

Full-Length Article

**Non-pharmacological Approaches in Dementia: *Preliminary Considerations for Treatment***Linda Carozza<sup>1</sup>, Lisa Marie Serrone<sup>1</sup>, Lara Sugatan<sup>1</sup><sup>1</sup>Pace University, New York, United States of America**Abstract**

Dementia is a syndrome characterized by the progressive degeneration of one's cognitive function [1]. It is a growing epidemic which afflicts one in every 9 individuals 65 and older and 200,000 individuals under the age of 65 [2]. Currently, no cure exists; thus, finding the highest quality treatment to help reduce and effectively manage the symptoms of the disease is a priority. Being that dementia is both degenerative and progressive, the utmost goal of any therapy is to help individuals maintain and/or increase their quality of life (QoL). Quality of life is affected by a number of different factors, however one of the major positive contributors to this measure is one's ability to communicate effectively. Being able to communicate one's wants and needs is one of the most important indicators of QoL as it affects an individual in essentially every domain, including activities of daily living (ADL's), social interaction, and interaction capacity [8]. In accordance with improving quality of life, the primary goals of any program of therapeutic management, particularly for individuals with dementia and other degenerative diseases, are overall psychosocial adjustment as well as adjustment and reintegration into the community [54, 61]. The adaptation of the individual to changes in the environment and medical conditions underlies successful care, and goes along with the four themes identified as most applicable to Alzheimer's disease, which include "the sufferers' relationships with others, communication, connectedness, and culturally prescribed role of personhood." [61]. All of these factors need to be taken into account when implementing a treatment approach for individuals with dementia in order to ensure the greatest success rate.

**Keywords:** *Dementia, Nonpharmacological Approaches, Therapy, Speech-Language Pathology*

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**Introduction**

Currently, there are several approaches to dementia treatment, including pharmacological and nonpharmacological approaches. Throughout this paper, pharmacological approaches, or prescription drugs, and several non-pharmacological approaches -music therapy, narrative storytelling, poetry [4] and exercise/dance movement programs will be explored. A preliminary literature review was completed in order to determine the state of evidence and the specific role of these approaches on dementia treatment.

Pharmacological approaches for suppressing concomitant symptoms of the disease have become highly debated and researched for their usefulness and ability to achieve the goal of increasing QoL as well as maintaining cognitive functioning.[3] As for non-pharmacological treatment programs, while there is still insufficient research in this area

to conclude a significant difference in pre and post function measures following these treatments, some promising effects have been shown in preliminary studies [5]. Non-pharmacological treatments have been shown to yield potential quality of life benefits while additionally being cost-effective when compared to medical interventions [6].

Due to the steadily increasing prevalence of dementia, and costs of dementia treatment, the necessity of this line of research is critical. The present study considers the potential cost-effectiveness of non-pharmacological approaches and includes a literature review regarding the effects of various non-pharmacological approaches and their effect on quality of life. The goal of this work is to lend support for further study of non-pharmacological approaches in dementia treatment and to demonstrate that non-pharmacological approaches are not only more cost-effective, but also have a significant impact on crucial factors including QoL, increasing a sense of "personhood," as well as easing some of the emotional and psychological burdens of both patients and caregivers.

**Dementia and Importance of Dementia Care:**

Dementia is a collective term used to describe various symptoms of cognitive decline and includes impairments in communication, memory, and thinking [22]. It is caused by degeneration in the cerebral cortex, the part of the brain

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responsible for thoughts, memories, actions, and personality and may result from cerebral trauma from a stroke, head injury, or brain tumor, among others. While the likelihood of acquiring dementia increases with age, it is not a normal part of the aging process [2]. Alzheimer's disease is a specific form of dementia that inhibits and changes thinking and behavior patterns [2]. Alzheimer's disease is the most common form of irreversible dementia, accounting for 50-70% of all dementia cases. Diseases characterized as dementias are often progressive, degenerative, and irreversible in nature. They also can affect or interrupt the ability to perform activities of daily living (ADL's), which may include eating, dressing, and bathing as well as other routine activities. Dementia is a steadily growing epidemic – it afflicts one in every nine individuals over the age of 65 and 200,000 individuals under the age of 65 [2]. It is estimated that there are approximately 7.7 million new cases of dementia being diagnosed each year [55].

