A Literature Review of the Implementation of Effective Music Intervention with Dementia Residents

by

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Dedication

I would like to dedicate this thesis to my grandmother, who sadly passed away while developing my thesis. Thank you, Nana, for encouraging me to work hard in school and offering me words of encouragement when times were rough.

- Bella Rudolph 1931-2018

I would also like to thank my wonderful parents Monica and Kirk Patriquin. Thank you for supporting and guiding me through life, including my academic career.
Abstract
The interest in music therapy as a cost-effective treatment for long-term dementia care is increasing. As well, clients and caregivers are continuing to search for non-pharmacological alternatives to traditional dementia care. This literature review analyzed the key elements of music interventions in order to determine the best possible implementation in long-term care settings. Based on the findings of the review, the author proposed suggestions to improving music therapy implementation. The thesis included content from two available online databases and 32 journal articles. Any research that did not have the full article available were excluded from this literature review. The student was limited in the research that was accessible; this means that there may be research that was unavailable that can refute some of the claims made in this review. Currently, there are no definitive guidelines for music therapy or its implementation, nor are there agreements on an appropriate definition among professionals; many authors make a point of defining the term in the context of their research. However, most researchers agree that an interactive music design is more effective than a passive approach to therapy. A list of benefits to music therapy were included as well as a suggestion for session length. In the future, it may be beneficial that researchers include more databases and search to find a standardized definition of what music therapy should be. Given the constraints of dementia funding and staffing, it may be beneficial to find group treatments that need minimal staffing.
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Chapter I: Introduction

The prevalence of dementia will be an increasing challenge for society as the population ages. A 2016 World Alzheimer Report showed that over 47 million individuals around the globe have a diagnosis of dementia (Shiltz et al., 2018). Shiltz et al. (2018) noted that many of the approaches used by individuals working with the elderly demographic involve symptom relief as opposed to a cure. Beyond simply offering activities to entertain the elderly, many institutions offering long-term care have begun to include non-pharmacological strategies focused on improving quality of life, mood, as well as cognition (Sarkamo et al., 2014). Specifically, one of the non-pharmacological approaches involves the improvement of functioning with music therapy (Sarkamo et al., 2014). As stated by Aleixo, Santos, and Dourado (2017), music therapy can be described as the use of sound, melody, rhythm, and harmony by a therapist with one individual or a group. Aleixo et al. (2017) noted that most literature related to the effectiveness of music therapy focused on client agitation, depression, and anxiety. Many, if not all of these symptoms are present in the dementia population (Aleixo et al., 2017). In an article by Pedersen, Andersen, Lugo, Andreassen, and Sutterlin (2017), they noted that behavioural challenges, such as agitation and aggression, are treated with music therapy. With an increase in music therapy research, the quality of the interventions available should also increase. An article by Sakamoto, Ando, and Tsutou (2013) stated that music therapy is more effective when it is more of an interactive, rather than passive, experience. This review of academic literature serves to illustrate how altering the structure of current music interventions can increase their effectiveness with the dementia population.

Rationale

The purpose of this thesis is to use research in order to demonstrate the most effective implementation of music therapy. Based on past experiences music interventions appear to be commonplace in the long-term care setting, so it is understandable to seek to improve a frequently used activity. Like many disciplines in human services, activities or interventions are limited by either funding, time, staff, or a combination of the ones listed. By illustrating the most effective way to implement music with supported empirical evidence, it is possible that the current methods used can be altered. Keeping resource constraints in mind, this thesis aimed to understand: (1) Is passive or interactive music therapy more effective? (2) What should the length of a music therapy session be in comparison to the severity of dementia? (3) What are the key elements of music therapy? (4) What are the benefits of appropriately implemented music therapy?

Thesis Overview

This thesis contains review of academic literature involving the utilization of music intervention with the dementia population. More specifically, this includes the elements of effective music intervention as well as the important facets of dementia. After the literature review, an explanation of the methods involved in designing this thesis is included. The method section includes an explanation of the article selection process as well as how articles were summarized and compared. After the methods to the thesis are explained, the results of the literature analysis are summarized and explained in the results section. This section serves to demonstrate the findings of the literature review and emphasize the key features of effective music intervention. Finally, the last chapter concludes the thesis and serves to discuss the strengths and challenges of the findings; this includes limitations and ethical issues. Most importantly, the discussion section serves to recognize the contributions of the thesis to the field of Behavioural Psychology.
Chapter II: Literature Review

Summary of Music Therapy Intervention

As described by Beer (2017), music therapy is an approach to dementia treatment that is non-pharmacological and supported by a substantive amount of research studies. More specifically, music therapy focuses on the anxiety and behavioural challenges demonstrated by individuals with dementia (Beer, 2017). Beer (2017) states that music therapy is an intervention that is also considered to be cost-effective. As stated by Beer (2017), music therapists must have a client-centred focus and be sensitive to the nonverbal aspects of communication. As described by Beer (2017), music therapy utilizes silence, rhythm, and tone to communicate with clients. With music therapy, forming a rapport with nonverbal clients is easier because connections are made through the act of listening to music (Beer, 2017). As is general knowledge, most of our communication is nonverbal by nature, so it seems plausible that an intervention focusing on nonverbal communication would function well. Beer (2017) emphasized that an important element of music therapy when working with dementia clients is the utilization of silence.

As stated by Sakamoto, Ando, and Tsutou (2013), there are a few different approaches to music interventions regarding the dementia population; these include the passive and interactive approaches. Sakamoto et al. (2013) explained that passive approaches to music therapy involve the target individual simply listening to a song being played. With an interactive approach to music, the target individual is listening to the music and actively participating in its delivery (Sakamoto, Ando, & Tsutou, 2013). As stated by Beer (2017), music interventions can have the individual with dementia matching tones of the music, mimicking rhythmic sounds as well as movements, connecting with memories associated to the song being played, or a combination of what has been listed. By having many different avenues of connecting with the client and the music, it can be inferred that there are more options when it comes to individualized care.

Pedersen, Anderson, Lugo, Andreassen and Sutterlin (2017) noted that there is a distinction between individualized and group music interventions; an individual music intervention involves an individual listening to music alone or with a therapist, while group music intervention involves the shared experience of music with more than two participants. It is important to note that music therapists are required to remain up-to-date on the newest research in their field (Koger & Brotons, 2000). As stated by Koger and Brotons (2000), it is the responsibility of the music therapist to ensure clients are properly assessed and the intervention is designed for their specific needs. Essentially, music therapy, like other forms of therapy, should be individualized to the client.

Passive and Interactive Music Intervention

As mentioned, passive music intervention can be described as an individual listening to a song without interacting with the music (Sakamoto et al., 2013). For example, a resident in a wheelchair at a long-term care home will have an audio device such as an “iPad” playing the individual’s preferred songs. Sakamoto et al. (2013) stated that it is difficult for individuals with severe dementia to engage with interactive music as cognitive dysfunction can limit their ability to participate. An article by Han et al. (2011) contradicted Sakamoto et al. (2013) by stating that interactive music therapy is still effective with those who have more severe dementia. It is important to keep in mind that the article by Sakamoto et al. (2013) was published after Han et al. (2011), so it is plausible that newer findings were available.

