoi).

<https://doi.org/10.1016/j.jamda.2017.12.009>

1525-8610/© 2017 AMDA – The Society for Post-Acute and Long-Term Care Medicine.

Some studies investigated the use of antipsychotic drugs for treating behavioral and psychological symptoms in patients with dementia; however, there was no significant benefit⁵ and the use of these drugs might increase serious adverse effects including risk of death⁶ and extrapyramidal symptoms.⁷ The multimorbidities among elder patients may also increase the susceptibility of having side effects from the pharmacologic treatment.

Nonpharmacologic intervention has been suggested as a viable treatment strategy for behavioral and psychological symptoms of dementia because there are no apparent adverse effects and, hence, can reduce the excessive use of antipsychotic drugs for behavioral symptoms. Some systematic reviews showed that nonpharmacologic intervention including music therapy,⁸ cognitive training,⁹ physical exercise,¹⁰ and psychological treatments¹¹ can have positive effects on cognitive function, behavioral problems, mood, and functional ability for older adults with mild cognitive impairment and dementia.^{8–12} Music therapy, including interactive music therapy or receptive music therapy, is proposed for older adults with dementia. Interactive music therapy employs an interpersonal approach where participants sing or play musical instruments, such as playing hand bells or constructing a simple piece of musical instrument, under the supervision of a music therapist or a trained healthcare provider. Receptive music therapy, on the other hand, uses a relatively simple and less interactive approach, where participants stay and listen to their preferred music in a quiet place. It can be self-administrated with minimal professional support. Some meta-analyses showed that music therapy has small to moderate effects to decrease agitation,⁸ disruptive behavior, and anxiety for people with dementia.^{13–15} However, other meta-analyses showed inconsistent results for which music therapy demonstrated no effects for agitation and behavioral problems for people with dementia.^{16,17} The controversial results yielded uncertainty about the effects of music therapy. Moreover, previous meta-analyses combined different types of music therapies,^{8,14,17} such that the effects of different kinds of music therapies were mixed and the results were heterogeneous. Therefore, we conducted the current comprehensive meta-analysis to evaluate and compare the effectiveness of interactive music therapy and receptive music therapy for people with dementia.

Methods

This systematic review and meta-analysis followed the standard guidelines of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA).¹⁸

Search Strategy

Literature searches were performed in MEDLINE, EMBASE, and CINAHL from inception to September 15, 2017. Keywords including “music,” “sing,” “song,” and “listen” were used to search with “dementia,” “Alzheimer,” “elder,” and “cognitive impairment.” Trials on interactive music intervention and music listening were manually identified from the title and abstract previews of all search records. Our systematic literature searches were extended to Digital Dissertation Consortium (for unpublished theses and dissertations), ClinicalTrials.gov (for ongoing and unpublished studies), and Google Scholar. Google Scholar searches literature with a combined ranking algorithm on citation counts additional to the keyword relevancy. Bibliographies of review articles and included studies were also screened.

Inclusion and Exclusion Criteria

Trials were included if they met the following inclusion criteria: (1) participants with clinical diagnosis of dementia, including Alzheimer's disease and mixed dementia; (2) studies that compared the treatment

effect of interactive music therapy or receptive music therapy with a control group; (3) studies that reported at least one of the following outcomes: cognitive function, apathy, anxiety symptoms, depressive symptoms, agitation, and behavioral problems with a clinical assessment scale, such as Cohen-Mansfield Agitation Inventory (CMAI)¹⁹; (4) studies that measured the change in scores of the clinical assessment scales from baseline to study endpoints among the intervention and control groups. Studies were excluded if (1) an integrated approach and incorporated music therapy with other nonpharmacologic intervention such as exercise and art therapy was employed; (2) they compared between participants with dementia and healthy individuals; or (3) there were insufficient details to derive the study outcomes.

Study Outcomes

The primary outcome was the cognitive function, and the secondary outcomes were behavioral and neuropsychological symptoms, including apathy, anxiety symptoms, depressive symptoms, agitation, or behavioral problems. We chose the most frequently used clinical assessment scales in each domain from the included studies as our primary and secondary outcomes. The primary outcome of this study was the change in scores in Mini-Mental State Examination (MMSE).²⁰ The secondary outcomes were the change in scores in 5 clinical assessment scales (ie, Neuropsychiatric Inventory-Apathy subscale (NPI-Apathy),²¹ Rating Anxiety in Dementia (RAID),²² Depression Scale-30 items (GDS-30),²³ CMAI,¹⁹ and Neuropsychiatric Inventory (NPI).²¹ The MMSE focused on cognitive functions, NPI-Apathy subscale focused on apathy, RAID focused on anxiety symptoms, GDS-30 focused on depressive symptoms, CMAI focused on agitation, and NPI focused on behavioral problems (Table 1). Mean difference (MD) with 95% confidence interval (CI) was used to evaluate the change of assessment scores between music therapy and control group. A higher score of MMSE indicates better cognitive function; on the other hand, a lower score of CMAI, NPI, RAID, and GDS-30 indicates fewer behavioral problems or psychiatric symptoms. For easier comparison, all values of MD in MMSE were flipped into another numerical sign (ie, $-1 \times$ estimated values), so that all MDs can be compared across the assessment scales with similar ways of interpretation. Therefore, a negative value of MD represents that music therapy is better for all the scales.

Data Extraction

Two investigators (JC, YN) independently assessed the relevance of search results, and abstracted the demographic details of individual

Table 1
Description of Clinical Assessment Scale in Different Domains

Outcome	Test	Number of Items	Interpretation
Cognitive function	MMSE ²⁰	11	Higher scores indicate better cognitive function*
Apathy	NPI-Apathy subscale ²¹	12	Lower scores indicate less apathy behavior
Anxiety symptoms	RAID ²²	20	Lower scores indicate fewer anxiety symptoms
Depressive symptoms	GDS-30 ²³	30	Lower scores indicate fewer depressive symptoms
Agitation	CMAI ¹⁹	29	Lower scores indicate less agitated behaviour
Behavioral problems	NPI ²¹	12	Lower scores indicate less behavioral problems and neuropsychiatric symptoms

*In this meta-analysis, all results from MMSE are reversed; lower score is better performance.

Download English Version:

<https://daneshyari.com/en/article/8695315>

Download Persian Version:

<https://daneshyari.com/article/8695315>

[Daneshyari.com](https://daneshyari.com)