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REVIEW ARTICLE

Global Clinical Research Journal

Prevention of choking in bedridden Alzheimer's patients

Prevención de la asfixia en pacientes con Alzheimer encamados

Prevenção de engasgo em pacientes com Alzheimer restritos no leito

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Abstract

The aim was to resolve the dilemmas faced by lay caregivers with limited guidance, aiming to demonstrate the importance of the nurse's role as a care guide. This is an integrative review based on a guiding question. To validate this study, the following research tools were used: BVS and Google Scholar, encompassing various databases. This study was written based on the review of 11 articles, which were carefully analyzed and present distinct methodologies, but all aim to address the dilemmas presented in this study. From the study developed, it is concluded that there is a notable need for the nurse to be part of the care of Alzheimer's patients, as they will assist the individual from providing guidance to becoming a link between the family and the team that provides their care.

Descriptors: Alzheimer's; Choking; Nursing; Aging; Mental Health.

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Resumén

El objetivo fue resolver los dilemas que enfrentan los cuidadores legos con orientación limitada, con el fin de demostrar la importancia del rol de la enfermera como guía de cuidados. Se trata de una revisión integrativa basada en una pregunta orientadora. Para validar este estudio, se utilizaron las siguientes herramientas de investigación: BVS y Google Académico, que abarcan diversas bases de datos. Este estudio se elaboró a partir de la revisión de 11 artículos, cuidadosamente analizados y con metodologías distintas, pero todos con el objetivo de abordar los dilemas presentados en este estudio. A partir del estudio desarrollado, se concluye que existe una necesidad evidente de que la enfermera forme parte del cuidado de los pacientes con Alzheimer, ya que ayudará a la persona desde la orientación hasta convertirse en un vínculo entre la familia y el equipo que brinda su atención.

Descriptores: Alzheimer; Asfixia; Enfermería; Envejecimiento; Salud Mental.

Resumo

Objetivou-se a resolução dos dilemas enfrentados pelos cuidadores leigos, com orientação escassa. Visando demonstrar a importância da atuação do enfermeiro como orientador do cuidado. Trata-se de uma revisão integrativa, que se baseou numa pergunta norteadora. Tendo em vista a validação deste estudo, utilizou-se as seguintes ferramentas de pesquisa: BVS e Google Acadêmico, que englobaram diversas bases de dados. Este estudo foi redigido a partir da revisão de 11 artigos, que foram analisados criteriosamente e que apresentam metodologias distintas, mas que todos visam sanar os dilemas apresentados no presente estudo. A partir do estudo desenvolvido, conclui-se a notável necessidade de que o enfermeiro faça parte do cuidado do portador de Alzheimer, pois o mesmo irá assistir o indivíduo desde as orientações até se tornar um elo entre família e equipe que realiza o acompanhamento do mesmo.

Descritores: Alzheimer; Engasgo; Enfermagem; Envelhecimento; Saúde Mental.

Introduction

The aging of the elderly population worldwide is increasing rapidly. In Brazil, the increase in the geriatric population is generating significant public health problems, particularly regarding programs to support this population. It is estimated that the Brazilian population will increase 3.22 times by 2025, with individuals over 65 years old increasing 9.5 times and those over 85 years old increasing 15.6 times. Statistics show that in 2025, Brazil will rank 6th among countries with the largest elderly population in the world. This growth has been accompanied by an extraordinary increase in the rate of chronic diseases related to senility, generating a major impact on health services[1].

Among the pathologies affecting the elderly population, dementia stands out the most, totaling 47.5 million people worldwide. Among the dementias correlated in clinical literature, Alzheimer's disease is prominent, accounting for 60 to 70% of cases[2].

The name Alzheimer's originated from the German psychiatrist and neuropathologist who discovered it in 1906, Alois Alzheimer (1864-1915). During an autopsy, he noticed alterations that had not been previously observed. These corresponded to neural abnormalities, which presented as atrophied, with differentiated plaques and fibers twisted together. Initially, Alzheimer's was called Senile Plaques, until it was named after the doctor who discovered it[3].