Han et al. (2011) performed a naturalistic study analyzing the efficacy of weekly music therapy on the behaviours of individuals with dementia. There is a structured music intervention and activity program (MAP) that focuses on the behavioural as well as depressive symptoms of
individuals with dementia (Han et al., 2011). The MAP program had individuals attend weekly sessions spanning eight weeks that were conducted by an occupational therapist as well as a qualified therapist specializing in music (Han et al., 2011). The participants for the study conducted by Han et al. (2011) were 28 individuals with Alzheimer’s or vascular dementia. The study found that scores on a Revised Memory and Behavioural Problems Checklist (RMBPC) improved significantly in comparison to the baseline scores (Han et al., 2011). The RMBPC scores showed an improvement in the total scoring from 75.3 to 54.5; the lower the score, the more effective the intervention (Han et al., 2011). The greatest change Han et al. (2011) saw was in the depression subscale. One of the limitations outlined by Han et al. (2011) included a moderate financial cost in the weekly music intervention sessions, however the journal authors emphasize the importance of quality of life improvements to justify the cost increase.

The study conducted by Sakamoto et al. (2013) focused more specifically on the differences between passive and interactive music interventions. Unlike the study conducted by Han et al. (2011), Sakamoto et al. (2013) narrowed down the participants to having a diagnosis of Alzheimer’s disease, specifically at a severe degree. With a participant pool of 39 individuals, the subjects were randomly sorted to a control group that played no music, a passive group, or a group with music interaction (Sakamoto et al., 2013). As stated by Sakamoto et al. (2013), the intervention phase lasted for 30-minutes and would occur weekly, for a total of 10 weeks. There were efforts made by Sakamoto et al. (2013) to minimize the risks of confounding variables in order to protect the integrity of the study. For the control group, Sakamoto et al. (2013) provided a room with a silent environment; no music was heard. The passive group listened to music selected on a CD player (Sakamoto et al., 2013). For the interactive group of the study, participants must either sing, dance, or clap with the music facilitator (Sakamoto et al., 2013).

Unlike the study conducted by Han et al. (2011), a five-day training program was given to all facilitators of the Sakamoto et al. (2013) study for the procedures of the experiment to be done correctly. Sakamoto et al. (2013) determined that their hypothesis was correct; interactive music therapy can be substantially more effective than passive music interventions. Results from the study showed that the greatest improvement of emotional wellbeing came from the interactive intervention (Sakamoto et al., 2013). As for the long-term benefits of music intervention, Sakamoto et al. (2013) determined that interactive music therapy was again deemed the most effective treatment. Because of music therapy’s ability to assist in the restoration of cognitive as well as emotional functioning, this approach is deemed beneficial for individuals with a severe degree of dementia (Sakamoto et al., 2013).

In a systematic review conducted by Van der Steen et al. (2018), 22 studies were assessed in order to determine the efficacy of music-based interventions. All participating studies included participants with moderate to severe dementia that resided in a residential facility (Van der Steen et al., 2018). Much like the previously mentioned studies, the systematic review conducted by Van der Steen et al. (2018) took note of the interactive and passive forms of music interventions. Many of the studies analyzed in that review were subject to some level of bias, one of which being performance bias (Van der Steen et al., 2018). The methodology of the reviewed studies varied in their quality; many were deemed unfit to determine elements like quality of life improvements, reducing anxiety, improvements in cognition, and reducing depressive symptoms (van der Steen et al., 2018). That study serves to contradict the findings of the previous two studies related to interactive and passive music intervention. However, there was no evidence in the review that suggested that the previous two journal articles were included in the van der Steen et al. (2018) article.
In the meta-analysis conducted by Pedersen et al. (2017), articles dealing with the effects of music intervention were assessed on dementia individuals. Specifically, the study focused on agitation and its relationship to individuals with a dementia diagnosis (Pedersen et al., 2017). Pedersen et al. (2017) performed a literature review and identified 57 total articles that met their search specifications. To be considered an adequate study, only 12 articles met the standards of the study (Pedersen et al., 2017). Of the 12 studies that were deemed adequate by Pedersen et al. (2017), 11 of them involved the use of the client’s preferred music. Pedersen et al. (2017) noted that eight of the studies combined both passive and interactive music therapy, while six of them were strictly passive. Like the previously mentioned articles, Pedersen et al. (2017) considered interactive music interventions to involve clapping, singing, and stretching; they were found to be the most effective style of therapy.

A systematic review conducted by Aleixo et al. (2017) analyzed over 190 studies related to music therapy and dementia. The studies in the review included cross-sectional, longitudinal, randomized and nonrandomized with the inclusion or exclusion of a control group (Aleixo et al., 2017). Much like each journal article previously discussed, Aleixo et al. (2017) focused on the interactive and passive forms of music therapy, as well as individualized and group interventions. For the purpose of finding articles that have a higher efficacy, this article would have been best served adding studies with no control group to their exclusion criteria. As well, the review by Aleixo et al. (2017) should have included the duration of music intervention sessions. Without the distinction of how long a music therapy session is, it is hard for readers to emulate the results of the review to their own personal practice. In addition, practitioners would question whether session length had any impact on treatment outcomes.

In a research study created by Shiltz et al. (2018), music listening was evaluated in order to discern whether it served to reduce cognitive and behavioural challenges experienced by long-term care residents. Unlike previous studies, this article focused specifically on the passive approach to music therapy (Shiltz et al., 2018). Over a period of approximately five months, Shiltz et al. (2018) focused on 47 residents by exposing them to music listening three times a week. Participants for the study were assessed at baseline and at the end of each month during the intervention. After the intervention period, there was a noticeable decrease in agitation, however the psychotropic medication that residents were receiving did not change (Shiltz et al., 2018). The article by Shiltz et al. (2018) stands above previous experimental studies because it made sure to not only choose the participant’s preferred music, but also screened family and friends for music preferences. One weakness of the study however, is the lack of a control group in order to prevent bias. Having a control group, especially when a study expects marginal differences, is essential to maintaining a study’s integrity.

