Revista de Enfermagem
do Centro-Oeste Mineiro
2019;9:e2786
DOI:10.19175/recom.v9i0.2786
www.ufsj.edu.br/recom

MÉTODOS NÃO FARMACOLÓGICOS PARA O TRATAMENTO DO ALZHEIMER: UMA REVISÃO INTEGRATIVA

NON-PHARMACOLOGICAL METHODS FOR ALZHEIMER 'S TREATMENT: AN INTEGRATING REVIEW

METODOS NO FARMACOLÓGICOS PARA EL TRATAMIENTO DEL ALZHEIMER: UNA REVISIÓN INTEGRADORA

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RESUMO

Objetivo: identificar, na literatura, as propostas de métodos não farmacológicos para o tratamento da doença de Alzheimer. **Métodos:** Trata-se de uma revisão integrativa realizada em três bases de dados. Foram incluídos artigos publicados entre os anos de 2005 a 2016, na íntegra, nos idiomas português, inglês e espanhol. Foram adotados os descritores: idoso, terapêutica e doença de Alzheimer. Os artigos foram analisados pelo título e resumo, estratificados pela base de dados, periódico, ano, país, título, tipo de estudo, sujeitos, local pesquisa e nível de evidência. Posteriormente, foi realizada uma síntese do conhecimento obtido sobre os métodos não farmacológicos utilizados no tratamento da doença de Alzheimer. **Resultados:** Dez estudos foram analisados na pesquisa, sendo que as principais intervenções não farmacológicas identificadas foram 50% na atividade motora, 20% atividade cognitiva, 20% musicoterapia e 10% terapia multicomponente. **Conclusão:** Os tratamentos não farmacológicos provaram ser eficientes, pois reduziram a dependência para a realização de atividades de vida diária e, consequentemente, melhoraram a qualidade de vida de pacientes com doença de Alzheimer.
Descritores: Idoso; Doença de Alzheimer; Terapêutica.

ABSTRACT

Objective: to identify in the literature proposals for non-pharmacological methods for the treatment of Alzheimer's disease. **Methods:** This is an integrative review performed in three databases. We included articles published between 2005 and 2016, in full, in Portuguese, English and Spanish. It was adopted the descriptors of the elderly people, therapeutic and Alzheimer's disease. The articles were analyzed by the titles and abstracts, and were stratified by database, journal, year, country, title, type of study, subjects and local research and level of evidence. Subsequently, a synthesis of the knowledge obtained on the non-pharmacological methods used in the treatment of Alzheimer's disease was performed. **Results:** Ten studies were analyzed and non-pharmacological interventions identified were in 20% in motor activity, 20% in cognitive activity, 20% in music therapy and 10% in multicomponent therapy. **Conclusion:** The non-pharmacological treatments have proven to be effective. They reduced the dependence to perform activities of daily living and, consequently, improved the quality of life of patients with Alzheimer's disease.
Descriptors: Aged; Alzheimer disease; Therapeutics.

RESUMEN

Objetivo: Identificar, en la literatura, propuestas de métodos no farmacológicos para el tratamiento de la enfermedad de Alzheimer. **Métodos:** Esta es una revisión integradora realizada en tres bases de datos. Incluimos artículos publicados entre 2005 y 2016, en su totalidad, en portugués, inglés y español. Se adoptaron las siguientes palabras clave: ancianos, terapéuticos y enfermedad de Alzheimer. Los artículos fueron analizados por título y resumen, estratificados por base de datos, revista, año, país, título, tipo de estudio, temas, lugar de investigación y nivel de evidencia. Posteriormente, se realizó una síntesis de los conocimientos obtenidos sobre los métodos no farmacológicos utilizados en el tratamiento de la enfermedad de Alzheimer. **Resultados:** Se analizaron diez estudios en la investigación y las principales intervenciones no farmacológicas identificadas fueron: 50% en actividad motora, 20% de actividad cognitiva, 20% de musicoterapia y 10% de terapia multicomponente. **Conclusión:** Los tratamientos no farmacológicos demostraron ser eficientes, ya que redujeron la dependencia de las actividades de la vida diaria y, en consecuencia, mejoraron la calidad de vida de los pacientes con enfermedad de Alzheimer.
Descriptores: Anciano; Enfermedad de Alzheimer; Terapéutica.

