

The Treatment of Alzheimer in the Context of Musicotherapy

REVIEW

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Abstract

Objective: Explain through scientific productions the effects of music therapy in the symptomatic control of Alzheimer's disease.

Method: This is an integrative review with time cut from 1998 to 2017, carried out in the database: Web of Science, PubMed, EBSCO Information Service, Scopus, SciELO, BIREME e LILACS, descriptors: art therapy, Alzheimer disease; music therapy, nursing. Through the search question "Music therapy brings beneficial results for patients with Alzheimer's disease". The articles were carefully analyzed with an adapted instrument considering their methodological characteristics and levels of evidence.

Results: Fourteen articles were selected, twelve in foreign journals and two in national journals on complementary therapy and music therapy in the treatment of dementia/Alzheimer's disease.

Conclusion: The music therapy is effective in controlling anxiety, agitation and other typical Alzheimer's behavioral symptoms.

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Keywords

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Introduction

The Alzheimer it is the most common cause of dementia in elderly populations, accounting for between 60 and 80% of cases of dementia. Its prognosis is not good, tending to worsen with age progression [1].

The symptomatology is varied, however, the problem of greater prominence, generally, are memory disorders that become sufficiently serious affecting thus the domiciliary and/or labor activities. Also evident are the symptoms of mental confusion, which can lead people to get lost in familiar places, to lose things that the person carries, do not recognize their relatives or have communication problems. So far, there is no cure for Alzheimer's, but scientific advances have allowed the patient to develop more quality of life until the advanced stage of the disease [1].

Non-pharmacological treatment options receive less attention and credibility when compared to pharmacological options. In part, we can justify this small amount of reliable research that provides concrete scientific evidence and supports the use of non-pharmacological therapies. In this area, the survey usually has a small sample and case reports [2].

Integrative and complementary practices (PICs) are defined as any curative or recuperative system, practice or product that is not considered as a standard of care, whereas standard medical care is based on concrete scientific evidence [3]. As for the nomenclature, complementary therapies are those used in conjunction with clinical-drug treatment while alternative therapies are used instead of these. Integrative medicine is an approach that associates standard medicine with PICs and this practice has become promising [3].

ICPs are developed by a diverse group of professionals and caregivers with different qualifications, professional records and regulatory oversight. These factors may change according to applied therapy, country and cultural context. These practices

include physicians and nurses trained in a traditional way [4]

There are four classifications of PICs [5]:

Psychic-corporal therapies

They address the intrinsic connections between thought and physiological functioning. They take advantage of the power of thought and emotion to influence health and well-being. These include meditation, guided imagery, relaxation, hypnosis, biofeedback, prayer, expressive therapies, art therapy, and breathing techniques [6].

Biological therapies

They are used substances found in nature and are increasingly popular. Its domain includes the use of botanicals, animal derivatives, vitamins, minerals, fatty acids, amino acids, proteins, prebiotics, probiotics, whole diets and functional foods [7].

Body manipulation therapies

They include osteopathic manipulation, chiropractic, massage and reflexology. Any method that includes the movement of one or more body parts and focuses on the body structure and systems, including bones and joints, soft tissues, lymphatic and circulatory systems is also included in this category [7].

Energy therapies

Involves the manipulation of the body's energy field to promote health and recovery [7].

Studies suggest that the cause of both forms of Alzheimer's - early and late onset - is a mix of genetic, environmental, and lifestyle factors. During the course of pathology, three stages are developed: mild, moderate and advanced. The mild stage is characterized by an increase in memory loss and other changes in individual cognitive abilities; the individual can get lost more often, have difficulty dealing with money and pay the bills, always repeat the same questions, perform daily tasks more slowly, have deficient judgment skills, and mood and personality changes [7].

The moderate stage is characterized by worsening memory loss and mental confusion, in which the individual may have difficulty learning new things

or different situations. In addition, the individual may begin to have trouble recognizing friends and family, exhibiting hallucinatory behaviors, delirium and paranoia. With advanced stage development, the brain is overloaded with amyloid plaques and neurofibrillary tangles, and is significantly reduced. The individual can no longer communicate and ends up becoming dependent on caregivers for their survival [8].

Alzheimer's patients often use complementary/alternative therapies in the hope that such treatments may produce improvements in quality of life and delay cognitive decline. A survey reported that 55% of respondents had tried at least one form of complementary therapy to improve memory 20% had tried three or more of these therapies [2].

Music therapy is the clinical and evidence-based use of musical interventions to achieve individualized goals within a therapeutic relationship by an accredited professional. Music therapy interventions can be designed to promote well-being, manage stress, relieve pain, improve memory, improve communication, and provide unique opportunities for interaction. Music therapy research supports the effectiveness of interventions in many areas, such as facilitating movement and overall physical rehabilitation, increasing motivation to engage in treatment [9]. Patients with Alzheimer's disease are, in most cases, able to participate in music therapy sessions and studies have suggested that there is an increase in their well-being [10]. Music therapy seems to increase the interaction between individual patients and could therefore decrease the feeling of loneliness [10].