Unlike previous journal articles, Sihvonen et al. (2017) completed a study examining a multitude of neurological diseases such as dementia, Parkinson’s, and multiple sclerosis. Using a variety of scales, tests, and questionnaires, the participant studies focused on the neuropsychiatric as well as behavioural challenges of long-term care residents (Sihvonen et al., 2017). As stated by Sihvonen et al. (2017), some of the reviewed articles showed that combining music listening with either physical exercise or cognitive training improved the overall cognitive capabilities of residents. In contrast, the quality of life and moods of residents showed varying results when combined with music listening (Sihvonen et al., 2017). This finding discussed by Sihvonen et al. (2017) challenges the previous articles included in the thesis literature review because most, if not all, considered the quality of life of residents to improve with some form of music intervention. An important consideration that Sihvonen et al. (2017) gave to the benefits of
music listening is the ability to trigger memories with familiar music. Sihvonen et al. (2017) noted that individuals who hear familiar music may become more focused in an otherwise confusing atmosphere; the authors described this process as anchoring. Unlike other studies, Sihvonen et al. (2017) offered a substantial and in-depth amount of neurological research in their article; many of the concepts discussed in their article are only briefly mentioned in other articles. Sihvonen et al. (2017) questioned the roles of music therapists and stated that the criteria for a music therapy session remains unclear. However, Sihvonen et al. (2017) have considered that music will play an increasingly important role in the rehabilitation of neurological illnesses like dementia and Parkinson’s.

In a study conducted by Shibazaki and Marshall (2017), the effects of music concerts on people with dementia were studied. The researchers involved in this study attended 22 separate music concerts with families, caregivers, as well as nursing staff present (Shibazaki & Marshall, 2017). All participants in the study had an age ranging from 71 to 97 years; each participant was interviewed with their family or caregiver present (Shibazaki & Marshall, 2017). Shibazaki and Marshall (2017) split up the results of the study into five separate themes: preferences and behaviours of clients, disability and music, musical knowledge, staff perspectives, and finally, families and visitors. Shibazaki and Marshall (2017) found that residents had clear preferences when it came to music. However, the likelihood of them interacting with the songs did not change regardless of their familiarity with music. Music also offered a way for residents of all cognitive capabilities and disabilities to participate in an activity (Shibazaki & Marshall, 2017). It was noted by Shibazaki and Marshall (2017) that music offered a starting point for residents and their family to converse during the performance. In general, Shibazaki and Marshall (2017) offered the most in-depth perspective of their results. However, the study lacks a comprehensive statistical analysis of the data collected. It would have been beneficial for Shibazaki and Marshall (2017) to offer a quantifiable source in their results, much like previously reviewed articles.

**Elements of Music Therapy**

As described by Werner, Wosch, and Gold (2017), successful music therapy must utilize the client resources available to craft an individually-tailored intervention. Specifically, it must play to the client’s strengths and be considerate of the possible limitations (Werner et al., 2017). Werner et al. (2017) stated that demographical information is important to consider in designing the intervention. Some of the examples Werner et al. (2017) considered are the preferred music of the clients, singing styles, dancing styles, client mood, and whether the clients can play an instrument. Werner et al. (2017) emphasized the importance of self-reflection in the music therapy process. Essentially, self-reflection in the context of music therapy involves expressing the emotions evoked, as well as discussing the memories that are brought up by the music being played (Werner et al., 2017). It is important to note that the description Werner et al. (2017) gave about music therapy is in the context of interactive music interventions. Unlike previous articles in this literature review, Werner et al. (2017) described a safety measure that is put in place should clients become emotionally distressed. After the completion of a session with a distressed client, the therapist is required to perform a crisis intervention segment alone with that individual (Werner et al., 2017). In the version of music therapy described by Werner et al., 2017), participants are to be greeted in a personal manner at each session’s beginning. It is the responsibility of the music therapist to observe and judge the emotional stability of participants before continuing with the session (Werner et al., 2017). It is important to note that music
therapy sessions are not limited to the clients involved, but can also include individuals that the clients have relations to (Werner et al., 2017).

The randomized pragmatic trial with control groups designed by Werner et al. (2017) served to illustrate the effectiveness of different interventions when treating depression in long-term care homes. Werner et al. (2017) stated that there were 117 participants in total; one group for music interventions, and another group for recreational singing. The results from the study showed that there was a significant difference between the two groups, with music therapy yielding the most positive results in the clients (Werner et al., 2017). The instrument used to assess the differences in the two intervention types was called Montgomery-Asberg Depression Rating Scale (MADRS); this is a 10-part questionnaire designed to test depression levels in an individual (Werner et al., 2017). As described by Werner et al. (2017), this instrument can also test non-verbal clients. Most of the previous studies in this literature review did not account for non-verbal clients.

In a review article by Matthews (2015), he described music therapy as having four elements: communal nature, entrancing effect, rhythmic quality, and physiological arousal. Matthews (2015) noted that not all these elements are required for something to be considered a music intervention, but instead are prominent themes shown in music therapy delivery. By using a case study as an example, Matthews (2015) illustrated how utilizing these themes can be effective. Matthews (2015) noted that recalling the lyrics to a song does not require higher neuro-cognitive capabilities in a client. Essentially, Matthews (2015) believed that music therapy can be effective with higher functioning and moderate functioning individuals with dementia. Much like previous articles, Matthews concluded with an explanation related to the cost-effectiveness of music interventions. The article by Matthews (2015) is significantly less empirical than past studies and relies predominantly on the findings of a case study. However, Matthews (2015) was able to adequately summarize many of the same conclusions previous journal articles arrived at.

In a systematic review conducted by Ing-Randolph, Phillips, and Williams (2015), the relationship between music therapy and dementia-related anxiety was analyzed. The study hoped to illustrate the deficiencies in music intervention delivery as well as facilitator competence (Ing-Randolph et al., 2015). Ing-Randolph et al. (2015) began by stating that there was a deficit in research empirically connecting music interventions with reductions in anxiety. The authors researched 453 articles related to music therapy and dementia; however, only eight were considered adequate based on the inclusion criteria (Ing-Randolph et al., 2015). Of the eight studies left to be reviewed, five of them were randomized controlled trials (Ing-Randolph et al., 2015). It is important to note that all eight of the eligible studies relied on participants that were assessed by family and caregivers (Ing-Randolph et al., 2015). As stated by Ing-Randolph et al. (2015), music therapy does not appear to have a clear definition, inclusion criteria, or specific training regimen for facilitators. In order to improve music therapy as a reliable approach to dementia treatment, Ing-Randolph et al. (2015) suggested refining its empirical definition, increasing regulation on resident safety, and standardizing treatment. In general, the methodology for music therapy research is lacking significantly (Ing-Randolph et al., 2015).

Petrovsky, Cacchione, and George (2015) reviewed the relationship between mild dementia and music interventions on client mood. Much like Ing-Randolph et al. (2015), Petrovsky et al. (2015) found that the definitions for what constitutes music therapy is questionable. The article began by outlining the definition for music therapy in the context of the review (Petrovsky et al., 2015). A total of 467 journal articles were examined by Petrovsky et al. (2015), with only ten deemed eligible. Petrovsky et al. (2015) stated that they had originally
intended to perform a meta-analysis but found that the articles varied too strongly in definitions, methodology, and demographics. Unlike many previous articles on music intervention, Petrovsky et al. (2015) concluded that the studies examined were poor in quality. Petrovsky et al. (2015) encouraged that future researchers standardize their study design as well as definitions of music therapy.