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How to cite this article:
Boscarol GT, Domingos CS, Souza CC, et al. Non-pharmacological methods for alzheimer 's treatment: an integrating review. Revista de Enfermagem do Centro Oeste Mineiro. 2019;9:e2786. [Access_____]; Available in:_____. DOI: http://dx.doi.org/10.19175/recom.v9i0.2786

INTRODUCTION

Alzheimer's disease (AD) is the impairment of brain function, characterized by the progressive loss of cognitive and memory functions, affecting the individual in his daily living activities (DLA) and instrumental activities of daily living (IADL), causing loss of autonomy[1].

The occurrence of dementias, such as AD, affects 55% of the population over 65 years-old, and dementias were considered the sixth leading cause of death in developed countries in 2004 and the fifth leading cause of death in 2006, i.e. countries with the highest elderly population. This demographic transition also occurs in Brazil, mainly due to decreased mortality, fertility and improved life expectancy. There is a substantial increase in the elderly population, which increases the likelihood of dementias such as AD affecting 55% of the population over 65[2].

Currently, 35.6 million people worldwide live with AD. It is estimated that this number nearly doubles every 20 years-old, reaching 65.7 million in 2030 and 115.4 million in 2050. In Brazil, there is no data on the incidence of AD, however, according to research, it is estimated that About 1.2 million people suffer from the disease[2-4].

AD can be divided into three phases - mild, moderate or severe - characterized by its level of cognitive impairment and its degree of dependence. In the first phase, a recent memory impairment and disorientation of time and space are identified and lasts on average 2 to 3 years. In the intermediate phase, lasting from 2 to 10 years, there are impaired remote memory, difficulties in solving problems and operative activities, affecting the basic and instrumental activities of daily living. And in the final phase, lasting from 8 to 12 years, there is total dependence, evidenced by the loss of ability to perform basic and instrumental activities and immobility[1].

The diagnosis of AD can only be established from a clinical picture and exclusion of other cases of dementia through laboratory and neuropathological examinations. Regarding treatment, AD has not yet been cured; however there are pharmacological measures aimed at reducing cognitive and memory effects, which are based on the prescription of anticholinesterases (rivastigmine, donepezil and galantamine) and memantine (antiglutamatergic)[5].

In addition, non-pharmacological measures can be used to improve the quality of life of patients and their families/caregivers. They have the purpose of establishing the most efficient use of memory through multidisciplinary care strategies, with mnemonic or learning techniques, compensatory strategies, reality orientation therapies and the therapeutic approach with groups of families and caregivers[6].

The Scientific Department of Cognitive Neurology and Aging of the Brazilian Academy of Neurology conducted a literature review to synthesize recommendations and suggestions for the treatment of AD, highlighting the importance of both pharmacological and non-pharmacological treatment - of cognitive impairment, cognitive rehabilitation techniques, cognitive training of specific skills (memory and language), and techniques for improving DLAs; and behavioral and psychological symptoms, through educational programs and training of caregivers, music and walks[7].

Internationally, a study was conducted to evaluate the quality of life of patients diagnosed with AD who underwent animal assisted therapy. The results showed that, at the end of therapy, 100% of participants showed improvement in physical, behavioral and psychological aspects [8].

Studies that approach AD as a research theme are increasing, but with a focus on pharmacological treatment. Given the lack of research and uncertainties about the use of non-pharmacological methods in the treatment of AD, the importance of conducting this study is due to the fact that AD is a degeneration that affects the elderly and has no cure, and with Non-pharmacological treatment can enable ways to improve the quality of life of this patient, so that can integrate the participation of family/caregiver in treatment. In addition, knowing the non-pharmacological methods for treating this disease may guide the health professionals involved in this context.

Given the above, this study aimed to identify, in the literature, the proposals for non-pharmacological methods for the treatment of Alzheimer's disease (AD).

METHOD

This is an integrative literature review (IR) that allows a survey of scientific studies conducted on a given theme, in order to prove its

effectiveness and correlate its applicability in clinical practice [9].

The IR consists of a research method divided into six steps. In the first stage, the theme was identified and the guiding question was elaborated through the PICO strategy (Patient/problem, Intervention, Comparison and Outcomes-Outcome)[9], described with the following components: P - Elderly patients with Alzheimer's; I - non-pharmacological methods/therapy used in the treatment of Alzheimer's disease; C - benefit ratio existing among the other treatments; O - disease control or improvement of the elderly patients' quality of life. Thus, the following guiding question emerged: “What are the non-pharmacological methods/therapy used to treat the elderly with Alzheimer's disease?”.

In the second stage of the study, the inclusion and exclusion criteria of the studies were established. The following inclusion criteria were adopted: the temporal scope from 2005 to 2016, the articles should be available in full for reading in Portuguese, English or Spanish and should address the topic of study. Exclusion criteria were: editorial articles, comments or criticism, literature review articles and articles that were not related to the theme investigated.

