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Nutrition and Dementia Patient

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## Search Strategy

This literature review tries to make a review of the literature more relevant on the subject. Selected keywords for search are Dementia patient, Alzheimer patient, nutrition, hydration, knowledge of nurses and feeding. These keywords are used in combination by using Boolean operators “AND” and “OR” to make the research more meaningful. The main database searched for this paper is CINAHL Plus.

CINAHL Plus gives nurses, health professionals, analysts, teachers and understudies with an extended variant of CINAHL Database, the combined file to nursing and unified health literature. Counting access to extra journals and expanded substance going back to 1937, it covers an extensive variety of points including nursing, biomedicine, health sciences, elective/integral pharmaceutical, customer health and 17 partnered health disciplines. CINAHL Plus also contains nursing journals and distributions from the National League for Nursing and the American Nurses Association and in addition access to healthcare books, nursing theses, principles of practice etc.

In addition to searching CINAHL Plus, some other medical journals such as *AltHealth Watch* and *Health Source: Nursing / Academic Edition* have also been reviewed to know the state of affairs.

The criteria for selection of articles is that they must address the problem of nutrition of dementia patients, must be in English language, must be a published article and have been published in 2005 and onwards.

In addition to that, the analyst used a framework dictated by Greenalgh (2010) remembering the deciding objective to look the altered works and to check the reference chain

and the authenticity of the studies to avow whether the studies fulfil the criteria or not. The analyst furthermore used the same blends of keywords on Google to gain results which will be not exactly the same as the past results (Aveyard, 2010). All the looking at and unessential asks about will be abstained from by genuine use of avoidance and consideration criteria (Timmins & McCabe, 2005).

### Nutrition Problems in Dementia

Dementia is a common problem, especially among the elderly people. There are many types of dementia, but these are all characterized by a loss of intellectual function and judgment, memory failures and changes in personality. The most common forms of dementia are Alzheimer's disease and cerebrovascular disease (Chernoff, 2006). The patients with dementia may forget to chew or swallow food and fluids, and leave them in their mouths for a long time; often they do not remember how the eating tools are used and often experience unpleasant odours or flavours in the food. Most people with Alzheimer are institutionalized after the onset of symptoms, meaning they spend an average of three or four years in a nursing home before death. So, it is important for nurses to have knowledge of how to provide nutrition and hydration to the cognitively impaired people.

Swallowing is one of the basic functions of the body. It is a complex neuromuscular process, which involved more than 50 pairs of muscles and requires a precise coordination. Dysphagia, or difficulty in swallowing, is usually classified by location (oropharyngeal, esophageal, paraesophageal) or production mechanism (mechanical or neurogenic) (Palmer & Metheny, 2008). Muscle changes (low muscle mass and strength) and the nervous system can lead to an overall impoverishment of the motor response with increased oropharyngeal dysphagia

(Clavé et al., 2007), which is the most common in the elderly, above the mechanical and oesophageal causes (Clavé et al., 2005; Achem & Devault, 2005). The proportion of dysphagia among dementia patients is 25% to 50% (Palmer & Metheny, 2008; Clavé et al., 2007).

The breakdown of dietary behavior goes hand in hand with the severity of dementia, functional and cognitive decline, affecting 45-50% of clinically severe dementia of different aetiologies. Its most important implications are dehydration, weight loss, malnutrition and aspiration, aspiration pneumonia being the leading cause of death in these patients (Suto et al., 2014; Alagiakrishnan et al., 2013). Typically, patients with late-stage dementia are institutionalized. This implies a need for awareness and knowledge of the problem, staff training, relationships with families and making decisions with variables.

Addressing dysphagia among dementia patients involves families and caregivers in a joint and multidisciplinary performance (Goldberg & Altman, 2014; Affoo et al., 2013). The overall objective is to improve nutritional status and reduce morbidity and mortality based on early identification and causal diagnosis, knowledge of the characteristics of dysphagia and developing strategies for safe and efficient swallowing, primarily changes in the volume / viscosity of the bolus and postural treatment (Easterling & Robbins, 2008). According to Ouldred & Bryant (2008), in dementia, dysphagia must be placed as a common syndrome of a long and progressive course of disease in which alterations of eating behavior are multiple, affecting in its later stages more than 70% of patients, usually greater with multiple geriatric syndromes, against a background of low immunity, comorbidity and poly-pharmacy. Sergi et al (2013) said that in Alzheimer Disease, the weight loss is usually present from the earliest stages. It is necessary to rule, in turn, the presence of associated symptoms, such as depression,

constipation or pain and evaluate the use of specific medication, including orexigenic agents despite its controversial effectiveness (Berenstein & Ortiz, 2005).

