ORIGINALES

Factors that make oral feeding difficult to hospitalized elderly patients

Fatores que dificultam a alimentação por via oral do idoso hospitalizado
Factores que dificultan la alimentación por vía oral del anciano hospitalizado

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ABSTRACT:

This study was aimed to identify the factors that make the oral feeding difficult to hospitalized elderly patients. This is a quantitative research with cross-sectional design, developed with 111 elderly hospitalized in a hospital located in the south of Rio Grande do Sul. For data collection, an instrument called Food Rating Scale for the Elderly Hospitalized. A factorial was used, and a descriptive analysis was performed. The quantitative data produced was scanned and organized in the software Statistical Package for the Social Sciences, version 20.0. It was identified four factors related to the difficulty of oral feeding by the hospitalized elderly patients: environmental factors, eating, physiological and the ones related to the health team. Environmental factors stood out as those that cause the oral feeding to be more difficult in hospitalized elderly patients, specifically the items that include pain, depression and the use/action of drugs.

Keywords: Elderly; Food; Nursing; Gerontogeriatric Nursing

RESUMO:

Identificar os fatores que mais dificultam a alimentação por via oral em pacientes idosos hospitalizados. Trata-se de uma pesquisa quantitativa, com delineamento transversal, desenvolvida com 111 idosos hospitalizados em uma instituição hospitalar localizada ao sul do Rio Grande do Sul. Para coleta de dados foi utilizado um instrumento denominado Escala de Avaliação Alimentar para o Idoso Hospitalizado. Foi realizada análise fatorial e descritiva. Os dados quantitativos gerados foram

digitalizados e organizados no software *Statistical Package for the Social Sciences,* versão 20.0. Foram identificados quatro fatores relacionados a dificuldade de alimentação por via oral pelos idosos hospitalizados: fatores ambientais, alimentares, fisiológicos e os relacionados a equipe de saúde. Os fatores ambientais se destacaram como aqueles que mais dificultam a alimentação por via oral dos pacientes idosos hospitalizados, mais precisamente os itens que contemplam a dor, a depressão e o uso/ação de medicamentos.

Palavras-chave: Idoso; Alimentação; Enfermagem; Enfermagem Gerontogeriátrica

RESUMEN:
Identificar los factores que dificultan la alimentación por vía oral en pacientes ancianos hospitalizados. Es esta una investigación cualitativa, con delineamiento transversal, desarrollada con 111 ancianos hospitalizados en una institución hospitalaria ubicada en el sur del Rio Grande do Sul. Para recolección de datos se ha utilizado un instrumento denominado Escala de Evaluación Alimentaria para el Anciano Hospitalizado. Ha sido realizado un análisis factorial y descriptivo. Los datos cuantitativos generados fueron digitalizados y organizados en el software *Statistical Package for the Social Sciences*, versión 20.0. Fueron identificados cuatro valores relacionados con la dificultad de alimentación por vía oral por los ancianos hospitalizados: factores ambientales, alimentarios, fisiológicos y los relacionados con el equipo de salud. Los factores ambientales se destacaron como aquellos que más dificultan la alimentación por vía oral de los pacientes ancianos hospitalizados, más fielmente los ítems que contemplan el dolor, la depresión y el uso/ acción de las medicinas.

Palabras clave: Anciano; Alimentación; Enfermería; Gerontogeriatría

INTRODUCTION

Estimatively, life expectancy has increased over time. Only in Rio Grande do Sul, considering the ages 60 to 100 years old, accordingly to the last census carried out in 2010, the number reaches 4.367.282, which represents approximately 40% of the whole population in the state[1].

Associated to that, it has been noticed an increase on hospitalizations by elderly people, and the most frequent causes are related to the cardiorespiratory and digestive systems. The hospitalizations increase the risks for diminishment of functional capacity, which are commonly irreversible, making the elderly fragile[2]. The falls and diseases, or non-communicable chronic illnesses increase the hospitalizations statistics[3].