The search for articles was performed from October 2017 to December 2017, in the databases Lilacs, Pubmed and Scielo, considering the following Health Sciences Descriptors: “elderly”, “aged”, “therapeutic”, Therapeutics, Alzheimer's Disease, Alzheimer's Disease.

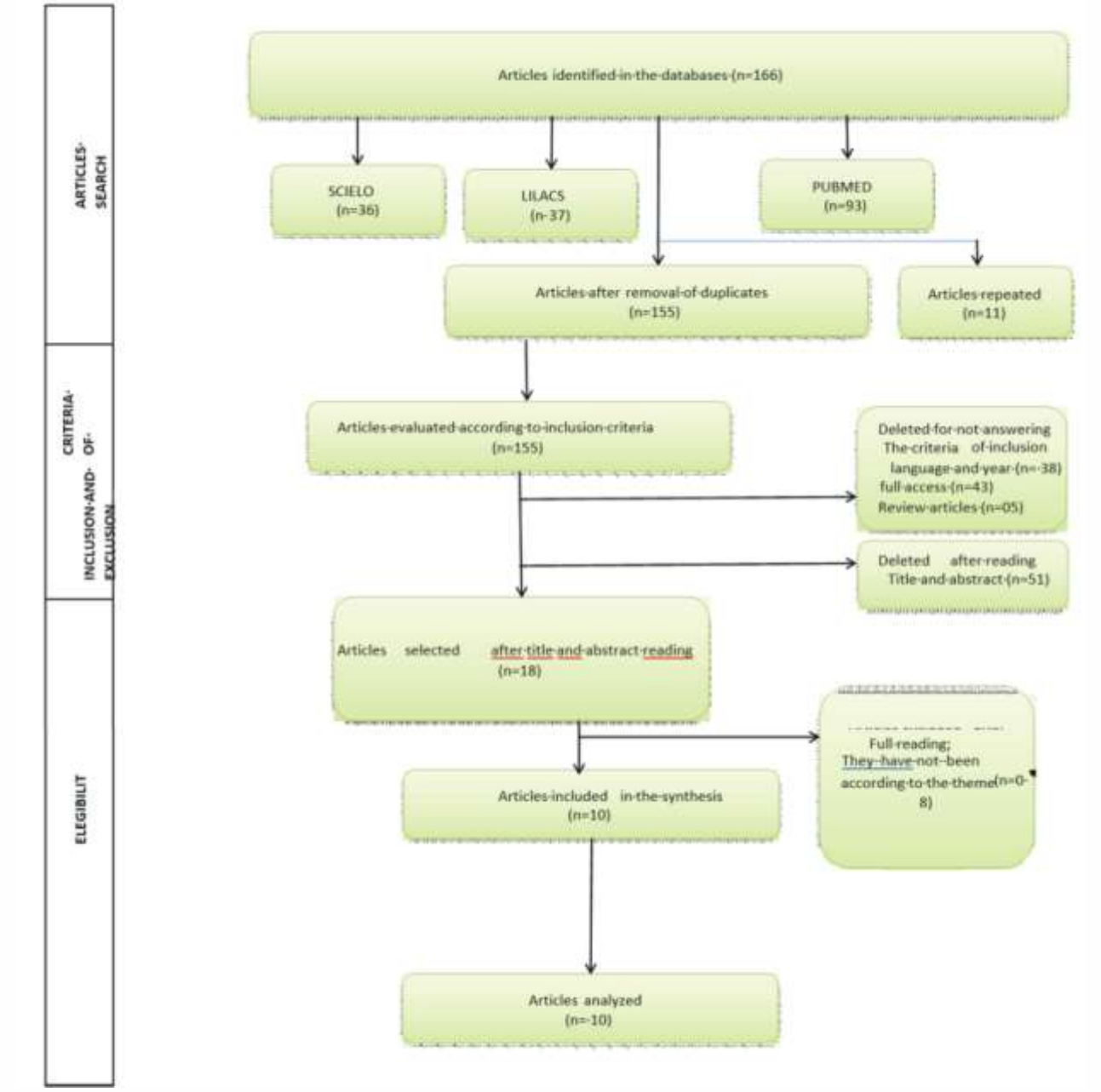
The articles were initially analyzed by title and abstract. After this first analysis, we proceeded with the third stage of the study, in which the information to be extracted from the selected studies was defined. For better organization, the following information was extracted from the studies: database, journal, year, country, title, type of study, level of evidence (was established by the Oxford Center Evidence-Based Medicine criterion) [10] and type non-pharmacological method used in the research. Subsequently, they were organized and presented according to authorship, study objective, methodological design, and language.

