DOI 10.18471/rbe.v31i4.20270
Original Article

NUTRITIONAL EVALUATION OF ELDERLY RESIDENTS IN LONG PERMANENCE INSTITUTIONS

AVALIAÇÃO NUTRICIONAL DE IDOSOS RESIDENTES EM INSTITUIÇÕES DE LONGA PERMANÊNCIA

EVALUACIÓN NUTRICIONAL DE ADULTOS MAYORES RESIDENTES EN INSTITUCIONES DE LARGA PERMANENCIA

Ana Priscila Marques Lima[1]
Karen Virginia Lopes Gomes[2]
Francisco Gilberto Fernandes Pereira[3]
Livia Moreira Barros[4]
Máguida Gomes da Silva[5]
Natasha Marques Frota[6]

How to cite this article: Lima APM, Gomes KVL, Pereira FGF, Barros LM, Silva MG, Frota NM. Nutritional evaluation of elderly residents in long permanence institutions. Rev baiana enferm. 2017;31(4):e20270.

Objective: Evaluate the nutritional state of elderly residents in Long Permanence Institutions. Method: descriptive and cross-sectional study with quantitative approach performed from March to April 2016, with a sample of 78 institutionalized elders. Data gathering occurred by applying the tool of a Mini Nutritional Evaluation during previously scheduled visits. Results: females prevailed, 44 (56%), and it has been identified that there are nutritional risks, with global evaluation average of 17.7 (SD ± 5.2). There was significant statistical association between malnutrition risk and the variables: sex, age and institutionalization time, with $p < 0.05$. Conclusion: institutionalization is consistent with a factor that is strongly associated with changes in the nutritional state of the elderly, which requires the adoption of adaptive measures by long permanence institutions for this population regarding adequate nutritional support, which is important to maintain health and quality of life.

Descriptors: Nutritional evaluation. Elderly nutrition. Institutionalization.

Objetivo: avaliar o estado nutricional de idosos residentes em Instituições de Longa Permanência. Método: estudo descritivo e transversal com abordagem quantitativa realizado de março a abril de 2016, com amostra de 78 idosos institucionalizados. A coleta de dados ocorreu com a aplicação do instrumento Mini Avaliação Nutricional durante visitas previamente agendadas. Resultados: predominou o sexo feminino, 44 (56%), e identificou-se que há risco de desnutrição, com média de avaliação global de 17,7 (DP ± 5,2). Houve associação estatisticamente significativa entre o risco de desnutrição e as variáveis: sexo, idade e tempo de institucionalização, com p < 0,05. Conclusão: a institucionalização consiste em um fator fortemente associado a alterações no estado nutricional do idoso, o que torna necessária a adoção de medidas adaptativas pelas

[1] Nurse. University Center. Estácio do Ceará. Fortaleza, Ceará, Brazil.
[2] Nurse. University Center Estácio do Ceará. Fortaleza, Ceará, Brazil.
[3] Nursing Master. Assistant Professor of Universidade Federal do Piauí. Picos, Piauí, Brazil. gilberto.fp@hotmail.com
[4] Nursing doctorate student. Assistant Professor I of Universidade Estadual Vale do Acaraú. Sobral, Ceará, Brazil.
[5] Nursing doctorate student. Assistant Professor of Centro Universitário Estácio do Ceará. Fortaleza, Ceará, Brazil.
[6] Nursing Doctor. Adjunct Professor of Centro Universitário Estácio do Ceará. Fortaleza, Ceará, Brazil.

instituições de longa permanência para essa população no tocante ao suporte nutricional adequado que é importante para a manutenção do estado de saúde e da qualidade de vida.

Descritores: Avaliação nutricional. Nutrição do idoso. Institucionalização.

Objetivo: evaluar el estado nutricional de adultos mayores residentes en Instituciones de Larga Permanencia. Método: estudio descriptivo y transversal con abordaje cuantitativo realizado de marzo a abril de 2016, con muestra de 78 adultos mayores institucionalizados. La recolección de datos ocurrió con la aplicación del instrumento Mini Evaluación Nutricional durante visitas previamente agendadas. Resultados: predominó el sexo femenino, 44 (56%), y se identificó que hay riesgo de desnutrición, con media de evaluación global de 17,7 (DP ± 5,2). Hubo asociación estadísticamente significativa entre el risco de desnutrición y las variables: sexo, edad y tiempo de institucionalización, con p < 0,05. Conclusión: la institucionalización es un factor fuertemente asociado a alteraciones en el estado nutricional del adulto mayor, lo que hace necesaria la adopción de medidas adaptativas por parte de las instituciones de larga permanencia para esta población con relación al soporte nutricional adecuado que es importante para el mantenimiento del estado de salud y de la calidad de vida.

