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Effects of alzheimer on the functional capacity of the elderly

Efeitos do alzheimer na capacidade funcional da pessoa idosa

Efectos de alzheimer en la capacidad funcional de los mayores

RESUMO

O presente estudo trata-se de uma revisão integrativa da literatura que teve como objetivo analisar os efeitos do Alzheimer na capacidade funcional da pessoa idosa. A busca foi realizada nas bases LILACS, MEDLINE e BDNF, via Biblioteca Virtual em Saúde (BVS), e PubMed. Foram selecionados 05 artigos todos em inglês. Identificou-se que a perda de autonomia funcional é ainda mais importante para pessoas com Doença de Alzheimer e que existem duas classes envolvidas na capacidade funcional, sendo elas atividades de vida diária e atividades instrumentais de vida diária. Dessa forma, a avaliação da autonomia funcional dos idosos deve ser específica e personalizada, de forma a direcionar as suas necessidades e desenvolver serviços adequados. Conclui-se que, o idoso acometido com Doença de Alzheimer apresenta situações de dependência em diferentes níveis, sendo de grande relevância analisar sua capacidade funcional de acordo com sua atividade exercida.

DESCRIPTORES: : Idoso, Doença de Alzheimer, Análise e desempenho de Tarefas

ABSTRACT

This study is an integrative literature review that aimed to analyze the effects of Alzheimer's on the functional capacity of the elderly. The search was carried out in the LILACS, MEDLINE and BDNF databases, via the Virtual Health Library (VHL), and PubMed. 05 articles were selected, all in English. It was identified that the loss of functional autonomy is even more important for people with Alzheimer's Disease and that there are two classes involved in functional capacity, namely activities of daily living and instrumental activities of daily living. Thus, the assessment of the elderly's functional autonomy must be specific and personalized, in order to address their needs and develop adequate services. It is concluded that the elderly affected with Alzheimer's Disease presents situations of dependency at different levels, and it is of great importance to analyze their functional capacity according to their activity.

DESCRIPTORS: Elderly, Alzheimer's Disease, Task Analysis and Performance

RESUMEN

Este estudio es una revisión integradora de la literatura que tuvo como objetivo analizar los efectos del Alzheimer sobre la capacidad funcional de las personas mayores. La búsqueda se realizó en las bases de datos LILACS, MEDLINE y BDNF, a través de la Biblioteca Virtual en Salud (BVS) y PubMed. Se seleccionaron 05 artículos, todos en inglés. Se identificó que la pérdida de autonomía funcional es aún más importante para las personas con enfermedad de Alzheimer y que hay dos clases involucradas en la capacidad funcional, a saber, las actividades de la vida diaria y las actividades instrumentales de la vida diaria. Por tanto, la valoración de la autonomía funcional de las personas mayores debe ser específica y personalizada, con el fin de atender sus necesidades y desarrollar unos servicios adecuados. Se concluye que los ancianos afectados por la Enfermedad de Alzheimer presentan situaciones de dependencia a diferentes niveles, y es de gran importancia analizar su capacidad funcional según su actividad.

DESCRIPTORES: Anciano, Enfermedad de Alzheimer, Análisis de Tareas y Desempeño.

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INTRODUCTION

Aging is a natural and multidimensional process that started to show new characteristics, since life expectancy has grown considerably in recent decades, leading to population aging. These new features encompass changes that were not representative while human beings did not reach the age at which they present themselves.¹ In this context, most of the elderly population in Brazil has a chronic disease, such as hypertension, diabetes, and some types of dementia, including Alzheimer's Disease (AD).²

Alzheimer's Disease is the most common cause of dementia, accounting for about 60 to 80% of cases, defined as a chronic, progressive neurodegenerative disorder characterized by neurocognitive decline that may precede the diagnosis of dementia by at least 2 to 3 years.³

Its incidence increases with age, affecting about 10% of people between 65 and 75 years old, and 32% of the elderly over 80 years old.⁴ It is estimated that more than five million people in the United States are currently living with AD, and by 2050, that number is expected to triple to 13,8 million.⁵