The analyzed studies were classified according to the level of evidence: Level 1 - systematic reviews or meta-analysis of relevant clinical trials; Level 2 - evidence derived from at least one well-designed randomized controlled trial; Level 3 - well-designed clinical trials without randomization; Level 4 - well-designed cohort and case-control studies; Level 5 - systematic review of descriptive and qualitative studies; Level 6 - evidence derived from a single descriptive or qualitative study; Level 7 - Authorities' opinion or expert committee report[10].

In the fourth stage, the studies selected and included in the IR were analyzed. At this time of the research, a critical and detailed analysis of all selected articles was performed. In the fifth stage, the results were interpreted. In the last stage, the review was presented with the synthesis of the knowledge obtained about the non-pharmacological methods used in the treatment of Alzheimer's disease. The analysis of the selected studies was performed both regarding the synthesis of data extracted from the articles and the possibility of describing and classifying the data, in order to gather the knowledge produced on the theme explored in this review.

Figure 1 shows the path taken to select articles from this IR.

Figure 1 - Selection of studies included in the synthesis. Brasília, 2017.



Source: It was created by the author.

RESULTS AND DISCUSSION

Study characterization

In Chart 1, the studies are distributed according to the authors, article title, database, journal in which it was published and the year of publication. Regarding the year of publication, there was a predominance of studies, in 2011, with four studies, followed by 2008 with two studies. The largest number of publications was in the journal Clinic with three studies and Archive of Neuropsychiatry with two studies, and, in a balanced way, half of the studies were between national and international journals respectively. Only two studies were published in specific nursing journals (Table 1).

Table 1- Distribution of studies included in the integrative review by authors, title, database, journals and year of publication. Brasília, 2017.

Nº	Authors	Title	Database	Journals	Year
01	Arcoverde C. et al.[11]	Treadmill training as an augmentation treatment for Alzheimer's disease: a pilot randomized controlled study	SciELO	Arquivo de Neuro- Psiquiatria.	2014
02	Arcoverde C. et al. [12]	Role of physical activity on the maintenance of cognition and activities of daily living in elderly with Alzheimer's disease	SciELO	Arquivo de Neuro-Psiquiatria.	2008
03	Hernandez SSS. et al.[13]	Effects of a physical activity program on cognitive functions, balance and risk of falls in elderly with Alzheimer's dementia.	Lilacs	Revista Brasileira de Fisioterapia	2010
04	Albuquerque MCS. et al[14]	The effects of music on Alzheimer's elderly people in a Long-Term Care Facility	Lilacs	Revista Eletrônica de Enfermagem	2012
05	Viola LF. et al[15]	Effects of a multidisciplinar cognitive rehabilitation program for patients with mild Alzheimer's disease	Lilacs	Clinis	2011
06	Stella F. et al.[16]	Attenuation of neuropsychiatric symptoms and caregiver burden in Alzheimer's disease by motor intervention: a controlled trial	Lilacs	Clinics	2011
07	Christofoletti G. et al.[17]	Physical activity attenuates neuropsychiatric disturbances and caregiver burden in patients with demential	Lilacs	Clinics	2011
08	Souza PA. et al.[18]	Cognitive stimulation workshops for elderly patients with dementia: a care strategy in gerontological nursing	Lilacs	Revista Gaúcha de Enfermagem	2008
09	Sakamoto M. et al.[19]	Comparing the effects of different individualized music interventions for elderly individuals with severe dementia	Pubmed	International Psychogeriatrics / IPA	2013
10	Graessel E. et al.[20]	Non-pharmacological, multicomponent group therapy in patients with degenerative dementia: a 12-month randomizied, controlled trial	Pubmed	BMC Medicine	2011

Source: It was created by the authors for the purposes of this study.

According to Table 2, the distribution by type of study, four are randomized controlled, three single blind and one double blind, and three are controlled without randomization. Regarding the country of origin of the publication, a higher incidence of studies was identified in Brazil, with seven publications. Of these studies analyzed, seven were published in English and only three were published in Portuguese. According to the level of evidence, four studies obtained level 2, three studies presented level 3, two studies with level 4 and only one study with level of evidence 6.

Most studies were conducted with elderly with a diagnosis of mild to moderate AD, being 3 in Psychiatry Institutes of Federal Universities. Regarding the non-pharmacological method used in the studies there was a predominance of physical activity or aerobic exercise with five studies, cognitive intervention or cognitive rehabilitation was present in two studies, as well as music therapy which was also present in two studies, followed by MAKS therapy (Motor stimulation, activities of daily living, cognitive stimulation and spiritual element) in only one study (Table 2).

