

## **Complementary Therapies to Improve the Quality of Sleep in the Elderly: A Systematic Review**

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### **ABSTRAC**

**Introduction:** As humans get older, a degenerative aging process occurs which will have an impact on changes in humans. The changes that occur in the elderly can cause various kinds of disorders, one of which is sleep disturbance or insomnia. The aim of this systematic review is to gain a deeper understanding of complementary therapies to improve sleep quality in the elderly.

**Method:** The design used by systematic review is that the reviewer looks for several articles through an electronic database, namely Scopus and ScienceDirect, the keywords used are "Therapy", "Sleep Quality" and "Elderly".

**Result:** 16 selected articles, research conducted in Taiwan, Brazil, China, Singapore, Hong Kong, Korea, Japan and Iran found that the most widely used complementary therapy for improving the quality of sleep in the elderly is music therapy.

**Conclusion:** The results of his study showed that the quality of sleep in the elderly improved with complementary therapy. For this reason, it is necessary to assess and provide complementary therapies such as music therapy regularly to improve sleep quality in the elderly.

**Keywords:** *Therapy; Quality of Sleep; Elderly*

## **Introduction**

WHO data shows that in 2000 the life expectancy of people in the world was 66 years, in 2012 it increased to 70 years and in 2013 it became 71 years. The proportion of elderly people in Indonesia also increases every year. WHO data in 2009 showed that the elderly amounted to 7.49% of the total population, in 2011 it became 7.69% and in 2013 the proportion of elderly people was 8.1% of the total population (WHO, 2015). The elderly population in Indonesia is predicted to increase higher than the world's elderly population after 2100 (InfoDATIN, 2016).

As humans get older, a degenerative aging process occurs which will have an impact on these changes in humans, not only physical changes, but also cognitive, emotional, social, and sexual changes (Azizah, 2011). The changes that occur in the elderly can cause various kinds of disorders, one of which is sleep disturbance (insomnia). Insomnia is a condition when a person has difficulty sleeping or cannot sleep well (Widya, 2010).

According to the National Institute of Health (NIH), complementary therapies to treat insomnia in the elderly are categorized into 5, namely: 1) Biological Based Practice: herbs, vitamins and other supplements; 2) Mind body techniques: meditation; 3) Manipulative and body based practice or massage (Massage); 4) Energy therapies: magnetic field therapy; 5) Ancient medical systems: traditional chinese medicine, ayurvedic, acupuncture (Suardi, 2011).

The aim of this systematic review is to gain a deeper understanding of complementary therapies to improve sleep quality in the elderly. In addition, this systematic review helps in empirical research, so as to identify: the use of complementary therapies that are widely used to improve sleep quality in the elderly.

## **Method**

The process used to carry out a systematic review is that reviewers look for several research journal articles published through an electronic database. The electronic databases used are Scopus and ScienceDirect. The keywords used are for journals in English, namely "Therapy", "Sleep Quality" and "Elderly". Search results were found in Scopus as many as 390 journals and ScienceDirect for 4,539 journals. The journals found were specified based on inclusion criteria, namely 1) articles

published in full text and in English, 2) articles published in the period 2010 - 2017, 3) types of quantitative research and 4) articles that had the main content of sleep quality in the elderly. After adjusting based on the inclusion criteria, the remaining articles were 1228. Next, selecting articles containing complementary therapies, so that the articles became 210. From 210 articles, a selection was made based on the suitability of article titles with the aim of systematic review, so that the journal became 42, then screened based on the research abstract with one of the considerations is that the sample in the study must be elderly, so obtained 20 articles. Of the 20 articles, 16 were selected to be analyzed.

## **Result**

From 16 articles selected, the research was carried out in Taiwan, Brazil, China, Singapore, Hong Kong, Korea, Japan and Iran. All articles analyzed for this type of research were using a quantitative approach ( $n = 15$ ). The most widely used research designs are the randomized control trial ( $n = 7$ ), crossover controlled trial ( $n = 4$ ), quasi experimental ( $n = 2$ ), experimental 1 group design ( $n = 2$ ), and single-case experimental non randomized. design ( $n = 1$ ). In relation to the year of publication, research articles were published in the range of 2010 - 2017.

All samples in the study were elderly. The research instrument used by the Pittsburgh Sleep Quality Index in assessing sleep quality in the elderly ( $n = 16$ ). In the 16 articles reviewed, it was found that interventions were carried out in the elderly to improve the quality of the elderly with foot soaking therapy using warm water (Liao et al., 2013) and (Kim, Lee and Sohng, 2016), exercise using rubber bands in elderly people in wheelchairs (Chen et al., 2015), acupuncture therapy (Zuppa et al., 2015), music therapy (Huang, Chang and Lai, 2016), (Shum et al., 2014), (Chan, Chan and Mok, 2010), , (Huang et al., 2017), acupressure therapy (Zheng et al., 2014), green tea therapy (Keiko Unno, 2017), light running exercise therapy (Santos et al., 2012) and (Bonardi et al., 2016), Chamomile capsule therapy (Adib-Hajbaghery and Mousavi, 2017), Pilates exercise therapy (Curi et al., 2018), Tai Ji Quan Gymnastics Therapy (Lü et al., 2017), stretching therapy before bed and after waking up (Morita, Sasai-Sakuma and Inoue, 2017).

## **Discussion**

Sleep changes that affect sleep quality associated with the aging process, such as increased sleep latency, reduced sleep efficiency, waking earlier, reduced stages of deep sleep and circulatory rhythm disturbances, increased napping (Stanley, 2006; Oliveira, 2010). The amount of time spent sleeping deeper decreased. The elderly report frequent naps and have difficulty falling asleep and staying asleep deeply (Khasanah and Hidayati, 2012).

Sleep disturbances are also recognized as a cause of significant morbidity. There are several serious effects of sleep disorders in the elderly, such as excessive daytime sleepiness, attention and memory disorders, depressed mood, frequent falls, improper use of hypnosis, and decreased quality of life. The mortality rate, heart disease and cancer rates are higher in someone who sleeps more than 9 hours or less than 6 hours per day when compared to someone who sleeps between 7-8 hours per day. Complaints about sleep are generally in the form of not getting enough sleep, easily waking up at night, getting up early, feeling drowsy throughout the day and falling asleep for a while. Many things cause a decrease in the quality of sleep in the elderly, including changes in circadian rhythm, the presence of medical, psychiatric diseases, side effects of drugs and poor sleep habits. (Anwar, 2011).

Non-pharmacological treatment of sleep disorders is needed to minimize the effect of pharmacological therapy. Non-pharmacological therapy can be done by giving music therapy. Music has long been a part of human life that can make someone entertained. Music can also be therapeutic. Music is given to improve, maintain and restore a person's mental, physical, emotional and spiritual health. Music therapy is included in complementary therapy, in which music therapy is a technique used to cure a disease by using certain sounds or rhythms. The type of music used, the instrumentals in music therapy can be tailored to your liking, such as classical music, slow music, orchestras, and other modern music. Soft and regular music such as instrumental and classical music is music used for music therapy (Sahanantya, 2014).

## **Conclusion**

Various countries have researched several complementary therapies to improve sleep quality in the elderly and the results show that the quality of sleep in the elderly is

improved with complementary therapy. For this reason, it is necessary to assess and provide complementary therapies such as music therapy regularly to improve sleep quality in the elderly. The many factors that affect the quality of sleep in the elderly require a good team collaboration approach to improve the quality of sleep for the elderly, which includes: Doctors, clinic nurses or elderly homes and family / social support

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