In a randomized controlled trial conducted by Raglio et al. (2010), the efficacy of cyclical music therapy sessions was analyzed. A total of 60 individuals with Alzheimer’s disease were included in their study and randomly assigned to either a control or experimental group (Raglio et al., 2010). Raglio et al. (2010) stated that the experimental group was exposed to three 30-minute sessions of music therapy each week for a total of 12 weeks. After the completion of one cycle of 12 weeks, Raglio et al. (2010) would take a one-month break before beginning again. The study was to be conducted over a six-month period (Raglio et al., 2010). After all the cycles were completed, the results showed a significant decrease in dementia symptomology, specifically with those who had more severe dementia (Raglio et al., 2010). It is important to note that the content for each music therapy session was not explained in the study (Raglio et al., 2010). As stated by Raglio et al. (2010), one of the largest limitations with the study was the lack of specificity in the examined dementia behaviours; the reader does not know what was included or excluded. As discussed by Raglio et al. (2010), future research must be completed regarding the optimal length of music therapy sessions.

Benefits of Music Therapy

As noted by Shiltz et al. (2018), agitation is a behavioural trait commonly associated with music-based therapy. The authors note that music is known to significantly reduce the levels of agitation demonstrated by individuals with dementia (Shiltz et al., 2018). Often, dementia clients are required to take medications, specifically antipsychotics and some forms of benzodiazepine (Shiltz et al., 2018). Shiltz et al. (2018) emphasize that the utilization of music therapy can assist in the decrease of medication individuals with dementia may require to treat mood and behavioural symptoms that they exhibit. Essentially, requiring less or no medication is considered a universally positive change. One of the barriers to medical staff considering the removal of medication is the idea that more harm than good can come of it (Shiltz et al., 2018). Shiltz et al. (2018) note that music therapy can be used in conjunction with the dementia individuals’ medication regimen in order to either improve quality of life or assess whether the intervention is helping. In many cases, it is possible to generalize some of the music therapy practices to non-dementia residents at a long-term care facility; however, Shiltz et al. (2018) inferred that an individualized approach may be best. Shiltz et al. (2018) noted that their research indicated success for music therapy in several of the branches of dementia; this will led to easier intervention generalization.

In a case study conducted by Ahessy (2017), music therapy that involved song writing as well as improvisation was found to be beneficial to dementia clients. Specifically, Ahessy (2017) found that listening and writing music allowed a 94-year-old female to express emotions, reflect on her condition, and validate her identity. It is important to note that the results of that study were on one specific woman and may not reflect others with dementia. Like with many case studies, considerations must be made regarding the scientific accuracy as well as the small sample size of the literature. Regardless, Ahessy (2017) noted that music therapy can surpass rationality and focus more specifically on the emotional capacity of an individual with dementia. Essentially, Ahessy (2017) explained that verbal communication is not a requirement for music therapy. As stated by Ahessy (2017), music therapy can surpass the barrier of language and
allow a diverse group of individuals fluent in different languages connect through one style of intervention. Music therapy remains an adaptable intervention capable of increasing the productivity and engagement of individuals with dementia when completing tasks or activities (Ahessy, 2017). Like the research conducted by Shiltz et al. (2018), Ahessy (2017) observed that music therapy induced a decrease in agitation of those with dementia. Many of the further benefits described by Ahessy (2017) involved an increase in social behaviours, increased participation in activities, and an increase in the individual’s ability to recall memories. One of the greatest benefits of music therapy is its capacity to involve a client’s family and the nursing staff in the maintenance phase of an intervention (Ahessy, 2017). Essentially, client care can continue beyond the time constraints that most therapies have (Ahessy, 2017).

In their observational study on music concerts, Shibazaki and Marshall (2017) found that attending the one hour music sessions increased social interaction, client agreeableness, and decreased agitation; this is similar to the findings of Shiltz et al. (2018) and Ahessy (2017). Based on neurological research, Shibazaki and Marshall (2017) stated that individuals with dementia retain their music preferences and knowledge beyond the deterioration of their cognitive skills. Shibazaki and Marshall (2017) emphasized the non-pharmacological nature of music therapy; a benefit listed in almost every journal article related to the topic. Similar to what was stated previously, there is a preference by families to use as little medication as possible when treating any form of illness. Essentially, the assertion that music therapy is both effective and non-pharmacological would appeal to many caregivers considering this form of therapy. The article by Shibazaki and Marshall (2017) stated that clients who listened to music were also able to distinguish between the enjoyment of music as opposed to the tolerance of it. Shibazaki and Marshall (2017) observed that individuals with dementia preferred songs that would have been popular in their young adult years; older songs evoked more pronounced positive responses. As well, Shibazaki and Marshall (2017) noted that clients with moderate to severe dementia were capable of reciting and understanding song lyrics. More specifically, individuals with dementia were able to recognize song patterns, anticipate how a song would finish, and predict rhythm changes (Shibazaki & Marshall, 2017). Unlike previous articles, Shibazaki and Marshall (2017) took an in-depth look at how music affects the family of individuals with dementia; some examples would be increased conversation initiation by clients, increased visitation experience, and partial restoration of the client’s personality. Some of the limitations of the study could skew the results listed above. For example, Shibazaki and Marshall (2017) explained that participation was completely voluntary; residents who already enjoyed music would continue to attend, while residents who did not enjoy music continued to avoid the activity. As well, it is important to consider how comfortable participants felt around individuals unfamiliar to them, as this could lead to clients and their family withholding feedback (Shibazaki & Marshall, 2017).

In a quasi-experimental longitudinal study conducted by Wang, Yu, and Chang (2017), the efficacy of music therapy on dementia clients was tested. Based on a population of 172 individuals from long-term care homes, Wang, Yu, and Chang (2017) discovered that music, when used in conjunction with standard residential care, showed a statistically significant decrease in anxiety, depression, and basic functioning. When music was used for a range of long-term care activities, it was able to decrease how passive and agitated some clients would be (Wang, Yu, & Chang, 2017). It is important to be critical of the last statement, as the activities that showed improvement were not explicitly stated or explained by the study. Essentially, there can be variability on the results depending on the activity the behaviours were observed in. As noted by Wang, Yu, and Chang (2017), the purpose of the study was to offer a way for long-term
care staff to improve the daily activities available to residents with dementia. With the implementation of music therapy, it is possible to reduce the cognitive decline in those with dementia and improve their overall quality of life (Wang, Yu, & Chang, 2017).
Chapter III: Method

Selection Procedures
Instead of using human participants, this thesis focuses on articles gathered from online databases. In total, there are at least 18 participating journal articles. Originally, 32 articles were examined, however they were deemed unfit for the purposes of this thesis. For example, articles that did not have a full text version available were excluded. All the peer-reviewed journal articles were accessible and sourced. In order to include the most up-to-date information, no articles exceeding 18 years of publication were used. Using music in the context of therapy is a newer concept in the field of Psychology, therefore most of the articles exceeding 18 years would not be an adequate fit for this literature review. Furthermore, articles that offered a more complex methodology and selection procedure were preferred over less empirical articles. For example, a meta-analysis was preferred over a case study. All participating articles must have been written in English or have an English translation available. Most importantly, articles selected were related to both dementia and music therapy.