Due to the fact that there is no cure for dementia, the challenge lies in finding the highest quality treatment to alleviate the symptoms of the disease and assist individuals in maintaining their quality of life as well as preserving cognitive functioning, especially during the moderate - to - severe stages, when an individual may be more at risk for costly institutionalization. However, dementia care should not be solely determined by the individual's neuro pathologic state. It should also take into account enhancement and preservation of the individual's "personhood," no matter the stage and severity of the disease.[10] Personhood is defined as "the standing or status that is bestowed upon one human being, by others, in the context of relationship and social being." [61] According to Fetterolf, establishing personhood with individuals with Alzheimer's can also serve as the "bridge to their world, the foundation for a caregiver-care receiver relationship, and an avenue to provide a sufferer with a sense of personalized healing" [61].

It is demonstrated in work by Sjögren, Lindkvist, Sandman, et. al.[11], that person-centered care for individuals with dementia can be considered the optimal way of improving activities of daily living (ADL's) while simultaneously maximizing individual potential. Importantly, the impact of dementia is not isolated to the individual diagnosed - it also extends to caregivers and includes physical, mental, and monetary burdens, which all add to the societal impact of this disease [12].

There are a considerable number of treatments currently available for individuals with dementia. These include both pharmacological and non-pharmacological approaches. Pharmacological approaches, which include cholinesterase inhibitor and other medical treatments, are not proven to cognitively benefit the individual, and are also costly to families [7]. The question facing many researchers and families is: Are non-pharmacological approaches warranted when treating dementia?

Research conducted by Olazarán, et al. [3] included a review of 179 studies to establish the efficacy of non-pharmacological approaches. The results yielded by this study indicated that these methods are just as beneficial as any medication can be in terms of improving/maintaining life quality and relieving symptoms that co-occur with the disease. One of the main goals in ongoing care with these individuals is to maintain cognitive awareness as long as possible so that the individual's quality of life can improve, or at least be sustained for as long as possible, while incurring the least costs to the family and society at large [3].

Since individuals with dementia are unable to regain any lost cognitive abilities and tend to decline over time, it is extremely important to consider that the use of enhanced non-pharmacological strategies may stimulate the patients to demonstrate seemingly 'lost' skills (such as singing and/or retrieving past memories) or at least preserve functioning as much as possible. A major contributor to the successful achievement of this goal is the team that is responsible for the daily care of the individual.

Many professionals may be involved in dementia care programs. As an example, one of the primary specialists involved in care and treatment of individuals with dementia is a speech-language pathologist who works closely alongside these individuals and their families to provide them with treatment therapies that will enhance both their verbal and cognitive language skills, as well as ultimately help these individuals adjust and reintegrate into their communities. Being that speech-language pathology is the authors' profession, a communication-centered analysis of some of the current methodologies will be described for the purposes of encouraging the integration and study of the non-pharmacological approaches in an effort to encourage systematization or a "dosage" of treatment regimens for best practices.

## Pharmacological Approaches & the Cost of Dementia Care:

### *Pharmacological Approaches - A brief review*

There are several prescription drugs that are currently prescribed to individuals with dementia and Alzheimer's, including donepezil (Aricept), galantamine (Razadyne), rivastigmine (Exelon), and memantine (Namenda). These agents are meant to serve the purpose of slowing mental decline and easing symptoms, but not as a "cure" [18]. These drugs act by reducing the breakdown in the brain of a chemical called acetylcholine (a chemical messenger that transmits information from nerve cell to nerve cell) and may effectively preserve brain function. However, this drug may become ineffective over time due to destruction of brain cells that make and release acetylcholine, as a direct result of the cerebral degeneration caused by the dementia [18]. Another newly approved alternative drug, memantine, blocks the

actions of the neurotransmitter, glutamate, which is needed for memory. However, when produced in excess (as is common in Alzheimer patients) can be toxic to nerve cells [18].

