

**DYSPHAGIA IN INSTITUTIONALIZED ELDERLY****DISFAGIA EM IDOSOS INSTITUCIONALIZADOS****DISFAGIA EN ANCIANOS INSTITUCIONALIZADOS**

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**ABSTRACT**

**Objective:** to analyze articles related to dysphagia in the elderly of long-term institutions. **Method:** integrative review carried out in the MEDLINE and LILACS databases, from April to May 2017. The eligibility criteria were texts in the form of original scientific articles available online, in full, that addressed the subject in Portuguese or English, published in the period from 2007 to 2016. **Results:** six studies were selected where the following categories emerged. 1. Feeding and dysphagia conditions in institutionalized elderly people and 2. Relationship between dysphagia and psychotropic drugs in this population. **Conclusion:** studies have shown that elderly people living in long-term institutions are at risk for dysphagia and that professionals who work in the care of the elderly are not aware of feeding strategies that minimize the risk of aspiration. It is important to emphasize that only one institution had the professional speech-language pathologist and the importance of this professional in the guidelines regarding food. **Descriptors:** Elderly; Dysphagia; Long-Term Institutions For The Elderly; Communication; Speech Therapy; Aging.

**RESUMO**

**Objetivo:** analisar artigos relacionados à disfagia em idosos de instituição de longa permanência. **Método:** revisão integrativa realizada nas bases de dados da MEDLINE e LILACS, de abril a maio de 2017. Os critérios de elegibilidade foram textos na forma de artigos científicos originais disponíveis *on-line*, na íntegra, que abordassem a temática nos idiomas português ou inglês, publicados no período de 2007 a 2016. **Resultados:** foram selecionados seis estudos onde emergiram as categorias 1. Condições de alimentação e disfagia em idosos institucionalizados e 2. Relação entre disfagia e drogas psicotrópicas nessa população. **Conclusão:** os estudos mostraram que os idosos residentes em instituições de longa permanência têm risco para a disfagia e que os profissionais que atuam no cuidado ao idoso não têm conhecimento das estratégias de alimentação que minimizam o risco de aspiração. É importante ressaltar que apenas uma instituição possuía o profissional fonoaudiólogo e a importância desse profissional nas orientações com relação à alimentação. **Descritores:** Idosos, Disfagia, Instituição de longa permanência para idosos, Comunicação, Fonoaudiologia, Envelhecimento.

**RESUMEN**

**Objetivo:** analizar artículos relacionados con disfagia en ancianos de institución de larga permanencia. **Método:** revisión integrativa realizada en las bases de datos de MEDLINE y LILACS, de abril a mayo de 2017. Los criterios de elegibilidad fueron textos en forma de documentos originales disponibles *en línea* en su totalidad, que se refirió al tema en Inglés o portugués, publicada 2007-2016. **Resultados:** se seleccionaron seis estudios, donde surgieron las categorías: 1 Condiciones de alimentación y disfagia en ancianos institucionalizados y 2. Relación entre disfagia y drogas psicotrópicas en esa población. **Conclusión:** los estudios mostraron que los ancianos residentes en instituciones de larga permanencia tienen riesgo para la disfagia y que los profesionales que actúan en el cuidado del anciano no tienen conocimiento de las estrategias de alimentación que minimizan el riesgo de aspiración. Es importante resaltar que sólo una institución poseía el profesional fonoaudiólogo y la importancia de este profesional en las orientaciones con relación a la alimentación. **Descriptor:** Anciano; Trastornos de Deglución; Hogares Para Ancianos; Comunicación; Fonoaudiología; Envejecimiento.

