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## Effects of Music Therapy on Individuals with Dementia: An Intergrative Literature Review

Liani Sanchez  
*University of Central Florida*

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EFFECTS OF MUSIC THERAPY ON INDIVIDUALS WITH DEMENTIA: AN  
INTERGRATIVE LITERATURE REVIEW

by

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B.S. University of South Florida, 2016

A thesis submitted in partial fulfillment of the requirements for the Honors in the Major Program in  
Nursing in the College of Nursing and in The Burnett Honors College at the University of Central  
Florida Orlando, Florida

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## Abstract

The purpose of this integrative review was to examine the effects of music therapy, a complementary intervention, on individuals with dementia. Peer-reviewed journals were retrieved from MEDLINE, CINAHL, CINAHL Plus with Full Text, Cochrane Central Register of Controlled Trials, Music Index to evaluate their relevance to music therapy use in people diagnosed with dementia. English and Spanish-language research articles published from 2000-2017 were included for the review (n=15). The literature indicates the use of music therapy as an adjuvant therapy for the treatment of dementia in older adults may be beneficial in decreasing symptoms of aggression, anxiety, agitation and depression. Music therapy is used in varying settings, but more specifically in long term care facilities. This complementary therapy enhances the quality of life in persons with dementia and facilitates empathetic relationships between residents and the staff. The literature indicates that music therapy, involving singing, listening to music, music and movement, when performed by a certified music therapist can have beneficial effects for people with dementia, especially when pharmacological treatments alone do manage symptoms associated with this disorder. Implications for nursing practice, education, policy and research are discussed along with study limitations.

## Dedication

In remembrance of my grandmother, whom I have seen the effects of music lighten her spirits despite a diagnosis of dementia.

(September 7, 1937 – March 18, 2018)

## ACKNOWLEDGEMENTS

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## CHAPTER ONE: INTRODUCTION

Dementia is an increasingly prevalent cluster of symptoms that predominantly affect the aging population in the U.S, and globally (Chapman, Williams, Strine, Anda & Moore, 2006). Of the growing population of older adults, it is estimated 47 million individuals live with some form of dementia. This number is projected to increase up to 75 million by the year 2030 (WHO, 2017). Dementia is a neurodegenerative disorder that is not a normal part of aging. This condition is characterized by deterioration in memory, orientation, cognition, and judgement. Common clinical manifestations of dementia include memory loss, impaired learning, mood disturbance, anxiety, movement disorders, hallucinations or delusions, sleep disorders, Parkinsonism, poor judgement or reasoning, speech and language impairment, and many others (Huether & McCance, 2017). The general term ‘Dementia’ includes a number of diagnosis including Alzheimer’s disease, frontotemporal lobe dementia, Lewy body dementia, and a number of other psychological conditions. The insidious and long-term progression of dementia often places a heavy burden on the family and/or other caregivers who attempt to support the individual who is living with this chronic condition.

Dementia is not curable and often it is treated with pharmacologic agents that include antipsychotics and medications that affect mood. Pharmacological agents are commonly used in an effort to alleviate the symptoms exhibited by the person with dementia. Medications are also used to assist the caregiver to deal with the changes in mood and behavior that arise in the individual who is mentally impaired. Often, though, medications are inadequate to manage the symptoms and behaviors of a person with dementia. Subsequently, this reality emphasizes the

importance of using nonpharmacological interventions to help alleviate symptoms and improve the quality of life for individuals living with dementia as well as their caregiver.

Creative-based therapies that complement pharmacological treatment can encourage the participant in an activity that helps focus on something that the participant feels positive about. For example, art therapies, such as painting, viewing art in museum, singing and dance and movement therapy, can be used to positively impact the mood of persons with dementia, create a sense of community, and facilitate a novel form of communication that can benefit the individual with dementia and those who care for them. This paper will focus on the effects of music therapy in individuals with dementia. The purpose of this integrative review of the literature review is to evaluate the effect of music therapy in persons diagnosed with dementia.

## BACKGROUND

### **Dementia**

Dementia is a health condition that affects approximately fifteen percent of the older population (unspecified age ranges from this source) in the US (Lewis, Bucher, Heitkemper and Harding, 2017). Approximately half of the individuals who live in long term facilities are diagnosed with some form of this condition. Dementia is a progressive neurocognitive disorder resulting in loss of physiologic health status over an indefinite period of time. Different types of dementia affect distinctive areas of the brain and may have varying, albeit similar, manifestations in individuals. This pervasive condition often is characterized by loss or dysfunction of memory which can impair orientation, attention, language, decision-making, and judgement. Dementia can be caused by neurodegenerative disorders, vascular diseases, toxic/metabolic/nutritional diseases, immunologic diseases or infections, systemic diseases, trauma, tumors, ventricular disorders, or various drugs as well as genetic factors.

Dementia usually has an insidious onset with no definitive cause or symptoms. Genetic predisposition or central nervous system (CNS) infections can lead to nerve cell degeneration and atrophy of the brain tissue. Neuronal degeneration, compression of brain tissue, atherosclerosis of cerebral blood vessels, and head trauma are other contributing causes for developing dementia. Gradual onset of clinical manifestations of dementia can present over a period of months or even years. Laboratory testing and neuropsychological tests may or may not confirm the diagnosis of dementia; but, unfortunately there is no cure. Common findings in Alzheimer disease, or Alzheimer-type dementia, include neurofibrillary tangles and amyloid

plaques in the brain which can only be diagnostically confirmed after death (Huether & McCance, 2017).

Declining intellectual ability and vague personality changes may be initial clinical manifestations of dementia which progress to agitation, wandering, delusions or hallucinations, and aggression. Unfortunately, these symptoms make it difficult for caregivers and may often isolate the person diagnosed with dementia. Symptoms of dementia often are treated with antidepressants, antipsychotics, acetylcholinesterase inhibitors, and levodopa/carbidopa, all of which can have serious side effects and sometimes even exacerbate symptoms. Nonpharmacological treatments include occupational therapy to assist with problems related to difficulty swallowing, dysphagia, and immobility, and sometimes place an individual with dementia at an increased risk for falls (Lewis, Bucher, Heitkemper & Harding, 2017). Other interventions to treat dementia are aimed at maintaining and maximizing the cognitive functions of the individual and supporting the family or care providers in how to best manage the daily care (Huether & McCance, 2017).

### **Quality of Life**

Since dementia is a progressive and chronic disease that affects the neurocognitive functions of memory, language, judgement, and motor skills, the main goal of therapy is to preserve the client's existing functions. Enhancing quality of life (QOL) in an individual with dementia involves the use of pharmacologic and nonpharmacological therapies. Quality of life is characterized by a person's ability to think, make decisions, attend to their physical and spiritual health, social relationships, cultural values, inclusion or sense of community, and living

arrangements. Although many neurocognitive changes occur with the disease progression, the individual's ability to feel, appreciate, experience, and respond to others may not be lost. Maintaining a positive QOL can be achieved through effective in early stages of dementia, at a time when the person is still able to make decisions regarding the plan of care. Building on the person's strengths and encouraging him or her before notable changes occur can be challenging for caregivers. However, encouragement and support can help to maintain a positive attitude in the person with dementia as well as for the caregiver. Providing a safe living space for the affected individual along with companionship can be very helpful as the disease progresses. Creating a positive environment and engaging the person in meaningful activities often helps decrease stress, positively impact mood, reduce agitation, and modify other symptoms (Alzheimer Society of Canada, 2017).

### **Creative-based complementary therapies**

Creative-based therapies refer to the use of creative activities to treat disease processes in conjunction with pharmacologic therapies. Art-based therapy includes drawing, painting, and interaction with music or other mediums of self-expression that can stimulate visual and cognitive areas of the brain creating a feeling of well-being. With creative based complimentary interventions, such as art or music, the person may show increased interest in the experience which, in turn, may lead to positive and calmer mood (Tucknott-Cohen & Ehresman, 2016). More specifically, art therapy engages the creative process and integrates psychological theory into the human experience (American Art Therapy Association, 2017). Tucknott-Cohen and Ehrisman emphasize the potential of art therapy in delaying neuronal degeneration by

stimulating cognitive mechanisms, decision-making, and the motor systems of individuals with dementia.

According to McGreevy (2016), creative- based interventions should begin with an autobiographical approach in which the person engages in reminiscence and narrates his or her life story. At first glance, life story reminiscence does not seem to fit the category of creative therapy. However, reminiscence is a critical piece of information that often is overlooked in the care of individuals with dementia. Delving into the past is central to integrating art as a frame of reference from which humans can create or modify perspectives, in this case, individuals diagnosed with dementia.