There are several drawbacks to these medications, including cost, overall improvement and benefit, and side effects. As most prescription medications, these can be quite costly, ranging from \$177 - \$500/month [18,62]. In addition to these medications, some individuals are also prescribed antidepressants in order to help ease the psychological and emotional burdens associated with having a progressive degenerative disease such as dementia. For many low and middle-income individuals, this cost may simply be too much of an additional burden. Furthermore, it was also reported that the effects of these medications were found to be very marginal, and meant for use primarily by individuals in early stages of dementia, who still have some degree of intact cognitive functioning [18]. While few studies have examined the long-term effectiveness of these medications, it is believed that the effects may last only as long as the individual is on the medication. Lastly, there are several adverse side effects of these medications, including liver damage which is caused by tacrine (Cognex), and has been discontinued [62]. It was reported that 20-25% of individuals stop taking medications due to the adverse side effects [18]. Thus, when deciding a course of treatment, these risks may outweigh the (minimal) benefits.

#### *Cost of Dementia Care – A critical consideration*

How much does it cost to live with dementia/care for an individual with dementia? In a study conducted by Hurd et al. (2013) [13], researchers found that in 2010 dementia societal costs totaled between \$41,000 - \$56,000 annually, with a total nationwide cost of \$159 - \$215 billion. This price is expected to increase by 80% by 2040 due to the rising aging population. This can be compared to patients without dementia, who spent an average of \$49,285 per year on health care costs [14]. The increasing prevalence of dementia diagnosis poses a challenge for insurance companies to cover the costs, especially for long-term care. According to the Alzheimer's Association [15], the cost for care "varies widely" depending on factors such as the type of facility. The national average cost for basic services in an assisted living facility is \$41,724 per year and in a nursing home, nearly doubles to \$78,110 per year for a semi-private room (jumping as high as \$87,235 per year for a private room)." Medicare does not cover the cost of long-term care in a care facility. Instead, it only covers short-term skilled care after a hospital stay, which has significant implications for the future given the rise in prevalence of dementia. Taking all of these factors into consideration, it is easy to understand that these rising costs will undoubtedly lead challenges to the entire medical economy [16].

Research completed by Sköldunger et al. [17-18] also suggests that the cost of pharmacological intervention in dementia can total over \$800 per month, which is equivalent to about 2% of the "total cost per year for the care of dementia patients." A diagnosis with this disease places a heavy monetary burden on a segment of the population, aging adults, who often have limited options in respect to income. Low-income individuals who are diagnosed with dementia may not qualify for Medicaid or simply may not enroll in it due to their financial eligibility and may choose instead "to rely on unpaid care from friends or family or pay for care out-of-pocket" which may eventually become "unsustainable over time as functioning declines" [19]. Therefore, this further adds to the burden of care in underrepresented segments of the aging population, whose access to medical care is already diminished.

Furthermore, from an individualistic point of view, one might ask if a person with dementia can even recognize the quality of their environment or the difference between a creative approach and a plethora of pills in a cup? Interestingly, according to a study conducted by Mozley, Huxley, & Sutcliffe [20], researchers concluded that a large percentage of people living with cognitive difficulties are able to identify and answer questions regarding life quality. This lends support to the notion that affected individuals are able to self-advocate to some extent, which should be respected as the individual's dignity and right to choose, when given meaningful options. While there is currently no research determining if non-pharmacological approaches have a substantial, long-lasting effect on dementia individuals, it has been shown that "enhanced support services" which train caretakers to be a more active contributor in therapy do in fact have long-term benefits [21]. The long view is that patients and families should be able to make informed choices and to have access to reasonable, cost-effective alternative methodologies which can benefit everyone involved in helping to manage and cope with this disease.

Following is a preliminary gathering of evidence related to selected non-pharmacological approaches in dementia care which bear investigation and study both in terms of effectiveness and the possible relative cost-effectiveness as a whole given the current aging demographic as well as the rise of dementia diagnoses.

#### **Nonpharmacological Approaches (A Review of the Literature):**

The nonpharmacological approaches that will be reviewed include music interventions, narrative storytelling, poetry therapy, and exercise/dance movement programs. As will be described throughout, music can be integrated to some extent into all of the other approaches. The idea of music-enhanced approaches is especially relevant to many practitioners who are using either primary formal music therapy principles,

formally trained music therapists [64], as well as others who are using music informally as a supplemental creative arts approach and whom are anecdotally reporting the favorable effects on both patients and families on outcome and relief of burden of stress [57].