Many of the articles used in this literature review were obtained from the online database EBSCOhost and accessible through St. Lawrence College in Kingston. Articles that were not obtained through EBSCOhost were sourced from Google Scholar. In order to assess whether an article would be appropriate for this literature review, the author searched through the specific EBSCOhost database PsycINFO, or from PubMed. Once on the search page, search terms such as Dementia, Alzheimer’s, Music, Music Therapy, Elderly, Music Intervention, and Long-term care home were used. To narrow the volume of possible results, the author used the advanced search options Scholarly (Peer-Reviewed) Journals and Linked Full Text on EBSCOhost. For the Google Scholar database, the same search terms were used, however the author did not use any advanced options.

Materials
The student had access to the internet, online databases through St. Lawrence College and Google, and a personal laptop. The thesis was written on both Microsoft Word and can also be accessible through “Google Docs.” Articles found through an online database used key terms listed in the procedures section. Any information summarized about the participating articles were collected on a separate Microsoft Word document (Appendix A).

Measures
Annotated bibliography. Each article included in the thesis was reviewed and summarized in a chart with key information (Appendix A). Key information included in the article summary chart include the “Title and Author,” “Type of Article,” “Participants,” “Methodology,” “Results,” “Discussion/Conclusion,” and “Strengths and Limitations.” Because a substantial number of articles were reviewed, it is important that the essential material was summarized and categorized in order to recall key information over the course of research. One of the strengths of the article summary chart is how much easier it is to see similarities and differences between the key features of the participating articles. As well, it offers aid in understanding the core elements of each article in an easy to navigate table.

Procedures
Over a four-month period, from September 2018 to December 2018, articles were researched, reviewed, and summarized in order to determine their eligibility in this literature review. Once the articles were selected and read, they were summarized, with all key
information placed in the article summary chart. Each article in the thesis was compared using key terms like *Article Type* and *Participants*. 
Chapter IV: Results

General Summary

The following segment is a summary of the findings based on the literature review and article summary chart (Appendix A). To begin, the literature strongly supports interactive music therapy over passive music therapy. Out of the 18 articles that met the inclusion criteria, 15 determined that interactive music interventions were found to be the most effective form of therapy. However, the research indicates that definitions of what constitutes music therapy continue to be vague; there is no standardized definition or guidelines among professionals that can be agreed upon (Sihvonen et al., 2017). As described by several journal articles, such as the one by Sihvonen et al. (2017), the methodology of many music intervention articles is poor in quality. For example, several researchers including Koger and Brotons (2000) noticed the lack of detail in what is considered a music therapy session. As mentioned by Sakamoto, Ando, and Tsutou (2013), small sample populations are common within the music therapy literature. By having a small sample size, it makes it more difficult to consider the results as a reflection of a wider population. As emphasized by Sakamoto, Ando, and Tsutou (2013), staffing plays a significant role in the effectiveness of treatment. Essentially, having a more experienced or interactive staff member will naturally increase the effectiveness of an intervention. As stated by Shibazaki and Marshall (2017), the part of the brain that functions with music is one of the last to deteriorate from Alzheimer’s. By using music to access the part of the brain that functions with music, professionals can work on neuroplasticity (Shibazaki & Marshall, 2017).

It is important to note that exactly half of the researched material were reviews of some capacity. Many of those journal article reviews studied the same articles and came to similar conclusions. Particularly, common conclusions included the positive effects music has on mood regulation and medications. As well, many of those reviews searched for articles on the same databases. For example, several studies such as the ones by Aleixo, Santos, and Dourado (2017) as well as Sihvonen et al. (2017) accessed the database PubMed. In several studies, including the ones by Shiltz et al. (2018) and Matthews (2015), the regulation of mood through music is listed as a common practice. Much of this information may appear intuitive to the general population; humans often choose their music tastes according to how they are feeling. Shiltz et al. (2018) noted that music therapy lowers the need for medication. With less medication, there are usually less associated costs. Cost-efficiency is something that most, if not all the research articles mentioned in order to justify music therapy. It is important to keep in mind, however, that some professionals would not be ethically comfortable with taking a client off medication for music therapy (Shiltz et al., 2018). Based off the articles researched, Shiltz et al. (2018) was the only one to address the ethicality of taking clients off medication.

Petrovsky, Cacchione, and George (2015) noted that much of the literature they reviewed lacked methodological coherency. Essentially, it was not clear what a study was trying to assess due to a vague methodology and poor assessment tools. For example, Petrovsky et al. (2015) mentioned that some assessment tools used in music therapy studies were not even appropriate for the population they were measuring. Regardless, one of the biggest benefits of music therapy is the reduction in agitation of those with dementia. It should be noted that Werner, Wosch, and Gold (2017) as well as Shiltz et al. (2018) both found a significant decrease in their participants’ agitations. In particular, music therapy can reduce aggression in dementia residents (Werner, Wosch, & Gold, 2017).
Passive and Interactive Music Intervention

Almost unanimously, researchers found that interactive music intervention was more effective than passive music intervention. It is important to distinguish, however, that many of the researchers agreed to continue use of passive music interventions with clients. For example, clients who lack motor movement may not be able to participate in many interactive exercises. The literature suggested that a variety of interactive forms of music therapy were effective: singing, dancing, writing songs, clapping, and playing instruments. Of the articles researched, there are currently none that show a preference between the different styles of interactive music therapy. Essentially, there is no definitive answer on whether one form of interactive music therapy is superior to another. A few of the articles, specifically one by Sihvonen et al. (2017), mentioned the effects of preferential music on dementia clients; music that clients had a previous emotional connection with was deemed more effective at eliciting positive responses.

Key Elements of Music Therapy

Based on the research, music therapy sessions needed to be tailored to the functionality of the client with dementia; shorter sessions were best for severe dementia, while longer sessions were better for moderate dementia. A majority of the studies suggested that music therapy sessions last between 30-minutes and 60-minutes. As mentioned previously, music preferred by clients is strongly suggested by the research; this makes sense given that establishing an emotional connection is important. The articles researched differed in their opinions on what music therapy entailed. Several researchers noted that there was no clear definition for music therapy. Many of the research articles created their own definitions and based their study on that preference (Ing-Randolph, Phillips, & Williams, 2015).