Creative-based therapies include a range of activities in which one can engage in, for example, performing arts could include drama performance(s), use of puppets, movements, and even participating in plays. Music, dance, and movement therapies are other performing arts that involve use of the senses and group interaction. Likewise, expressive art may include drawing, painting, photography, and pottery. Other creative-based therapies include pet therapy, doll therapy, and horticultural therapy. Although mental capacity may be changing, an individual with dementia still has a need to engage in meaningful activities that allow him or her to create rather than become stagnant (McGreevy, 2016; Nyman & Szymczynska, 2016).

### **Music as a complementary therapy**

Music therapy may be beneficial to many people in their day-to-day activities, as well as a complimentary therapy in medicine and education. Elements of music therapy include sound, rhythm, and melody with a trained music therapist which can facilitate communication, physical,



emotional, social, intellectual, and spiritual health in an individual or group setting (Gómez-Romero et al., 2017). Music therapy takes into consideration cultural, social and political context based on research, educational, and clinical training (WFMT, 2017). Music therapy as an adjuvant intervention is believed to benefit a person with dementia to modulate cognition, attract the attention of humans (with or without dementia), evoke patterned movements, and provoke latent emotional responses. It is not unusual for language abilities to deteriorate in the late stages of dementia. Further investigation into the correlation between language capabilities and music therapy in persons with dementia may be useful. Further, research supports along with the emotional component on individual's musical abilities can remain in the form of interpreting musical pieces previously learned including the skills to play a musical instrument (Gómez-Romero et al., 2017).

Hopkins Medical Center is conducting extensive research in the area of music therapy. Hopkins researchers found in persons with Parkinson's disease music therapy, specifically a 45-minute drumming session, improved symptoms. Tremors, walking ability, mood, and overall quality of life improved when this therapy was implemented for six weeks. Hopkin's interdisciplinary research team is further investigating the effects on quality of life of dementia patients through singing side by side with caregivers in structured sessions (Byrne, 2017). Music therapy is a promising adjuvant therapy to the treatment of dementia. The primary purpose of this integrative literature review is to examine the effects of music therapy in individuals who have been diagnosed with dementia. The secondary purpose of this review is to evaluate the effect of music therapy in persons diagnosed with dementia.

## CHAPTER TWO: METHODS

Individuals with dementia experiences cognitive, memory, and mood changes. The literature suggests that creative-based therapies may help to alleviate these progressive symptoms. Treating the symptoms can also support more effective care by caregivers, be it a family member, nurse, or employees at a long-term care facility. Connecting with a person through music may improve the quality of care and of life of someone diagnosed with dementia. Music therapy creates a supportive environment in which anxiety is lowered by positively engaging in these creative activities. Ideally, music therapy should be facilitated by a trained therapist. However, for some persons with dementia, providing exposure to music such as a radio or some audio device playing in the room can be an effective strategy to reduce agitation and help to calm the person. Understanding the effects of music therapy on persons with dementia could greatly improve the care and quality of life of individuals with progressive neurodegenerative disorders.

Relevant research articles were analyzed and synthesized by the researcher to better understand the impact of music therapy on individuals with dementia. MEDLINE, CINAHL, CINAHL Plus with Full Text, Cochrane Central Register of Controlled Trials, Music Index are among the databases were used to locate research articles pertaining to the effects of music therapy and dementia. The search was limited to academic journal articles published between the years of 2000 to 2017.

Search terms included, 'creative based therapy', 'art therapy', 'music therapy', 'dementia', and 'quality of life'. Inclusion criteria for the search results were 1) articles

published in English or Spanish 2) published during the time frame specified above, 3) effects of music therapy on individuals with dementia. Exclusion criteria included articles published prior to 2000, and not written either in the English or Spanish languages. A total of 1,981 potentially relevant citations were initially identified. Of these, citations that did not meet the criteria were excluded of the 150 that were identified, as outlined in Figure 1: Consort Table. 15 studies were retrieved for more detailed review and analyzed (See Appendix A). Subsequently, all the article critiques were synthesized by the researcher and key findings were extracted. Consistent and inconsistent findings were noted along with gaps in the literature. Each article was evaluated and individually critiqued by the researcher for relevance to the topic and application to music therapy for persons with dementia. An evidence table was developed to summarize findings for each article (See Appendix B).

## CHAPTER THREE: RESULTS

The results of the 15 articles reviewed showed music therapy has an overall positive effect on the quality of life of individuals with dementia. Various methods were used to investigate the effects of music therapy in individuals with dementia including exploratory trials, phenomenological studies, and quantitative statistical method studies. In most of the studies, the intervention was carried out by certified music therapists. Three of the articles consisted of literature reviews, and three of the studies used a survey in their design.

Major themes in the analysis included: reduction of negative behaviors, positive effects of group activity on mood and quality of life, self-expression and improvement in confidence for people with dementia, greater connection between residents of dementia care facilities and the staff who care for them, and implementation of music therapy as a low-cost adjuvant therapy for dementia. These themes will be discussed in more detail in subsequent paragraphs.

### **Reduction of negative behaviors**

Of the fifteen articles reviewed, ten articles found music therapy reduced symptoms of irritability, agitation, anxiety and depression with the implementation of adjuvant pharmacologic treatments. Although the authors of a systematic review, conducted by the Spanish Society of Neurology, stated that more literature is needed for definitive results of music therapy, they concluded that use of this adjuvant therapy could be beneficial for individuals experiencing behavioral changes, such as anxiety and agitation (Gomez et al., 2017). In another literature review, the results showed that music therapy improves disruptive behaviors such as anxiety and

depressive moods, as well as enhancing cognitive function. This intervention was also found to enhance confidence and reduce emotional strain in individuals with mild to moderate dementia (Chang et al., 2015). An exploratory randomized controlled study (N=42) found similar results after a 15-week intervention in which participants engaged in biweekly sessions of individual music therapy. Music therapy reduced the average agitation disruptiveness scores in persons with dementia compared to the control group who received standard care (Ridder, Stige, Qvale & Gold, 2013). Similar findings were repeated in an exploratory trial conducted by Ray & Mittelman (2017) (N=132) using tonal programs, singing, and music & movement, stating that symptoms related to depression and agitation were reduced, “over and above any medication effects” (p.702). Furthermore, a controlled naturalistic study (N=43) conducted over eight weeks found that music therapy significantly improved behavioral and depressive symptoms in people with dementia (Han et al., 2010).

Caregivers in the affected person’s home, most often family members, also have the ability to participate in music therapy programs in their community. Caregivers report beneficial effects of this intervention on enhancing the affected person’s mood, emotion, sensorimotor functioning, agitation, apathy, anxiety, abnormal behaviors, and self-expression (Hsu et al., 2015). Hsu et al.’s study was the only one which measured sustained benefits over two months with post-intervention assessment. Another study, conducted in Japan (N=10), used salivary chromogranin (CgA) A levels to measure stress levels in people with dementia during their eight-week study involving the use of music therapy. The results of this study showed that music therapy indeed had a relaxing effect on the comparatively high stress levels among elderly patients of the study. The results suggest that salivary CgA decreased in response to music

intervention, associated with decreases in irritable behavior and decreased stress (Suzuki et al., 2004). Additionally, this study noted an improved language score, suggesting that singing and listening to music stimulates appears to reinforce language abilities.

### **Positive effects of group activity on mood and quality of life**

One study, (N= 71) describes the contributions of music therapy to quality of life in people with dementia associated with feelings of well-being (Spiro et al., 2017). Oftentimes, language abilities become compromised in individuals with dementia, and music therapy facilitates an intimate emotional connection with caregivers. Music therapy was shown to have a positive effect on “disruptive” behaviors, depression, and quality of life (Zhang et al., 2017).

A program developed by the Alzheimer’s Association in 2003, “Singing for the Brain”, identified various themes from the collected data. Singing in a group and use of instruments in short sessions promoted social inclusion and support, enhanced shared experience, positively impacted relationships and memory, lifted spirits, and helped accept the diagnosis of dementia. Improvements in mood were found to outlast the music sessions which promoted longer term well-being among these with dementia and their caregivers. Overall, this study found that group settings facilitates a sense of belonging and social support (Osman, Schneider & Tischler, 2016).