Descriptores: Evaluación Nutricional. Nutrición del Adulto Mayor. Institucionalización.

Introduction

Aging is a physiological process that is affected by the interference of biological and social factors. It is characterized by the gradual degeneration of functions and structures of the organism, which leads to a decrease in cognitive and motor capacities[1]. Due to limitations faced at that period of life, special care for the elderly is necessary[2].

However, it is currently observable that the majority of families do not possess financial or structural conditions to care for the elderly at their homes, which is also related to lack of time, difficulties in obtaining a caretaker and several other factors, leading to the institutionalization of the individual. For the elderly, it is difficult to accept a home change as it causes a rupture of the continuous living with family members, the loss of individual freedom and the self-confidence, as frequently, individuals are taken to the institution against their will as their choices are ignored. The majority of family members do not even return for visitation, which is detrimental to their routines and institutional activities adaptation, causing a feeling of abandonment[2,3].

Although Elderly Long Permanence Institutions (ELPIs) meet all the elderly needs, such as: housing, hygiene, food and medical follow up, there is a type of isolation of their family and social activities, living many times in situations of readaptation to daily life activities and biological habits such as sleeping and eating, which may affect their quality of life. In the domains of health, nutrition is a great factor related to healthy aging, and with quality of life, when performed adequately during a great part of life. However, when performed deficiently, it may lead to an increased health risk to the elderly[4].

Regarding elderly nutritional evaluation, it is known that the health condition of an individual is influenced by the consumption and use of nutrients, which may be identified by the correlation of information obtained through physical, biochemical, clinical and dieting studies[5]. Therefore, it is of utmost importance to plan and develop related actions to ensure a healthy diet, which promote safety and well-being to this population.

Each ELPI has the role of providing integral assistance to the elderly, however, through empirical observations performed in visits to ELPIs, it is noted that factors such as: social isolation, ministered drugs, the ingestion of inadequate liquids, the fractioning of meals, the ways of feeding oneself, among others, may influence the quality of the nutritional state of the elderly.

Thus, inadequate feeding patterns are a risk factor to the aggravation of chronic diseases, so that it is important to encourage a balanced diet among the institutionalized elderly with the goal of promoting healthy aging. The analysis of the

feeding pattern may contribute to the creation of effective public health policies for this population[6]. It becomes necessary to continuously evaluate this aspect with the goal of identifying at the beginning the risk of unbalanced nutrition and possible complications in the health conditions which may occur due to the fragility of the elderly, thus, enabling the well-being of this population, besides guaranteeing the implementation of a health care which may contribute to enhance assistance quality.

It is believed, thus, that investigating the nutritional state of the institutionalized elderly will provide subsidies for decision making concerning the multiprofessional assistance which is provided to this clientele, as well as fostering scientific discussion around this subject, which is still incipient in the field of health, as studies about the evaluation of diet quality among the elderly are scarce, mainly in Brazil[6].

Based on these concerns, it is questioned: What is the nutritional state of the elderly in ELPIs? Thus, this study has the goal of evaluating the nutritional state of elderly residents in long permanence institutions.

Method

It is a descriptive and cross-sectional study with a quantitative approach, performed in the period of March to April 2016 in two ELPIs in the municipality of Fortaleza, which were chosen by the criteria of convenience and acceptance of the participants in the research. Those ELPIs have the following profile:

1. Institution A: it is a philanthropic institution managed by 16 vincentine sisters who, together with a multiprofessional team, provide necessary care to elderly women, 30 rooms are available, but only 28 are actively used. Their goal is to house elderly women who are able to perform their Daily Life Activities. The institution is financially supported by donations and with 70% of retirement benefit;

2. Institution B: it is a ELPI that houses individuals of both sexes which were being poorly treated by family members and/or homeless, which were sent to the institution by the judicial system and are financially supported by the government of the state of Ceará. It has a multidisciplinary team, which includes specialized, multidisciplinary caretakers.

The population of this study was comprised of 146 elders, 28 from Institution A and 118 from Institution B. For sample definition, the following inclusion criteria were used: non-bedridden elders (as the utilized tool enabled nutritional evaluation only when body weight could be objectively measured), with preserved psychological conditions (justified by the need of evaluation through feeding recollection by the elderly himself or herself), and a minimum institutionalization time of 1 year. Elderly amputees were excluded, as an item in the questionnaire required the measurement of the circumference of the arm and calf. After inclusion and exclusion criteria, considering there were 45 bedridden, 18 with altered psychological conditions and 5 amputees, the sample of this study was comprised of 78 elders, 23 from Institution A and 55 from Institution B.