Alzheimer's disease is characterized by a gradually progressing neurodegenerative disease that leads to cognitive and intellectual deterioration. Its pathophysiology is present in two categories. In the first category, there are findings of large protein plaques called beta-amyloid, which have enormous neural toxicity, causing lysis and disconnections. In the second category, there are tangles of microtubules in the neural spaces, decreasing or eliminating their physiological capacity to send electrical impulses[3].

Alzheimer's disease has three stages of progression, defined by differences and severity in its symptoms: mild, moderate, and severe. As the stages of Alzheimer's progress, the degree of dependence in performing all daily activities, including eating, also increases[1]. Symptoms associated with Alzheimer's disease include, by stage:

- Mild stage: In its initial phase, symptoms appear mildly and routinely, often leading to them being ignored. In most cases, they are minor forgetfulness, usually of recent memories from short periods, presenting a disorganized memory. In some rarer cases, patients already present some agnosia, apraxia, and difficulty in forming sentences at this stage.
- Moderate stage: It is at this stage that the symptoms become more pronounced, and it is usually at this stage that family members seek treatment. The elderly person begins to lose their autonomy, can no longer construct coherent sentences, and their communication

becomes limited by difficulty in speaking and constructing sentences. It is at this time that long-term memory lapses, motor changes such as tremors, and behavioral changes such as apathy, aggressiveness, and neglect of personal hygiene appear.

- Severe stage: This is the most serious stage of Alzheimer's disease, characterized by widespread cognitive and intellectual impairment, leading to changes and disorders in personality. The patient becomes totally dependent on others for their care. Communication becomes ineffective, and echolalia and mutism appear. Immobilization Syndrome also occurs in this stage[2].

It is possible to state that swallowing can be affected in all stages of Alzheimer's Disease, to varying degrees of severity. Among the numerous risk factors for Alzheimer's Disease are vitamin B12 and D deficiency, traumatic brain injury, low level of education, sedentary lifestyle, smoking, obesity, diabetes mellitus, and cardiovascular diseases. According to studies, swallowing difficulties in elderly people with Alzheimer's Disease arise from changes in their eating habits, which generally include selective eating, changes in taste, and difficulties in expressing feelings of hunger and satiety[2].

Dysphagia in Alzheimer's disease arises from the first motor symptoms, such as the inability to bring food to the mouth independently, progressing to the stage of cognitive deterioration, where the impulses to close the glottis during swallowing are no longer present. A videofluoroscopy study shows that the severity of dysphagia correlates with the severity of dementia. Furthermore, elderly individuals with dementia experience significantly greater swallowing impairment, particularly in the masticatory process. Based on this context, preventative measures and comprehensive, highly complex monitoring of these patients are essential[2,3].

The objective was to demonstrate the relevance of assistance and attention in the feeding of individuals with Alzheimer's Disease, highlighting the need for a well-trained caregiver and the importance of the nurse's role in providing clear information and guidance to the caregiver. Furthermore, it emphasized that the nurse is the link that strengthens the bond between the patient and the multidisciplinary team assisting the individual with Alzheimer's Disease.

Methodology

This study was conducted using the integrative review method, which enables the application and use of results based on the relevance of studies through their findings. This method involves identifying, analyzing, and synthesizing the results of the material used, providing a methodologically rich study for a comprehensive understanding of the approach[4].