A study conducted by Shibasaki and Marshall (2017) (N=53) compared the audiences with dementia who viewed (or listened) to concerts in the UK and Japan. Family members and caregivers reported that listening to music helped to promote past memories, enhance a more lucid state, and helped the individuals with dementia to become more vocal and animated.

### **Self-expression and improvement in confidence for people with dementia**

In a phenomenological analysis (N= 24) residents conducted by Melhuish Beuzeboc & Guzmán (2017), in a dementia care facility were able to express authentic feelings and personalities that are often shrouded by the symptoms of dementia. The findings suggest benefits to incorporating the knowledge and skills used for music and dance movement therapies in the care of participants by staff members. An exploratory trial (N=132) also found that music therapy intervention provides an opportunity for self-expression with the use of individual music preferences along with the provision of physically and cognitively stimulating activities. The verbal and nonverbal interaction of music and movement, singing, and tonal therapeutic activities allows for this liberating experience in an individual (Ray & Mittelman, 2017).

### **Greater connection between residents of dementia care facilities and the staff who care for them**

In a exploratory qualitative study performed, (N=32) the use of music therapy also impacted on the staff who cared for residents with dementia (Melhuish, Beuzeboc & Guzmán, 2017) . Participation in music therapy allowed staff greater insight of the capabilities and emotional responses of residents, created an opportunity to learn therapeutic techniques and better care for the residents, and ultimately increased their sense of connection with the residents. The program implemented by Hsu et al (2015) (N=128) also highlighted the importance of music therapist and caregiver communication in providing optimal care, improved well-being and symptom management for residents with dementia.

A mixed method design (N=17) implemented three music therapy sessions a week for 12 weeks and found that meaningful interactions are fostered between caregivers and people with dementia. Modelling flexibility of music therapy activities such as listening to music, singing and dancing allows caregivers to utilize the same techniques when providing care for individuals with dementia (Lai et al., 2016). The meta-analysis of 6 articles conducted by Poli et al (2017) further describes emotional activation and mood improvement that can come from the relationship that forms between the participants and a music therapist. The study conducted in the UK and Japan further noted that staff members worked more effectively with residents of assisted living facilities when there was music in the facility. Interviews with the staff indicated that listening to music resulted in the residents with dementia being more cooperative, responsive and calmer, as well as more content with each other in the common room. Interestingly, staff also reported a sense of “ease” when listening to music in the common area, and an enhanced ability to complete their care giving with the presence of musicians in the facility (Shibazaki and Marshall, 2017).

### **Music therapy is an easily implemented, low-cost, adjuvant therapy for dementia**

In the UK, initiatives such as the Dementia strategy aim to improve the quality of life of individuals with dementia. Creating policies that more readily allow the use of art-based therapies can be beneficial for the treatment of individuals with dementia as well as the family and caregivers’ needs (Spiro, Farrant, & Pavlicevic, 2017). After reviewing the results of the 34 trial studies, Zhang et al. determined that music is a nonpharmacological, non-invasive, and inexpensive intervention that is easily integrated into the care plan of individuals with dementia.



### **Findings that were not found to reduce negative symptoms**

A quantitative statistical study conducted by Schall, Habertroh, and Pantel (2015) (N=9) found no improvement in the cognitive impairment, neuropsychiatric symptoms or activities of daily living after a six-month intervention. There was also no worsening of these symptoms during that time period. The authors further state there was a positive influence of music therapy on communicative behavior, (situational) well-being, and positive emotions in people with advanced stages of dementia (Schall, Haberstroh & Pantel, 2015). In the meta-analysis of 6 articles conducted by Fusar- Poli et al. (2017), music therapy was not shown to have significant effects on global cognition of people with dementia. However, the review did find that music therapy had therapeutic effects on behavioral, psychological, social, and emotional factors. Lastly, a randomized control trial conducted in Italy (N= 120) did not find significant effects on behavioral and psychological symptoms of dementia with the addition of music therapy with individualized listening to music programs after ten-week sessions. Although there was no significant difference between the group who received the intervention and the standard care group, the authors state that all treated groups showed significant improvement in the aforementioned outcomes, including reduced depression symptoms and improved quality of life (Raglio et al., 2015).

## CHAPTER FOUR: DISCUSSION

Of the fifteen articles, eleven were actual studies and two were meta-analysis literature reviews. Although 15 studies that were reviewed discussed different effects of music therapy, they all had similar in their findings. It is important to note that even when there was insufficient data to support significant findings of music therapy effects, the authors still mentioned the positive impact that this adjuvant therapy had on participants. Overall, most of the study samples were recruited from memory care units and several were from other types of facilities.

Several of the studies that were reviewed had a focus on the methods of music therapy, as opposed to direct effects of music therapy on the individuals with dementia. Two studies, by Spiro et al. and Schall, Haberstroh & Pantel, aimed to test the efficacy of the methods of music therapy. The UK Department of Health developed a program, the Dementia Strategy, to improve the quality of services provided to people with dementia. Spiro et al.'s (2017) study focused on the extent to which music therapy practice contributed to the aims of the Dementia strategy in enabling a good-quality social environment and the possibility for self-expression. A quantitative statistical study used a time series analysis of video graphed music therapy sessions to create processual data that had not been employed in this type of research before. Measuring salivary chromogranin A (CgA) implemented a new combination of endocrinological measurement in this area of research that had been previously employed (Suzuki et al., 2004). However, even these studies mentioned the benefits, or lack-there-of, of musical interventions in this population. Several studies focused on the direct effect of music therapy on the individuals with dementia, while some focused more on the methods of the programs, or the caregivers and staff involved in the care of the residents with dementia. For example, the meta analyses by

Zhang et al. (2017) focused specifically on the effects music therapy had on behavioral and cognitive function, while the study by Melhuish, Beuzeboc & Guzman (2017) focused on the development of relationships between care staff and people with dementia through Music therapy.

### **Reduction of negative behaviors**

Analysis of the research suggests that the use of music therapy helps to reduce what behaviors that are often viewed negatively by family, caregivers, and staff of residential facilities where people with dementia commonly reside. Negative behaviors such as irritability, aggravation, anxiety, and depression are common symptoms of many types of dementia. Negative symptoms often provide a challenge to those who provide daily care activities for the individual with dementia. Irritability often evolves into aggressive behaviors and anxiety which provokes fear, presenting a serious obstacle to completing activities of daily living, such as personal hygiene, outings to a grocery store or an acquaintance's home, and even going to bed at night. Exacerbation of negative symptoms makes completing these tasks very difficult and taxing on those who care for these individuals. Playing music, singing with the agitated individual and providing other types of musical distraction often helps calm the person when exhibiting these symptoms. Facilitating the reduction of the negative behaviors also decreases the stress that caregivers feel when performing personal care tasks. Music therapy provides a calming environment without the sedative effects that pharmacologic treatments may not produce.

### **Positive effects of group activity on mood and quality of life**

Facilities that provided group music therapy experiences noted the emotional connection between the residents and the staff involved in the activity. Oftentimes, individuals with dementia are isolated because they cannot adequately process their surroundings or remember the people they were close to. Music therapy in a group, conducted by a certified music therapist, provides an opportunity to form a more cohesive community between the individuals of a dementia care facility, the persons with dementia, and even with the music therapist. A sense of community and belonging was found to uplift the mood and quality of life of these individuals. Residents who were not cooperative prior to participating in music therapy sessions showed a willingness to do so following the intervention. The quality of life of individuals with dementia showed improvement associated with the intervention's therapeutic effects on behavioral, psychological, social and emotional factors (Fusar- Poli et al., 2017). The program from the UK, "Singing for the Brain", was found to have a positive impact on relationships, positive impact on memory, uplifted spirits and helped the family members accept the diagnosis of dementia (Osman, Schneider & Tischler, 2016).

### **Self-expression and improvement in confidence for people with dementia**

Individuals with dementia are often regarded in terms of their condition as opposed to the person that they were before their diagnosis. For example, music therapy provides an opportunity to return to a more relaxed state where the individual often reacts in a more light-hearted manner. During sessions of music therapy there is no rigid structure that confines the person. Activities such as listening to music, singing, playing instruments, and music and movement (dancing) may

help to release tension and allow the individual to regulate their own thoughts and actions. Having the freedom to participate and to stop when the activity becomes stressful facilitates independence as well as improve confidence. Some programs allowed the individual to choose the type of music he or she wanted to hear, then tailored the chosen music to those preferences to solicit a more positive response (Suzuki et al., 2004). The study by Melhuish, Beuzeboc, and Guzmán, (2017) found music therapy sessions helped staff members to discover a “new” side to the residents which increased their perceptions of unique characteristics of the individual with dementia. Discovering the true personalities of persons with dementia helped the staff to provide better care. The authors found that music and dance movement therapy increased caregiver engagement and allowed the residents to express their authentic feelings, personalities, and skills that are often lost with the symptoms of dementia.