Data gathering occurred through the application of the tool Mini Nutritional Evaluation (MNE) whose goal is to identify and evaluate patients who present a risk or a case of malnutrition during previously scheduled visits in which the researchers approached participants in places that provided the privacy required to apply the research's protocol. That tool utilizes a method of subjective nutritional evaluation, considered as one of high sensibility and specificity in the identification of nutritional risk and malnutrition among the elderly. It is a questionnaire, divided in two parts, triage and global evaluation, comprised of 18 items, with information about anthropometric measurements (height, weight, weight gain and loss), general care, such as life style, mobility and the use of medication, diet (number of meals, food and liquid ingestion, acceptance of the offered diet and feeding habits), autonomy to eat and general vision[7].

In the triage part, the required score is 11 points or less to advance to the second part

which is global evaluation, whose maximum score is 16 points. At last, the nutritional state is defined by the sum of the scores of those two parts, and it is defined as at nutritional risk when the value is between 17 and 23.5 and malnourished if less than 17 points. The identification of the nutritional state of the patient was performed by adding the points of the questionnaire, by considering two outcomes: nutritional risk and malnutrition[7].

The anthropometric parameters were determined by using a digital scale of the brand *Your Way Relaxmedice brand* and a measuring tape, calibrated as per the parameters of Brazil's National Institute of Measurements, Normalization and Industrial Quality (Inmetro).

The data were organized in tabular form with the presentation of the absolute and relative frequency of the variables related to the nutritional evaluation of the institutionalized elder, as well as the performance of *Pearson* Correlation Tests and *Spearman* Correlation Tests.

The study complied with the formal demands contained in regulating national and international standards of research involving human beings, approved per Statement nº 953.312 (CAAE 37331114.0.0000.5054), so that data gathering was initiated only after the signing of the Free and Informed Consent Term.

Results

To detail the sample group of 78 elders, data is presented initially in a descriptive manner the composition of each of the ELPIs: Institution A: there are exclusively 23 women (100%) in the age bracket of 71 to 89 (78%) and with an institutionalization period (69%) of over five years. Institution B: prevalence of male elders corresponding to 34 (69%) in which 91% (50) were in the age bracket of 63 to 79 years and 71% (39) had been in the institution for over five years.

Table 1 indicates the daily feeding pattern of the studied population.

Table 1 – Daily consumption feeding pattern of institutionalized elders in ELPI. Fortaleza, CE, Brazil, 2016 (n = 78)

Variable	N (%)
Standard quantity of daily meals	
2 meals	2 (5%)
3 or more meals	40 (95%)
Consumption pattern of a single-source protein	
One or none weekly portion of single source protein (dairy or animal)	8 (19%)
Two weekly portions of single source protein (dairy or animal)	20 (48%)
Three or more weekly portions of single source protein (dairy or animal)	14 (33%)
Daily consumption pattern of fruits and vegetables	
Yes	26 (62%)
No	16 (38%)
Consumption pattern of liquids	
Less than 3 glasses	6 (14%)
3 to 5 glasses	31 (74%)
More than 5 glasses	5 (12%)

Source: Developed by Authors.

Regarding the number meals per day, it was observed that 95% (40) had three or more meals a day and, regarding the consumption pattern of single source protein, 48% (20) consumed two weekly portions of single source protein (dairy and animal). It has stood out that 26 (62%) elders had vegetables two or three times a day. Regarding liquid consumption, it has been verified that 74% (31) of the elders drank three to five glasses of water per day (Table 1).

The average weight was 59 kg (± 8,9) with a minimum of 34 kg and a maximum of 85 kg. When evaluating the triage score, there was a minimum of 4 points and a maximum of 14 points, with an average of 11 points, which indicates the possibility of malnutrition among the elderly. On the global evaluation, there was an average of 8,75 (± 1,8) points, a minimum of 5

points and a maximum of 12.5 points and the total score with an average of 17,7 (± 5,2). It has been observed that 36 (46.1%) of the elderly did not need to continue the evaluation, as they had obtained a score greater than or equal to 12. In the global evaluation, 53.9% (42) of the elderly had a triage score less than or equal to 11.