Alzheimer has typical symptoms such as cognitive dysfunction, psychiatric symptoms and behavioral disturbances, and difficulty in performing activities of daily living in the last stages of the disease. These symptoms progress from mild memory loss to very severe dementia. It is a devasta-

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ting disease, with high economic costs and emotionally painful for patients and their families.⁶

Therefore, it reduces the functional capacity (FC), which is defined as the living conditions of an individual that allow them to interact independently with the environment, which hinders the basic lifestyle habits of the elderly and is associated with several problems - increased risk of hospital readmission, prolonged hospital stays, unsatisfactory surgical results, postoperative complications, increased risk of falls, morbidity, general mortality and dementia.⁷

Thus, the assessment of functional capacity allows determining the independence of the elderly in basic and instrumental activities, such as: bathing, dressing, personal hygiene, changing, feeding, maintaining continence, preparing meals, financial control, taking medication, house cleaning, shopping, use of public transport, telephone and displacements.⁸

In this context, it is an attempt to verify degrees of behavior in the execution of daily activities, leisure and social interaction, with the objective of maintaining the health status and preventing diseases to guarantee autonomy and independence for as long as possible.⁹

Therefore, it is proposed to carry out this study in order to analyze in the literature the scientific evidence on the effect of Alzheimer's on the functional capacity of the elderly, since the need for assistance in instrumental and basic activities affects the quality of life and the burden of care,

providing subsidies for a more holistic and individual look.

METHOD

The present study is an integrative literature review and to reach a greater understanding of the topic in question, four steps were followed: definition of the research problem; data collect; analysis and interpretation of data; and presentation of results.

To prepare the research question, the PICO strategy was used – an acronym for population, interest and context. Thus, the study's guiding question was: "What are the effects of Alzheimer's on the functional capacity of the elderly?". In it, the elements of the PICO strategy were defined

descriptors, "OldMan", "Alzheimer's Disease" and "Task Performance and Analysis", combined with each other with the Boolean operator "AND".

The data search was carried out in September 2020, in the following databases: Latin American and Caribbean Literature in Health Sciences (LILACS), Medical Literature Analysis and Retrieval System Online (MEDLINE) and Database in Nursing (BDENF), via the Virtual Health Library (VHL), and the National Library of Medicine (PubMed). The following inclusion criteria were defined: primary studies published in the last 5 years, with free access in full, in English and Portuguese and that addressed the proposed theme.

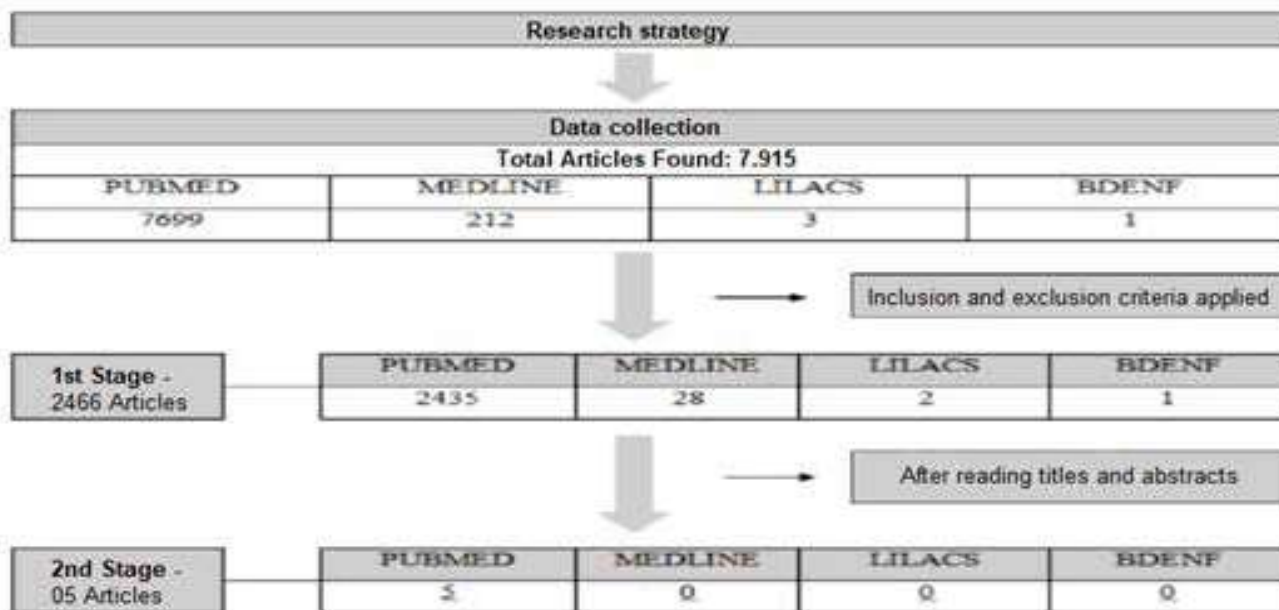
After data collection, 7.915 articles were found, which were submitted to the