### **Greater connection between residents of dementia care facilities and the staff who care for them**

Music therapy creates an environment that promotes a sense of community. The staff of residents that care for individuals with dementia are able to interact on a more intimate level when participating in music therapy. The study conducted by Hsu et al. (2015) found that staff and resident interactions were enhanced associated with the positive impact on mood, emotion, sensorimotor function, self-expression, agitation, apathy, anxiety and abnormal motor behavior. The “carers” reported a more positive impact on themselves and their work after music therapy sessions. Music therapy allowed the staff to view the residents in a different light. Furthermore,

the study by Melhuish, Beuzeboc, and Guzmán, (2017) found that staff members could incorporate the same skills used in music therapy in the daily care of the patient/resident.

### **Music therapy, a low-cost, adjuvant therapy for dementia**

Pharmacologic treatments have limitations on the symptoms of dementia, but music therapy could be effective in cases of mild to moderate dementia. Music therapists can be employed several times a week in a residential home that cares for individuals with dementia to provide these services. If this option imposes a financial strain on the facility, another option is to simply play music on the radio or other device that individuals might enjoy. Cost effective options are readily available to implement the concepts of music therapy in institutions. Although one article stated that the meta-analysis did not show significant effects of music therapy on global cognition, this study did find that there were therapeutic effects in respect to behavioral, psychological, social, and emotional factors (Fusar-Poli et al., 2017). Although different effects were found that may not have been intended by the examiners, music therapy was still found to have benefits for people with dementia.

## CHAPTER FIVE: LIMITATIONS, IMPLICATIONS & RECOMMENDATIONS

This chapter will present limitations, nursing implications for nursing practice for education, policy, and recommendations for future research.

### **Limitations & Recommendations for Future Research**

All of the studies had very small samples. Ten of the sample sizes exceeded 25, while five of the studies had fewer than 25 participants or articles used, depending on the type of study. The availability of participants who can consent to music therapy studies that look at outcomes of dementia clinical manifestations is limited, and the accessibility to such programs can be difficult. Future studies must implement music therapy interventions in larger sample sizes in order to validate their findings. Studies used various methods, different surveys and evaluation tools, to measure the effects of music therapy interventions, such as Mini Mental State Examinations, the Functional Assessment Staging Tool, the Clinical Dementia Rating Score, the Cornell Brown Depression Scale, and the Algate Wandering scale, among many more. A standardized method of measuring values of quality of life, stress, and changes in mood should be implemented in these studies. A more comprehensive investigation of the characteristics that affect the efficacy of music therapy can enable future protocol development to treat people with dementia. Future research must incorporate larger sample sizes when observing the effects of music therapy on people with dementia, as well testing the best methods to “administer” this intervention.

Nurses, vital healthcare professionals who are often entrusted with the care of people with dementia, are in a position to make a positive change in the treatment of this population.

### **Implications for Nursing**

#### **Practice**

Knowledge and skills learned through music therapies can be transferred into daily care practice. Redirecting, taking time to really listen to the patient, and engaging in a new activity are a few techniques that can be carried out into tasks of administering medications and daily care activities. Nurses working in dementia care facilities can help facilitate music therapy sessions with a certified music therapist by engaging with the participants during this time. Nurses could also easily implement music into their daily care activities by playing music on a device during their daily care activities, either in dementia care activities or in the hospital setting. This simple method creates a calming environment for the individual with dementia and the nurse in order to effectively give care.

#### **Education**

It is important that nurses educate the families of patients with dementia about the availability and efficacy of music therapy programs in caring for their loved ones. Oftentimes, family members or other caregivers are overwhelmed with the task of caring for their loved one with dementia. Caregivers can easily become frustrated when their loved one with dementia becomes anxious or even aggressive. A preventative measure that may help to decrease these situations in a person with mild to moderate dementia may be to play music tailored to their interests or to take them to music therapy sessions that may be available in their communities.



Teaching these different methods to caregivers of patients with dementia can help to enhance the quality of life of all the parties involved.

### **Policy**

In order to implement music therapy effectively for people with dementia, it is important to create best practice guidelines that delineate dosage, or number of sessions and length, and refined music therapy methods or techniques. Based on the literature, sessions that lasted at least thirty minutes, administered twice a week had more lasting effects than sessions that were shorter and only administered once a week or only a couple times a month. Furthermore, a change in healthcare policy, as with the UK Dementia Strategy, could create more opportunities for this population to receive improved care and quality of life outcomes. Medicare coverage could simply extend its coverage to include reimbursement for a twice-a-week attendance with a music therapist or occupational therapist conducting group music therapy sessions in the community of dementia care facility.

In conclusion, the literature suggests that music therapy, in its various forms, has a positive effect on the negative symptoms associated with dementia and on the care provided to the persons with this condition. The quality of life and agreeable mood change related to music therapy makes it a promising addition to traditional pharmacological therapies. Medication use in the dementia population has mainly sedative properties, but the use of music therapy livens the person with dementia and plays on their strengths to reduce anxiety and depression.

Families and other caregivers of persons with dementia also benefit from the use of music therapy. This activity allows those that care for individuals with dementia to be viewed in a new light, or to awaken fond memories that allow the care-person to better connect with the

individual. Music therapy creates a positive atmosphere that is more conducive to the stressful care of a person with dementia. Music therapy has many positive results, making it a promising tool for the adjuvant treatment of dementia.

