Music Interventions and Dementia: A Systematic Review

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Background
As the population of adults ages 65 and older is rising in America, the need for quality research in treatment options for dementia is especially important. There is limited research on non-pharmacological methods for treating patients with dementia. Alternative treatments to medicine can be financially beneficial and reduce or eliminate negative side effects of drugs. One potential avenue for behavioral treatment is interventions that incorporate music.

Methods
Electronic search of (dementia OR Alzheimer’s OR memory loss OR cognitive impairment) AND (therapy OR treatment OR intervention OR strategies OR techniques) AND (music*) AND (cogniti* OR communicati* OR language):
- CINAHL Plus with Full Text
- PubMed
- Health Source: Nursing/Academic Edition
Each step in review process completed independently by two researchers and discrepancies resolved by consensus, as follows:
- Titles/abstracts screened for relevance
- Full text reviews for inclusion criteria completed on remaining articles
- Data was extracted for included articles and quality appraised

Inclusion/Exclusion Criteria
The inclusion/exclusion criteria were:
- Exclude studies in which the studied population has coexisting neurological impairments (not dementia)
- Only include studies published in English
- Only include studies reporting original data
- Only include studies published before February 2017
- Only include studies with a primary focus on music therapies
- Only include peer review journals
- *We are considering the cognitive and communication outcomes as those involving memory, executive functioning, and language.

Limitations
These randomized controlled trials/clinical controlled trials represent a good quality of evidence in examining the effects that music interventions have on the cognitive symptoms of dementia. However, they are not without limitations.

Limitations:
- Studies do not consider the effects of music interventions on different stages of dementia severity
- Most of the studies have a relatively short intervention time and follow-up period
- Lack of generalizability: the participants in each study come from a limited number of nursing homes/areas of the world
- Studies did not specify changes in different aspects of cognition

Conclusion
- All articles reviewed used different kinds of musical interventions (i.e. singing, listening to music in headphones, participating in rhythms circles, etc.) This makes comparisons between studies difficult.
- Articles reviewed used different measures for cognitive outcomes, which also makes comparisons between studies difficult.
- Interventions involving music can be extremely cost-effective and no negative outcomes from music interventions were found.
- All but one study shows that cognitive outcomes improve from music therapy compared to a control group. However, we cannot determine whether music is the independent variable that is causing these cognitive improvements.

Future Research
Based on the limited amount of articles addressing this question, more studies of good quality assessing cognitive outcomes are necessary to draw more definitive conclusions.

Future studies are needed to:
- Examine music intervention with a larger, more diverse population of patients with dementia
- Compare different types of musical interventions
- Compare musical interventions to other types of interactive interventions and a control group
- Determine whether severity of dementia impacts the efficacy of the intervention
- Determine which aspects of cognition are affected by the intervention

References
References are available upon request:
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