In the area of health in general, and particularly in the field of ICPs, access to the best scientific evidence for therapeutic or prophylactic decision-making is fundamental, aiming to improve care for people and communities [5].

Considering these facts, it is pertinent to investigate the effectiveness and benefits of music therapy as a complementary therapy in the treatment and

palliation of the symptoms of Alzheimer's disease. This study has as a guiding question, to know if the music therapy brings beneficial results to the patient with Alzheimer's disease.

Method

An integrative review of the theme "Music Therapy in Alzheimer's Disease" was carried out to evaluate the effectiveness of music therapy as an adjunct to the treatment of elderly people with Alzheimer's disease, including clinical use, social assessment, wellness promotion, stress management, Relief of joint pain, better conditioning and preservation of memory, improved communication and providing unique opportunities for interaction and assessment of effectiveness in mental and emotional parameters.

Were adopted as primary descriptors: <Therapy by art>; <Alzheimer's disease>; The secondary descriptor was <Music therapy>; <Nursing>. In the databases Web of Science, PubMed, EBSCO Information Service, Scopus, Scientific Electronic Library Online (SciELO), Virtual Health Library (BIREME), Scientific and Technical Literature of Latin America and the Caribbean (LILACS), publications were searched by associating one or more primary descriptors with secondary descriptors, since the objective comprised the interface between these themes.

It was admitted as inclusion criteria for articles and books, to have as central theme, Music therapy in Alzheimer's disease and as secondary themes, Treatment with music therapy, efficacy, music therapy for elderly people with Alzheimer's disease, with a higher or lower level of abstraction, Independent of publication time, but was collected from 1998 to 2017, or aspects of the use of Integrative Therapies in the treatment of Alzheimer's Disease, were also included articles of Portuguese and English. Among the articles located that met the inclusion criteria, those that presented studies with other forms of dementia were excluded.

A total of 14 articles were found, 12 articles written in the English language, and 2 articles in Portuguese, as shown in **Table 1**.

Results and Discussion

The sample of this review consisted of 14 scientific articles, selected by inclusion criteria previously es-

tablished. Of these, two were found in Scielo and six in PubMed. **Table 1** represents the specifications of each article.

It was verified that 86% (12 articles) were published in foreign journals and 14% (2 articles) in national journals.

The selected studies were classified according to their category of publication, as explained by the

Table 1. Characterization of selected studies by origin, article title, authors, periodical, objectives and main results.

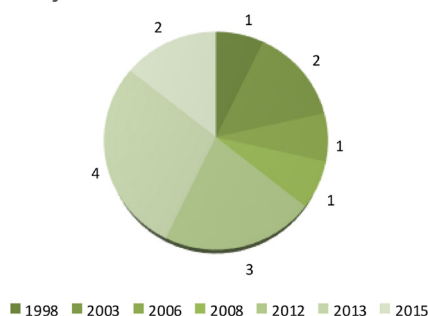
Source	Article Title	Authors	Newspaper	Goal	Results
SciELO	The use of alternative therapies by teaching nurses	Silva, MJP Benko, MA	R Bras Enferm Brasília, v. 51, n.3, p. 457-468, jul/set, 1998.	To verify which alternative therapies are most used by teaching nurses and their knowledge about them.	The most common practices identified were homeopathy, Bach floral and oriental massage.
SciELO	Music therapy in the approach of patients with Alzheimer's disease	Cavalcanti, JLS Engelhardt, E	Universidade Estadual do Paraná, Campus de Curitiba II – Rev Científica – Ano II – Vol 2. 2012.	Identify the benefits of music in the approach of patients with Alzheimer's disease and describe the improvements.	Music, used as a facilitator of communication and movement, has been shown to attract the attention of the participants, placing it as a therapeutic option. It was shown able to facilitate the approach of people in the process of memory loss.
PubMed	Mind-body medicine: state of the Science, implications for practice	Astin, JA Shapiro, SL Eisenberg, DM Forys, KL	J Am Board Fam Pract 2003 Mar-Apr; 16 (2):131-47	To determine the effectiveness of psychocorporal interventions, including relaxation, behavioral and cognitive therapies, meditation and hypnosis.	There is considerable evidence of efficacy for psychotherapeutic therapies in the treatment of coronary artery disease, headaches, insomnia, urinary incontinence, low back pain.
PubMed	Stress, Meditation and Alzheimer's prevention: where the evidence stands.	Khalsa, DS	Journal of Alzheimer's disease, vol. 48, n.1 pp.1-12, 2015	Identify whether meditation along with other modalities such as diet re-education, exercise, socialization may be beneficial as part of an Alzheimer's prevention program.	This research suggests that meditation improves memory and reduces Alzheimer's risk by improving sleep, decreasing depression, increasing well-being and decreasing inflammatory regulatory genes. It also improves a number of aspects of mental health, all of which are important for maintaining cognitive function, thus reducing the multiple risks of Alzheimer's.
PubMed	Music Therapy in moderate and severe dementia of Alzheimer's type: a case-control study.	Svansdottir, HB Snaedal, J	International psychogeriatrics: page 1 of 9. 2006 International Psychogeriatric Association.	To evaluate the effect of music therapy in Alzheimer patients in two nursing homes and two psychogeriatric centers.	Music therapy is a safe and effective method of treating agitation and anxiety in moderate and advanced Alzheimer's.