Benefits of Music Therapy

The research reviewed suggested that music therapy offers a cost-effective, non-pharmacological approach to dementia care. In several studies, including the ones by Shiltz et al. (2018) and Wang, Yu, and Chang (2017), music therapy lowered the levels of agitation experienced by dementia individuals. Sihvonen et al. (2017) noted that the parts of the brain responsible for a human’s ability to remember music is different than the general memory recall capability; this could explain why clients with severe memory challenges can remember all the lyrics of a song and its tune. The literature also indicated that music therapy can include family and other caregivers in the therapeutic process. Essentially, music therapy can be included with the client’s circle of care regardless of location.
Chapter V: Discussion

Summary

This literature review was created with the purpose of discovering the best iteration of music therapy with the dementia population. Specifically, this summarization of the literature aimed to understand: (1) Is passive or interactive music therapy more effective? (2) What should the length of a music therapy session be in comparison to the severity of dementia? (3) What are the key elements of music therapy? (4) What are the benefits of appropriately implemented music therapy? The results found that an overwhelming number of participating articles determined that interactive music therapy is the most effective iteration. Essentially, if clients are more mentally and physically involved in the process, the effectiveness of music therapy increases. Depending on possible physical limitations of the client, interactive music therapy is more challenging. Next, the literature supported the assertion that music therapy sessions should remain between 30-minutes and 60-minutes. The severity of dementia was used to decide session length; the more severe the dementia, the shorter the session length. A 60-minute session would be best for those with moderate dementia.

Much of the confusion in relation to music therapy is due to the unclear definition of what exactly this treatment entails. Each participating article chose to define music therapy in its own way, which makes it challenging for readers to compare study results. Even in the most recent journal articles, there is no professional consensus on a music therapy definition. Many of the researchers did agree that there are a significant number of long-term care providers who do not understand what should be included in music interventions. Because of this confusion, caregivers may determine that music therapy is ineffective. The research indicates that music therapy does not have to be a solitary experience; caregivers are often included in the process. It can be inferred that including caregivers increases the effectiveness of maintenance past the therapy session dates. Since long-term care home staff as well as family will continue to see the individual with dementia, it seems logical to include them in the maintenance and generalization process. Most importantly, the research indicates that music therapy does benefit the client. Several authors have identified that music therapy decreases agitation and aggressive behaviours as well as improves cognitive functioning and memory recollection abilities.

Strengths

This literature review was able to find an adequate number of research articles related to music therapy and dementia. Many of the articles ranged from case studies to systematic reviews. It can be concluded that one of the strengths of this literature review was the variety of article types used. Essentially, there was an adequate balance of research styles included. The use of music therapy varies significantly between client populations, so it was important that the participating articles were specific to the chosen topic. This thesis does highlight some of the gaps in the literature related to inconsistent definitions of therapy. In the field of psychology, it is important that professionals have clear guidelines to any sort of treatment, music therapy or otherwise. Given that the placement student was assigned to a long-term care facility, firsthand experience was achieved with the target population. The previous research regarding music therapy was quite expansive, especially the material within the last five years. The participating articles covered both the cognitive and physiological benefits of music therapy with dementia; this is important considering the disease impacts both physical and mental elements of human health.
Limitations

Although this literature review did include a variety of research, there were still a significant number of articles that were inaccessible. Largely, this is due to the limitations of the St. Lawrence College database ‘EBSCO’, as well as ‘Google Scholar’. As expected, many journal articles require subscriptions or affiliations with certain institutions to access. An argument can be made that articles from the inaccessible research could have refuted some of the participating articles’ claims. In this case, further research must be conducted outside the limitations of the included databases. Another limitation with this literature review is the lack of data analysis. Having no statistical representation of the researched material makes it more challenging to illustrate the results.

Multilevel Challenges to Service Implementation

Overview. Funding continues to be a challenge for long-term care homes, so many facilities have resorted to finding cost-effective means of treatment for individuals with dementia. Because of funding limitations, there is a constant strain on which activities and services are available to clients.

Client level. It is difficult to bring clients to music activities when they are not interested in listening to music. As well, it is challenging to offer concerts at a long-term care home when many individuals prefer a certain style of music. For example, a client who prefers rock music would not be interested in attending a country music activity. Another issue is client health; many residents with dementia will miss music activities because they do not feel well.

Program level. Each client has individual needs, so it is difficult as a program designer to create an activity capable of meeting a variety of challenges. For instance, an activity designed to teach dancing would need to be altered for those in wheelchairs. As well, some of the clients who are not in wheelchairs may prefer dancing activities, so this would create conflict. Currently, there is too much variability in what constitutes music therapy; this means that it is difficult as a therapist to follow appropriate guidelines.

Organization level. One of the continued challenges in most long-term care homes is funding. It is often challenging to run activities, especially music ones, with no money. Most performing music artists require a fee to attend a long-term care home. Often, staff find it a challenge to find musicians who will play their music for free. Another issue at the organizational level is convincing the head of departments to authorize changes in the implementation of the music interventions. Many long-term facilities have specific quotas of activities they are required to fulfill, so it is challenging to work within the constraints of these systems.

Societal level. Elderly care continues to be a poorly funded and often ignored aspect of Canada’s medical and social services. With an aging population, there will be an increasing number of individuals with dementia requiring long-term care. As such, it is important that cost-effective methods of treatment are found in order to keep up with the demand. Many individuals in society are not aware of the costs associated with long-term care. Because society is unaware, it is difficult to find people that would advocate for higher funding.

Contributions to Behavioural Psychology

Dementia care continues to benefit from the approaches of behavioural psychology. Music therapy affects many of the behavioural symptoms caregivers have challenges with. For example, much of the research indicated that music therapy reduces agitation in individuals with dementia. By changing the environment, the behaviour reduces in frequency; this means that caregivers will face less challenges with providing appropriate care to the resident. This thesis
also serves to emphasize the gaps in literature related to a newer form of therapy. With an absence of literature detailing music therapy procedures, it leaves room for other behavioural professionals to provide guidelines towards providing the best standard of care. Essentially, other professionals can refine music therapy intervention practices in order to increase the quality of treatment it provides. Finally, this literature review may encourage behavioural psychology professionals to explore other effects music therapy has on behaviour.