Table 2 - Distribution of studies included in the integrative review according to the type of study, level of evidence, subjects, location, country, language and non-pharmacological method used in the research. Brasília, 2017.

Nº	Type of study	Level of evidence	Subjects/Site	Country	Nonpharmacological method
01	Single-blind, randomized, controlled, pilot study[11]	2	Elderly people (n=20) being 16 with AD and 4 with Mixed Dementia/Institute of Psychiatry of the Federal University of Rio de Janeiro.	Brazil	Physical activity
02	Analytical, Observational and Cross-Sectional Study[12]	4	Elderly people (n=37) with mild to moderate AD aged over 65/Institute of Psychiatry, Federal University of Rio de Janeiro and Open University - Seniors	Brazil	Physical activity
03	Controlled study without randomization[13]	3	16 Elderly people diagnosed with mild to moderate AD./ Rio Claro Community (SP), Brazil.	Portugal	Physical activity
04	Descriptive-exploratory study of qualitative approach[14]	6	12 Elderly patients with clinical diagnosis of Alzheimer's Disease/Elderly Long-term Care Institution - Maceió/AL.	Brazil	Music therapy
05	Controlled, randomized, simple blind study[15]	2	41 Participants with mild AD/Clinical Memory of Psycho-geriatrics unit of the Institute of Psychiatry - São Paulo.	Brazil	Multidisciplinary Cognitive Rehabilitation
06	Controlled, non-blind, non-randomized study[16]	3	32 Patients with mild to moderate AD/Unesp Universidade Estadual Paulista	Brazil	Motor Intervention Program
07	Experimental, controlled, non-randomized study[17]	3	59 Patients diagnosed with dementia (AD, vascular or mixed dementia)/Outpatient Geriatric Psychiatry Clinic of a Brazilian public medical school.	Brazil	Physical activity program
08	Non-random quantitative survey[18]	4	11 Elderly people diagnosed with Alzheimer's dementia/Fluminense Federal University (EPIGG/UFF), Niterói - Rio de Janeiro.	Brazil	Cognitive Stimulation
09	Randomized, double-blind controlled study[19]	2	39 Participants with severe AD, level 3/Special Dementia Hospital in Kobe City.	Japan	Music therapy
10	Longitudinal, controlled, randomized, single-blind study[20]	2	98 Elderly patients with dementia/Nursing home in Mittelfranken - Bavaria.	Germany	MAKS Therapy (Motor stimulation, activities of daily living, cognitive stimulation and spiritual element)

Source: It was created by the authors for the purposes of this study.

After analyzing the selected articles, the non-pharmacological methods used to treat AD, identified in the studies, were grouped into three categories, namely: 1. Motor intervention; 2. Cognitive intervention and 3. Music therapy. It is emphasized that a method can appear in two distinct categories because it has characteristics of both categories.

Intervention in motor activity

Motor intervention as a non-pharmacological treatment method was used in five studies. The first study was based on the evaluation of the effectiveness of aerobic exercise (treadmill) on the cognitive and functional capacity of 20 elderly people with dementia, 16 diagnosed with AD and four with mixed dementia, recruited by trained psychiatrists from the Center for Disease. Alzheimer's at the Institute of Psychiatry of the Federal University of Rio de Janeiro (IPUB/UFRJ). The patients were divided into exercise group (10 patients) undergoing treadmill walking for 30 minutes twice a week for three months and control group

(10 patients) who maintained their pharmacological and clinical therapy over the study period. Cognitive assessment was performed using the Cambridge Cognitive Exam (CAMCOG), functional capacity was assessed by the Berg Balance Scale Static and Dynamic Balance (BERG) test, the "Timed Up and Go" test (TUGT), the Sit-Down test. to-Stand (STS), Exercise Test and Resting Electrocardiogram (ECG). At the end of the study, there was a statistically significant improvement in the exercise group compared to the control group in their general cognitive status and mobility[11].