#### *Therapeutic Music Interventions:*

Music therapy applications are considered by some to be a form of cognitive stimulation therapy (CST). It has been widely discussed in recent literature [23-25, 28-30]. Music therapy purports to create heightened environments for individuals with dementia conducive to a stimulating, person-centered atmosphere by using recreationally based activities.[1] According to the American Music Therapy Association[23], music therapy is an “established health profession in which music is used within a therapeutic relationship to address physical, emotional, cognitive, and social needs of individuals.” The principles of music therapy begin with an assessment of the strengths and needs of each client. Following the assessment, the music therapist then provides the indicated treatment, which may include “creating, singing, moving to, and/or listening to music”[23]. Through this involvement in the therapeutic context, clients’ communicative and cognitive abilities have show to be strengthened and in many cases, generalization of these skills has been observed to extend to their ADL’s as well [23]. In regards to safety and costliness: music is quite safe so long as there is an avoidance of excessive volume, and it is also inexpensive, given the ease of access using current technology and media [24]. Oliver Sacks, a pioneer of music therapy research, has discussed the effectiveness of incorporating music therapy approaches across a number of progressive neurological diseases [56].

Another reason that music therapy can be very successful within the dementia population is that it uses differential sites of activation and other components that differentiate music from spontaneously generated speech. In fact, engaging in music and singing is an ability which often remains intact during the progression of dementia due to the fact that it does not require the same type of cognitive function as free (spontaneous) speech [26]. The lyrics to music have already been learned and stored into long-term memory, thus making them easier to retrieve automatically.

Music therapy can also be beneficial due to its adaptability and the fact that it can be used on a much wider/lengthier basis [27]. It was found that familiar music identified as preferential to patients by caregivers, and which was created through rhythm instruments (keyboards, Remo djembe drums, ocean drums, and colorful scarves) is a practical and ethical means of helping to manage certain symptoms of dementia, with benefits including decreasing levels of depression and agitation [28]. Music, in and of itself, may stimulate an individual with dementia through its rhythms,

which will ultimately affect the individual’s narrative and associative agency, allowing for opportunities of meaningful interaction between patient/caregiver [29]. Lastly, the overall impact of engaging in a successful social interaction (such as singing a song or creating a piece of music collaboratively with others) cannot be overestimated. This in turn may serve useful in helping a person connect to his/her psychosocial identity or ‘personhood’ with decreased agitation as well as with a capacity to reduce maladaptive behaviors while enhancing mood elevation.

There are additional studies based on “receptive” or music-listening interventions, to reduce agitated behaviors. These included listening to classical music genres or songs of meditation while simultaneously engaging in relaxing activities [30]. Vink, Bruinsma, & Scholten (2003)[30], demonstrated that active music interventions promoted increased participation from individuals with dementia when they were supplied with instruments to play along with “Big Band” genre of music. Furthermore, utilizing sonorous elements music when using a variety of musical instruments as a therapy tool can provide the person with a sense of identity, regulate emotions, and improve social relations, which further corroborates the results of the previous study as well [31].

Studies conducted by Pavlicevic et al[32], Tuppen [27], Vink et al [33], Hsu et al [25], Tamplin et al.[34], and Blackburn & Bradshaw [35] support a need for further research within this topic as well as a proposed need for consideration of more programs containing improvisational music therapy for these individuals. While music therapy certainly has proven benefits, more research needs to be completed in order to determine exactly to what degree the benefits extend, and in which specific areas.[36] Although a plethora of research exists on the efficacy of music therapy, and there is growing evidence of positive effects on individuals with dementia, there is still a great deal lacking in the methodological controls in research to provide substantive conclusions of qualitative and quantitative data of its usefulness [31]. The issues of systematic review and meta-analyses remain in the efficacy and effectiveness of the non-pharmacological approaches in medical care in general, and require our collective thought as we move toward evidence-based practices in all the allied health professions.

An additional final thought on this is that while there is scant research available on the price of instituting a formal music therapy program, it seems that this particular creative approach may be an overall favorable and more feasible option for the dementia population. It should also be noted that certain studies use the term music therapy in order to refer to therapeutic interventions that incorporate listening to recorded music, or singing to music along with recorded music which are delivered by research staff rather than certified music therapists [25], which in turn serves to reduce costs of personnel. However, this may present additional

issues, such as a compromise in the planning and delivery of care as a result of not having a licensed professional coordinate and monitor program effectiveness and growth.

