



Systematic Review

A Systematic Review of Effectiveness of Music Therapy on Depression In The Elderly**Nur Sayyid Jalaluddin Rummy, Windarti Rumaolat, Trihartuty Trihartuty**

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ABSTRACT

Introduction: There are many non-pharmacological therapies in reducing symptoms of depression in older adult, one of which is music therapy. The aim of this article is to determine the effectiveness of the use of music therapy in reducing symptoms of depression in the elderly.

Methods: A systematic approach was performed in this review using the PRISMA approach and journal sources from several databases including Scopus, ScienceDirect, SAGE, NCBI, CINAHL/EBSCO in the last 6 years from 2014 to 2019. Boolean operators were used within search process using AND and OR. The inclusion criteria are elderly aged ≥ 60 years with depression, either home or hospital treatment. Exclusion criteria are additional physical illness such as Diabetes Mellitus, CVA and other chronic diseases. Literature review, editorial, critical synthesis, and the like also become an exclusion criteria in this review.

Results: Overall, the review consists of 13 articles with seven articles using RCT design, two quasi-experimental design, two pre-posttest design, and two exploratory design. In this review, several articles used an individual therapy and others a combination of music therapy with other activities such as singing, dancing and writing a lyric. Average time spent for a music therapy in elderly with depression was given from two weeks to six months, which may have been effective in making an impact. Every week had one or two sessions with a duration of 30-60 minutes for every session.

Conclusion: Music therapy is effective to reduce depression in the elderly.

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INTRODUCTION

Depression is a common psychiatric disorder with symptoms including low mood, low energy, poor concentration, loss of pleasure, poor self-care and low self-esteem (Gold et al., 2019). Depression and anxiety are disorders that often occur in older people. At age of 65 years old, the risk of getting depression increases three times if compared with the general population (Aalbers et al., 2017). Depression can also cause deterioration of cognitive function and may result in increased risk of dementia. Depression is also a major cause of disability in the elderly and, if not treated immediately, will cause complex

problems. Long-term care providers will also aggravate this problem if this cannot be understood correctly (Gold et al., 2019). Depression is the most important problem in the elderly and often occurs in older people over 60 years of age (Gök Ugur, Yaman Aktaş, Orak, Saglambilen, & Aydin Avcı, 2017). Some reasons why the elderly often experience depression are disability, economic factors, loss of spouse, family and relatives (Verrusio et al., 2014). The elderly who live in a care home have three times the risk of depression compared to the elderly who live at home (Gök Ugur et al., 2017).

Globally, based on the WHO figures, around 50 million people were living with dementia in 2017 and