The integrative review proposes that it be divided into six stages to compose the body of the study. All of them aim to clearly establish the identification, analysis, and synthesis of results, thus making the study reliable. Therefore, the stages are as follows: Stage 1 - Formulation of a question that will guide the study. In this study, the question applied is: "How should the nurse act through guidance to prevent choking in elderly patients with Alzheimer's who are bedridden?"; Stage 2 - Searching for materials that address or answer the question mentioned above. For this, databases of high scientific reliability are used. In this case, the BVS and Google Scholar databases were used; Stage 3 - Extraction of information found in the databases above, prioritizing clear writing and reliable information. Performing a thorough and secure check; Stage 4 - This is where the studies to be included are chosen. It is a methodical and meticulous phase, in which everyone must have great relevance to the subject matter to ensure the accuracy of the study; Stage 5 - This is the moment when the collected data are discussed and systematic comparisons are made, so that the information can be discussed in a theoretical manner; Stage 6 - This is when the review is presented, clearly and objectively, providing the reader with a critical and systematic analysis of the subject[4].

In this study, the PICo strategy was applied, which will be explained below: P: Nurses involved in the care of individuals with Alzheimer's; I: Preventing choking in elderly people with Alzheimer's; Co: Nurses' guidelines aimed at preventing possible choking in Alzheimer's patients. The following study was written based on a virtual search, with materials available in the BVS (Virtual Health Library) and Google Scholar. During the search, the descriptors used were: "Choking", "Alzheimer's", and "Nursing". After a meticulous search of studies, which proved to be quite scarce, the article search began in March 2023 and ended in September 2023, totaling 11 articles. As previously mentioned, articles on this topic are scarce, so there was no set publication period. Therefore, studies were selected that provided solutions to the research question, were written in Portuguese, and presented a complete text. Studies were excluded based on the following criteria: those aimed solely at professionals in the fields of speech therapy or medicine and did not contribute to the research question, those not written in Portuguese, and those that were repeated or duplicated. Below is a flowchart demonstrating the development of the articles included in this study.

Results

The final text of this study is a careful analysis of 11 articles, selected according to previously established inclusion criteria. Six were found on Google Scholar and four on the VHL (Virtual Health Library). Those in Portuguese were given precedence. The analyzed studies included bibliographic reviews and clinical studies, reliably highlighting the study's theme. In this context, the study demonstrated, through reliable sources, Alzheimer's disease, its stages, complications, and the dilemma of dysphagia versus choking in patients with the disease. The main focus was to explain the importance of nurses as health promoters through care guidance.

Flowchart 1. Search and selection of studies to compose the review. Tatuí, SP, Brazil, 2023