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INTRODUCTION

Global aging is a phenomenon that has been much discussed in the last decade and the rapid aging process has been observed in developing countries like Brazil.<sup>1</sup> Projections indicate that in 2050 the Brazilian population will be the fifth largest population on the planet, behind only the countries of India, China, the United States and Indonesia, that is, the Brazilian population, which was predominantly young in the not so distant past, has, today, a growing number of people aged 60 or older.<sup>2</sup>

Aging can be considered another stage of the individual's normal development. All this dynamic and gradual process is marked by functional, biochemical, morphological and psychosocial changes leaving the organism more susceptible to extrinsic and intrinsic aggressions, which directly interfere with the adaptation function of the human being to their environment, repercussions on the style and quality of life of this population.<sup>3</sup>

The family structure suffers from the consequences of aging, since for many financial and emotional reasons, among others, the family cannot take care of an elderly person, and then long-term institutions become a viable option to take the necessary care. These institutions can be considered as a collective residence, which serves both elderly people in a situation of lack of income and / or family, as well as those with difficulties to perform daily activities and who need long term care.<sup>4</sup>

Speech-language-related oral functions, such as chewing, swallowing and speech, are influenced by aging by compromising eating safely and functionally. Difficulties in swallowing are known as dysphagia and can lead to malnutrition and dehydration.

OBJECTIVE

- To analyze articles related to dysphagia in the elderly of long-term institution.

METHOD

Integrative review<sup>5</sup> in which the guiding question was elaborated: Are the elderly of long-term institutions at risk of dysphagia? The data collection was carried out by consulting the Virtual Health Library Portal (VHL), including MEDLINE (Medical Literature Analysis and Retrieval System Online) and LILACS (Latin American and Caribbean Literature in Health Sciences) limiting itself to publications covering the period from 2007 to 2016.

The search for the material occurred in April and May 2017 considering the following descriptors: elderly, dysphagia, long-term institutions for the elderly. In order to constitute the sample, the following inclusion criteria were selected: texts in the format of scientific articles, original, available on-line in full, that addressed the subject in Portuguese or English and published in the established period.

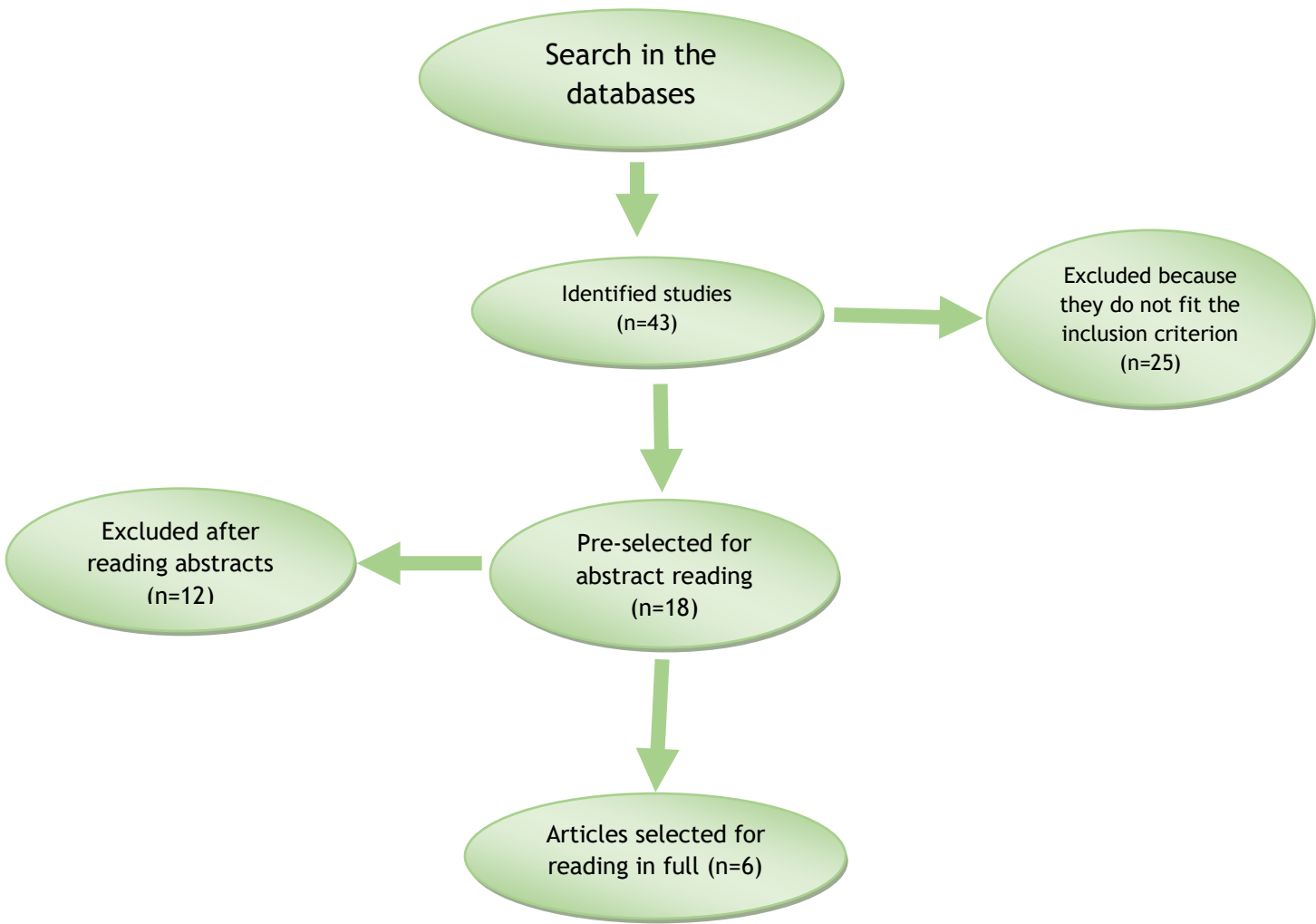
In the VHL, using the integrated search, all indices and all sources, 43 texts appeared, using the boolean marker "and" and the descriptors above. However, after filtering, through the inclusion criteria, 18 texts were obtained. After reading the titles and abstracts, any publication based on the exclusion criteria (duplicate publication, which did not correspond to the research proposal and which was not available on-line in full), was deleted, leaving six texts. Afterwards, the selected papers were completely read, and the information was organized into a collection instrument built for the work and whose variables were grouped according to the interests of this study.