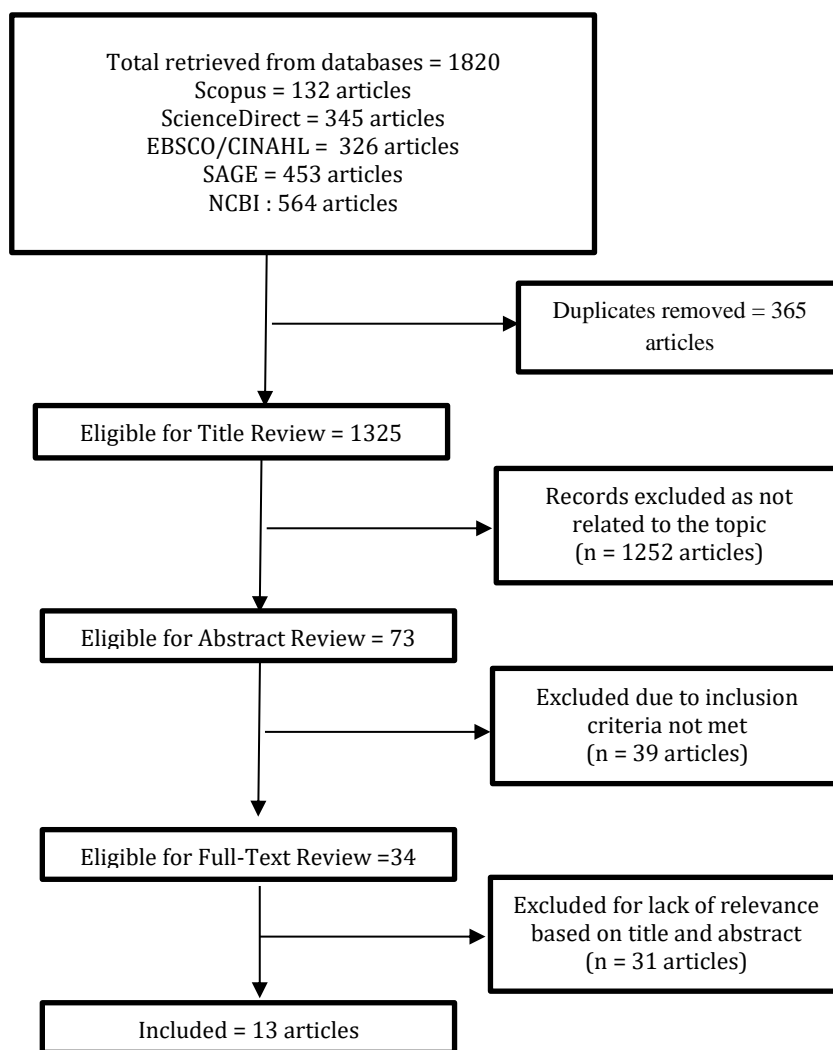


Figure 1. Search Strategy

approximately 7% of the elderly (over 60 years) suffer from depression worldwide. This number is expected to reach 82 million by 2030 and 152 million in 2050 (Kemenkes RI, 2016). From 1990 to 2025, the elderly population in Asia will increase from 50% of the world's elderly to 58% (Kalapala et al., 2017). Geriatric citizens in Indonesia reach 28.8 million or 11.34% in regard to the average life expectancy (UUH) of approximately 71 years. A Health Research Association report of 2013 states that the prevalence of elderly aged 55-64 were depressed at 15.9%, the elderly aged 65-74 years at 23.2%, and the elderly aged over 75 years at 33.7%. This result shows an increase, especially in Asia, America, and Africa (Foo et al., 2018),

Pharmacological treatment of depression in old age is often associated with adverse reactions and drug interactions due to polypharmacy and age-related physiological changes (Ibraheem Sayied, Ibrahim, Ali Abd El-Fatah Saraya, & Rabea Osman, 2019). Therefore, a safer alternative for the treatment of depression in older adults should be sought. Responding to the challenge posed by pharmacological treatment in old age, music intervention has been identified by researchers as an

area of interest. Music therapy is one of the complementary therapies that can have a variety of positive effects on users (Gold et al., 2019). The use of music as a healing intervention is common in history (Kendra D. Ray & Götell, 2018). This therapy has been used in particular specialisms such as psychiatry, neurology and cardiac care, as well as general surgery and geriatric care. Music is a powerful stimulus that generates and modulates mood and emotion (Petrovsky, Cacchione, & George, 2015). The use of music therapy has changed over time and has gone through some innovations. The use of music therapy is also different or each region, such as in Taiwan music therapy uses Buddhist music (Tai, Wang, & Yang, 2015) and in China it uses Japanese music (Wang, Yu, & Chang, 2017) It is also performed individually (Ibraheem Sayied et al., 2019) and also by groups (Verrusio et al., 2014) and also combined with movement or singing (Verrusio et al., 2014).

Music is often used to set the mood and emotions in daily life and also can affect the motivation, self-image, and coping mechanisms around a difficult emotional state through some forms of music therapy. The therapist explicitly helps people processing feelings that have been generated by the

Table 1. General Characteristics of Selected Studies (n=13)

Category	n	%
Year of Publication		
2014	2	15.38
2015	2	15.38
2016	2	15.38
2017	2	15.38
2018	2	15.38
2019	3	20.00
Type of Study		
RCT	7	53.84
Pretest and posttest study design	2	15.38
Exploratory design	2	15.38
Quasi-experiment	2	15.38
Instrument		
MMSE	5	38.46
GDS-SF	3	23.07
HAMD	1	7.69
CSD	1	7.69
MMSE and GDS	3	23.07
Duration of Intervention		
< 6 months	10	76.92
≥6 months	3	23.07

music (Aalbers et al., 2017). Music affects the right hemisphere of the brain and, thus, leads to the secretion of dopamine, noradrenaline, encephalin and endorphin, which causes psycho-physiological responses through the limbic system, thereby reducing behavioral and psychological levels of depression (Gök Ugur et al., 2017).