Many dementia patients are cared for in the family. In the early stages, to the concern of loss of weight and appetite are due to behavioural disorders such as security, food refusal or forgetting to eat (Gu et al., 2014). In more advanced stages apraxia and dysphagia appear. In a study, conducted by Botella & Lopez (2006), of 241 patients at home having dementia at Global Deterioration Scale (GDS) or later stage. It was found that 98% had oral feeding, 66% needed help with eating, and 40% were taking diet crushed with dysphagia to solids and liquids 26% from 19%. The weight loss was 31% and correlated with the development of dementia. Keller et al (2008) highlight the lack of knowledge about dysphagia and management.

On many other occasions, these patients should be cared for in nursing homes, where the prevalence of dementia reaches 60%, especially among users of assisted places (López et al., 2009). Mora (2009) using the GDS complemented by Functional Assessment Staging (FAST) and Eating Behaviour Scale (EBS) assess eating behavior and the changes in behavior in a group of 143 institutionalized patients with dementia of diverse etiology, finding changes in appetite and food in 26 cases (18.2%). As progressing dementia with cognitive and functional impairment, according to Gómez-Bust et al (2007), eating behavior was deteriorating and affected 77% of residents in GDS-FAST stages 6 and 7. 40% of patients with stage GDS-FAST 6 had choking as 66% of patients with GDS-FAST 7. These data are similar to those found in the literature (Ouldred & Bryant, 2008; Palmer & Metheny, 2008) and highlight the progressive disintegration of food in dementia.

Awareness of the problem

Eating is the most common activity of any nursing home and is very reassuring for family caregivers and the patient to perform an adequate intake. The power must always pretend to be pleasant while nourishing and people with dementia as well, trying to keep the taste of food and swallowing reflex, but require help or substitutions. The routine can make them forget the basic premises of a correct diet for these patients. A suitable atmosphere in the dining room (Kai et al., 2015) have enough staff to spend time on the food and the caregiver-patient interaction improve the energy balance of intake. Individual attention and staff training have proved crucial for an accurate record of the intakes, improving caloric intake and hydration of the main Impeachment, both in making basal diets as oral supplements (Simmons et al., 2008; Simmons & Patel, 2006). These objectives require sensitization by the school management and awareness of workers and their families, so that, with proper training, they help to improve the nutritional status of the patient and can identify changes in eating behavior early.

Scales of eating behavior such as EBS or scale of Blandford (Correa et al., 2008) are useful as tracking problem, but for the most important early identification is direct observation. The dysphagia is suggestive of increased time required for intake, difficulty in handling secretions, chewing time or prolonged oral preparation, food retention in the oral cavity, cough (before, between or after swallowing) wet and choking voice. These observations should lead us to initiate, practically, the study of dysphagia and analysis of the changes that can be employed in improving swallowing. Along with physical examination and evaluation of nutritional status, the gold standard is the test volume-viscosity.

In advanced dementia, care is very useful by family and care team therapeutic intensity levels that apply on each patient (Robles, 2007). Patients with advanced dementia who develop

dysphagia are mainly in the GDS-FAST stages 6 and 7, in which the therapeutic intensity levels are at the Level 4 (conservative treatment at health centre) or Level 5 (comfort care). Although the study of regulated alteration in swallowing and video fluoroscopy safety testing is recommended (Clavé et al., 2008; Clavé et al., 2005).

## Themes

The following three themes have been emerged from the review of the literature:

1. Strategies to improve nutrition in advanced dementia with dysphagia;
2. Feeding through PEG tube in patients with severe dementia;
3. Comparison of Feeding Tube and Oral Feeding

These themes are discussed in detail in this paper.