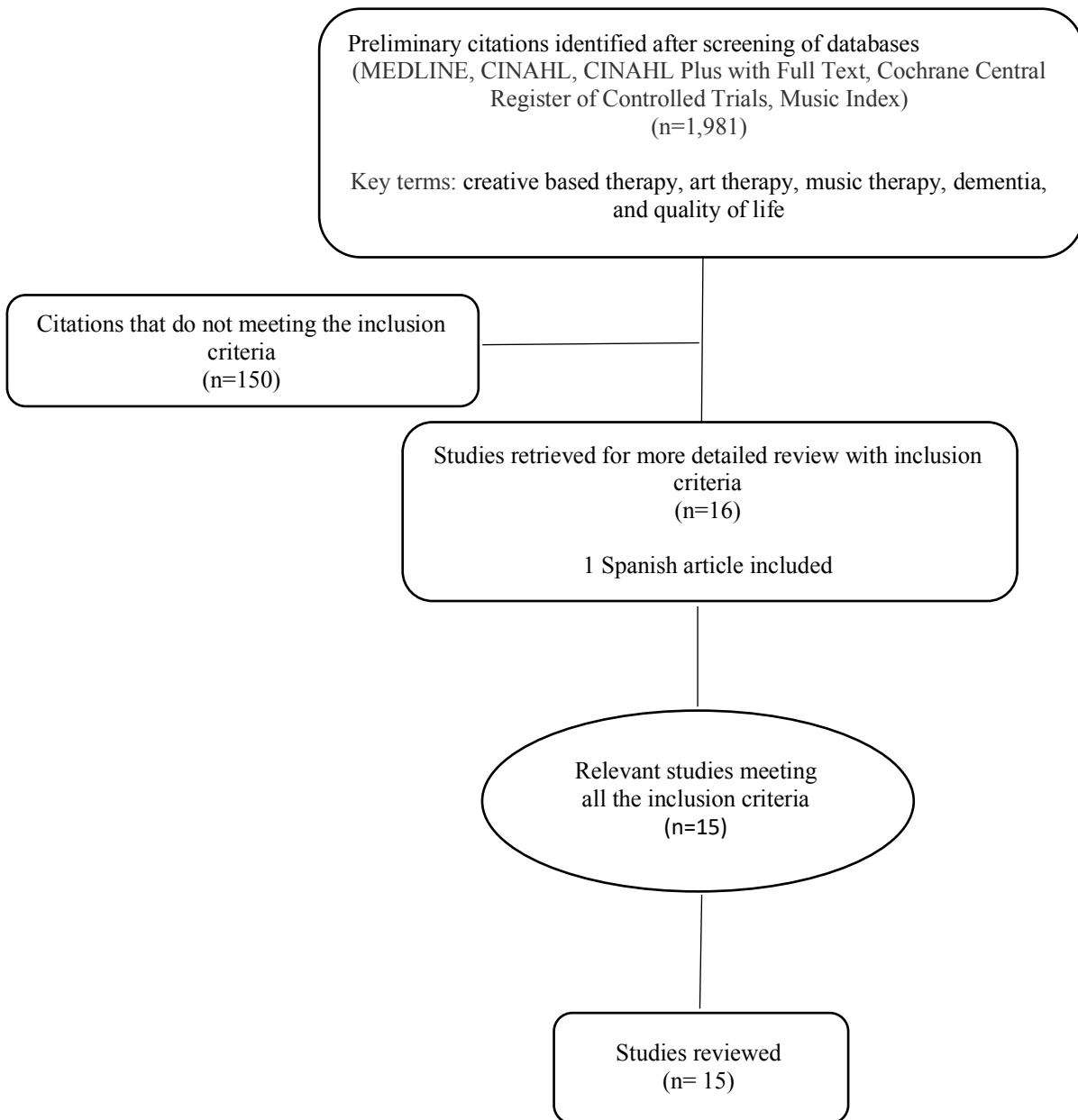
## Appendix A

**Figure 1: Consort Chart- Article selection process**

**Figure 1: Consort chart describing article selection process**

Key search terms: creative based therapy, art therapy, music therapy, dementia, and quality of life

Exclusion criteria: articles published prior to 2000, and not written in the English or Spanish languages



## **Appendix B**

### **Figure 2: Table of Evidence**

**Table 1: Table of Evidence- Music therapy and dementia**

<b>Author(s) Year Location</b>	<b>Study Design and Purpose</b>	<b>Sample Size</b>	<b>Intervention Protocol</b>	<b>Screening Measures</b>	<b>Outcome Measures</b>	<b>Key Findings and Limitations</b>
<p>Chang, Y., Chu, H., Yang, C., Tsai, J., Chung, M., Liao, Y., &amp; ... Chou, K. (2015). The efficacy of music therapy for people with dementia: A meta-analysis of randomized controlled trials. <i>Journal Of Clinical Nursing</i>, (23-24), 3425. doi:10.1111/jocn.12976</p>	<p>Meta-analysis of randomized controlled trials. Perform a meta-analysis of trials investigating the efficacy of music therapy and dementia. Investigate the variables that affect the efficacy of music therapy to improve these intervention programs.</p>	<p>N=10</p>	<p>Literature review was performed by retrieving articles from databases including PubMed, Medline, Cochrane, CINAHL, SCOPUS, and PsycINFO. Studies were selected or excluded based on specified criteria, including adequate statistical values to calculate the effect size.</p>	<p>Studies were selected based on their publication dates (2000-2014), key terms that were used, study designs, studies that target disruptive behaviors, anxiety levels, depressive moods and cognitive function.</p>	<p>Disruptive behaviors were improved by effective music therapy. Anxiety levels and depressive moods were reduced, and cognitive function was improved. The Neuropsychiatric Inventory, the Hamilton Anxiety Rating Scale, and the Multidimensional Observation</p>	<p>Music therapy is beneficial for patients with dementia. Disruptive behaviors, anxiety levels, depressive moods and cognitive function were improved. Music therapy also allows individuals with dementia to build confidence, recall memories, and reduce emotional strain. -Limitations include</p>

					Scale for the Elderly Subjects, the Mini-Mental Status Examination and other tools were used to measure behaviors.	variations in measurements scales of the selected studies, and the small number of studies found.
Fusar-Poli, L., Bieleninik, L., Brondino, N., Chen, X., & Gold, C. (2017). The effect of music therapy on cognitive functions in patients with dementia: a systematic review and meta-analysis. <i>Aging &amp; Mental Health</i> , 1-10. doi:10.1080/13607863.2017.1348474	Systematic review and meta-analysis  Analyze the preexisting literature regarding the effect of music therapy on cognitive functions in patients with dementia	N= 6	Online databases including Medline, PsycINFO, Embase, CINAHL and RILM were used to find articles with search terms that involve cognition and dementia.	Inclusion criteria: Patients with dementia, music therapy interventions , comparison with standard care, at least one cognitive outcome, and randomized control trials.	The comprehensive search was conducted by following the guidelines of the PRISMA statement. Risk of bias was evaluated using the Cochrane risk of bias tool and any doubts were resolved with consultation with other reviewers. Mean	-The meta-analysis showed no significant effect of music therapy on global cognition of people with dementia, although it did show therapeutic effects on behavioral, psychological , social and emotional factors. -The relationship

					<p>analyses for each outcome were performed using the standardized mean differences according to the random effects model. Subgroup analyses were performed according to the approach of the music therapist (“active or receptive”)</p>	<p>between the participants and the music therapist during music therapy favors emotional activation and may lead to mood improvement. Limitations:          -The “a priori” definition of Music therapist that was used did not account for the important therapeutic role of the therapist themselves          -Clinical heterogeneity hampered the efficacy of the music therapy intervention. The articles chosen also</p>
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						<p>involved people with dementia in different stages (early-late stage). -Specific cognitive domains were used to pool data. In many of the studies cognition was not a primary outcome and there were not enough participants in these studies to detect significant changes. -Outcomes were measured at the end of interventions, not accounting for changes that occurred in the beginning or</p>
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						middle of the studies.
Gómez-Romero, M., Jiménez-Palomares, M., Rodríguez-Mansilla, J., Flores-Nieto, A., Garrido-Ardila, E., & González López-Arza, M. (2017). REVISIÓN: Beneficios de la musicoterapia en las alteraciones conductuales de la demencia. Revisión sistemática. Neurología, 32253-263. doi:10.1016/j.nrl.2014.11.001	<p>Systematic literature review.</p> <p>This study seeks to compare scientific publications findings that relate to the benefits of music therapy in behavioral alterations of older persons with dementia.</p>	N=11	<p>Two independent revisers selected the articles based on the specifies criteria. Articles were selected from electronic databases using keyword. The quality of the articles were evaluated using 11 criteria and the PEDro scale (Physiotherapy Evidence Database). The chosen articles were then rated from</p>	<p>Articles were selected by two independent revisers based on inclusion criteria. Databases utilized include Academic Search Complete, PubMed, Science Direct and Dialnet.</p>	<p>Seven of the chosen article compare music therapy intervention to another controlled intervention for behavioral modification. Targeted behavioral changes include agitation and anxiety. The other articles investigated the use of music therapy without comparison to a control group and describe its effects on generalized</p>	<p>-Many of the studies consisted of small sample sizes and short durations for the interventions. -The authors suggest a reevaluation of the intervention's effects months after implementation to investigate any changes -There are not many controlled scientific studies done investigating the use of music therapy for behavioral changes in</p>

			“excellent” to “poor”		behavioral changes.	people with dementia. -Music therapy has been found to be beneficial for individuals experiencing behavioral changes due to dementia.
Han, P., Kwan, M., Chen, D., Yusoff, S. Z., Chionh, H. L., Goh, J., & Yap, P. (2010). A controlled naturalistic study on a weekly music therapy and activity program on disruptive and depressive behaviors in dementia. <i>Dementia And Geriatric Cognitive Disorders</i> , 30(6), 540-546. doi:10.1159/000321668	Controlled Naturalistic Study  Investigate if a less intensive, once a week therapy and activity based program can help alleviate behavioral and depressive symptoms in people with dementia, and their caregivers.	28 intervention participants  15 control subjects	Once a week, for 8 weeks, the music therapy and activities program involve 6-hour sessions with no more than 8 participants per session. Occupational therapists, certified music and licensed art therapists, and a nurse led warm-up stretching	Subjects were recruited from a naturalistic setting of an outpatient dementia clinic in Singapore. Inclusion criteria involved subjects with moderate stage dementia, a Mini-Mental State Examination score of 10-	The Revised Memory and Behavioral Problems checklist and the Apparent Emotion Scale were used to measure changes in the outcomes of mood and behavior. Caregivers reported noted changes as well.	-Significant improvements in behavioral and depressive symptoms in people with dementia after 8 weeks of weekly music and activity-based programming. -Scores for memory improvement remain unchanged Limitations: -Properties of the Apparent

			sessions, horticultural activities, and music therapy after lunch. Music therapy involved singing, music and movement, and drumming.	20, a Functional Assessment Staging Tool rating of 5-6, and have a reliable caregiver.		Emotion Scale could be less accurate -small sample size -availability of specialized therapists make it difficult to easily reproduce these findings.
Hsu, M., Flowerdew, R., Parker, M., Fachner, J., & Odell-Miller, H. (2015). Individual music therapy for managing neuropsychiatric symptoms for people with dementia and their carers: a cluster randomised controlled feasibility study. BMC Geriatrics, 201584	Cluster randomized controlled feasibility study. Mixed methods designs: qualitative and quantitative data were collected. Clarify the interactive components of individual music therapy	N=128	Residents were recruited based on music therapy referrals and specified criteria from two care homes. Staff participants were recruited by volunteering after presentations	Residents must reside within the identified units for the project, have a diagnosis of dementia, display neuropsychiatric symptoms of dementia, be at least 40 years of age, and display no	The Neuropsychiatric Inventory and Dementia Care Mapping was conducted at baseline, 3 months, 5 months, and 7months. The Neuropsychiatric inventory for homes was an	-Interactions between staff and resident participants were enhanced -Carers reported beneficial effects of the intervention, enhancing mood, emotion, sensorimotor functioning, self-