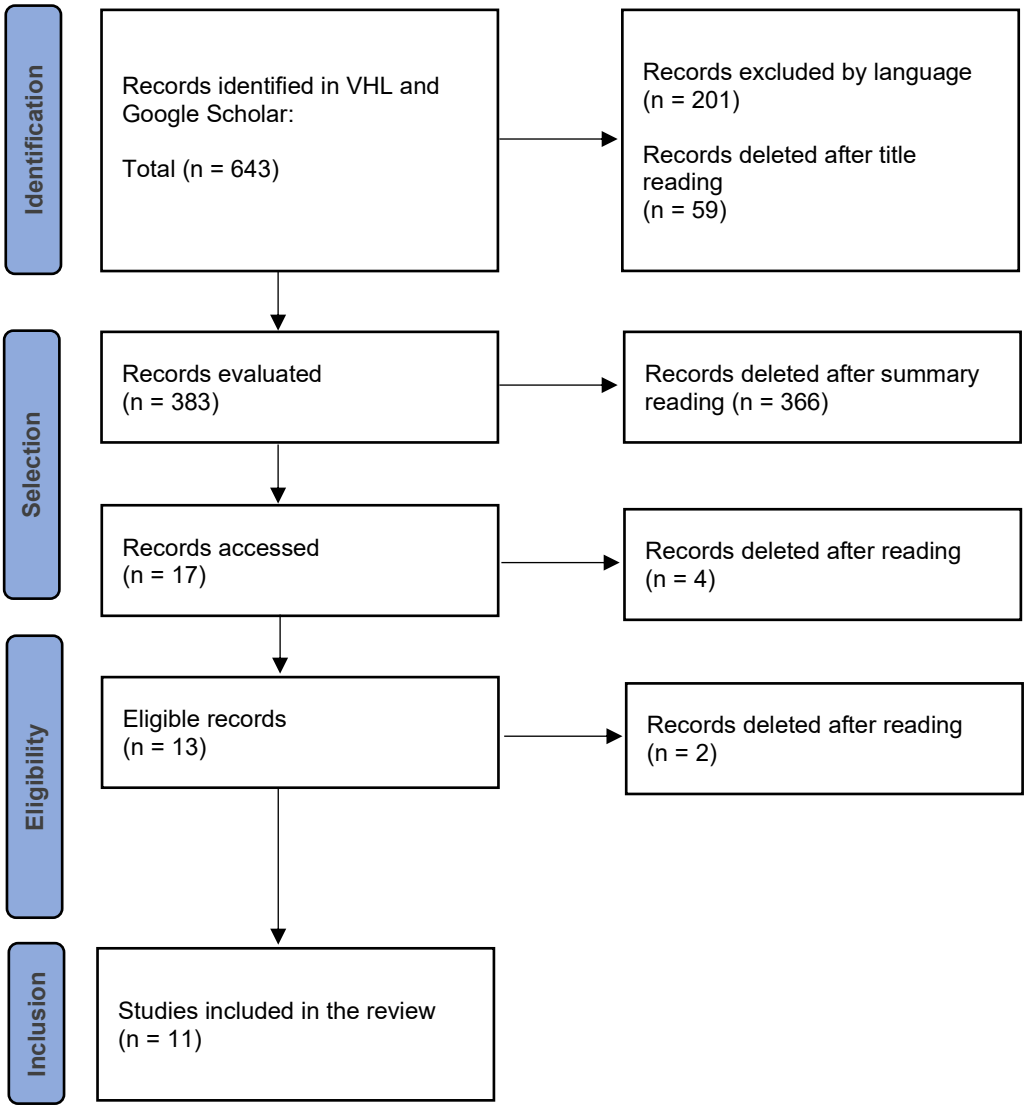

Chart 1. Summary of articles related to this study. Tatuí, SP, Brazil, 2023

Year	Journal	Objective	Method	Results
2023	Brazilian Journal of Health Review	Understand the therapeutic measures provided by the Brazilian Unified Health System (SUS) and demonstrate the importance of their follow-up in a treatable manner and their respective importance in the prognosis.	Literature review.	It presents, through a table, numbers referring to the therapeutic measures provided in the SUS (Brazilian Public Health System), along with the problems and symptomatology established by Alzheimer's disease.
2008	Revista Brasileira de Otorrinolaringologia	Assess the swallowing ability of individuals with Alzheimer's disease using video endoscopy.	Conducting in-person research using imaging techniques.	Individuals aged 68 to 84 years were evaluated. As a result, it was noted that all presented food accumulation in the oral cavity, exhibiting dysphagia in varying degrees according to age.
2018	ACR	Evaluate the TTO in individuals with Alzheimer's disease, using foods with a pudding-like consistency.	This study, involving 34 elderly individuals, was characterized by descriptive cross-sectional observation.	The more senile the individual, the greater their TTO will be.
2018	GER	Demonstrate the feeding and swallowing difficulties of the target audience.	Update on clinical, cognitive, and dietary correlations.	It highlights the need for supervised feeding, multidisciplinary support, and nutritional encouragement.
2012	Revista Sociedade Brasileira de Otorrinolaringologia	Demonstrate the effectiveness of treating dysphagia using botulinum toxin.	Study of clinical case reports.	According to the cases analyzed, there was a significant improvement in the prognosis and nutrition of the individuals who received the described substance.