### Strategies to improve nutrition in advanced dementia with dysphagia

Following the general objectives of improving the nutritional status with a safe and efficient swallowing, general strategies are based on 5 points: postural treatment, changes in volume / viscosity of the diet, oral sensorial enhancement strategies, treatment of neuromuscular praxias and specific deglutition manoeuvres (Clavé et al., 2005). The simplest strategies applied in any healthcare resource are the specific rehabilitation treatment.

The atmosphere of the room, staff interaction and time spent to food intake condition residents (Hanssen & Kuven, 2016; Bergland et al., 2015). In general, one must take great care of oral hygiene, caring teeth and prostheses, preserving the integrity of mucous membranes, lips and corners. To minimize risks, the dining room should be relaxed, with the caregiver sits at the

same height as the patient, using appropriate verbal and body language to start with patience food.

It is advisable to place the patient in the sitting position, 30min before a meal in comfortable position with the head slightly flexed forward. In dementia with cephalic postural instability, one must prevent hyperextension of the neck with a suitable support for the head. If bedridden, one has to raise the head and maintain the same recommendations to the head (Robbins et al., 2008; Palmer & Metheny, 2008). After the intake, keep the patient in a sitting position for few minutes.

It is preferable to use spoons syringes that help in swallowing and the pressure on the tongue stimulates the swallowing reflex. The spoon should approach from below and placed in the middle of the mouth pushing the tongue down to prevent backward into the interior. They should be given small amounts each time, preventing food from accumulating in the mouth and trying not to talk while eating. Leave enough time swallowing, massaging the jaw. After each swallow, should encourage them to cough and make sure the mouth is empty before taking food again. If swallowing cough appears, the carer has to stop feeding. It is preferable not to use low straws and beakers. Remember also that the acidic flavours and cold foods stimulate the swallowing mechanism (Garmendia et al., 2007; Laborda & Gomez, 2006; Clavé et al., 2005).

#### Feeding through PEG tube in patients with severe dementia

Dysphagia occurs when the care team often raised, among other alternatives, the placement of a feeding tube. The basic rationale for using it is to save the "obstacle" for oropharyngeal swallowing, improve the nutritional status of the patient, prevent aspiration



pneumonia, prevent the occurrence of pressure ulcers, ensuring greater comfort and patient survival. Placing a SNG or PEG, though a simple technique is not without complications (Li, 2008; Meier et al., 2006; Gillick, 2005). In recent years it has gradually increased the number of patients diagnosed with advanced dementia, carry a feeding tube as the alternative offered by science to improve the quality of life and as prevention of complications of dysphagia (Cervo & Bryan, 2006; Skelly, 2005).

A review Finucane et al (2007) questioned the effectiveness of this measure in patients with severe dementia. The authors demonstrated that in addition to not meet the expectations of improving nutritional status, prevent aspirations, etc., produced unwanted effects and complications when the technical and management in the short, medium and long term. The study also added increased behavioural alterations that can lead to the placement of physical restraint. There are many other studies that raised a lack of evidence that tube feeding provide benefits for patients with advanced dementia Li, 2008; Meier et al., 2006; Gillick, 2005).

Sampson et al (2009) in a systematic review argue that the decision to use artificial hydration and nutrition in a person with dementia is often emotional and complex. Family members and caregivers can request the intervention because they are worried that the patient is hungry; physicians may be aware of the risks but feel pressured for several reasons: institutional, social and even legal officers, they decided to intervene. In this review of 452 articles, the author argues that there is no definitive evidence that enteral nutrition probe is effective to prolong survival, improve quality of life, to better supply or reduce the risk of bedsores. In fact, it may increase the risk of developing pneumonia from inhaling small amounts of food and even cause death. Therefore it suggests that this area is difficult to investigate but better designed studies are needed to provide more robust evidence. Gomez-Bustos, et al (2009) suggest that the greatest

benefits for the patient are obtained by strategies to improve the condition of the teeth, the position during the intake, the use of thickeners and suppression of sedative drugs that interfere with swallowing.