Elderly people go through hospitalizations as twice as adults between 20 and 59 years old, which correspond to 20% of all hospitalizations[3]. The Brazilian Midwest region is responsible for more than 14% of all elderly hospitalizations, followed by South, which approximately attains 11% of the elderly population that have gone through a hospitalization in the period of a year[4].

Nutritional care is still not prioritized, and this is a problem worldwide, for it does not receive enough attention from the health providers, mainly towards the acceptation of the diet by hospitalized patients, and much less towards action that glimpse stimulating/orientating on the increase in energy consumption during this period[5].

The nurse has to take on his/her leadership in the multidisciplinary team, in order to better nutritionally assist his/her elderly patients. This may allow a premature identification of the reason why the patient is not adapting to the hospital diet, so a rapid and efficient assistance is provided[5].

Nursing has an important role towards patient's nutritional therapy, accordingly to a study carried out by Lima[6] at a teaching hospital in São Paulo (SP), which showed that the nursing team was responsible for helping out the oral feeding of approximately 60% of the hospitalized patients during twelve months.

Nursing is a science based on the law. Therefore, it is important to bring up the Resolution of the Federal Council of Nursing 0453/2014, which ratifies that the nursing team must provide nutritional assistance in what concerns administration, monitoring and identification of the patients under nutritional risk[7].

Being attentive is also a care on the responsibility of the nursing team, which has to observe feeding standards of their patients and possible taboos, as well as to identify which type of foods are more pleasant and the ones that cause more repulsion. Therefore, it is fundamental to pass information along to the nurse, who may communicate the nutritionist with the objective to provide a more specific and pleasant diet for the patient, respecting his/her clinical possibilities and institutional availability[8]. Against the foregoing, the question that runs this research is "Which are the factors that make oral feeding difficult to hospitalized elderly patients? This research was aimed to "Identify the factors that difficult the process of oral feeding on hospitalized elderly patients".

MATERIAL AND METHOD

This is a quantitative, exploratory and descriptive research, which has a transversal approach. One-hundred and eleven hospitalized elderly patients were the participants of this research, which was carried out in a hospital in Rio Grande, in the state of Rio Grande do Sul, Brazil. The city counts with 195 thousand habitants accordingly to the last Census of 2010[1]. The institution where the research happened in a hospital complex, which is composed by a general, a cardiological, and a psychiatric hospitals. The functional framework is compound by 178 nurses, 367 technical nurses, and 33 nursing assistance; the work shift is 36 hours per week.

Data collection happened in the clinical, chirurgical and mixed (clinical plus chirurgical) units. These were intentionally chosen, for they usually present a higher quantity of hospitalized elderly.

Inclusion criteria were: being an elderly, hospitalized for three days minimum, have no medical restriction for oral feeding, be able to understand and respond to the questionnaire, besides wanting to participate in this research.

Data collection was carried out from June to July 2016, through a tool entitled as Food Evaluation Scale for the Hospitalized Elderly, which is a Lickert-5-points-type of scale, varying from 1 to 5. For each results of the score is defined the intensity of factors that make feeding difficult to elderly.

The tool still presents an initial part that is designated to the characterization of participants, followed by 29 questions related to specific situations about the difficulties on eating found by hospitalized elderly people.

A pilot application was used in 20 elderly with similar characteristics to the studied population, aiming to perform a content validation. The device demonstrated to be

easy to comprehend and to be fulfilled, not being necessary any kind of language adaptation, taking 30 minutes average for its appliance.

After applying the tool to the participants of the study, two statistical tests were carried out: factorial-exploratory analysis, and the Cronbach alpha. For data analysis, the factorial-exploratory analysis and descriptive statistic were applied, being the Statistical Package for Social Sciences (SPSS) version 20.0 used. The project was judged and approved by the Research Ethics Committee under the number 011/2016. All participants signed the consent form.

RESULTS

In what concerns participants' age, it varied from 60 to 88 years old (average 72.56). Accordingly to table I, the highest concentration of elderly's ages reaches 70 to 79 years old, with 60 participants representing 54.05%.

