

## Care Strategies for the Elderly with Alzheimer's Disease: Integrative Literature Review

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### Authors' contributions

*This work was carried out in collaboration among all authors. Authors VFFA, DNRC, DMS, JDNM, ESF and IVPP designed the study, performed the data analysis, wrote the protocol and wrote the first draft of the manuscript, managed the analyses of the study. Authors REARC, CSC, CROS, FAT, RDCS, IMS, DDFRB, KSCC, ADGO, RRRG, LNaN, NSFN, SLS and MCDCAP collaborated in bibliographic research. All authors read and approved the final manuscript.*

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## ABSTRACT

**Objective:** To investigate care strategies in older people with Alzheimer's Disease, in the 2014-2018 historical series.

**Methodology:** Integrative Literature Review was conducted in the Scientific Electronic Library Online (SciELO), Latin American Health Sciences Literature (LILACS) and Nursing Databases (BDENF) databases.

**Results:** 10 articles were found and analyzed using IRAMUTEC software. This recognized the separation of the corpus into 10 initial context units (ICU), with the emergence of the following categories: 1) Family dynamics and care; 2) Nursing care for the elderly with Alzheimer's disease; 3) Geronto-technologies and their use for the elderly with Alzheimer's disease.

**Conclusion:** The disease interferes in the ability to meet the basic needs of the elderly, thus the need for specific care arises, and it is essential that the nurse outlines his therapeutic plan also to the caregiver and the elderly.

*Keywords: Aged; Alzheimer disease; aging; nursing diagnosis.*

## 1. INTRODUCTION

The ageing of the population is notorious in both developing and developed countries. Thus, it is possible to notice transitions in the demographic structure, through changes that affect the different spheres of economic, political and social organization [1-2].

In this context, Alzheimer's disease (AD) emerges, which is characterized as a neurodegenerative dysfunction and is the most common cause of dementia in the elderly. AD generates progressive damage to brain tissue, causing the loss of synapses, lesions and neuronal death, in which the first committed part is the hippocampus region, responsible for memory development [3].

The pathology represents the most common form of dementia in the elderly, being responsible for 50 to 70% of the cases and in Brazil, there are one million people with this pathology, however, there are not yet many data regarding its incidence in the country [4].

Therefore, it is necessary to evaluate the functional capacity of the elderly with AD in an integral way, observing the severity of the disease, the impact of dementia in the family and the knowledge in relation to the level of care that the elderly need. Functional assessment of the elderly is an integral part of nursing care with emphasis on the person and the support systems they can rely on, so that their needs can be provided. In the midst of this holistic and individualized assistance, the nurse prepares, executes and evaluates the care provided to the

elderly, serving as a support so that the family can execute it in an effective and desirable way [5].

Therefore, an Integrative Literature Review was developed in view of this premise with the objective of investigate care strategies in older people with Alzheimer's Disease, in the 2014-2018 historical series.

## 2. MATERIALS AND METHODS

It is configured as a study of Integrative Literature Review (RIL) carried out in six stages: 1- identification of the subject, research problem and object of study; 2-establishment of search criteria in the main databases; 3- categorization of studies and data collection by means of an instrument; 4- evaluation of studies and data collection; 5- presentation of results; 6-discussion and presentation of Integrative Literature Review [6].

Data collection took place through the following databases: Scientific Electronic Library Online (SciELO), Latin American Health Sciences Literature (LILACS) and Nursing Databases (BDENF). For the selection of articles, the combination of the Health Sciences Descriptors (DeCS) as: "elderly"; "Alzheimer's disease"; "population aging"; "elderly"; "nursing diagnosis" and "nurse" mediated by the Boolean operator "AND" was used, aiming to increase the number of studies. The uncontrolled descriptors "nursing care"; "aging" and "functional evaluation" were also used".

The inclusion criteria established for the elaboration of RIL were: research articles