Despite structural and administrative differences between the two ELPIs, it has been opted to add the groups and perform statistical testing to reach the initial goal of the research, without comparing the institutions among themselves. Thus, regarding the sexes, females predominated with 44 (56%) of the participating elders, the age bracket of the elderly was between 60 and 95 years, in which the age bracket of 66 to 70 years with 23 (29%) stood out.

Regarding the permanence time at an ELPI, 45 (58%) resided there for over five years.

Table 2 – Relationship between the variables of sex, age and institutionalization time with the evaluation of the nutritional state. Fortaleza, CE, Brazil, 2016 (N = 78)

Variable	N (%)	*P*
Sex		
Male	34 (44%)	0,03*
Female	44 (56%)	
Age		
60–65 years	11 (14%)	
66–70 years	23 (29%)	
71–75 years	16 (21%)	0,001**
76–80 years	10 (13%)	
> 80 years	18 (23%)	
Institutionalization Time		
1 a 5 years	33 (42%)	0,002**
> 5 years	45 (58%)	

Source: Developed by the Authors.

* Pearson correlation test; ** Spearman correlation test.

Based on the initial proposition of the study, and after performing the calculation of the total score and attributing the results at malnutrition risk and malnourished, a statistical association between the nutritional state and the variables – sex, age and institutionalization – was performed. There was a significant statistical relation, with the variables: sex (p = 0,03), age (p = 0,001) and institutionalization time (p = 0,002) (Table 2).

Discussion

In the present study, females predominated in numbers, an observed fact in international studies with the elderly in seven european countries[8]. The same predominance occurred in a study performed in Argentina[9] with 80.8%. Those data differ in another national research performed in the northeast region of Brazil, in which males predominated (61.1%)[10]. In a study performed in the state of Rio Grande do Sul, it has been identified as a risk group for malnutrition the elderly with low education who referred to factors such as oral problems and low weight as interfering with the feeding pattern[6].

This divergence may be related to the fact that one of the ELPIs where the study was performed (Institution B) housed exclusively elderly women. The great prevalence of institutionalized women may be related to the panorama of feminization of aging associated with lower exposure to certain risk factors, such as low prevalence of tobacco and alcohol use, greater practice of self-care and greater use of health services[11]. Regarding feeding patterns, women are more concerned with weight control and behave as home keepers, as it is their responsibility to select healthy foods for family meals, which may justify the distinct diet quality between the sexes[6] as the results of this study demonstrates.

Regarding the age of the elderly, the predominance in the study of 23 (29%) was for the age bracket of 66 to 70 years. The results are similar to those of a research performed in the state of São Paulo[12] which found 144 (82.7%) of elders in the age bracket of 60 to 75 years.

The institutionalization time predominantly differed in the research[10] with 54 elders in the city of Fortaleza (CE), which was between one and five years. However, they converged in parts, with the reality found in São Paulo with 102 elders, which categorized the average institutionalization time per sex, where among females the

average was 6.8 to 7.4 years and among males the average of 2.7 to 3.3 years[12].

Institutionalization results in changes in the daily routine of the elderly, including feeding, which may lead to changes in the feeding habits, which aggravates the fragility of their health[13]. It is known that the institutionalization process is motivated many times by factors which consist of a pressure relief valve for families who choose to commit the elderly not only for health reasons, but also for financial reasons, for not being available to care for them or even for their lack of preparedness to deal with the typical needs of the elderly. Other factors that encourage institutionalization are: ways to avoid solitude and need of safety, health treatment or loss of autonomy[14].

The results of this study, performed with the aid of an MNE, showed that there is malnutrition risk, as more than half of the sample (53%) of elders obtained a triage score less than or equal to 11, with the possibility of malnutrition, and the need to continue with the MNE evaluation. However, the research[15] conducted with 28 elders in Rio Grande (RS) found that more than half of the elderly were well nourished, only 10.7% were malnourished, contrasting with the results obtained in this study.

In addition, there are several methods to evaluate nutritional state, which may create some distortions in the results of studies that use different tools. The most common for the elderly are the body mass index (BMI) and the MNE, and the comparison between them in the same population leads to distinct results. An example is the result of a comparative research[16] which, through the MNE, identified that only 33% were malnourished, and the prevalence was 66.7% with eutrophy and, using the BMI, it has been identified that 37.9% were malnourished.

It is identifiable through the MNE that 95% of the elderly ate 3 or more meals per day, which corroborates with the findings of a study performed in the state of Maranhão[12] in which 64.4% had two to four meals per day. In the same study, it was possible to identify that the consumption of fruits, leafs and vegetables was predominat only once a week 39%, which differs from the findings of this study, where there was a predominace of 62% of the elderly who consumed portions of fruits and vegetables on a daily basis.