Regarding gender, there were no meaningful differences, 50.45% (n=56) of hospitalized elderly were male, and 49.54% (n=55) were female. Moreover, about the period of hospitalization, it varied from 3 to 40 days, which points out an average of 94 days. It is possible to notice from the table 1 that the most frequent duration of hospitalization is found in the interval of 3 to 10 days.

Table I. Distribution of participants per age and days of hospitalization in Rio Grande, RS, Brazil, 2016.

Age (years)	N	%
60 - 69	38	34,23%
70 - 79	60	54,05%
80 - 89	13	11,71%
Total	111	100%
Days of hospitalization	N	%
03 - 10	80	72,07%
11 - 20	23	20,72%
21 - 30	06	5,40%
31 - 40	02	1,80%
Total	111	100%

On the necessity of food aid, the most part of elderly 70.3% (n=78) affirmed that their food intake is diminished during hospitalizations, when compared to home; 57.7% (n=64) referred no necessity of help, and 42.3% (n=47) referred weight loss during this period.

In what concerns progressive illnesses, cardiovascular diseases presented more frequency 72.07% (n=80), followed by endocrinal diseases 51.35% (n=51), and in the respiratory tract 36.03% (n=40).

Regarding the diseases that lead patients to hospitalization, table 2 points out the respiratory tract 38.73% (n=43), followed by neoplasia and gastrointestinal tract diseases as the main responsible.

Table II. Reasons for hospitalization – Rio Grande, RS, Brazil, 2016.

Reason of hospitalization	N	%
Respiratory System	43	38,73%
Neoplasms	22	19,81%
Gatrointestinal System	18	16,21%
Cardiovascular System	16	14,41%
Genitourinary System	8	7,20%
Endocrine System	4	3,60%
Total	111	100%

With respect to hospitalized elderly patients' companions, these were classified accordingly to the degree of kinship or caregiver. Thereby, the most frequent representation is composed by children with 63.96% (n=71), followed by spouse 10.81% (n=12).

It is important to highlight that 32.4% (n=36) of hospitalized elderly patients had caregivers as their companion, as well other relatives, who shifted during the period. Other notable aspect is the male predominance 51.35% (n=57) as family caregivers, when compared to female 48.64% (n=54).

From the descriptive point of view, the analysis allowed identifying the factors that make oral feeding harder to hospitalized elderly patients. Four constructs were identified and validated, which configured four different groups: Environmental Factors, Food Factors, Physiological Factors, and Team Factors. Through an arithmetic average, it was individually operationalized.

Accordingly to the averages, the factors that make oral feeding even harder for hospitalized elderly patients are the ones related to environmental aspects – 2,25 followed by food aspects – 1.56, physiological – 1.48, and the ones related to the Team – 1.39. The 35 questions were submitted to factorial-exploratory analysis, on order to verify the discriminant validity of it.

The main components analysis was defined as extraction method, and the Varimax orthogonal rotation was also applied, for it discriminates the pertinence of variables to the identified components. Four constructs were formed, obeying to two criteria: the degree of association between the variables, found through factorial loads, and its level of subjectivity. The figure 1 illustrates the conceptual definition of the obtained constructs.

Figure 1. Conceptual definition of the obtained constructs.

Variable	Definición
Physiological Factors	Associated with the natural aging process or the disease itself, leading to pertinent transformations that compromise eating habits, making them deficient [9]

Food Factors	As for the type of food supplied, change of habits, taste, appearance, aroma, menu variety, texture and temperature, as well as modification of meal times[8]
Environmental Factors	A series of situations external to the elderly and related to the hospitalization environment that influence the decrease in appetite [5]
Team Factors	The lack of adequate assistance, culminating in the non-ingestion or partial ingestion of the food supplied[3]

In order to make the constructs clearer, factorial loads greater than ,500 were defined as the cutoff point. Five (05) questions were eliminated, for it had factorial loads lower than ,500, and the question 1 for presenting lower correlation to the others items in the group. The table III demonstrated the results from the factorial-exploratory analysis with the respective averages and standard deviation by construct.

Table III. Results of the factorial analysis with the respective averages and standard deviation by construct.