**Table 1. Identification of selected articles**

<b>Nº</b>	<b>Title of the article</b>	<b>Authors / Year / database</b>	<b>Type of study / country of publication</b>	<b>Objective</b>	<b>Summary of results</b>
1	Geronto-technologies used by relatives/caregivers of elderly people with alzheimer's: contribution to complex care [7]	ILHA, S. et al. 2018. SciELO	Cross-sectional study. Brazil.	Identify Geronto-technologies developed/employed by family/caregivers as complex care strategies for the elderly/family with Alzheimer's disease.	Geronto-technologies employed/suggested by relatives/caregivers were identified, regarding the forgetfulness of one's own home/path; the non-acceptance of the bath; the repetition and irritability; the medication; the money; the ignorance/stigmatization of Alzheimer's disease; the risk of falling; the control of care.
2	Complex educational and care (geron)technology for elderly individuals/families experiencing Alzheimer's disease [8]	ILHA, S. et al. 2017. SciELO	Cross-sectional study. Brazil.	To describe the contributions of the Integrated Multidisciplinary Care Group for Caregivers of Individuals with Alzheimer's Disease as an educational and care (geron)technology in the context of Alzheimer's disease in elderly individuals from the perspective of family members/caregivers.	The results made it possible to describe the contributions of AMICA as a (geron)educational-care technology in the context of Alzheimer's disease in elderly people, from the perspective of family caregivers.
3	(Educational and care-related (geronto) technology in Alzheimer's disease and in supporting the elderly/family: perspective of teachers and studentsa [9]	ILHA, S. et al. 2017 SciELO	Cross-sectional study. Brazil.	:Knowing the comprehension of teachers and students of health and human sciences about the group on Integrated Multidisciplinary Care to Caregivers of People with Alzheimer's disease as an educational and care-related (geronto)technology in the context of Alzheimer's disease and of support to the elderly person/family.	Teachers and students understand the group as a (geronto)technology, due to the developed educational and care-related activities. For them, the group is able to produce new Geronto-technologies, which demonstrates its ability as a complex educational and care-related (geronto)technology.
4	Nursing care for people with Alzheimer's [10]	FARFAN, A.E.O. et al. 2017 LILACS	Systematic Review. Brazil.	Report aspects of Alzheimer's disease, how the caregiver and family members should work with the sufferer of this dementia and describe how nursing professionals can contribute to quality care	Methods and evaluations compose the list of actions/interventions of the nurse for qualified nursing assistance and management of the patient in the different phases and alterations by Alzheimer. The nursing team integrates the multiprofessional actions, also seeks to develop humanized care for the family, encouraging and leading to active participation.
5	The Relationship Between Nursing Diagnoses and	LOUREDO, D.S, et al.	Documentary Study. Brazil.	Raise the nursing diagnoses of the elderly in the nursing consultation and	Nursing diagnoses were chronic confusion with test results for immediate, incidental, and delayed

Nº	Title of the article	Authors / Year / database	Type of study / country of publication	Objective	Summary of results
	Cognition Tests Performed in Elderly With Alzheimer's Disease [11]	2017. LILACS		relate such diagnoses with neurological test results.	memory evaluation. The risk of falls was related to the clock test. Poor knowledge was related to figure recognition and learning evaluation. Sleep pattern was impaired, the risk of loneliness and chronic sadness assisted in the diagnosis of depression.
6	Neuropsychiatric symptoms of the elderly with Alzheimer's disease and the wear of the family caregiver [12]	STORTI, L.B. et al. 2016 BDENF	Cross-sectional study. Brazil.	Analyze the relationship between the family caregiver's wear and tear and the presence of symptoms neuropsychiatric in elderly people with Alzheimer's disease or mixed dementia	There was a strong correlation between the frequency and severity of neuropsychiatric symptoms and the wear and tear of the caregiver.
7	Alzheimer's disease in the elderly/family: Experienced difficulties and care strategies [13]	ILHA, S. et al. 2016 BDENF	Cross-sectional study. Brazil.	To know the difficulties experienced by family carers of older people with Alzheimer's disease and to develop strategies to meet the difficulties experienced in the care process of older people.	Family caregivers experience physical, mental and social difficulties that impose some challenges in living with and caring for the elderly person with AD, which, however, can be minimized through the construction and socialization of collective care strategies.
8	Nursing Care for Alzheimer's Patients [14]	RODRIGUES, A.L.B.A. LIMA, C.P.B. NASCIMENTO, R.F. 2015. LILACS	Narrative Review Study. Brazil	Assess the challenges faced by nursing professionals caring for Alzheimer's patients.	Health professionals and society must be prepared to welcome these patients; the number of elderly people is constantly increasing and they deserve to go through this phase of life with dignity and respect.
9	Nurse Care to Patients with Dementia Syndromes: A Bibliographic Survey [15]	SOUZA, E.M. 2014. SciELO	Literature Review Study. Brazil	Identify the bibliographic production about the care of patients with dementia syndromes and identify the care actions performed with patients with dementia syndromes.	As the disease progresses, the elderly is no longer able to meet their basic needs alone. The need arises for the caregiver who is often the closest relative.
10	Nursing care for Alzheimer's patients and their caregivers [16]	SOARES, J.S. CÂNDIDO, A.S.C. 2014. SciELO	Study of Integrative Review of Literature. Brazil.	To identify the main approaches to nursing care for Alzheimer's patients and their caregivers present in the articles published in health journals between 2005 and 2013.	The AD also affects the caregiver's health, generating changes in emotional and structural life, making it necessary that the nursing assistance to the Alzheimer's carrier covers him and his caregivers, especially the informal ones, in a systematic way, through actions not only assistance, but also educational.