2018	Teses USP	Assess dysphagia in all stages of Alzheimer's disease, as well as to validate an assessment procedure.	Field research through clinical assessment using different examination methods.	It was observed that 34% of the evaluated group presented dysphagia at different stages.
2016	Revista Brasileira de Ciências da Saúde	Demonstrate the level of knowledge of caregivers regarding the signs of dysphagia.	Quantitative research through interviews.	Less than half of the caregivers noticed changes that indicated signs of dysphagia, and more than half only knew memory loss as a sign of Alzheimer's disease.
2003	Revista PUC-SP	Compare the two groups and demonstrate the level of dependency along with the TTO specification.	A descriptive analytical cross-sectional study.	It revealed distinct dietary changes and exposure to the need for nutritional assistance and monitoring.
2010	Revista Albert Einstein	Demonstrate the subsequent steps and components of the integrative review.	Integrative review.	Explanation of the steps and elements that comprise it.
2012	Revista CEFAC	Compare chewing and swallowing in elderly individuals with and without Alzheimer's disease.	Descriptive comparative study.	This demonstrates significant difficulty in chewing and swallowing among individuals with Alzheimer's disease.
2023	Revista Nursing	Demonstrate the importance of the nurse within the multidisciplinary team in the care of individuals with Alzheimer's disease.	Integrative review.	It highlights the role of the nurse alongside caregivers and emphasizes the importance of the nurse in promoting health and reducing harm.

Based on the table above, distinct results were identified, demonstrating, from the perspective of the topic addressed, a way to solve the guiding question, which was the justification for writing this study. Study[5] highlights that, even though there are health programs that offer various treatments to the target audience, they are still not effective due to a scarcity of studies related to the topic. Research[3] states that 50% of the individuals analyzed presented mild food accumulation in the oral cavity, 25% moderate accumulation, and 12.5% severe accumulation. It also demonstrates that all of them experienced weight loss after an Alzheimer's diagnosis. Another study[6] evaluated 34 elderly individuals with varying degrees of Alzheimer's disease, observing that the more severe the disease, the longer the oral transit time. This clinical update emphasizes the different stages of Alzheimer's and their associated dysphagic impairments, along with other symptoms associated with this type of illness[7]. Authors[8] evaluated clinical cases of individuals with dysphagia from various pathologies and showed that with the application of botulinum toxin A, all cases presented a significant improvement in dysphagia. It was observed that 44% of the individuals evaluated presented some degree of nutritional risk and that 34% presented dysphagia in varying degrees, not considering the stage of Alzheimer's disease[2]. As demonstrated in the study[9], 36.7% of those involved in care perceived changes in eating and swallowing habits, and 42.6% observed that the individual choked, coughed, or forgot they had food in their mouth. In an evaluation with a sample of 26 elderly individuals of varying ages, 19.2% presented some dysphagic symptoms during oral feeding[10]. Study[1] evaluated 43 Alzheimer's patients during their feeding, and all presented some difficulty swallowing. It was found that nurses play a defining role in guiding care, as well as in the execution of techniques, and as a key member of a multidisciplinary team[11].

Discussion

Dysphagia in Alzheimer's Disease

As previously described, Alzheimer's Disease is a pathology that generates questions and concerns among the clinical team and caregivers in their daily lives. Given that dysphagia is increasingly present in the elderly, we will now demonstrate actions that may characterize signs of dysphagia in the clinical picture of Alzheimer's Disease: loss of appetite, aversion to previously consumed foods, disordered chewing, nasal regurgitation, drooling, episodes of coughing and choking or asphyxiation during eating, food remnants remaining in the oral cavity and throat[2].

Among the main complications of dysphagia in elderly patients with Alzheimer's Disease, nutritional and pulmonary complications stand out, such as malnutrition, dehydration, aspiration pneumonia, bronchoaspiration, mechanical asphyxia, airway obstruction by a foreign body (OVACE), and death[2].

In most cases, dysphagia goes unnoticed because many patients are unable to verbalize their symptoms, as dysphagia causes an increase in the size of the tongue, making speech difficult, and caregivers who provide basic daily assistance, whether family members or caregivers for the elderly, often demonstrate a lack of knowledge about the symptoms[3].