Factors	Mean	Standart Desviation
Environmental	2,25	0,45
Food Factors	1,56	0,93
Physiological Factors	1,48	0,79
Team Factors	1,39	0,67

Nine (09) questions highlight for presenting bigger factor loads, in other words, higher than ,800. The questions q22: Meal flavor, and q21: Type of provided food, belong to the Food Factors group, the second with higher average frequency (1.56) and factor load (,792).

The questions q03: Lack of dental prosthesis in the hospital, q18: Olfactory sensitivity - reduced / altered, q07: Choking during or after feeding, and q27: Depression belong to Physiological Factors – factor that presented the third higher average in frequency (1.48), and lower average on factor load (,752) among the groups.

The questions q33: Lack of comprehension/patience from the nursing team, q34: Lack of comprehension/patience from the nutrition team, and q32: Nutritional adequacy by the nutrition team, both belong to the same construct: team factors, group that presented higher average on factor load and lower average on frequency per group.

The question q12: Odor of the environment was the one that reached higher average, followed by q09: Pain related to the disease. The first belongs to the environmental factors, which presented higher average (2.25), that is, the factor that contains

situations that make oral feeding even harder in hospitalized patients; and the second belongs to the physiological factors.

The third highest average got to q10: Physiological distress (related to environmental factors), and q27: Depression, in which the first one belongs to environmental factors, and the second to physiological factors. The question that presented the lowest intensity was q23: Consistency of the meal (liquid, pasty or solid), which also belongs to feeding factors.

The Cronbach's alpha from the tool reached 0.76, which varied between 0.74 and 0.78 in the four constructs. The total variance explained by the instrument validated was 74.91%. The measure of adequacy of the obtained sample (KMO) was ,582 – proving it appropriate.

The variables of the questionnaire had an adequate communality value, that is, all of them reached values higher than 0.5. No item needed to be excluded from the evaluation for that reason. The percentage of variance of each explained variable is higher than 50% in all cases.

DISCUSSIONS

The environmental factors represent what turns oral feeding harder in hospitalized elderly patients. The items q12: Odor of the environment, and q15: Nausea/Vomiting – non-pathological stand out. Under this perspective, it is important to recall the fundamentality on the environmental theory of Nightingale[10] as a central axis in nursing. Florence was emphatic when identified and highlighted the environment role and its influence in people's health, creating environmental strategies to be implemented based on physical elements that affect it.

Corroborating to the results, Majid[11] points out the hospital environment as direct influence on reducing appetite, mainly in what concerns odors that come from excretions like diarrhea, which causes nausea and preclude feeding during the hospitalization.

Regarding items q10: Physiological distress (related to environmental factors), qq29: Excess of people/movement in the environment, q30: Excess of noise/sounds in the hospital environment, this last one besides affecting audition interfered in patients' physical and emotional well-being, which causes diminishment of appetite. Equipment, such as cardiac monitors, aspirator of secretions, mechanical ventilators, cellphones, movement of persons, voices/conversations of professionals and visitors were the major causes of noises in the hospital, which increases the levels of distress[12].

The environmental factors finish with q11: Lack of adequate furniture – side table, which is one of the situations that difficult elderly to eating. Barela[13] brings up the fundamental importance of a movable dining table for meals in a hospital room turned to elderly – once it is movable, it does not interfere with the environment safety, being safer during meals.

Regarding food factors, it was presented as the second most intense factor in this research, highlighting food flavor as one of the aspects that make ingestion adequate, and the meal satisfactory. The presentation of the food and its variety negatively contribute to diet ingestion, besides other such as texture, lack of flavor and food

consistency[5]. Furthermore, the own hospitalization represents a rupture in the elderly daily life in what concerns habits and food intake, for a new food intake routine is imposed, which may generates dissatisfaction and consequent denial[12].