Source: AGUIAR et al., 2020.

**Table 2. Coding of the Textual Corpus for analysis in IRAMUTEQ**

Article coding	Database coding	Publication Year Encoding
*Art_1 a *Art_10 (selected articles)	*Base_1: SciELO *Base_2: BDENF *Base_3: LILACS	*Year_1: 2018 *Year_2: 2017 *Year_3: 2016 *Year_4: 2015 *Year_5: 2014

*Source: AGUIAR et al., 2019.*

published in the 2014-2018 period, Portuguese language, available electronically in full and addressing Alzheimer's disease and its implications for the elderly. Studies of the following types were excluded: editorials, letters to the editor, reflexive studies and studies that did not address a topic relevant to the objective of the study.

The sample consisted of 10 publications. The selected articles were evaluated regarding article title, authors, year and database, type of study and publication, objective and summary of results, as shown in Table 1.

After evaluation and synthesis of the articles, the data were analyzed through IRAMUTEQ software (Interface de R pour l'Analyse Multidimensionnelle de Textes et de Questionnaires), which was developed in France by Pierre Ratinaud. The program is anchored in the R software and allows different forms of statistical analysis on the text corpus and tables of individuals by words [17].

The Corpus was made up of data existing in the results and conclusions of the selected studies and placed in a single text file, readings, corrections and codings of the fixed variables were made, as shown in Table 2.

To perform classic lexical analysis, the software identifies and reformat text units, which are transformed from Initial Context Units (ICU) into Elementary Context Units (ECU). The number of words, the average frequency and the number of hapax are also identified [18].

For the analysis of the data obtained in IRAMUTEQ, we opted for the method of Descending Hierarchical Classification (CHD), proposed by Reinert, in which the texts are classified according to their respective vocabularies and the set of them is divided by the frequency of the reduced forms. From matrices that cross text and word segments (repeated  $X^2$  tests), the CHD method is applied to obtain a stable and definitive classification.

The word cloud method was also used, which groups words and arranges them graphically according to their frequency. It is a simpler but graphically interesting lexical analysis [17-18].

### 3. RESULTS AND DISCUSSION

The general corpus was analyzed by IRAMUTEQ, which recognized the separation of the corpus into 10 initial context units (ICUs). The programme divided into 118 elementary context unit segments (ECUs) with 4,166 occurrences, 828 active forms, 61 supplementary forms. The content analysed was categorised into 3 classes. Class 1 corresponds to 26.3% of the words in the corpus, class 2 corresponds to 44.2% of the words, and class 3 corresponds to 29.5% of the word association in the corpus. The association of classes with the fixed variables of the study was taken into account: database; periodical and year of publication.

Through the Descending Hierarchical Classification, the IRAMUTEQ software prepared the dendrogram of the classes obtained from the text corpus. For the construction of the Dendrogram, the words that obtained a frequency equal to or higher than the registered average frequency and each class was represented by the most significant words and their respective associations with the class.

After the analysis of the identification of the textual domains and the interpretation of meanings, we sought to name their respective meanings in classes described below: 1) Family dynamics and care; 2) Nursing assistance to the elderly with alzheimer's disease; 3) Gerontotecnologies and its use to the elderly with AD.

In Fig. 1 is expressed Hierarchical Descending Classification (CHD) - Filogram.

#### CLASS 1 - Family dynamics and care

Class 1 has 25 ECUs, which corresponds to 26.32% of the corpus and is directly associated with class 2. The most frequent and significant

words in these text segments are Nursing, Family, Caregivers, Nurse, Strong, Coexistence, Health and Identify, which were extracted predominantly from articles 7 and 1 in order of significance, with predominance of the years 2018 (1) and 2016 (3) and LILACS database (3).

AD is characterized as a chronic neurodegenerative disease that results in progressive loss of functional capacity and gradual decline of autonomy and independence of the elderly. The disease causes biological, social and economic changes for families, society and especially for the individual affected by the disease that will result, in addition to the aforementioned, in cognitive and memory deterioration and impairment in neuropsychiatric activities [19].