	<p>and explore how music therapy relates to the context of care.</p>		<p>of the project. The control group received standard care. Active therapy was conducted in 30 minute sessions once a week for 5 months.</p>	<p>significant health problems. Staff members had to have at least 3 months' worth of experience working with the residents, work with the units identifies for the project, and be able to work on the weekday music therapy intervention.</p>	<p>interview used to evaluate symptoms of dementia. The dementia care mapping is an observational tool used to provide information on the residents' well-being and the quality of care delivered by the staff. The residents' physiological state was evaluated before and after the sessions using a Polar heart monitor and an Affecta Q Sensor.</p>	<p>expression and communication, memory, agitation, apathy, anxiety and abnormal motor behavior. -Carers reported positive impact of music therapy on themselves and their work. -Potential sustained benefits on residents' well-being and symptoms over a 5-month program and a post-intervention 2 months later.</p> <p><b>Limitations:</b></p>
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						<ul style="list-style-type: none"><li>-Small sample sizes led to insufficient data and limitation on test power</li><li>-No multiple outcomes or sample size calculation were performed.</li><li>-Large effect sizes are difficult to interpret any clinical significance.</li><li>-Availability of the day of the week to perform the intervention</li><li>-Restricted number of residents receiving music therapy</li><li>-</li><li>-Randomization of staff working with the residents</li></ul>
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						causing “contaminatio n across the control and intervention groups.”
Lai, C. Y., Lai, D. L., Ho, J. C., Wong, K. Y., & Cheung, D. K. (2016). Interdisciplinary collaboration in the use of a music-with-movement intervention to promote the wellbeing of people with dementia and their families: Development of an evidence-based intervention protocol. <i>Nursing And Health Sciences</i> , (1), 79. doi:10.1111/nhs.12238	Mixed method design. Quantitative arm: was a randomized controlled trial Qualitative: naturalistic approach consisting of interviews.  This study aims to develop a Music-with-movement protocol and investigate the interdisciplinary collaboration	N= 17 (staff members recruited from two not-for-profit non-governmental organizations that operate community services for people with dementia in Hong Kong)  Participants included the authors, recruited staff	-Initial protocol was created using a preexisting framework and implemented to people with dementia 30 minute sessions for at least three times a week for 12 weeks was implemented.  -The intervention was implemented for 30 minute sessions for no less than	Staff members who operate community services for people with dementia were recruited with the use of poster advertisements. After they attended the 5-week training program, they decided if they wanted to participate in the program. The three stages of the intervention	Music therapists were consulted to refine the protocols that were developed during the intervention. The authors met with the staff members to discuss the implementation of the intervention.	-Effective music therapy intervention requires better communication between those from different professional differences. -The level of flexibility within each activity (listening to music, singing, dancing, etc.) allows the intervention to be carried out in different environments and develop

	in research about the work involved in developing these protocols.	members, people with dementia, and their families and/or caregivers.	three times per week for 12 weeks. In stage 2, staff from social service centers were recruited and instructed by music therapists for five weekly 1.5 hour sessions. The team of authors then adjusted the protocols of the intervention based on the feedback from the participants in stage two.	were then carried out to test the best protocol for implementing music therapy.		<p>meaningful interactions between the caregivers and people with dementia.</p> <p>Limitations:  -Differences in healthcare systems that would permit the use of music therapy.  -Ability and level of education of caregivers to receive instruction and implement the intervention.  -No specific sample sizes are given</p>
Melhuish, R., Beuzeboc, C., & Guzmán, A. (2017). Developing relationships between care staff and people with dementia	This phenomenological analysis emphasizes the need to	Eight of 34 staff members were recruited	Weekly attendance ranged from 8-12 participants,	Staff selected from nursing home in London.	The authors state that the staff members were able to	The authors identified three major points that impacted the



<p>through Music Therapy and Dance Movement Therapy: A preliminary phenomenological study. <i>Dementia (London, England)</i>, 16(3), 282-296. doi:10.1177/1471301215588030</p>	<p>promote a better quality of care for people with dementia as specified by the National Dementia Strategy in the UK. Exploratory qualitative study. This study will investigate how staff involvement in Music and dance Movement therapy can influence the care environment of people with dementia. Interviews and interpretive phenomenological analysis were used in this study</p>	<p>after an informatory session. 24 residents attended at least one session, lasting 45-60 minutes for a total of six weeks.</p>	<p>and a total of 24 residents attended at least one session during the period of the study. Staff participants were asked to fill in demographic information and questionnaire . At the end of the six-week intervention, consisting of music and dance movement therapy, an interview was conducted with questions developed by the authors. This procedure</p>	<p>Weekly program of activities and therapies implemented with music therapist and dance movement therapy. Six-week intervention was followed by questionnaire for both cohorts.</p>	<p>see the impact of the intervention as the residents participated. Residents who were more socially withdrawn seemed more alert, talkative, and displayed physical strength. The authors found that the staff was able to appreciate the approach that the music therapists had with the residents. Music therapists gave residents an opportunity to choose if they wanted</p>	<p>care that the staff provided to the residents. The staff were able to realize the skills and feelings of the residents through their engagement in music and dance movement therapy, they were able to learn techniques from the therapists that would enhance their care, and the intervention caused the staff to feel more connected with the residents. The authors state that the music and dance</p>
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			<p>was conducted again with a second cohort, and the project was submitted to North Central London Research Consortium.</p>		<p>to participate in the intervention. The staff learned that it was important to be flexible and give the residents (unrushed) time to engage in an activity. Lastly, the authors note that the staff demonstrated a more empathetic and reflective approach toward the residents following the intervention.</p>	<p>movement therapy increased care giver engagement and allowed the residents to express their authentic feeling, personalities and skills that are often taken over by the symptoms of dementia. Ultimately, the authors found that incorporating knowledge and skills used in music and dance movement therapies could be beneficial when transferred to the daily care by the staff members.</p>
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						<p>Limitations of this study include a small sample size and the inability to generalize these findings because they are limited to one location. Although efforts were made to reduce bias, more objective data could have been obtained if the authors had chosen a location where they have not been working for several years.</p>
Osman, S. E., Schneider, J., & Tischler, V. (2016). 'Singing for the Brain': A qualitative study exploring the health and well-being benefits of singing for people	Qualitative study using semi-structures interviews	N=20  "10 patient-carer pairs"	Singing for the Brain (SftB) is a program that was developed by	Participants were recruited from the East Midlands area of the	Transcripts of the interviews were examined to identify	-Six themes were identified from the collected data: social

<p>with dementia and their carers. Dementia-International Journal Of Social Research And Practice, 15(6), 1326-1339.</p>	<p>Explore the experiences of people with dementia and their carers when attending a group singing activity.</p>		<p>The Alzheimer's Society in the UK in 2003. SftB incorporates group singing with people with dementia and their caregivers with a musician. If there are instruments available, they are able to incorporate them into the sessions. Interviews were conducted for 37-85 minutes in the homes of the carer and the participant with dementia</p>	<p>UK via a non-clinical community setting. Participation was entirely voluntary and written consent was obtained.</p>	<p>recurring patterns (open coding) and refined into themes. Thematic analysis was performed by the authors through discussion.</p>	<p>inclusion and support, a shared experience, positive impact on relationships, positive impact on memory, lifting the spirits, and acceptance of diagnosis. -Perspectives of people with dementia can and should be included in research and the focus of these studies should highlight meaning rather than measured outcomes. -A group setting facilitates a sense of belonging and</p>
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			during a two-month period in which the SftB took place.			social support.  Limitations: -small sample size -future studies should include standardized tests to measure enhanced memory -different musicians, not just one musician, should be utilized. -A more diverse population should be captured. The participants included all "White British"
Raglio, A., Bellandi, D., Baiardi, P., Gianotti, M., Ubezio, M. C., Zancchi, E., & ... Stramba-Badiale, M.	Randomized controlled trial	N= 120	Three treatments were utilized involving	Inclusion criteria involved participants	Clinical assessment was performed	-All treated groups showed significant