The physiological factors obtained the third highest frequency, presenting an average of 1.48, being composed by the items (in decreasing order according to the average): q09: Pain related to the illness; q27: Depression, q13: Use of medication/action of the medication; q14: The own pathology; q03: Lack of dental prosthesis in a hospital environment; q06: Pain/tiredness during mastication; q07: Choking during or after feeding; q20: Dysphagia; q05: Difficulty to chew food; q17: Taste sensitivity (reduction/alteration); q19: Previous inappetence; q08: Cough during or after feeding; q16: Nausea/vomiting – pathological; and q18: Olfactory sensitivity (reduced/altered).
The item q09: Pain related to the illness obtained the highest average among all factors, 1.203. Thus, we have that pain is a situation that make oral feeding difficult to hospitalized elderly patients. This result corroborates to Nascimento[14] when he refers that pain negatively influence patient's clinical evolution, increasing risks to cardiovascular, immunological, thrombolytic, social, and psychological alteration, which might lead to inappetence.

On the other hand, q27: Depression appears to be the second item with the higher frequency – 1.000 among the physiological factors, which is perfectly explainable, for depression in elderly is very common, recurrent and many times underdiagnosed, which lead patients to a precarious treatment or the lack of it. Approximately 15% of the elderly present depression, and this number is even accentuated when the elderly is hospitalized. Depression is associated to the nutritional status, for it acts in the neural system, which is responsible for hunger. Therefore, the depressive elderly tends to malnutrition or obesity[14].

Still on the physiological factors, q13 follows as the most frequent (,993) item, The use of a medication/action of the medication. In other words, medication in use at the hospital altered patient's appetite. A study carried out by Hayashi[15] showed that making a daily follow-up on the serum levels from determined electrolytes, once several drugs used at the hospital, such as antihypertensive, interact in the elderly, causing lack of appetite.

The fourth item with the highest frequency in physiological factors was q14: The own pathology, with averages from 0.934, and q16: Nausea/vomiting – pathological, points out that the difficulties when feeding comes from the pathology that made them get to the hospital, or from the side effects of the prescribed drugs. Corroborating to these results, this research showed that diseases in the respiratory tract and cancers are the main reasons for hospitalization. Thus, it is important to bring up Tavares[16] and the results that refer to a research performed in an oncological clinic in the state of Bahia (BA). The sample, composed by 20 hospitalized elderly, pointed out that 40% of them presented difficulty to eating due to the disease, for some anatomy alteration or in what concerns the side effects of oncological drugs.

Still on the item q14, respiratory diseases difficult hospitalized elderly feeding. Abbott[17] carried out a study in United Kingdom (UK) with 70 persons, comparing children to elderly on what concerns undesirable effects during respiratory crisis. Both presented lack of appetite due to dyspnea, for it makes difficult or impede feeding, for scaring and making the patient uncomfortable.

The q03: Lack of dental prosthesis in a hospital environment reinforce that the major buccal alterations present in elderly regard caries, periodontal disease, abrasions, lesions, buccal cancer, and teeth loss, or edentulism. The partial or total absence of teeth, inadequate prosthesis prejudice the quality of nutrition, for when they are unable to adequately cut nor masticate the foods, they end up opting for easy-ingested food, many times less nutritive[18].

On the other hand, q06: Pain/tiredness during the act of chewing, q07: Choking during or after feeding, q20: Dysphagia, q05: Difficulty to masticate food, and q08: Cough during or after mastication, which show up in decreasing order of frequency, explained by Almeida[18] who stands up that elderly present a deficit of orofacial motricity. In other words, the movements of the jaw get limited, causing oropharyngeal dysphagia, difficulty to chew and consequent choking. Some sequels caused by neurological diseases, such as Parkinson, cause dysphagia in 80% of the cases, and associated to malformation of the bolus, tend to cause cough and choking during or after food intake[19].

The item q17: Taste sensitivity (reduction / alteration) is justified by the diminishment of tonus and force in the tongue, as well as the masticatory muscles, which affect the taste buds, causing palate alteration[19]. Other factor that interferes to gustative alteration is xerostomia, which may be caused by dehydration, some types of medications such as barbiturates, radiotherapy in the region of the head and neck, neurological sequels and some pathologies such as diabetes mellitus[20].