In this research, an evidence-based practice was adopted in which the rigor and the research design were classified according to seven levels of evidence: level 1 - evidence from a systematic review or meta-analysis of all relevant controlled or originated randomized controlled trials of clinical guidelines based on systematic reviews of randomized controlled trials; level 2 - evidence derived from at least one well-delineated randomized controlled trial; level 3 - evidence obtained from well-delineated clinical trials without randomization; level 4 - evidence from well-delineated cohort and case-control study; level 5 - evidence originating from a systematic review of descriptive and qualitative studies; level 6 - evidence derived from a single descriptive or qualitative study; level 7 - evidence from the opinion of authorities and / or expert committee reports.<sup>6</sup>

The presentation of the results was carried out in a descriptive way, allowing the reader to better understand the elaborated integrative review. For the analysis and interpretation of the studies, a thematic categorization was performed: 1 - Feeding and dysphagia conditions in institutionalized elderly and 2 - Relationship between dysphagia and psychotropic drugs in this population.

RESULTS

Initially, the titles of the 43 texts wereread. Following is the flowchart of the selected articles.



**Figure 1.** Flow of the selection process of the articles searched. João Pessoa (PB), Brazil, 2017.

The information of the studies was systematized and organized into an instrument of self-collection according to the title of the article, authors, year of publication, periodicals, sample, objective and level of evidence, according to figure 2.