<p>(2015). Effect of active music therapy and individualized listening to music on dementia: A multicenter randomized controlled trial. <i>Journal Of The American Geriatrics Society</i>, 63(8), 1534-1539. doi:10.1111/jgs.13558</p>	<p>-Compare the effects of music with those of listening to music on behavioral and psychological symptoms of dementia. - Evaluate the effects of treatments on quality of life.</p>		<p>standard care, standard care plus listening to music, and standard care plus active music therapy. Participants were randomized into the three groups. Music therapy consisted of 20 individualized 30-minute sessions, twice a week for 10 weeks involving instruments and a certified music therapist. Listening to music consisted of 20</p>	<p>aged 65 years and older, have a diagnosis of dementia, have a Clinical Dementia Rating Score of 1 to 4, a Mini Mental State Examination score of 18 or less, Neuropsychiatric Inventory score of 18 or less, and scores greater than 6 on the Neuropsychiatric Inventory. Participants were chosen from nine Italian institutions.</p>	<p>using the Clinical Dementia Rating, Mini-Mental State Examination, Neuropsychiatric Inventory (NPI), and Barthel Index (BI). The NPI, Cornell brown scale-Quality of Life, and the Cornell Brown Scale Depression in Dementia were used to assess behavior, mood and quality of life. The Music Therapy check list-Dementia was used to evaluate the sonorous communicati</p>	<p>improvement over time with all three groups. No significant difference was noted between people with dementia who were treated with music therapy or listening to music in addition to standard care, and those who received standard care alone. -Increase in communicative musical behaviors may be attributed to emotional involvement during sessions and a development of an</p>
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			<p>individualized sessions, twice a week for 10 weeks. Clinical assessments were done before, after, and 2 months after treatment.</p>		<p>on between the music therapist and the person with dementia, as well as musical, nonverbal, and verbal behavior. Participant characteristics were compared using one-way analysis of variance (ANOVA or Kruskal-Wallis or chi-square tests).</p>	<p>empathetic relationship between the music therapist and the participant.          -Significant effects of individualized listening to music were not found to reduce agitation in this study.           Limitation:          -Positive effects of music therapy may not be recognized because of the use of global NPI to evaluate the outcomes.          -Standard care differences could account for variations</p>
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						in treatment results, since the interventions were conducted in different institutions. -The number of sessions conducted could have been too small to develop a significant relationship between the people with dementia and the music therapists
Ray, K. D., & Mittelman, M. S. (2017). Music therapy: A nonpharmacological approach to the care of agitation and depressive symptoms for nursing home residents with dementia. <i>Dementia-International Journal Of Social Research And Practice</i> , 16(6), 689-710.	Exploratory design  -Evaluate the effect of music therapy on residents of nursing homes with dementia in alleviating	N= 132  Convenience sampling	Participants were chosen and obtained consent. Baseline assessment performed to determine behavior. Usual treatment	Residents were recruited from three nursing homes in New York after screening. Eligible participants	Severity of Depressive symptoms was evaluated with the Cornell Scale for Depression. The Algate Wandering	-Music therapy reduced symptoms of depression and agitation beyond medication effects, but not wandering behaviors.



	<p>troublesome behaviors. -Examine whether changes in depressive symptoms, agitation, and wandering behaviors are related to dementia or age, gender, level of impairment, or dose of intervention.</p>		<p>was given for two weeks and another assessment was performed. Two weeks of music therapy involved music and movement, singing, and tonal activities. Intervention sessions lasted between 15 minutes and 1 hour, depending on the tolerance level of the residents (who were free to leave at any time).</p>	<p>were indicated by scoring a five or higher on the Reisberg's Functional Assessment Screening Test which indicates a moderate or greater severity of dementia.</p>	<p>scale and Cohen Mansfield Agitation Inventory were used to assess dimensions of wandering and agitation, respectively. Analyses were conducted by using the IBM SPSS Statistics software.</p>	<p>-Music and movement, singing and tonal programs can decrease negative behaviors and neuropsychiatric symptoms that are not favorable to staff and family members. -Provision of cognitively stimulating activities and individual focus from the music therapist helped to provide opportunities for self-expression.</p> <p>Limitations: -Outcome measures neglected to</p>
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						present a full view of the effects of music therapy. -Future studies should also focus on explaining how music therapy can reduce neuropsychiatric symptoms and evaluate their effect on quality of life.
Ridder, H. O., Stige, B., Qvale, L. G., & Gold, C. (2013). Individual music therapy for agitation in dementia: an exploratory randomized controlled trial. <i>Aging &amp; Mental Health</i> , 17(6), 667-678. doi:10.1080/13607863.2013.790926	Exploratory randomized controlled trial. Pragmatic, two-armed, cross over, exploratory, randomized controlled study. The study aims to investigate the effect of music therapy	N= 42 participants	Data was collected in three 15-week periods from 2010-2011 in Denmark and Norway. Biweekly sessions of individual music therapy over a six-week period was performed by	Participants were nursing home residents with medically diagnosed moderate to severe dementia. Participants showed symptoms of agitation and were referred to music	Agitation was assessed using the Cohen-Mansfield Agitation Inventory and quality of life was assessed using the Alzheimer's Disease-Related Quality of Life tool.	Music therapy significantly reduced the average agitation disruptiveness scores in persons with dementia, compared to the control group who received standard care. Reducing agitation

	<p>on agitation frequency and disruptiveness in people with moderate to severe dementia and its effects on psychotropic medication on quality of life.</p>		<p>approved music therapy clinicians. Participants assigned to the control group received standard care in the nursing home. Music therapists were instructed to be aware of catching attention, regulating arousal level, and engaging in social communication of the residents during the intervention.</p>	<p>therapy, as well as completed the consent procedure in order to participate in the study.</p>		<p>disruptiveness is an important intervention when caring for a person with dementia. Also, psychotropic medication was not increased in the participants who received them on a regular basis (previous to the study's involvement), whereas those who received standard care increased the use of psychotropic medications.  <b>Limitations:</b>  -The interviewers and proxy respondents</p>
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						<p>were not blinded</p> <p>-</p> <p>Demographic, diagnostic, and medical data were missing</p> <p>-Small sample size</p>
<p>Schall, A., Haberstroh, J., &amp; Pantel, J. (2015). Time series analysis of individual music therapy in dementia: Effects on communication behavior and emotional well-being. <i>Geropsych: The Journal Of Gerontopsychology And Geriatric Psychiatry</i>, 28(3), 113-122. doi:10.1024/1662-9647/a000123</p>	<p>Quantitative statistical method. Time series analysis of videographed music therapy. Adjust the foci of qualitative and quantitative studies investigating the effects of music therapy on communication behavior and emotional well-being in people with</p>	<p>N=9</p>	<p>A 6-month study conducted in Germany involved 20 sessions of 23-29 minutes of music therapy conducted by a professional music therapist.</p>	<p>Participants were recruited using newspaper advertisements and advisory information from the Alzheimer's Association in Frankfurt. The severity of dementia was determined by the Mini-Mental State Examination, the Clinical Dementia rating, and</p>	<p>3 individual music therapy sessions were videographed and analyzed using time series analysis to identify procedural trends, interrupted time series analysis to examine the effects of individual music therapy interventions, and autoregressiv</p>	<p>-No improvement, and no worsening, was noted in cognitive impairment, neuropsychiatric symptoms, or instrumental activities in daily living. Overall, the alternative methodological approach to evaluate music therapy interventions demonstrated a positive influence on</p>