A study conducted by Nadia in a nursing home in Egypt with 42 patients suffering from moderate to severe depression showed that there is a decrease in the level of depression by session 12. This result is more effective than standard intervention of nursing home care (Ibraheem Sayied et al., 2019). In other study by Sakamoto in India (Mathew, Sundar, Subramaniam, & Parmar, 2017), the merger between music therapy with other activities such as dancing and singing was also proven effective to decrease the level of depression in the elderly. Several published studies have revealed the benefits of therapy in depression. One study revealed that six weeks of using music therapy can reduce agitation in the elderly (K. D. Ray & Mittelman, 2015). Other studies also showed the same results, that the use of music for four weeks can reduce blood pressure in the elderly (Tai et al., 2015). All of the studies showed positive results from the use of music therapy for the elderly, even with different times and ways. This systematic review is to identify research that used music therapy to reduce depression symptoms in the elderly.

MATERIALS AND METHODS

The following review steps were performed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)

guidelines for conducting a systematic review. A systematic search was first conducted using the following databases: Scopus, Science Direct, SAGE, NCBI, CINAHL/EBSCO using search strategies described in figure 1. Searches were conducted from December 10th, 2019. The search is restricted to publications from 2014 to 2019 in the scope of nursing, age, music therapy, and depression; the search is also be restricted to document type "Article" in English. Studies published in the English language from the past 6 years (from 2014 to 2019) were included. Appropriate medical subject headings (MeSH) were used along with text word searches and phrases. Keywords with Boolean operators that were searched in each database include (music therapy) OR (music intervention) OR (musical intervention) AND (depression) OR (depressive disorder) OR (depressive symptoms) OR (major depressive disorder) AND (elderly) OR (older adults) OR (older people) OR (aged). Furthermore, where possible, in a given database, non-human studies were excluded.

RESULTS

Results of systematic review of all 13 articles are attached to Table 1. The most number of years of publication is 2019 with three articles and the most used design in this systematic review is RCT. Instrument to determine the level of depression in the elderly using MMSE is five articles and the rest of the articles used CSD, GDS-SF instruments, and HAMD.

Kind of Music Therapy

There are various kinds of music therapy. The majority of researchers present music in accordance with participants' wishes, on the other hand, some researchers also prepared a type of music to be the choice of the elderly, such as Chinese music, Buddhist spiritual music, active and passive music (Tai et al., 2015) (Cooke, Moyle, Shum, Harrison, & Murfield, 2010). Some types of music therapy also use religious music as an intervention and also combine with some other interventions such as writing lyrics (Kalapala et al., 2017), with therapists or independently (Karmonik et al., 2016), listening passively and actively (clapping, singing, dancing) (Liu, Niu, Feng, & Liu, 2014; Mathew et al., 2017; Petrovsky et al., 2015; Kendra D. Ray & Götell, 2018).

Duration of Therapy

Average time spent on a music therapy in elderly with depression is as many as 20-32 sessions which have been effective in having an impact. The number of sessions each week 1-2x accounted for the majority of the sessions. Duration of therapy gave an average of more than three weeks to one year (Tai et al., 2015).

Effectiveness of Music Therapy on Depression

Using music therapy in elderly with depression showed positive results when showing significant mental changes. Thirteen articles showed change in

symptoms of depression in the elderly. The use of music therapy between short duration and long duration has a different change. This is proven in evidence in the use of music therapy with a long duration (> 1 year) having insignificant changes as opposed to the use of music therapy with short duration (3-5 weeks).

DISCUSSION

The purpose of this systematic review is to expose research that used music therapy to reduce depression symptoms in the elderly. Music therapy uses music in a professional manner and the elements act as an intervention in a medical environment for individuals, groups, families, or people who strive to optimize their quality of life, improve their cognitive, social-welfare, communicative, emotional, intellectual and spiritual health (Aalbers et al., 2017).