Title of the article	Author	Year of publication	Journals	Sample	Objective	Level of evidence
1. Factors associated with signs suggestive of oropharyngeal dysphagia in institutionalized elderly women	Bomfim et al.	2013	Codas	30	To identify the factors associated with signs suggestive of dysphagia in institutionalized elderly women.	Level II
2. Functional Evaluation of the Deglutition of the Elderly in the Use of Psychotropic Medication.	Fioravanti et al.	2011	Brazilian Journal of Otorhinolaryngology	47	To observe the effect of neuroleptics on the swallowing of institutionalized elderly .	Level II
3. Description of the Dynamics of Feeding Institutionalized Elderly	Roque et al.	2010	Journal of the Brazilian Society of Speech Therapy	30	To describe the food dynamics of institutionalized elderly women with regard to the clinical aspects of swallowing, cognitive, behavioral and environmental related to eating .	Level II
4. Severe Cerebral Atrophy in the Elderly as a Risk Factor for Lower Respiratory Tract Infection.	Okada et al.	2012	Clinical Interventions in aging	51	Examine the hypothesis that brain atrophy may represent neurodegeneration, which may result in dysphagia and respiratory infection .	Level IV
5. Efficacy and Effectiveness as Aspects of Cluster Randomized Trials with Nursing Home Residents: Methodological Insights from a Pneumonia Prevention Trial.	Ness et al.	2012	Journal Contemporary Clinical Trials	828	To identify modifiable risk factors for resting home-acquired pneumonia .	Level II
6. Deglutition disorder in nursing homes: how to explain the problem?	Nogueira, Reis	2013	Clinical Interventions in aging	272	To determine the prevalence of deglutition disorders in the elderly; to identify the relationship between self-perceived swallowing disorders, cognitive functions, autonomy and depression, as well as to analyze which variables explain the Dysphagia Self-test.	Level II

Figure 2. Title of the article, authors, year of publication, periodicals, sample, objective and level of evidence. João Pessoa (PB), Brazil, 2017.

## DISCUSSION

After reading the articles, the discussion will be presented in two thematic categories.

### ♦ Category 1: Feeding and dysphagia conditions in institutionalized elderly

Eating difficulties are frequent in long-term care facilities, which increases the responsibility for caring for these elderly people, who are frequently affected by other disabilities, and aspiration pneumonia is one of the main causes of morbidity and mortality in this population, associated with constant hospitalization and long stay, making the assistance burdensome for the institution.<sup>7</sup>

Aspiration pneumonia occurs when the fluid or food is not directed to the stomach, but rather to the larynx and, consequently, to the lower airway. In the elderly, this aspiration occurs because the aging process causes changes in the oral functions of chewing and swallowing. The swallowing disorder arising from aging is known as presbyphagia and is characterized by changes in the swallowing mechanism due to aging of the nerve and muscle fibers and degeneration of the swallowing mechanism.<sup>8</sup> Presbyphagia consists of changes in the function of swallowing during aging of the human being that triggers an adaptation to the feeding process.<sup>9</sup>

In the asylum environment, ignorance about the risk factors for dysphagia and aspiration may occur, which increases the risk to the health of the residents. This should be considered since most aspiration episodes in the elderly are silent, that is, with no evident immediate clinical signs such as cough.<sup>10</sup> Thus, the identification of dysphagia becomes more difficult in these institutions and professional caregivers must be trained to assist in the identification of dysphagia and in appropriate care.

The literature indicates that the elderly may present difficulties in the stomatognathic functions of chewing and swallowing. Food intake in the elderly may be impaired during the oral phase since there will be difficulty in the oral preparation of the food cake, causing, among other factors, the natural loss of the teeth and, consequently, the loss in the masticatory stage.<sup>11,12</sup>

A study carried out with elderly women at a long-term institution showed the prevalence of swallowing changes, which was 23.3%, with food waste following swallowing, coughing during feeding and voice alteration after swallowing.<sup>13</sup> It is important that the diagnoses of dementia and cerebrovascular

accident (Stroke) were frequently associated with these changes in swallowing, as well as the assistance required to eat.

Other important information brought in the previous study was related to the feeding place in which 16% fed on the chair; 2% in the wheelchair and 12% in the bed. Among the elderly women who ate in bed, 41.6% had inadequate positioning. "Anteriorized head" was the most commonly altered aspect, followed by "slide to one side" and "insufficient support". Adequate positioning is important in preventing aspiration, and the elderly should remain seated, with the torso erect and the head erect. If necessary, supports should be used (cushions, pillows, towels) so that the head stays upright.<sup>14</sup>

A survey of 272 elderly people from eight asylums in Portugal sought to determine the prevalence of swallowing disorders. Regarding diet, 43% of the individuals reported problems related to this function, and 40% presented dysphagia with dysphagia self-test. At test, 38% revealed at least one symptom, with moist voice being the most prevalent. Therefore, this research showed a high prevalence of signs of dysphagia in the elderly population.<sup>15</sup>