2466 articles was carried out, in search of those that answered the research question satisfactorily and were relevant to the topic addressed, obtaining a sample of 05 articles, all available in the National Library of Medicine (PubMed) database, as shown in Figure 1.

Data analysis and interpretation were carried out in an organized manner by viewing the data in a box with information on the study title, database, journal, year of publication, study site, results and reflections of the authors, type of study and level of evidence (LE).

For the level of evidence, the following was defined: level 1 (strongest) evidence from a systematic review or meta-analysis of randomized clinical trials; level 2, evidence derived from well-designed ran-

Figure 1 - Flowchart of the identification and selection process of the studies that make up the integrative literature review



Teresina, PI, Brasil, 2020.

as "P" (Population): Elderly; "I" (Interest): Effects of Alzheimer's; "Co" (Context): Functional Capacity. Thus, the Health Sciences Descriptors (DECS) were used: "Idoso", "Doença de Alzheimer" and "Análise e desempenho de Tarefas" and, as Mesh

first stage of analysis by applying the inclusion criteria, leaving 2466 articles, of which 2435 were found in PUBMED, 28 in MEDLINE, two in LILACS and one at BDENF. In the second step, an exhaustive reading of the title and abstract of the

domized clinical trials; level 3, evidence obtained from well-designed clinical trials without randomization; level 4, evidence from well-designed cohort and case-control studies; level 5, evidence originating from a systematic review of descriptive and

qualitative studies; level 6, evidence derived from a single descriptive or qualitative study; and level 7 (weaker), evidence from expert opinion. 10

RESULTS

The 05 articles selected were published in English and have a total of 29 authors, including nurses, psychologists, speech therapists, physicians and physiotherapists, with two studies from 2016 (40%), two from 2018 (40%) and one from 2015 (20%). As for the country of origin, two (40%) were carried out in Brazil, one (20%) in Sweden, one (20%) in Germany and one (20%) in France.

Regarding the method covered and level of evidence of the studies, there were 02 (40%) cross-sectional with level of evidence 5, one (20%) observational study type well-designed clinical trial without randomization with level of evidence 3, one (20%) randomized controlled clinical trial with evidence level 2 and one (20%) quasi-experimental observational study with evidence level 3.

DISCUSSION

The loss of functional autonomy is usually the result of an imbalance between an individual's functional capabilities and available social and material resources. Functional autonomy often declines with aging as a consequence of a wide range of physical, cognitive, emotional, and social changes. This reduction is even more important for people with Alzheimer's Disease. Thus, the assessment of the elderly's functional autonomy must be specific and personalized, in order to address their needs and develop adequate services. However, there is a lack of adequate tools for an efficient assessment of functional autonomy in the elderly. 11

Therefore, there are instruments such as the ADL scale (Index of Activities of Daily Living) and the IADL (Scale of Instrumental Activities of Daily Living) by Lawton & Brody (1969) that assess, respectively, the capacity of an individual to perform Activities of Daily Living (ADL), which are more common (body care, dressing, going