Source	Article Title	Authors	Newspaper	Goal	Results
PubMed	Non-drug therapies for dementia: an overview of the current situation with the regard to proof of effectiveness.	Gräsel, E, Wiltfang, J, Komhuber, J	Dement Geriatr Cogn Disord 2003;15(3):115-25	To identify the efficacy of non-pharmacological therapies on dementia diseases.	Proof of the efficacy of these therapies is still lacking in controlled and randomized studies. Further research needs to be done and thus a fundamental evaluation of the therapeutic benefits of non-drug therapies for the treatment of dementia still can not be done.
PubMed	Individual music therapy for agitation in dementia: an exploratory randomized controlled trial.	Ridder, HMO, Stige, B, Qyale, LG, Gold, C	Aging Ment Health. 2013. Aug 1; 17(6):667-678.	To individually examine the effect of music therapy on restlessness in people with moderate/severe dementia living in nursing homes and to explore its effect on psychotropic medication and quality of life.	Stirring increased during standard treatment and decreased during music therapy. The prescription of psychotropic medication increased significantly more during standard treatment than during music therapy.
PubMed	Efficacy of music therapy in the treatment of behavioral and psychiatric symptoms of dementia.	Raglio, A, Bellelli, G, Traficante, D, Gianotti, M, Ubezio, MC	Alzheimer Dis Assoc Disord, Vol 22, n2, April-June, 2008.	To evaluate the effectiveness of music therapy in the treatment of dementia symptoms with moderate or advanced subjects.	The study shows that music therapy can be effective in reducing symptoms in subjects with advanced degrees of dementia and stimulating a communicative relationship between patient and therapist.
Cochrane	Treating Alzheimer's disease using Music Therapy	Gulhar, S, Sood, S	International journal of advance computer technology, v.3, n.4, 2012.	To identify the physiological changes that occurred in the body of the Alzheimer's patient submitted to music therapy.	According to the results obtained, the levels of Alzheimer's hormones are different from those of Musicoterapia, which reveals that music therapy is responsible not only for the improvement in the patients' behavior, but also to provide several psychological benefits.
PubMed	The "ripple effect": Towards researching improvisational music therapy in dementia care homes	Pavlicevic, M, Tsisir, G, Wood, S, Powell, H, Graham, J, Sanderson, R, Millman, R, Gibson, J	Dementia (London). 2015 Sep;14(5):659-79.	To identify the strategies adopted by music therapists in nursing homes for people with dementia.	The use of improvised music therapy was identified. The study concludes with the suggestion that managers should extend the actions of the music therapist to maintain the well-being of the internees in nursing homes.
Cochrane	Music therapy in dementia: a narrative synthesis systematic review	McDermott, O, Crellin, N, Ridder, HM, Orrell, M	Int J Geriatr Psychiatry 2013; 28: 781-794.	To carry out a systematic review of literature on music therapy in dementia using four elements of a narrative synthesis: I - Development of a theory; II - Preliminary synthesis of the results; III - The exploration of the relation between the studies; IV - Evaluation of the robustness of the synthesis.	The musical interventions in the studies were diverse, but there was prominence for singing as the main interactive agent of changes.