During this research, dysphagia was also observed to be predominant in elderly people over 80 years of age, becoming more severe above 89 years of age. This is due not only to Alzheimer's disease, but also to difficulty chewing due to the absence of teeth, sarcopenia, and hypotonia of the facial and oral muscles, which become more flaccid with age[6].

Considering the criteria described and the difficulties faced by geriatric patients affected by Alzheimer's Disease, according to scientific studies, it is proven that foods of liquid and solid consistency increase the risk of bronchoaspiration. Therefore, the consumption of pasty foods, with a pudding-like consistency, is recommended, and hydration should be carried out through thickened liquids to prevent laryngeal penetration. While these aspirations may go unnoticed through liquids because they are in small quantities, they can cause future complications[6].

The caregiver facing the dilemma of recognizing dysphagia

> *"[...] the importance of family care is reflected in the patient receiving personalized care, with greater attention and proactive attitudes from the caregiver, mainly due to the affective bonds created throughout their life together. This bond provides the caregiver with self-awareness and facilitates understanding the patient's needs [...]"[9].*

Among the caregivers analyzed, 50.8% reported that during medical consultations, they did not receive sufficient guidance on the symptoms of Alzheimer's and dysphagia, stating that they felt unprepared for home care. It was also noted that 63.3% of caregivers stated that the classic signs of dysphagia went unnoticed by them, as they only noticed them when there was a complication resulting from swallowing problems[9].

> *"However, it is known that choosing a family member as a caregiver is often the only option, and the closest relative in the family unit ends up fulfilling this role. It is up to health organizations to equip these new caregivers with the necessary knowledge. When the caregiver is adequately trained, they become able to face the challenges posed by the act of caregiving with greater confidence"[9].*

The nurse's role in addressing the dilemmas presented by the caregiver

The nursing professional works directly in the care of individuals with Alzheimer's Disease, primarily through health education and guidance. Given that individuals with Alzheimer's Disease require a wide range of generalized care, the nurse is also part of the team involved in managing their nutrition, which includes preventing choking, working alongside a multidisciplinary team[11].

> *"The nurse plays an important role, working alongside the caregiver and the elderly person with Alzheimer's disease. They need to develop actions to promote health and prevent complications for both the caregiver and the person being cared for, with the goal of enabling them to have a healthier and higher quality of life. Furthermore, they can work with the healthcare team linked to primary health care units, guiding and training them so that they can offer support to the family member and the patient"[11].*

As a promoter and disseminator of health information, the nurse will describe and teach effective and evidence-based methods for caregivers to safely administer oral nutrition to elderly individuals, ranging from simple methods to prescriptions that may not be covered by the Brazilian public health system (SUS). It is important to emphasize that this assessment should also consider socioeconomic factors[5].

> *"Regarding treatment provided by the SUS (Brazilian Public Health System), it can be carried out in the Primary Care network, through screening and evaluation at Basic Health Units (UBSs) and home care, or in Specialized Care facilities, which include Specialized Rehabilitation Centers (CERs) and Reference Units for Elderly Health (Ursis), which provide therapeutic care to citizens with neurological and oncological pathologies, high-risk newborns, and frail elderly individuals. Municipal hospitals also provide dysphagia care in outpatient settings and in inpatient units in wards, semi-intensive care, and intensive care"[5].*

Among the guidelines for caregivers on administering oral feeding, simple yet effective methods will be mentioned that make feeding somewhat less problematic. Elderly individuals with Alzheimer's often experience loss of focus during meals, leading them to forget they are eating and causing choking; bringing these individuals back to their focus, eliminating anything that distracts them during their meal, will make choking less likely[7].

Study[7] also cites the position, which, among other articles cited in this study as cited by other research[3], states that in the severe stage, the elderly person tends to adopt a flexed posture, called immobilization syndrome. In other words, positioning the patient correctly, so that they are seated with support and at a 45° angle, will ensure proper oral transit, guiding the food bolus to the esophagus without reflux.