In addition, music therapy also has a positive impact on improving mood, overcoming sleep disorders and can reduce blood pressure in the elderly. The method of using music therapy is different in each country, such as in Taiwan religious music from Buddhism is used, in Egypt it uses Murathal (Tai et al., 2015) and several other methods combining with singing, writing song lyrics, improvising songs and dancing together (Ibraheem Sayied et al., 2019). The use of music therapy for both individuals and groups is also found in certain regions (Verrusio et al., 2014). Although using different methods, the use of music therapy had a positive impact on the elderly at the end of the studies, although some research results show results that are not very significant. The duration of music therapy varies greatly from the shortest at two weeks and the longest of six months, giving 30-45-minute sessions two or three times every week. The advantage of using music therapy is the low cost and it does not cause side effects. The longest research conducted by Kendra lasted four weeks, giving music therapy for the first two weeks and then for the next two weeks giving music, singing and dancing activities led by practitioners. The use of music therapy for four weeks showed a reduction in signs of depression and an improvement in the quality of life in the elderly who lived in a nursing home (Kendra D. Ray & Götell, 2018).

Hacer used a randomized controlled trial design study of a population of 64 men and women who were treated at home divided into two treatment groups and control. This RCT study design, the endpoints of which were evaluated under stringent conditions, assessed the impact of music therapy on patients suffering from mild depression, moderate to severe. The results after giving an intervention showed significant differences between the two groups regarding depression. Significant difference was observed between the two groups in change between the treatment group and the control group which showed progress in reducing levels of depression

scores in the treatment group, while the average scores remained constant in the control group (Gök Ugur et al., 2017).

One interesting study is that by Moon Fai Chan, a randomized controlled trial with participants who listened to music of their choice as long as 30 minutes per week, for four weeks. This study was in elderly women aged 42 with depression and the therapy was for four weeks. The result of the experimental group showed there was a statistically significant reduction in geriatric depression score and quality of sleep in week 4. In the control group, there was no statistically significant reduction in depression and sleep quality improvement for four weeks. However, for all outcome measures, no significant differences were found between groups for four weeks.

The use of music therapy may stimulate and affect someone's mood (Verrusio et al., 2014). One theory that tries to explain how music can affect the human psychological response is the theory of Music, Mood and Movement (MMM). This theory revealed that music produces a psychological response of the mood and then leads to better health outcomes (Murrock & Higgins, 2009 p. 2252). Musical elements such as melody, tone and harmony can affect the emotional response for those who listen (Murrock & Higgins, 2009). When the elements pass through the auditory cortex of the brain, music processing occurs in the limbic system of the brain to obtain emotion (Tramo, 2001). According to Jourdain (1997), the music reminds us of the past experience of the emotions etched in them; this changes the emotional state of the listener. This shows that, when the right music is played. It has the potential to change the emotional state of the listener, thereby achieving therapeutic results such as reducing depressive symptoms.

Based on an analysis of 13 journals, the authors reported that music therapy has a beneficial effect on these symptoms. Another study focused on the psychological and behavioral disorders and evaluated the effect of music therapy on behavior and depressive symptoms (Petrovsky et al., 2015). The use of music therapy is effective and does not cause side effects in the elderly such as the use of sedatives (Liu et al., 2014). Using music therapy as prescribed can reduce some symptoms, such as depression, and can increase the life expectancy of the elderly (Mathew et al., 2017). The use of music therapy should be recommended for health workers, especially nurses or healthcare workers with the elderly (Karmonik et al., 2016).

Limitation

Limitation in this review is the lack of specific types of music therapy that have an impact on depression, cognitive, or social, or psychosocial. Some studies also illustrate the types of respondents were less taken. Design of this article also differs because lack of the number of the articles when searching.

Clinical Implication

The scientific studies that have been done to showed that the use of intervention in the form of music therapy has an effect on the elderly with depression, behavioral, emotional, and cognitive. The results of this study are very useful in the field of nursing as this can help nurses to improve condition of elderly while providing a program either interpersonal, or making elderly and family independent.

CONCLUSION

The use of music therapy can be applied practically and easily, especially because music can be combined with various activities, such as singing, clapping, dancing and others. Nurses and caregivers may be able to use music interventions to prevent or eliminate depression. Healthcare providers and nurses must remain knowledgeable about music and other alternative therapies because music therapy is more affordable and has little or no negative reaction compared by drugs.

CONFLICT OF INTEREST

The author declares that there is no conflict of interest in this study.

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