Source	Article Title	Authors	Newspaper	Goal	Results
PubMed	Effects of music therapy on behavioral and psychological symptoms of dementia: a systematic review and meta-analysis.	Ueda, T, Suzukamo, Y, Sato, M, Izumi, S	Ageing Res Rev. 2013 Mar;12(2):628-41.	To investigate the effects of music therapy on the psychological and behavioral symptoms, cognitive function and daily life of patients with dementia.	This meta-analysis suggests that music therapy is effective in the management of dementia symptoms.
Cochrane	An overview of the use of music therapy in the context of Alzheimer's disease: A report of a French expert group.	Guetin,S, Charras, K, Berard, A, Arbus, C, Berthelon, P, Et al	Dementia 2013, 12(5): 619-634.	To present the developments of music therapy in the France, its techniques, its mechanisms and main indications mainly in the context of Alzheimer.	Clinical and neurophysiological studies have elucidated some of the positive benefits of music in providing support for people with Alzheimer's disease. Music therapy mainly works through psycho-physiological emotional pathways. Some studies have shown that music therapy has reduced anxiety, relieving periods of depression and aggressive behavior and thus, improving communication and autonomy of patients.
PubMed	Music, music therapy and dementia: a review of literature and the recommendations of the Italian Psychogeriatric Association.	Raglio, A, Bellelli, G, Mazzola, P, Bellandi, D, Giovagnoli, AR, Farina, E, Et al	Maturitas. 2012 Aug;72(4):305-10.	To explore the efficacy of music and music therapy on the behavior and psychological aspects of patients with dementia.	A series of recommendations have been established to facilitate the use of these techniques in the context of non-pharmacological therapies.

databases, being thus 9 original researches, 5 studies of literature review. In relation to the year of publication of these articles, between 1998 and 2017, the data collected presented the following distribution. **(Figure 1)**

Figure 1: Characterization of selected studies by origin, article title, authors, periodical, objectives and main results.



The occurrence of psychological and behavioral symptoms of dementia is one of the major problems of subjects with dementia in the moderate to severe phases of the disease. Music therapy is a promising non-pharmacological approach for the relief and control of this symptomatology. It is based on the systematic use of musical instruments to enhance communication between therapist and patients. Music therapy has been used with increasing frequency, especially for the treatment of some dementia symptoms, such as agitation and aggressiveness [11].

In Alzheimer's disease, as well as in other diseases in which there is a limitation of communicative functions, a viable hypothesis and the possibility of reactivation and expansion of nonverbal abilities that persist with the individual's lifetime and modes

of interpersonal experience [10]. The philosophy of music therapy is based on this hypothesis and the musico-therapeutic approach should be chosen by the therapist, either verbal or non-verbal (when in the presence or absence of sung melody) or only using rhythmic instruments and melodies that promote communication among subjects. It should also be defined the length of sessions and how many cycles will be performed. In order to register, it is necessary to have an observer [12].

The music therapy treatment is valid with elderly people who have functional deficits in physical, psychological, cognitive and social functioning. Research results and clinical experiences attest to the viability of music therapy, even in those who are resistant to other treatment approaches. Music is a form of sensory stimulation that elicits responses because of the familiarity, predictability, and feelings of security associated with it [9].

This stimulating factor is a facilitator of communication and movement, because it attracts the attention of the participant and facilitates its integration, when in therapeutic residency, with other individuals who share the same space. Music therapy was also able to facilitate the approach to the person in the process of memory loss, because its properties linked to emotion, causes the person to associate the musical process with memories or feelings, thus showing itself as a Therapeutic option [13].

Music therapy can be performed in different ways according to the therapist's choice. Among these, we highlight the live modalities (in which musical instruments and vocalization are used) or with audio reproducing equipment. Therefore, it is also noted that the therapy can be previously planned or improvised [14].

In physiological terms, clinical and neurophysiological studies have revealed the benefits of music therapy [15]. Sound therapy acts mainly through the activation of psycho-physiological emotional pathways, since as a cultural construction; it has a strong connection with the individual's identity and life experiences. It is evidenced that music therapy

assists in the reduction of anxiety, relieving periods of depression, agitation and aggressive behavior [15]. Its main benefit is to be a safe and effective method that does not present contraindications; however, the therapist must use his scientific knowledge so as not to increase feelings of sadness and melancholy [16].

Music therapy can also be associated with meditation and relaxation. Studies associating this modality improve memory and reduce the risk of Alzheimer's, providing better sleep quality, smoothing depressive moods, increasing well-being and decreasing inflammatory regulatory genes [17].

Conclusion

The efficacy of music therapy as a complementary therapy for the control of anxiety, agitation, aggressiveness and other behavioral symptoms inherent to Alzheimer's disease is proven, according to the literature studied. However, in order to achieve this goal, the music therapy treatment must be conducted by a qualified professional who understands the peculiarities and individuality of each case. Music therapy also opens the way, facilitating communication between therapist-patient and promoting better adherence to treatment and professional relationship.

The use of music at the physiological level activates the sensory functions associated with emotions and memory, since music is a social and cultural construction that is directly related to the experiences and the formation of each individual. There are few national studies on the subject, which makes it difficult to analyze in a regional perspective, with a greater concentration of studies carried out in the Southeast region.

This study contributes in a potencializator way the range of a range with regard to music therapy and the critical and problematizing reflection of the health sciences.

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