	advanced dementia.			the Global Deterioration Scale. All participants still lived in their home (not in an assisted living facility) and were being cared for by relatives.	the moving average models to describe stationary time series and autocorrelation structures over time.	communication, situation well-being, and expressing positive emotions in people with advanced dementia. Video-based procedural methods better display the effects of music therapy as opposed to the limitations of qualitative studies. -Small sample size -High drop-out rate -No control group -Limited funds to provide more people with music therapy sessions
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<p>Shibazaki, K., &amp; Marshall, N. A. (2017). Exploring the impact of music concerts in promoting well-being in dementia care. <i>Aging &amp; Mental Health</i>, (5), 468. doi:10.1080/13607863.2015.1114589</p>	<p>-In what ways can live music concerts influence clients living with dementia in care facilities and their family members.</p> <p>-Impact that a series of music concerts (that were previously part of their regular activities) taking place in care facilities in the UK and Japan, have on clients with dementia, nursing care staff, and their families.</p>	<p>N= 22 concerts</p> <p>Audiences ranged from 30-47 clients.</p> <p>53 participants interviewed</p>	<p>Concerts performed by different musicians for one hour in the early afternoon. Three care facilities were used with 11 concerts occurring in each of the two countries. Similar styles of music and familiar songs were performed for the participants who voluntarily attended the sessions. 53 participants (clients, family members, nursing/volu</p>	<p>Interviews were carried out with clients with dementia, their families, volunteer caregivers, nursing staff and care home managers. Three care facilities in the UK and three from Japan were chosen for voluntary participation in the concert sessions.</p>	<p>Standard qualitative procedures were used to analyze the data collected from interviews and organize keywords, concepts and ideas from responses into themes. Five themes were identified detailing the benefits (or lack-there-of) of the concert sessions to clients, staff and family members. Open observations were also carried out throughout the concert(s) and recorded as field notes.</p>	<p>-Experiences live music concerts provide benefits to the staff, family, and elderly living with dementia.</p> <p>-Musical events in a variety of presentations still appears to produce similar impacts as those with more controlled interventions.</p> <p>Limitations: -Individuals might have been pre-disposed to musical activity enjoyment since the interventions were</p>
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			nteer staff, and care/activities managers) were interviewed for 20 minutes after the concerts.			completely voluntary. -Participants were still enjoying the temporary increased levels of arousal when they were interviewed (immediately after the session). -Participants may not feel comfortable with the interviewer, whom they have never met before, to provide accurate information.
Spiro, N., Farrant, C. L., & Pavlicevic, M. (2017). Between practice, policy and politics: Music therapy and the Dementia Strategy, 2009. <i>Dementia</i> , (3), 259.	The authors state that the study focuses on investigating the extent to which music therapy	N=71 (questionnaires completed)	The authors describe their methods for creating the questionnaire that is presented to the	Participants took part voluntarily from the Barchester care homes in the UK.	Graphs were used to present the results of the questionnaires and showed the percentage of	This study highlights the contribution of music therapists to the quality of life of people living with

	<p>contributes to the goals of the Dementia Strategy in the UK, which aims to ensure high quality treatment of those with this disease. The authors anticipate several responses based on each of the 4 themes that are highlighted in the Dementia Strategy, 2009. “questionnaire design was piloted by two experienced” music therapists. This study uses a survey that was distributed to</p>		<p>participants. The authors devised statements to agree or disagree with based on the ‘Dementia Strategy’</p>		<p>the those who agreed or disagreed with statements on the survey. In summary, there is greatest agreements in statements concerning music therapy fulfilling a care role, and increase in awareness and understanding of the caregivers with clients when involved with music therapy</p>	<p>dementia. In this way, the well-being and emotional needs of the individual are being met with “intimate emotional-musical communications with those whom words and language have long ceased to function,” and helps to foster a sense of community in residential care homes. The authors suggest the use of this study to encourage collaboration between national policy and music therapists in</p>
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	<p>108 participants, divided into four groups associated with dementia. care homes: family members of clients, music therapists, staff, and 'care home' managers. Qualitative? This study was granted ethical approval by the Nordoff Robbins and Barchester Healthcare Research Ethics Committees.</p>					<p>the UK to deliver care for people with dementia.</p> <p>The authors declare no potential conflicts of interest with respects to the research, authorship, and publication of this article. This study could include a more detailed account of the literature that was used and more explanation of the methods used to present each participant with the questionnaire. I feel that</p>
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						many details were left out of this article that would help validate their findings more
Suzuki, M., Kanamori, M., Watanabe, M., Nagasawa, S., Kojima, E., Ooshiro, H., & Nakahara, D. (2004). Behavioral and endocrinological evaluation of music therapy for elderly patients with dementia. <i>Nursing &amp; Health Sciences</i> , 20046(1), 11-18.	Evaluate methods of the effectiveness of music therapy for dementia patients using cognitive, behavioral functional assessment, and endocrinological evaluations.	N= 10  Six participants had Alzheimer's dementia and four participants had vascular dementia  13 patients in the control group	Music therapy was performed twice a week for 8 consecutive weeks, totaling 16 sessions. Sessions were conducted for one hour in the morning in the dementia special care unit of a geriatric hospital located in Japan. Songs were played and sang based on personal	Patients and their families consented to the study after receiving full explanation of the protocol.	The Mini Mental State Examination (MMSE) was used to measure cognitive function. The Multidimensional Observation Scale For Elderly Subjects was used to rate behaviors in elderly persons such as self-care, disorientation, depression, irritability, and withdrawal. The N type Mental States	-Irritability decreased among the participants after 16 sessions of music therapy. -Total scores of MMSE did not reflect long-term improvements, but the results did suggest that singing and listening to music may stimulate and reinforce language abilities. -Music therapy had relaxing

			<p>preferences of the participants. Percussion instruments were used as well.</p>		<p>Scale and the N type Activities of Daily Living were used to evaluate mental status and activities of daily living. Lastly, salivary CgA, an acid glycoprotein, was obtained to measure autonomic nerve stimulation indicating stress. Paired <i>t</i>- tests were used to analyze the data.</p>	<p>effects on high stress levels. Changes in CgA and decreases in irritable behavior was noted. -CgA seems to be a useful supplementary evaluation to investigate changes in stress levels for patients with dementia for short-term periods. -Music therapy had positive effects during the intervention and in the daily life of elderly patients with dementia.</p>
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<p>Zhang, Y., Cai, J., An, L., Hui, F., Ren, T., Ma, H., &amp; Zhao, Q. (2017). Does music therapy enhance behavioral and cognitive function in elderly dementia patients? A systematic review and meta-analysis. <i>Ageing Research Reviews</i>, 1. doi:10.1016/j.arr.2016.12.003</p>	<p>Meta-analysis. This study utilizes a comprehensive literature search to find evidence that supports the use of music therapy in non-pharmacologic treatment of dementia.</p>	<p>N= 743 (studies, chart) 34 trials were identified for systematic review and meta-analysis, with 1757 subjects identified for music therapy or control.</p>	<p>The authors systematically reviewed articles from three electronic databases, PubMed, Embase and the Cochrane library using keywords and MeSH terms relating to “music therapy and disruptive behavior; cognitive function; or other outcomes and diseases.” Publication dates ranged from 1999-2015. Additional studies were selected from reference</p>	<p>Two investigators collected studies from electronic databases and determined their eligibility using a standardized data extraction form and any disagreements were deferred to a third reviewer. Quality of selected studies were also determined by using the Physiotherapy Evidence Database (PEDro) scale score and the Critical</p>	<p>In summary, the meta-analysis suggests that music therapy has a positive impact on disruptive behavior and anxiety, cognitive function, depression and quality of life. A majority of the trials, however, did not reach statistical significance in this comprehensive systematic review, and heterogeneity existed in most of the outcomes. Factors contributing to</p>	<p>Although the mechanisms of successful musical neurodegenerative dysfunctions are not well understood, this study found that music is a non-pharmacologic, non-invasive, and inexpensive intervention that can be easily implemented in the care of those with dementia. There is positive evidence that supports the use of music therapy to treat disruptive behaviors,</p>
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			lists of relevant publications.	Appraisal Skills Program (CASP). The 34 studies were divided into music therapy and control groups with statistics showing that the two groups had similar results in age, gender, and education level, although this study did include all types of dementia.	heterogeneity included interactive interventions, trial design, and measurement instruments. Ultimately, the authors found that music therapy had an effect regardless of the control group participation. Furthermore, music therapy also had an effect on the apathy of the individuals with dementia, regardless of their stage.	anxiety, cognitive function, depression, and quality of life in those with dementia. There was no evidence of publication bias y statistical assessment. The authors state that a limitation of the results might include the lack of communication of negative results in trials, and that many of the trials had small sample sizes, averaging less than 60 participants. Also, the substantial
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						variability in the outcomes of the selected studies created heterogeneity in the outcomes
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