**Recommendations for Future Research**

Individuals interested in researching further should focus on determining whether a general definition of music therapy is available. Based on the research included in this literature review, there is still no concrete guideline of music interventions with the dementia population. Most of the current research on music therapy is short-term; it would be interesting to see the effects of music therapy over several years rather than months. Researchers looking to expand music therapy should find other cost-effective methods to provide music therapy, as funding continues to be an issue with dementia care. A music therapy group program designed to function with minimal staffing would be beneficial to long-term care. As mentioned earlier, there are many other databases that were not explored in this literature review. Essentially, it would be beneficial to see if other articles in the excluded databases refute some of the claims made in this literature review.
References


### Annotated Bibliography

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<th>Author/Title</th>
<th>Method</th>
<th>Results</th>
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<tr>
<td>Ahessy, B. (2017). Song writing with clients who have dementia: A case study. The Arts in Psychotherapy, 55, 23-31. doi:10.1016/j.aip.2017.03.002</td>
<td>One 94-year-old female participant with dementia. This was qualitative research; the participant was exposed to the most common forms of music therapy, specifically song writing, and would have her cognitive functioning observed by the individual conducting the study. A person-centred approach has the potential to be a highly effective treatment method. In a client with moderate cognitive functioning, the ability to play the piano remained consistent. There was only one participant in this case study, meaning the sample population was small. As well, this case study relied on the participant being able to play an instrument. In contrast, the single participant sample size emphasized the person-centred approach that the article was going for.</td>
<td>Results of the study showed an increase in the participant’s emotional communication as well as decreases in verbal interruptions while playing on a piano. The study showed that active music therapy was effective.</td>
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<td>Aleixo, M. A. R., Santos, R. L., &amp; Dourado, M. C. (2017). Efficacy of music therapy in the neuropsychiatric symptoms of dementia: Systematic review. Journal Brasileiro de Psiquiatria, 66(1), 52–61. Retrieved from <a href="http://www.scielo.br/scielo.php?pid=S0047-20852017000100052&amp;script=sci_abstract&amp;tlng=pt">http://www.scielo.br/scielo.php?pid=S0047-20852017000100052&amp;script=sci_abstract&amp;tlng=pt</a></td>
<td>This journal article was a systematic review. In total, there were 257 participating articles with only 12 being deemed adequate by exclusion criteria. Articles were researched through online databases and libraries such as PubMed and Cochrane Library; key search terms included Alzheimer and music therapy.</td>
<td>12 studies were deemed adequate. More than half of the accepted studies included randomized methods. The authors found that Music therapy was deemed effective in decreasing depression as well as agitation. Music therapy is still highly subjective and</td>
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This was a review article. There was no number of participating articles specified. The author reviews and summarizes findings from 20 different communication trainings related to music therapy. Each strength and weakness are displayed under a heading, such as *training format.*

60-minute training lengths are best. The author notes that caregivers are not trained in communication with clients that have dementia. Although this article is supported by many sources, many of the material included is either anecdotal in nature or simply opinionated. This article also lacks a clear methodology. However, the author does appear knowledgeable about the dementia population and music therapy in general. Only one author was included in the article, with much of the knowledge shared being personal. The article is strong in the sense that it clearly outlines key elements of music therapy training, such as how long sessions should be.

Han, P., Kwan, M., Chen, D., Yusoff, S. Z., Chionh, H., This article was an exploratory research study.

There was a statistically significant

There were 63 total participants in the study, all with Alzheimer’s disease. All study participants were from an out-patient clinic. Weekly 8-week music therapy sessions called ‘MAP’ (music therapy and activity program). Two assessment tools were used: AES and RMBPC. For this study, an intervention and control group were used.

improvement in behavioural and memory recollection scores for the intervention group (RMBPC). The other assessment tool, the AES showed no significant change between control and intervention groups. The study found music therapy effective with the dementia client population. As well, the study emphasized how the cost-effective nature of music therapy can benefit a country where proper healthcare is not offered. Most, if not all the participants had moderate dementia. Other issues with the study included a sample size that was small, biased music therapy professionals, and a modified assessment checklist (AES) that was not specifically designed for the 8-week intervention style. Some strengths to the study include an in-depth statistical analysis, at least two assessment tools, a clear methodology, and a thorough screening process for participants.

Ing-Randolph, A. R., Phillips, L. R.,

This was a systematic review

Eight articles were
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<th>Reference</th>
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<td>&amp; Williams, A. B. (2015). Group music interventions for dementia-associated anxiety: A systematic review. <em>International Journal of Nursing Studies, 52</em>(11), 1775–1784. Retrieved from <a href="https://www.sciencedirect.com/science/article/pii/S0020748915002084">https://www.sciencedirect.com/science/article/pii/S0020748915002084</a></td>
<td>There were 832 participating online articles that were considered for the review, but only eight passed the exclusion criteria. Articles were collected from PubMed and CINAHL with terms like <em>dementia anxiety</em>. The only articles included were in English.</td>
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<td>Koger, S. M., &amp; Brotons, M. (2000). Music therapy for dementia symptoms. <em>The Cochrane Database of Systematic Reviews</em>. Retrieved from <a href="https://europepmc.org/abstract/med/10908486">https://europepmc.org/abstract/med/10908486</a></td>
<td>This was a systematic review article. The number of articles collected by the review was not specified. Literature related to music therapy and dementia symptoms was collected; research prior to the year 2000 was studied. The authors considered the quality of the participating articles’ methodologies, such as what assessments were used and whether a control group was present.</td>
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<td>No study was able to meet the specifications of the review. Essentially, all the studies reviewed did not surpass the exclusion criteria. Studies with better methodologies are required; the research before the year 2000 lacked scientific efficacy. There was no total of the participating articles.</td>
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<td>Author(s)</td>
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<td>Matthews, S. (2015)</td>
<td>Dementia and the power of music therapy. <em>Bioethics</em>, 29(8), 573–579. Retrieved from <a href="https://onlinelibrary.wiley.com/doi/abs/10.1111/bioe.12148">https://onlinelibrary.wiley.com/doi/abs/10.1111/bioe.12148</a></td>
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authors were looking for how music therapy affects agitation in the dementia population. The articles selected were all from online databases such as PsycArticles and fit inclusion criterion like having valid scientific assessment tools.

articles fitting/meeting the seven inclusion and two exclusion criteria. The results of the studies included showed a significant reduction in agitation. Much of the research studied came to the same conclusion that agitation decreases with music therapy. However, the passive approach to music therapy showed some variance in success rates.

Many of the participants included in the study may not have been in the same stage of the disease, and therefore the results of the studies can be skewed. The authors bring up the importance of the time of day, as dementia symptoms become more prevalent later in the day.

One of the strengths of the study is the robust list of inclusion and exclusion criteria; the authors made sure to narrow their searches down. Given that the article is a meta-analysis, it seems clear as to why the methodology is detailed.

Petrovsky, D., Cacchione, P. Z., & This article was a systematic Unlike previous

There were over 467 total participating articles. This review looked at all the music therapy literature related to the symptoms of dementia, with inclusion criteria like peer-reviewed or clinical trials. Scores, such as the number of participants in each article, were compared. This review determined that the poor quality in methodology excluded many studies from being considered, therefore the research does not substantiate the claims of music therapy effectiveness. The few articles that were scientifically sound showed that music therapy offers very little benefit to the decrease in anxiety symptoms. The authors emphasized the effects of variables that cannot be accounted for, such as support systems, staffing, and replication of music therapy sessions. Many dementia symptoms were not properly accounted for in the design of studies. For example, the authors pointed out deaf participants.

The strengths of the study include the detailed inclusion/exclusion criteria, in-depth data analysis, and its emphasis on overlooked confounding variables.