The cross-sectional study evaluated the relationship between physical activity and the maintenance of cognition and activities of daily living in 37 patients diagnosed with mild to moderate AD who attended one day treatment center and others recruited in a program of physical activity, physical education for maintaining independence in ADL. The seniors were divided into a control group (19 patients) who performed one hour of group physical exercise twice a week for a period of six months, sedentary AD (11 patients) who did not perform any regular physical activity for at least 6 months and active AD (7 patients) who underwent physiotherapy sessions with breathing exercises, static and dynamic balance training, unhindered and obstacle gait circuits, AVD stimulation, fine motor coordination and balance, and cognitive stimulation sessions, lasting one hour, twice a week, for a period of six months. For cognitive and functional assessment, the following methods were used: Cornell Scale for Dementia Depression, Clinical Dementia Rating (CDR), Mini Mental State Examination (MMSE), POMA-Brazil, Timed Up and Go Test (TUGT), the scales designed by Lawton and Brody for AVD's and AIVD's. The study showed that AD patients showed improvements in mobility and ADL compared to the sedentary group, which showed that physical exercises had a positive influence on the cognitive and functional status of AD patients[12].

In another study conducted in São Paulo, the authors conducted a controlled, non-randomized study and analyzed the effectiveness of a physical activity program on cognitive functions, balance and risk of falls in elderly people with Alzheimer's dementia. The study was carried out with 16 elderly people diagnosed with AD selected by medical indication and volunteer, living in the community of Rio Claro (SP), divided into intervention group (9 participants) who performed a regular, systematic and supervised physical activity program, three times per week, on non-consecutive days, lasting 60 minutes per session, for six months, performed in groups, with the help of interns and routine group (7 participants) who kept their daily activities normally.

They were evaluated by instruments such as the Berg Functional Balance Scale (EEFB), the Timed up and Go (TUG) tests evaluated in seconds (TUGs) and steps (TUGp) and the Agile Dynamic Balance (AGILEQ). The American Alliance for Health Physical Education, Recreation and Dance tests used for balance assessment, while for cognitive assessment, the Mental State Mini-Exam (MMSE) was used. It has been observed that physical activity is an effective method for maintaining cognitive functions and balance, as well as preventing the risk of falls in elderly with AD, since test results showed significant improvements in the intervention group and worsening in the routine group[13].

Still, in this sense, in an experimental study, the authors investigated the attenuation of neuropsychiatric symptoms and the reduction of caregiver burden in AD patients, through a physical activity program. The study included 59 patients diagnosed with AD, probable vascular dementia, or mixed, and their caregivers. Patients in the three dementia groups were divided into lower and higher levels of physical activity and this was considered systematized when performed at least twice a week for 30 minutes or more and for at least six months.

Instruments such as the CDR scale, Cambridge Examination Cognitive Section for the Elderly Mental Disorders (CAMCOG), the Neuropsychiatric Inventory (NPI), the Mini-Sleep Questionnaire (MSQ) and Modified Baecke Elderly Questionnaire (MBQE) were used. The study showed that patients generally had a relatively low level of physical activity. Those diagnosed with AD were shown to have a higher level of activity and, consequently, fewer neuropsychiatric disorders compared to those with lower levels of physical activity, thus reducing the burden of their caregivers[17].

Finally, a controlled study evaluating the impact of aerobic exercise on the neuropsychiatric symptoms of 32 participants with a probable diagnosis of mild to moderate AD and the reduction of the burden and stress of their caregivers, performed at Universidade

Estadual Paulista (UNESP), was conducted. Instruments were used to assess cognitive activity such as the Mini Mental State Examination (MMSE), the Neuropsychiatric Inventory (NPI), as well as the Cornell Depression in Dementia Scale. For the treatment group, exercises were performed over a period of six months, 60 minutes per session, three times a week on non-consecutive days and for the control group, the normal activities of daily living were maintained.

At the end of the study, a reduction in neuropsychiatric symptoms (agitation/aggression, depression, anxiety, apathy/indifference, disinhibition, irritability, and appetite disorders) was observed among participants in the intervention group and an increase in these symptoms in the control group. Regarding caregiver burden, there was a significant reduction in stress in the intervention group compared to the control group, which maintained similar rates to the beginning of the study[16].

In the present research, half of the studies approached motor intervention as an efficient method of non-pharmacological treatment through aerobic physical activities, walking, gait training and balance, among others. Most of these studies have observed significant progress in patients undergoing physical activity programs, with reduced risk of falls, improved balance and gait, better performance of daily living activities, decreased neuropsychiatric symptoms and benefits in cognitive and physical development. motor.

Studies have shown the beneficial effect of physical training on quality of life, depressive symptoms, daily living activities, and cognitive and motor function in AD patients. Physical exercise attenuates the risk of disability associated with behavioral disorders in patients with dementia[21-22]. In addition to all these positive effects, physical activity also significantly contributed to the reduction of aggressive behavior in AD patients when compared to a control group[11].