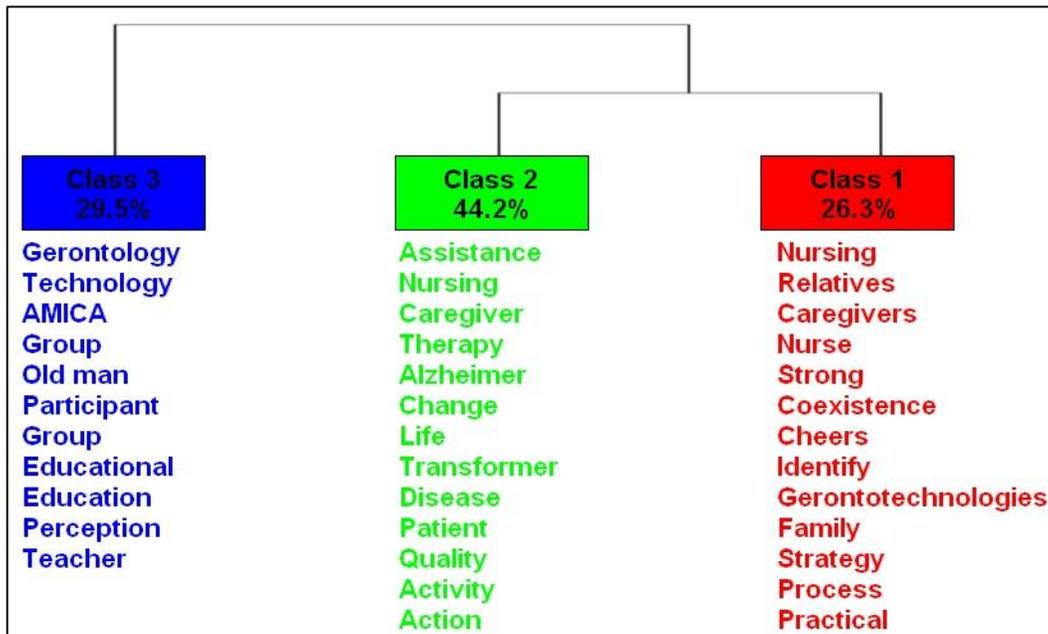
The progressive symptomatology, with cognitive and behavioral alteration of the elderly with AD directly influences the difficulty of performing Daily Life Activities (DLA), making the elderly more and more sick and dependent on their relatives and the affective relationships of family members are constantly changing, due to unexpected factors, such as the appearance of a chronic-degenerative disease [20].

The problems faced by caregivers cause overload, eventually neglecting their own self-

care and the heavy routine and high demand for uninterrupted care associated with increased domestic activities cause physical and emotional exhaustion of the caregiver. Family engagement in care is directly related to the family's perception of the benefits or not that interventions promote both for the person with AD and for family members [21].

The indication of a poor quality of life by the caregiver may be associated with the development of a stress condition. The caregiver's stress may negatively affect his/her life and the care he/she provides to the elderly, highlighting the relevance of the understanding of his/her quality of life in order to be able to help improving the health of both the caregiver and the caregiver [21].

The quality of life of the elderly with AD is compromised, because it generates deep inabilities and fragilities affecting affective, psychic and functional dimensions that intensify with the progress of the pathology and compromise the psychosocial adaptation and the interaction of the elderly with the environment. The maintenance of daily life will not be the same due to the limitations produced by the disease, affecting the physical domain, feelings and emotions, besides the social relationship [22].



**Fig. 1. CHD - Filograma**

Source: AGUIAR et al., 2019

For Ximenes et al. [23] the care provided to a patient with AD requires the knowledge of "how to do it" and proper strategic, emotional and institutional support. The care provided by the caregiver to the AD patient stimulates several and opposite feelings in a short period of time, and these, added to the physical and emotional wear and tear, show an overload, leading him/her to stress.

According to Vizzachi et al. [20] the nurse should work with the family members of the AD carrier, exercising his role of diagnosing and planning the needs of the patient and family, which are extremely important for the care and support of the patient, considering that the family dynamics may have changes, in addition to designing coping strategies and understanding how the family dynamics is structured, demonstrated in different feelings and ways of identifying the changes that the disease brings to the patient and family.