#### *Narrative Storytelling (TimeSlips):*

Another unique form of non-pharmacological therapy for dementia is narrative storytelling, whose purpose is to “spark memories, encourage verbalization, and promote self-esteem among those with dementia,” according to healthcare professionals from a variety of domains and disciplines [37]. One specific program included within this area is TimeSlips (TS), an evidence-based approach founded in 1996 by Anne Basting. TimeSlips [38] involves providing individuals with hope and improving their “well-being through creativity and meaningful connection.” It is a form of creative storytelling for individuals with cognitive deficits who are shown a picture and are instructed to create a story based on that picture. TimeSlips has been demonstrated to provide a stronger patient/caregiver relationship while improving the individual’s engagement with others [39]. Additionally, it is important to note that TimeSlips encourages individuals to be more alert and engaged through the use of their imagination to tell stories rather than pressuring them to use memory and recall the past [39]. It was also observed that TimeSlips has the potential to alleviate frustration and agitation in individuals with dementia due to the fact that the environment is a free expression area and thus alleviates the pressure associated with everyday conversation [40]. Phillips, Reid-Arndt, & Pak [41] also found that TimeSlips improves the ability to communicate while simultaneously increasing quality of life both during and post TS intervention.

Similarly to music therapy, TimeSlips/storytelling has been proven to be quite beneficial and should be further researched. Due to the close relationship between singing and speaking, the therapeutic application of singing improves the communication potential of persons with impaired speech [42], which posits the notion that TimeSlips could potentially be enhanced if it incorporates a musical component to it. Singing while using familiar tunes additionally enables patients to regain control over their own thoughts, increasing their mental well being [43]. The benefits of the TimeSlips approach are that it is focused on preserving the “person” and is also less costly than medicinal interventions. This type of nonpharmacological approach requires few resources and the images used are easily replicable [44]. Furthermore, additional studies have demonstrated that TimeSlips increases one’s quality of life while additionally lowering the long term cost of living with dementia [45]. While the use of this approach has very promising potential, the challenge of the evidence-based research lies in implementing the approach in a manner which can be modularized for each population of dementia patients. Thus, the training of young professionals in the accurate and objective delivery of these methodologies is critical to

understanding and evaluating the impact of this approach in dementia care [58].

#### *Poetry Therapy:*

Poetry therapy is similar - to an extent - to narrative storytelling and music therapy in that poetry shares some key elements with both techniques in that each of these therapeutic approaches stresses the use of an individual’s creativity and encourages the promotion of cognitive stimulation through various channels. Typically, poetry therapy involves the reading of poems, songs, hymns, etc. as well as the creation of poems by individuals with dementia. The poetry can also be constructed on a narrative level by having the individual create a poem based on his/her own feelings and outlook. Finally, poetry can also include musical components that provide these individuals with poetic and narrative elements which are able to represent symbols which hold meaning to past experiences [47]. This incorporation of both poetry and music therapy may potentially serve to even further increase cognitive function, which affects the individual’s narrative agency and allows for more meaningful speech [29].

Poetry therapy has many positive benefits, including its ability to relieve these individuals of some of their everyday stress and help bring them to a calm place where they can listen, enjoy, and respond to poetry in a way most people would not necessarily assume they were capable. Wexler[46] similarly posits the idea that poetry is able to “positively slow individuals down, speak to their souls, and give individuals some validation in their lives.” Additional studies conducted by Clark-McGhee and Castro[4] highlight the focus on personhood and the ultimately meaningful experiences that can be obtained through poetry. Thus some of the positive benefits of poetry are that it preserves the self, fosters the individual’s sense of “personhood,” and enables individuals with dementia to obtain a sense of being, while costing relatively nothing and producing long-lasting positive effects[4]. In sum, the basic components of poetry therapy may be an under-explored area of non-pharmacological approaches that warrants attention for its usefulness. [59]