In the evaluated studies, the main limitations were in relation to the standardization of the exercise time adopted sometimes with a longer time and with a shorter time. Other limitations mentioned included the lack of control of the intensity of the exercise adopted, the small sample, cross-sectional studies without follow-up and lack of control of effects of psychotropic drugs reflected in cognition.

Cognitive intervention

In this literature review, only two studies that addressed cognitive intervention as a non-pharmacological method of AD treatment and one study that used multi-component therapy with a cognitive approach.

In a controlled study, the benefits of a multi-functional stimulation program on cognition, neuropsychiatric symptoms and quality of life of 41 patients with mild AD and their caregivers were evaluated. Patients and controls underwent a clinical cognitive assessment and instruments such as the Mini Mental State Examination (MMSE), Cognitive Short Test (SKT), Geriatric Depression Scale (GDS), Quality of Life Assessment Scale (MDS). Alzheimer's disease (QoL-AD). The intervention was performed in group sessions with 12 participants each, twice a week, with an average duration of 90 minutes per session. Cognitive rehabilitation, cognitive training, speech therapy, occupational therapy, art therapy, physical culture, physical therapy and cognitive stimulation with reading and logic/games activities were performed. Caregivers received psychological counseling in group sessions twice a week to clarify issues pertaining to their patients'/families' AD. The control group, in turn, received standard outpatient care. The study revealed that the cognitive rehabilitation program provided mild improvements in the cognition of patients in the intervention group, while patients in the control group had a significant overall attention deficit[15].

Still, in this sense, research has described and analyzed the effectiveness of cognitive stimulation workshops for elderly people with Alzheimer's dementia. The study included a sample of 12 patients with a clinical diagnosis of AD. The sessions took place weekly, with an average duration of 50 minutes each, with activities such as reality orientation techniques, mnemonic resources, reminiscences, activities of daily living and socialization activities, which stimulated the deficits presented by the patients. Instruments such as the Mini Mental State Examination (MMSE), Clock Test, Word Evocation Test, Geriatric Depression Scale (EDG), Daily Life Instrumental Activity Scale (IADL) and Katz Daily Life Activity Scale were used (ADL) to perform cognitive screening. At the end of the study, it was observed that patients who participated in cognitive stimulation activities presented, in their majority, stabilization in their clinical symptoms, which demonstrates the beneficial effect of

therapy in AD patients, since there was no disease progression[18].

A study used multi-component therapy known as MAKS, which consists of tasks organized into three categories: M - Motor Stimulation, A - Daily Life Activity, K - Cognitive Stimulation, preceded by a brief introduction called the S-Spiritual Element. The authors conducted a study that evaluated the effectiveness of this therapy in patients with dementia from five German homes. The therapy was attended by 98 patients, 48 patients in the control group and 50 in the intervention group, which occurred six times a week and lasted twelve months. The sessions consisted of introducing about 10 minutes, followed by 30 minutes of motor exercises such as bowling, balancing a tennis ball on a frisbee, and thirty minutes of cognitive tasks with pencil and paper and ended with 40 minutes of daily life activities, involving creative tasks, with an interval of 10 minutes between activities. The control group received their usual daily care. Instruments such as the Alzheimer Disease Assessment Scale (ADAS-Cog), the ADL Erlangen Test (E-AVD test) and the NOSGER mood subscale were used. The results demonstrated a significant effect of MAKS Therapy on cognitive function in dementia patients and their ability to perform ADLs compared to the usual care control group, thus allowing greater independence of patients with mild dementia for at least 12 months without adverse effects[20].

In relation to cognition, dementia is a syndrome that imposes cognitive barriers that interfere with an individual's daily life activities, further diminishing their independence to perform basic care.

Therefore, stimulation or cognitive rehabilitation developed through memory activities and exercise of cognitive functions are essential for the disease not to progress or to adapt to the new life condition that allows the elderly people can reach an ideal level of physical, psychological and social performance, thus reducing their dependence and, consequently, the caregiver's burden, as well as improving their quality of life[15,18].

The multicomponent therapy known as MAKS that subjected patients to activities according to their level of understanding, which evaluates the mental state examination, demonstrated a positive effect on cognition and ability to perform ADLs, i.e. multi-component therapies that involving both motor and cognitive stimulation, may be a viable option in non-pharmacological treatment of AD, since they are easy to apply, low cost and have beneficial results for their participants[20,23].

Limitations of these studies were the small number in the control group, significant investment in human resources for study development, small sample size, attendance of participants, lack of support for study, and help for participants to continue participating in the study.