Raglio, A., Bellelli, G., Traficante, D., Gianotti, M., Ubezio, M. This article was a randomized control trial. There were 60 articles, this review determined that the poor quality in methodology excluded many studies from being considered, therefore the research does not substantiate the claims of music therapy effectiveness. The few articles that were scientifically sound showed that music therapy offers very little benefit to the decrease in anxiety symptoms. The authors emphasized the effects of variables that cannot be accounted for, such as support systems, staffing, and replication of music therapy sessions. Many dementia symptoms were not properly accounted for in the design of studies. For example, the authors pointed out deaf participants.

The strengths of the study include the detailed inclusion/exclusion criteria, in-depth data analysis, and its emphasis on overlooked confounding variables.
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<td>total participants with dementia in the study. There was a control group and an experimental group: both received their typical residential care. However, the experimental group also had three 30-minute music therapy sessions a week for 12 weeks. The authors found that the active approach to music therapy is much more effective. Further research needs to be completed on what duration of music therapy would work best. In contrast to previous studies, this article states that no noticeable difference in sociability was demonstrated by participants. The study had minimal inclusion/exclusion criteria compared to others on the article summary chart. However, the study does provide an adequate statistical analysis with a graph.</td>
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<td>This article was an empirical comparison of treatments. There was 127 participants total (long-term care homes). It was found that both forms of music therapy, passive and interactive, were effective. Music therapy has the capability to temporarily restore cognitive functioning. It is recommended that music therapy be continually implemented, as the increase in cognitive</td>
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This table provides a summary of the findings from two articles on music therapy for dementia. The first article discusses the efficacy of music therapy based on cycles of sessions, while the second article compares different individualized music interventions for elderly individuals with severe dementia. Both studies highlight the potential benefits of music therapy in managing dementia behaviors and temporary restoration of cognitive functioning.
total of 10 weeks.

functioning disappears over time.

There was a small sample population given that the participants were pooled from at least four different long-term care facilities. Like many of the other articles, staffing difference play a significant role in the implementation of treatment. The study offered quantitative information for the benefits of music therapy.


This article was a randomized controlled study. There were 89 total participants (59 family, 30 nurses) of people with dementia.

Participants were recruited over a two-year period from a variety of activity and inpatient centres. There were three inclusion criteria, one of which being no previous mental illnesses. The authors of the study wanted to assess stress in caregivers, cognitive functioning, and mood.

Music therapy was found to moderately increase cognitive, emotional, and social capabilities of individuals with dementia.

Caregivers noticed that by providing interactive or passive music therapy with clients, the resident’s working memory improved.

There was no specificity on severity of dementia as well as no standardized form of music intervention for caregivers to abide by. The study did, however, focus on whether passive music interventions can be

This article was considered original research. The study took place over 22 music concerts (researchers attended and observed) and 27 clients. 22 concerts in the Japan and UK countries were attended by researchers in order to observe and interview attendees. Interviews followed a semi-structured style lasting for around 20-minutes.

Individuals with dementia could remember lyrics and tunes of music better than their routines at a long-term care facility. Essentially, the authors describe it as the difference between ‘like’ and ‘tolerance.’

Participants were able to distinguish between and ask specific questions related to the concert (for example, the sound of a drum). The authors suggest that live music is highly beneficial to those with dementia.

The study does not specify enough the comments made by the caregivers of the individuals with dementia. The study does, however, provide a beneficial perspective of the individuals with dementia through the interview comments.

Shiltz, D. L., Lineweaver, T. T.,  

This article was deemed  

Passive music

Original research. There were 45 total participants with dementia in a long-term care facility. The study took place over five months; one month of baseline, 3-months of intervention, and 1-month of posttrial. Music playlists were created that had specific music that the residents enjoyed.

Listening did not yield significant results in reduced agitation. The authors did notice a difference in behaviour depending on what medication dementia residents are taking.

In conclusion, passive music listening is still questionable; the effects of music listening can be attributed to a variety of other factors such as medication and staffing.

It would have been beneficial if the authors of the study asked more of the caregivers/family members what the residents of dementia enjoy listening to. It is probable that individuals with dementia do not remember the songs they once enjoyed.


This article was a systematic review with no clear number of participants. Articles were collected and reviewed from PubMed with key terms such as ‘dementia’ or ‘music therapy.’ The studies selected were only randomized controlled trials. Like many articles, only articles in a range of 10 years were to be included.

Research found that activities involving music are much like what scientists deem an enriched environment for studies involving animals. As well, music listening for those with dementia invokes similar brain developments as individuals learning
The authors discuss the issues of publication bias with music therapy literature. One of the largest issues the authors find with the current music intervention literature is the lack of larger sample sizes. Similar to previous criticisms listed above, the methodology for a lot of music therapy articles is quite vague.

The strengths of the article include the care put into the neurological effects of dementia and its relation to music. By including other neurological diseases in the article, the authors can draw comparisons between them.

This article was a systematic review with 22 participating studies.

Articles selected for the study had to be randomized controlled trials with a basis in music interventions. A database called ‘ALOIS’ was used to collect the research for the study.

Because the quality of music intervention articles was low, the efficacy of the research was also low. As well, both long term and short-term benefits of music therapy were not statistically significant in any regard.

Research involving music therapy must improve in quality.

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<tr>
<th>Wang, S.C., Yu, C.L., &amp; Chang, S.H. (2017). Effect of music care on depression and behavioral problems in elderly people with dementia in Taiwan: A quasi-experimental, longitudinal study. <em>Aging &amp; Mental Health, 21</em>(2), 156–162. doi: 10.1080/13607863.2015.1093602.</th>
<th>This article was a quasi-experimental longitudinal study; it included 22 participating studies. Two different subject groups were used. Some of the inclusion criteria includes working hearing and an age above 60. An example of an exclusion criteria is a participant going to the hospital for any health reason.</th>
<th>There was no statistically significant change was detected with the use of music therapy. The authors found that music combined with the regular care residents receive does cognitively improve those with dementia. This study clearly outlined the assessment tools used and compared the results amongst each one. The sample size for the study is also larger than most; normally music therapy samples involving the dementia population are on the smaller end.</th>
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<td>Werner, J., Wosch, T., &amp; Gold, C. (2017). Effectiveness of group music therapy versus recreational group singing for depressive symptoms of elderly nursing home residents: Pragmatic trial. <em>Aging &amp; Mental Health, 21</em>(2), 147–155. doi:</td>
<td>This article was a pragmatic trial. There were 117 participants at an elderly long-term care home. The authors conducted a randomized controlled study (two-armed) with the intention of seeing the effects</td>
<td>The authors found that the depressive symptoms of participants decreased over the course of the study. Also, the agitation experienced by participants decreased, including</td>
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of music therapy on symptoms of depression. Baseline data was collected prior to beginning the intervention and behaviours were observed during the 6th and 12th week.

In conclusion, music therapy decreases agitation and depressive symptoms in elderly individuals.

One of the strengths of the study is the fact that medications were considered when calculating data. In previously researched studies, there was little to no consideration for what psychotropic medication participants could have been on.