### Comparison of Feeding Tube and Oral Feeding

Swallowing disorders, clinically expressed inability to take oral medication, oral feeding need for modification of textures and tube feeding, are themselves independent factors associated with pneumonia in patients with dementia (Palmer & Metheny, 2008). The severity of dysphagia was classified clinically depending on the frequency and volume of aspiration and the reflex cough (Laborda & Gomez, 2006). However, there is no correlation between the severity of clinical aspiration or observed in video fluoroscopy, since besides the aspirated volume influenced by other factors such as functional status, host resistance and pathogenicity of microorganisms aspirates. The specificity of the test volume / viscosity decreases to identify bolus penetration and laryngeal aspiration. However, its high sensitivity and specificity for identifying patients with dysphagia improved with increasing viscosity of the bolus make it an invaluable tool. The use of nasogastric tubes or Percutaneous Endoscopic Gastrostomy (PEG) did not diminish the presence of pneumonia in patients with dementia and led to an increase in oral pathogenic flora (Palmer & Metheny, 2008). Pulmonary aspiration, despite feeding tubes, also called intensive care medicine. In intubated patients pepsin remains were found in tracheal secretions. The gastroesophageal reflux and penetration of oropharyngeal secretions would be the most likely causes (Palmer & Metheny, 2008).

Economic factors have been invoked as preparing meals for dementia patients. The patients need careful administration for their more personal needs, which increases the cost of

residential care when compared with enteral tube feeding (Teno et al., 2008; Finucane et al., 2007; Rimon & Kagansky, 2005). But there are more fundamental reasons for using feeding tubes that may be based on social, personal beliefs, religion etc. (Bryon et al., 2008). Anyone assumes cancer as a terminal disease, which does not occur with dementia, which is seen as a trivial disease (things of age) or as a disease of very long course that makes it difficult to assume that it has reached a stage final. Even in these cases, the ambivalence is common among families and caregivers, so that removing a probe becomes more difficult for implantation decision (Bryon et al., 2008). In the implementation of probes, they powerfully influence both their own beliefs and convictions of caregivers and medical understanding and attitude and final model. The medical staff can make a purely technological reading of the disease, seeing only the need to save an obstacle (dysphagia) or to deliver nutrients to a particular organ, without considering the whole person and his disease (Bryon et al., 2008; Ibarzabal, 2005). The training of medical staff in palliative care remains low, which favours only the recognition of illness in advanced dementia 64 , 65 , 66 . So it is easy to be informed that the "alternative technology" we can offer is a feeding tube and leave it to the family a decision, and technically correct, should consider the overall situation, dignity and patient comfort , questions of family and also should respect the wishes of the patient, which does not always happen (Colmes et al., 2008; Nathan, 2008; Lacey, 2005).

Monteloni & Clark (2006) proved that training and support for health personnel (doctors included) feeding and palliative care of patients with advanced dementia brought a change in the culture of the hospital. Half of the probes placed in advanced dementia were brought against the will of the patients previously expressed. Ashbaugh et al (2009) reviewed 88 patients with medical indication for oropharyngeal dysphagia nasogastric tube. After dietary adaptation

according to the test volume-viscosity, only 6, the study pointed, use feeding tube. These data indicate that there may be a routine approach in certain cases does not correspond to the study of possible alternatives before decision making and highlight the importance of nursing in the comprehensive care of these patients (Bryon et al., 2008). The oral feeding is a valid and viable alternative in these patients, which provides greater gratification, sociability and comfort to the user, a closer partnership with caregivers and family. Denying oral feeding in a patient with advanced dementia and dysphagia should be extraordinary and always supported by a comprehensive assessment of the situation, previously expressed wishes and truthful information on the scientific evidence of alternative (Garrow et al., 2007; Finucane et al., 2007; DiBartolo, 2006). So the American Alzheimer's Association recommends the use of probes in these patients, even if viewed as an option to be taken aware of the lack of benefits. Dharmarajan & Unnikrishnan (2006) while giving priority to carefully tailored oral feeding, have recommended a limited and occasional use of the probes. For example, when the cause of dysphagia is not related to the evolution of dementia and is not affordable by other means and the patient is not in the last stage of disease. It could also be useful in specific situations, such as a hip fracture, returning to the mouth as soon as possible.

### Conclusion

As a general attitude, one believes that he or she must address the nutritional status of patients with dementia at the early stage and not when the dysphagia is present. The family needs accurate information based on scientific evidence with alternatives for each situation and not a routine approach to artificial feeding. A carefully tailored and administered oral feeding seems a viable and most suitable for dysphagia patients with late-stage dementia alternative.

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