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to the bathroom, transferring, feeding), and Instrumental Activities of Daily Living (IADL), which are more complex (such as using the phone, shopping, preparing meals, cleaning, washing clothes, using public transport, managing medication intake or a budget). These tools are widely and frequently used in clinical practice and research. 11

There is also the S-IADL, which requires active participation to simulate the same activities as the IADL, being another step towards a more ecological way of evaluating the skills and autonomy of patients in a classic assessment context. While the IADL is a self-assessment scale presented in the form of a subjective self-report questionnaire. 11

Although in the present study important differences were not obtained between the classic IADL and the S-IADL, in certain situations it may be worth preferring this new tool. For example, it can give clinicians the ability to identify why an activity is difficult to perform, how the person copes with their difficulties in performing the activity, and what can be proposed as specific compensatory strategies. 11

The French PAQUID study showed that the degree of dependence measured by the IADL self-report questionnaire, mainly with 4 items (ability to use the telephone, means of transport, responsibility for one's medication and ability to manage finances) can be a good predictor of the risk of developing dementia. More specifically, cognitive performance assessed by neuropsychological tests seem to be closely linked to the individuals' functional autonomy. 11

It was also identified that attention, memory, language and visual-spatial skills correlated with scores obtained on the AIVD questionnaire specifically for telephone use, drug use and budget management. However, these assessments are mostly limited to people under the age of 80 years. 11

There are studies that explore the relationship between engagement in advanced activities of daily living (AADLs) and cognitive performance as a way to benefit from successful healthy aging. AADLs are part of the competences related to daily func-

tioning, but they are considered more complex as they depend on the motivation and preservation of a set of physical and cognitive competences that enable independent functioning and social participation in broader environments. 12

The interruption of these activities can be an early marker of dependence for performing instrumental activities of daily living. Engaging in AADLs brings benefits to the health, autonomy, functionality and well-being of the elderly population. Such activities are known to play a protective role against cognitive decline and in preventing and progressing dementia. 12

In Alzheimer's disease (AD), including the mild stage, in addition to showing a lack of awareness of their deficits, patients also tend to underestimate them in activities of daily living. It is important to note that a meta-analysis showed no difference in effect sizes between functional capacity and executive function, self-assessed and assessed by informant. 11

Dependence in ADLs is multifactorial, with various compositions and causes that may not be equally predisposed to change. Furthermore, loss of ability to perform

ADLs may be due to impaired cognition, but also impaired physical function, and clinical symptoms typical of certain types of dementia may influence responses to exercise programs. 13

In the study by Sobral, 14 for the elderly person's ADL, the items that presented a situation of compromised partial dependence and greater independence were the use of medication, shopping and finances, food preparation, household activities and money management. 14

It was also found that impaired social communication in the elderly modifies the performance of ADLs, as it demonstrates changes in cognitive impairment and loss of autonomy to perform daily tasks, requiring the guidance of a trained professional to provide them with cognitive training, in addition to improving autonomy and functional aspects. 14

Furthermore, to improve the quality of life or keep a person in a safe condition, the contribution of care to people with dementia is considered difficult and challenging. In order for the client with dementia to receive treatment, an entire multi-professional system of healthcare providers is

needed (general practitioners, specialists, nurses and therapists, for example). 15

CONCLUSION

Elderly people with Alzheimer's present situations of dependency at different levels, and it is of great importance to assess their functional capacity to perform common and complex ADLs according to their activities performed through various instruments such as the ADL scale (Index of activities of daily living) and the IADL questionnaire (Instrumental Activities of Daily Living Scale) by Lawton & Brody.

Furthermore, studies identify the relationship between engagement in advanced activities of daily living and cognitive performance as a way to benefit successful healthy aging. This engagement brings benefits to health, autonomy, functionality and well-being. In addition, for the elderly with dementia to receive adequate treatment and have a quality of life, it is necessary to have an entire multidisciplinary care together with the family.

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