This report describes the oral transit time in elderly individuals with Alzheimer's disease (AD) and reveals, based on videofluoroscopy performed on 34 elderly patients, that these patients exhibit a delay in oral transit, meaning there is a longer delay between chewing and the formation of the food bolus. Therefore, the spacing between spoonfuls should be greater to avoid the accumulation of food debris in the patient's oral cavity[6].

It is emphasized that self-feeding becomes impaired, as the cognitive function of individuals with moderate Alzheimer's Disease is disordered, and 88.5% of the patients evaluated show difficulty and coughing while eating without assistance, as they are unable to identify their choking on their own. Comprehensive assistance with feeding is necessary, from placing the food in the patient's mouth to observing that it is being swallowed without difficulty[10].

There is great difficulty in perceiving the initial symptoms of mild dysphagia, where the individual is still able to swallow, but may experience minor aspiration. At this point, it is the nurse's responsibility to inform the caregiver about the importance of observing swallowing during feeding and to specify the initial symptoms of dysphagia. In addition, it is crucial to improve the elderly person's communication about symptoms related to swallowing[3].

Assisted oral hygiene is an important intervention for the prevention of aspiration pneumonia, as the elderly tend to accumulate food debris in their oral cavity, which may be aspirated at some point after a meal. Oral hygiene should therefore be performed after each meal, and all food debris in the oral cavity should be removed[7].

The lack of knowledge among caregivers regarding the symptoms of swallowing difficulties in Alzheimer's disease leads to aspiration pneumonia going unnoticed and causing potentially irreversible complications for the elderly. Since nurses play a role in disseminating information, they must explain the symptoms clearly and objectively so that they can be identified early[9].

The text further explains the SUS's approach to these patients, in which they will be assisted by multidisciplinary teams. It is the nurse's responsibility to

guide the caregiver on how to access SUS health programs that cover bedridden elderly individuals who have or may develop dysphagia. The nurse also acts as a mediator between the caregiver and other team members, reinforcing updates on the clinical picture through nursing consultations[5].

Research[8] The text mentions an intervention to improve dysphagia, offered by a private service, that assists in severe dysphagia, making oral feeding possible. This intervention consists of the application of botulinum toxin A by an otolaryngologist or gastroenterologist. It is the nurse's responsibility to assess the socioeconomic situation and advise the caregiver on seeking this intervention, if the physician agrees.

Study[10] emphasized that in severe cases, where nutritional damage may occur, nasoenteric intubation is necessary and, subsequently, if medically indicated, a jejunostomy, as a means of preventing choking and providing the necessary caloric intake. This is because, as Alzheimer's progresses, dysphagia will also progress if early intervention is not provided. The nurse will then instruct the caregiver on the maintenance and care of these devices to prevent choking and other harm to the patient.

Final Considerations

The increase in the elderly population and the problems associated with diseases specific to this group lead us to reflect on the importance of the nurse's role in guiding and monitoring these elderly individuals.

Based on this aspect, the article above was written with the intention of highlighting the dilemmas faced by a caregiver, demonstrating how necessary professional support and the absence of doubts are in daily care. Thus, it was shown that Alzheimer's patients require comprehensive care, focused on preventing further damage from their pathology, with emphasis on swallowing and choking prevention, since this is currently what causes the greatest complications for elderly people with Alzheimer's. In this context, we conclude that the nurse, as a mediator of guidance, will reduce harm to Alzheimer's patients who have difficulty swallowing. At this point, we can say that with the reduction of choking, we will have a lower number of aspiration pneumonias in Alzheimer's patients, resulting in less invasive measures to reverse the damage from aspiration.

Based on what has been described, we can conclude that feeding can become safe, provided it is assisted, and that the dilemmas encountered in it can be overcome. However, the nurse must implement measures so that simple mealtimes become possible and safe for a patient with Alzheimer's disease. Furthermore, the caregiver must have the autonomy to identify the signs and symptoms of dysphagia, thus seeking help and maintaining efficient feeding without choking.

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