Music therapy

Regarding the use of music therapy, two studies have observed the effects of this non-pharmacological treatment method as an alternative for patients with AD. In a descriptive and exploratory qualitative approach study, the effects of music were observed in five elderly patients with AD from a long-term care facility located in Maceió/AL. A semi-structured interview form and a field diary were used. Interviews were conducted before and after the five total music sessions that lasted approximately 20 to 45 minutes, according to the individual's personal preferences, so each participant had a personalized CD composed of five songs. The results demonstrated the beneficial effect of music in patients diagnosed with AD, as there was a retrieval of memories and experiences lived by these patients, as well as the expression of feelings such as happiness and longing perceived in the physiognomy presented, and these patients report a pain reduction when under the influence of songs[14].

In a controlled, randomized, double-blind study, we evaluated the differences between short- and long-term effects of passive and interactive approaches using individualized music associated with personal memories in elderly people with severe dementia. Thirty-nine elderly people diagnosed with severe AD, assessed through the Mental State Mini-Exam (MMSE), participated in the study, divided into three groups, one control group that spent time with their caregiver and without the intervention of music, a passive music group who listened to the selected song through a CD player, an interactive music group who in addition to listening to the music by a CD player, participated in interactive sessions (singing, dancing, clapping) with the help of a facilitator. The intervention lasted 30 minutes each once a week for 10 weeks,

constituting 10 total sessions. The short-term effects were assessed using the Face Scale and the long-term Alzheimer's Rating Scale (BEHAVE-AD). At the end of the study, stress reduction, relaxation, and feelings of happiness and contentment were observed in both short and long-term passive and interactive music participants compared to the non-music control group. The control group, in turn, presented a deterioration of psychological and behavioral symptoms at the end of the intervention period[19].

Music therapy is a non-pharmacological form of treatment for AD, which may allow us to bring the remembrance of happy moments to provide pleasant emotional states, stress reduction and increased relaxation.

In this sense, music therapy is a way for the elderly to contact their past through the evocation of memories, potentialities, strengthening of self-esteem and identity. Still, music therapy can be used by health professionals to care for Alzheimer's patients in order to provide the well-being of these individuals, alleviating their psychosocial suffering. In addition to all these benefits, music therapy acts to promote the reintegration of these individuals into society, providing greater communication and social interaction of these patients within their living environment, thus being an effective mechanism in delaying the progression of dementia[8.24].

The limitations of the studies analyzed were intervention time, duration, comparison with music only, small sample size and individuals with severe dementia.

Given the above, it is observed that health professionals play a primary role in the care of patients with AD. For example, nurses act to promote support to caregivers and family members regarding the cognitive and functional changes caused by this disease, presenting the best way to cope with them[21-29]. These professionals also have the function of providing care always stimulating the maintenance of self-esteem and autonomy of these patients, using tools, such as non-pharmacological methods for treatment, thus aiming to minimize the undesirable effects linked to the disease and enable a better quality of life[8,9,24].

After explaining the existing methods for non-pharmacological treatment of AD and their efficacy in attenuating cognitive and motor symptoms in patients with dementia[25,27,30-31]. It is observed that there is currently no treatment that can totally reverse the deterioration of cognitive and motor functioning caused by AD, they only aim to slow the progression of the disease[25-27].

Finally, it is observed that the results pointed out in this review may contribute to nursing practice. Given the non-pharmacological methods discussed, attention is given to the adoption of nursing interventions that benefit the elderly's quality of life, such as motor activities, multi-professional alternative therapies such as music therapy, with a view to promoting the daily life activities of these patients who has AD.

FINAL THOUGHTS

The integrative literature review allowed the development of a deeper study about non-pharmacological methods for the treatment of AD. The most addressed interventions, that is, with a larger number of scientific productions, were those involving motor activities, due to their ease of implementation, low cost and for presenting beneficial results to patients with AD.

In addition to these, studies using cognitive interventions and music therapy as a form of treatment were also found and proved to be efficient, as they reduced the dependence to perform activities of daily living and, consequently, improved the quality of life of these patients.

The main limitations of this review were the analysis of studies that did not control some variables such as intensity and time of physical activity, reduced sample, no comparison between music and other interventions and cross-sectional studies. Thus, it is suggested that another review be performed with studies that had similar time of physical activity, with larger samples and comparison of music therapy with another type of intervention.

In summary, it was possible to observe that there are many gaps in knowledge about this theme, since the use of these methods is still unusual. Therefore, further research on non-pharmacological interventions, their implementation, their risks and benefits is needed.

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Note: This article has not been funded by a funding agency. It is an End of Course Monograph, of University of Brasilia UNB/FCE/ BRAZIL.

Received in: 22/02/2018
Approved in: 24/10/2019

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