Regarding the ingestion of liquids, this study noted that 74% of the elderly drank three to five glasses of water per day, which corroborate with the findings in the southern region of Brazil, even in climates that are very distinct from one another, where 41.7% of the elderly ingested more than four glasses of water a day[17].

Evidences[18] about the nutritional evaluation in two environments, with institutionalized elders and non-institutionalized elders, identified a prevalence of greater malnutritional risk of about 80% in the institutionalized elderly group, which is a much greater frequency than the one found in this study, whereas in the non-institutionalized group the malnutrition risk was of 20%.

It is known that problems related to the nutritional state of the elderly exacerbate the onset of fragility and vulnerability, which poses difficulties in the recovery of chronic diseases and contribute to morbimortality[10]. With the data of this study, it is possible to infer that nutrition, along with other measures, are factors that increase life expectancy and prevent several diseases, that way a nutritional evaluation of the elderly is of extreme importance to prevent the degradation of their health.

It is considered that the nutritional state is an important indicator for the diagnostics of health and nutrition, enables better educational counseling, as well as the follow-up of therapeutic interventions[12]. The nurse, thus, has great responsibility, as this evaluation is done during a nursing consultation, with the goal of preventing diseases that result from a nutritional deficiency[10].

At ELPIs, the elderly may be exposed to several risks associated with the physical structure of the place and the availability of human resources, which may render the health of the elderly deficient, and may lead to clinical exacerbations in the health of this population, as a direct effect of an inadequate diet[19].

There is an eminent need of public and educational policies that may contribute to the optimization of the nutritional state of the elderly, which must prioritize risk groups that live in ELPIs and consider the main risk factors that may render more difficult the acceptance by these individuals of healthy feeding habits[6]. In order to achieve that, it is necessary to consider the reality of each locality and its sociocultural context and also the importance of having a multiprofessional team with emphasis on nursing.

It is among the roles of nurses to recognize risk factors that may compromise the health of the elderly, rendering them dependent of cares and bedridden due to fragility, malnutrition or infections. This action will foster the planning of nursing interventions to promote health[20]. Nurses take on the important role in the early identification of a possible malnutrition or obesity and the use of tools such as MNE may aid in the treatment and recovery, to promote the health of elders. The National Policy of Elderly Health encourages the use of validated tools that enable the evaluation of individuals and the early identification of disturbances that may harm their health[21].

As feeding is directly associated with the nutritional state, it is up to nurses to delineate nursing diagnostics according to Nanda Taxonomy at an early stage, with the goal of intervening quickly, enabling the adoption of effective measures to reverse the case of an elder with nutritional imbalance, as well as to promote the quality of life and to promote health.

The introduction of healthy feeding practices includes preventive actions, which if applied with simplicity and objectivity, help diminish the onset of chronic diseases that are typical among the elderly. It is known that – to perform thoses practices – the professional must know himself or herself, so that he or she may understand and comprehend the other, as educating is teaching and learning daily. In this sense, one must respect the knowledge of the other, using it to foster the transfer of ideas and enabling the construction of new knowledge bases for the betterment of the quality of life of the elderly.

It stands out that it is necessary to introduce continuing education among professionals that work in those institutions with the goal of enabling them with respect to the most recent directions and guidances, enabling the improvement of the level of care provided to institutionalized elders starting from theoretical enhancement[19].

Conclusion

Institutionalization consists of a factor that is strongly associated with changes in the nutritional state of the elderly, which renders necessary the adoption of adaptive measures by long permanence institutions for this population regarding adequate nutritional support, which is important for the maintenance of the state of health and the quality of life.

The observation of a majority of elders at malnutrition risk and malnutrition indicates the need of a systematic follow-up by professional nurses with an effective and easy-to-use tool to evaluate the nutritional state in geriatric institutions.

The present study has the limitation of having used only one tool to track the nutritional state. It is suggested that other studies should be performed with the use of other tools, which evaluate other parameters such as the bodily water percent and muscle mass percent.

Colaborações:

1. concepção, projeto, análise e interpretação dos dados: Ana Priscila Marques Lima, Karen Virginia Lopes Gomes.

2. redação do artigo e revisão crítica relevante do conteúdo intelectual: Francisco Gilberto Fernandes Pereira, Livia Moreira Barros, Máguida Gomes da Silva.

3. aprovação final da versão a ser publicada: Natasha Marques Frota.

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Received: December 9, 2016
Approved: October 17, 2017
Pubished: December 20, 2017