The question q19: Previous innapetence is ratified by Berriel[20], for elderly have functional, physiological and psychological alterations that reduce the capacity to adapt to the environment, and also their nutritional status, once their metabolism becomes slower, diminishing their caloric needs, taking them again to innapetence.
Still, the item q18: Olfactory sensitivity (reduction / alteration); Alteration of smell may lead to decreased food intake, disrupting food choices that often have low nutritional value[20].

The factors related to the staff were formed by four questions: q32: Adequacy of food by the nutrition team, q31: Lack of assistance to feed (family/companion), q33: Lack of understanding/patience on the part of the nursing team, and q34: Lack of comprehension/patience on the part of the nutrition team. The last two ones evidence the lack of recognition of the elderly population in what concerns the importance of these teams in their food intake and nutrition. It does not seem like there is an integration of nutritional care and the diagnosis and treatment routines performed by the health providers, which may also indicate the lack of understanding and commitment of professionals, mainly the nursing team[19].

A study carried out by Ramsay[12], in the United Kingdom (UK), with 240 patients hospitalized in intensive care units showed that the major part of patients needed some sort of help to eat, but they had not. Their point of view was focused on not bothering the nursing staff, for they were excessively busy to physically help them out during their food intake, or to deliver their prescribed supplements.

For the social representation of the nursing role, elderly commonly do not attribute nutritional care to this profession. Normally, at a hospital unit, nutritional care are comprehended by patients as an exclusive attribution of the nutritional team, which was a limitation of the study, for it was not possible to identify if the elderly linked this

type of care only to the nutritional team or if nursing was also considered in this aspect[4].

In contrast, still on the Ramsey's study[12], the nutrition team was widely praised as the requested changes in food tastes have always been met. This again denotes the little knowledge about the work of both teams - nursing and nutrition - and the feeding of patients.

CONCLUSIONS

The environment factors obtained higher intensity on the research, being the responsible for the factors that make it more difficult to orally feed in hospitalized elderly patients, precisely the items q10, q29 and q15, that is, physiological distress related to the environment, excess of people/movement in the environment, and nausea and vomiting (non-pathological), consecutively. The care of the environment in which the patient is located, the infirmary, has become a central axis in nursing. Florence Nightingale, from the early days, highlighted the role of the environment as a major health influencer.

Thus, we have the hospital environment as a direct influence on appetite reduction, especially when there are unpleasant odors that cause unnecessary gastric discomfort to patients. The hospitalized elderly may be weak at this time, and all care is necessary to ensure their well-being. Nurses should be attentive to the infirmary where their patients and adjacent areas are located, taking advantage of the moments in which they provide the assistance, either during the consultation or procedures, to observe and try to minimize the effects that an unpleasant environment provides to their patient.

It is fundamental to have a watchful eye for the medical prescription in which there are normally prescribed antiemetics can minimize nausea before meals. Seek the sanitation service for a better inspection regarding cleaning and depending on the situation is pertinent to change the patient's infirmary. Holding a conversation with the family members and caregivers, alerting them about visiting times in order to avoid over-crowding within the rooms, and reminding them that during daytime, many professionals are circulating and if there is no care, the environment becomes hectic.

As for the other factors, it is worth noting the pain. This causes negative changes in clinical evolution, including inappetence, which may be a generator of new complications or accentuate existing ones, such as malnutrition and consequent prolongation of hospitalization. Depression has proven to be an important inappetence generator since it acts on the neural nervous system responsible for hunger. It is common in the elderly, but it is not normal - it is pathological, and this pre-judgment leads to a false diagnosis or even a lack of it.

However, it is important to highlight that the function of evaluating the food intake and diet of the patients is part of the nursing care. It is also fundamental to systematically evaluate the food acceptance of the elderly, assisting them when necessary, taking advantage of the moment to practice the clinical and critical look - observing their preferences and difficulties, passing on to the nutrition team the particularities.

This study presented as a limitation its performance in only one hospital, in a single region of the country. It should be noted that there is a misunderstanding of the role of

nursing in the context of feeding of hospitalized elderly, evidenced by the responses through the application of the instrument. It is fundamental to rescue the role of nursing care in food, especially for the elderly population.

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