### **CLASS 2 - Nursing care for the elderly with Alzheimer's disease**

Class 2 has 42 ECUs, which corresponds to 44.21% of the corpus and is directly associated with class 1. The most frequent and significant words in these text segments are Care, Nursing, Caregiver, Therapeutics, Alzheimer's and Alteration which were extracted predominantly from articles 9, 10, 4, 8 and 5 in order of significance, with predominance of the years 2014 (5) and 2015 (4) and SciELO (1) and LILACS (2) databases, respectively.

According to Louredo et al. [11] when nursing diagnoses are identified, they enable efficient interventions and positive results in nursing care to the elderly with AD, also contributing with other professionals confirming, delimiting and/or refuting some other diagnoses. Thus, interdisciplinary action among professionals caring for the elderly with dementia is fundamental.

For Souza et al. [15] the nursing actions in the care of this patient should be directed to caregivers and family members. It is important that the nurse develops an integral care plan, aiming the need of an interactive, complementary, multiprofessional and interlinked care, that needs to go beyond Nursing and that needs to extrapolate the limits of disciplinary knowledge and walk in the perspective of joint work.

For Poltroniere et al. [24], nursing has a fragility in the knowledge about Alzheimer's disease, having difficulty in acting with the family and patient to perform strategies to minimize the overload and manage the care situation.

The management of care is the private responsibility of the nurse and implies the implementation of several actions with the user, directly or indirectly. This professional has an important role to play in caring for the elderly in a dementia process, as well as in guiding family members as to the evolution and progression of the disease. It is the responsibility of the nurse to train the nursing team with themes concerning the care provided to the elderly with Alzheimer's disease [25].

### **CLASS 3 – Geronto-technologies and its use to the elderly with DA**

Class 3 has 28 ECUs, which corresponds to 29.47% of the corpus and is separate from classes 1 and 2, but is connected to them. The most frequent and significant words in these text segments are Geronto, Tecnologia, AMICA, Grupo e Idoso which were extracted predominantly from articles 9, 10, 4, 8 and 5 in order of significance, with predominance of the years 2014 (5) and 2015 (4) and SciELO (1) and LILACS (2) databases, respectively.

Health promotion practices add fundamental tools and strategies to model the teaching-learning process, making the theory and the care process more satisfactory and accessible in the face of the adversities of the elderly, in particular, one of the tools that have been gaining notoriety is the health technologies [26].

For Araújo et al. [27] the health technology is an important tool focused on the various conditionalities and demands inherent to the aging process. These technologies can provide improvement in the health condition and self-esteem of the elderly, safety in the domestic environment, subsidy of care techniques in medical-hospital environments, ease of mobility, communication and greater opportunity at work and leisure, besides offering the elderly new opportunities and challenges, superior to previous generations.

The insertion of technologies in the context of health education complements the actions performed by the nurse in his relationship with the elderly person attending the health service,

contributing to the modification of his practices and also contributing to the recovery of care for himself as a whole [28].

Educational Geronto-technology can be understood as a set of knowledge, products, processes and strategies that generates new possibilities in the teaching learning process, through the valuation of relationships and interactions between the nurse, the elderly and family members. The national and international public policies, in the context of health of the elderly, recommend the use of creative strategies that encourage communication between professional, subject and groups involved in the process of care [7-26-27].

Through the above, the nurse assumes the role of health educator and must guide the patient and his relatives to the care of the elderly with AD. With this, educational technology emerges as an available instrument that facilitates the teaching-learning process and provides the development of knowledge mediating skills for care [28].

Therefore, for Ilha et al. [8], Geronto-technologies are technologies that contribute to the health care of the elderly, taking into account aging and the health/disease process, promoting care, co-responsibility and co-participation of the participants involved in the care process.

#### 4. CONCLUSION

Population aging is accompanied by chronic non-communicable diseases, among them AD as the main type of dementia that affects the elderly population. Faced with this, the nurse needs to systematize his care, observing the elderly patient in its totality, guiding, supervising and executing the assistance programs with the focus on prevention and the individuality of each elderly person. It is necessary to develop actions that improve the quality of life of the elderly.

During the progress of AD the elderly person is no longer able to meet their basic needs autonomously, thus the need arises for a caregiver who is often the closest relative. Therefore, it is fundamental that the nurse outlines his therapeutic plan also to the caregiver, ensuring actions that reduce the caregiver's physical and emotional wear and tear, stress and anxiety, thus contributing to the improvement of the quality of life of the elderly with AD.

#### CONSENT

It is not applicable.

#### ETHICAL APPROVAL

It is not applicable.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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