#### *Exercise & Dance Movement Therapy:*

Exercise programs as a method for treatment are yet another example of the potential non-pharmacological approaches to dementia care. Exercise programs for the geriatric dementia population can have a direct relationship in improvement of various areas of functioning, including cognitive abilities, neuropsychiatric symptoms, depression, and mortality. Do exercise programs for older individuals with dementia improve their cognition, ADLs, and symptoms? The major findings by Forbes, et al.[22] concluded that there was evidence that exercise programs can improve performance of

daily activities for individuals with dementia. Additionally, studies by Heyn, Abreu, & Ottenbacher [48] found that exercise training yielded positive results for individuals with dementia by increasing both cognition and physical function. Exercise can include anything from gardening, dance, seated exercises, walking, Tai chi, or swimming, depending upon the mobility and capacity of the individual[49]. Exercise is relevant to this present study because it has been shown to increase ADL's, cognition, and opportunities for social interactions, all of which increase the individual's life quality while preserving his/her "personhood"[22]. Furthermore, exercise can be relatively inexpensive, especially if done in the context of daily activities. Increasingly, the "prescription" of increased physical activity is one that the general population is also receiving, and thus it makes sense to emphasize the role of exercise and movement in adult day care and other setting in which individuals with dementia receive care.

Dance movement therapy, as an example, is another specific form of creative arts therapy and exercise which has been shown to directly improve the quality of life for individuals with dementia. Dance movement therapy involves the use of creatively moving the body in order to connect one's cognitive state to their emotions, thus integrating them to the surrounding environment both physically and socially [50]. Rather than learning specific steps to a song, the individual is encouraged to engage in movements which are improvised and expressive of their creative abilities, all of which can ultimately help the individual preserve their sense of self and give them a new way to live in the world[51]. Dance movement therapy is available for any home with access to a stereo or source of music and a simple speaker system, which exemplifies the cost-effectiveness of this approach [52]. Additionally, in terms of exercise that includes dancing, there is also potential for the integration of music therapy within the dance activities, leading to a multifunctional approach. We see these approaches used in neurodegenerative diseases with dementia overlay such as Parkinson's disease [63].

### Implications for Rehabilitation Professionals

The non-pharmacological approaches described above all encompass the primary goal of increasing quality of life for individuals with dementia, preserving their sense of identity, and potential cost-effectiveness. The role of interpersonal communication and connection to the environment, pre-existing abilities and interests, as well as the overarching theme of aiding the individual to find alternative means of self-expression are all underscored in these methodologies. With regards to dementia, speech-language pathologists may serve a number of important roles in dementia care. They may provide direct treatment and/or serve as the treatment team leader or subsequently strive to encourage and advocate for further research and exploration of the various non-pharmacological approaches.

According to the American Speech-Language Hearing Association, speech-language pathologists (SLP's) have "an ethical responsibility to provide appropriate services that will benefit the individual and maximize cognitive-communication functioning at all stages of the disease process." [1] As such, when formal speech therapy is employed should focus on providing the individual with an optimal means of communicating with others that can significantly aid in their executive function while also maintaining their independence for ADLs[53]. Non-pharmacological approaches can support each of these goals in a variety of ways, as has been described throughout this paper. SLP's and other team members and families should thus be able to work in conjunction with other certified therapists, such as music therapists, in order to provide the optimal treatment necessary in keeping with the goal of maximal life adjustment to disability [60].

### Conclusion:

As described throughout this paper, there are a number of non-pharmacological alternatives to traditional pharmacological treatments for individuals with dementia. These treatment programs should be explored further to assess them in terms of feasibility, benefits gained, and cost-effectiveness. Once research has expanded to demonstrate advancement in multiple fields, these may be shown to be more effective treatments, both in terms of cost-effectiveness and improvements in quality of life for both the afflicted individuals and their caregivers. Furthermore, this can serve to form a foundation for the formulation and expansion of value-added programming to current treatment models, particularly in facilities such as adult day care settings.

Even though significantly more research needs to be conducted to further substantiate the effectiveness of these treatment programs, it is believed that the non-pharmacological treatment programs described throughout this paper will benefit dementia clients on a multi-dimensional platform. These methods have the potential to increase cost-savings and are easily accessible to the general population, including individuals with dementia. While pharmacological treatments are geared towards helping individuals cope with the concomitant symptoms such as anxiety and depression, these efforts can also have some negative side effects and also may lose effectiveness after a period of time. Medical therapy may be costly, especially when taking into account the overall cost of care of dementia and the potential of institutionalization.

Non-pharmacological approaches, on the other hand, have been shown to have a number of positive effects, including increased measures of quality of life, improvement in speech and communication, memory and recall, overall mood, as well as other positive outcomes. It is hoped that this paper lends support for the application of further study of

non-pharmacological approaches in dementia treatment, as well as an exploration of the possible integration of these approaches (e.g. music therapy in combination with poetry therapy).

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