In order to improve the diet of the elderly, an important aspect to consider is food consistency, since some of them are facilitators of this process. A study carried out in five long-term institutions showed that three institutions offered lean food for all the most debilitated elderly. In another institution, the consistency differentiation occurred according to the acceptance of each individual, and in the latter, the same meal was offered as to the type of food and quantity for all the elderly indiscriminately, without any food restriction.<sup>16</sup>

Already in another long-term institution, there was a resistance in the preparation of adequate consistencies for each elderly, in spite of the speech-language and nutritional orientations. There was a tendency to offer pasty consistency even for the elderly women who were able to swallow semi-solid foods.<sup>17</sup> It is important to note that the professional responsible for evaluating swallowing and indication of the best consistency is the speech pathologist. However, this study showed that only one institution had the said professional.



In order to reduce aspiration pneumonia in the elderly, another study was carried out regarding the use of 0.05% chlorhexidine. This has proved to be a positive result since it has improved oral hygiene status and oral health status and consequently reduced the risk of developing pneumonia.<sup>18</sup> Aspiration pneumonia in long-term care facilities can be minimized and even avoided depending on the professionals who act with the elderly. It is important to emphasize that the professional speech therapist acts directly in dysphagia performing evaluations, rehabilitations and guidelines enabling the improvement in food and quality of life of the elderly person.

### ♦ Category 2: Relationship between dysphagia and psychotropic drugs in the elderly population

The elderly may have compromised swallowing due to neurological pathologies such as stroke, Parkinson's disease and dementias. Neurological diseases cause disruption of the normal neurological process and generally bring about changes in the mechanism of swallowing.<sup>19</sup> Another pathology affecting the elderly is cortical cerebral atrophy, which causes neurodegeneration and increases the risk of dysphagia and lower respiratory tract infection.<sup>20</sup>

A therapeutic possibility for the elderly with said neurological and mental pathologies are the psychotropic, anxiolytic, antiepileptic drugs, among others. In a study of 30 elderly women from long-term institutions, medication use was indicated for 83.3% of them. Among the medications most commonly used by the elderly, 53% used neuropsychiatric medications, including benzodiazepines, anticholinergics, antidepressants, antipsychotics and neuroleptics, and 53% used antihypertensives.<sup>13</sup> It is important to note that in the aforementioned study, there were no comparative data between the evaluation of swallowing and the use of psychotropic medications.

Research carried out with institutionalized elderly women with and without signs suggestive of oropharyngeal dysphagia showed that in the first group there was greater use of medication regardless of the class of medication including but not restricting those that commonly cause dysphagia.<sup>17</sup>

The literature reports that the drugs used in the elderly population are producers of adverse effects that can interfere in swallowing and can cause dysphagia because they have, as side effects, depression of central nervous system activity, reduction of

tone of the musculature of the phonoarticulatory organs, decreased alertness, increased possibility of xerostomia and growth of lung-pathogenic bacteria if aspirated.<sup>21</sup>

A study carried out with 47 elderly residents of a long-stay institution evaluated users and non-users through a functional clinical test of swallowing, and it was observed that there was no significant difference between the two groups. Neuroleptic users showed a higher percentage of multiple swallows, while non-users had a higher percentage of oral swallowing. Therefore, in this study, it was concluded that neuroleptic drugs alone did not interfere in the deglutition of institutionalized elderly. However, the interference of these medications in the oropharyngeal phase of swallowing should be observed more accurately. Further investigations are required to carry out a detailed evaluation, a greater number of elderly, the dose and the time of use of the medicines.<sup>22</sup>

## CONCLUSION

Elderly residents of long-term institutions are at risk for dysphagia, and professionals working in the care of the elderly are not aware of feeding strategies that minimize the risk of aspiration. The articles also referred to the interference of psychotropic drugs in swallowing and the importance of new research on the topic.

It was observed that there are studies with institutionalized elderly in order to understand the factors associated with dysphagia and the feeding dynamics of this population. Long-term institutions are expected to prioritize dysphagia, since aspiration pneumonia is one of the main causes of morbidity and mortality and include the speech therapist in the multiprofessional team in order to train caregivers of the elderly allowing an improvement in their quality of life.

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