Rev Bras Fisiol Exerc 2019;18(4):217-21
https://doi.org/10.33233/rbfe.v18i4.3274

ARTIGO ORIGINAL

Nutritional assessment of institutionalized elderly in the city of Praia Grande/SP

Avaliação nutricional de idosos institucionalizados na cidade de Praia Grande/SP

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Received: October 22, 2019; accepted: December 12, 2019.
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Abstract

Introduction: The long stay institution for elderly people offer many advantages to these people, but we can as well observe some problems, mainly caused by the radical change in their routine, what can lead to alterations in their habits, especially in the eating habits. *Objective*: To assess the nutritional status of the institutionalized elderly population in the city of Praia Grande/SP, Brazil. *Methods*: The sample was composed of 391 subjects: 109 men and 282 women. The nutritional assessment was performed through the Mini Nutritional Assessment. The anthropometric assessment consisted of body mass measures height, body mass index, arm circumference and calf circumference. *Results*: The results revealed that 49.6% of the elderly present either risk of malnutrition or malnutrition. *Conclusion*: The data reflects the need to build new policies concerning the care-related issues in healthy aging, including qualified assistance in long stay institutions.
Key-words: ageing; public health; prevention; nutrition.

Resumo

Introdução: As instituições de longa permanência para idosos oferecem muitas vantagens para essas pessoas, mas também podemos observar alguns problemas, causados principalmente pela mudança radical em sua rotina, o que pode levar a alterações em seus hábitos, principalmente nos hábitos alimentares. *Objetivo*: Avaliar o estado nutricional da população idosa institucionalizada no município de Praia Grande/SP. Métodos: A amostra foi composta por 391 sujeitos: 109 homens e 282 mulheres. A avaliação nutricional foi realizada através da Mini Avaliação Nutricional. A avaliação antropométrica consistiu em medidas de massa corporal, estatura, índice de massa corporal, circunferência do braço e circunferência da panturrilha. *Resultados*: Os resultados revelaram que 49,6% dos idosos avaliados apresentam risco de desnutrição ou desnutrição. *Conclusão*: Os dados reunidos são preocupantes e refletem a necessidade de construir novas políticas relativas às questões relacionadas ao cuidado no envelhecimento saudável, incluindo assistência qualificada em instituições de longa permanência.
Palavras-chave: envelhecimento; saúde pública; prevenção; nutrição.

Introduction

In recent years, Brazilian elderly population has increased progressively, and the projections indicate that, in 2025, the number of elderly people will be 32 million, with life expectancy being 75 years of age [1]. According to data provided by a foundation linked to the Planning and Management Department of the State of São Paulo [2] the city of Praia Grande/SP presented, in 2017, an aging index of 68,5% (lower than the State average) and a mortality rate of elderly population of 14,65%.

This way, the provision of formal care aiming this public is growing, among which are the long stay institution for elderly (LSIE), collective residences with co-habitation rules and operations that vary according to their public [3].

Although the long stay institution for elderly people offer many advantages to these people, we can as well observe some problems, mainly caused by the radical change in their routine, what can lead to alterations in their habits, especially in the eating habits. The malnutrition and the risk of malnutrition in the institutionalized elderly population is prevailing [4]. The nutritional imbalance in the elderly is related to the increased mortality, the vulnerability to infections, and the development of some diseases as stroke, cancer, and hypertension. Thus, reducing the quality of life [5]. Appropriate nutritional interventions should be individualized, considering the instable state of health and the end-of-life stage of most residents in long stay institutions for elderly (LSIE) [6].

In such context, there is the need of a nutritional assessment as part of routine in long stay institutions for elderly, so that the malnutrition is precociously diagnosed and adequate measures to change this situation are adopted [7]. Thus, the aim of the present study was to assess the nutritional status of the institutionalized elderly population in the city of Praia Grande/SP.

Methods

Participants

A cross-sectional study was done involving all the residents of the sixteen long stay institutions for elderly in Praia Grande/SP. Fifteen institutions are under private administration and one is under public municipal administration.

The initial sample was composed of 407 institutionalized elderly. Sixteen out of 407 participants were excluded, either for being hospitalized or for having their questionnaires incomplete, resulting in a final sample of 391 subjects: 109 men and 282 women (Table I). All evaluations were conducted in the morning between September 2015 and March 2016. The present study has met all the recommendations of ethical conduct for research involving human beings, according to the Declaration of Helsinque standards, and the volunteers read and signed a free informed consent form. The project was approved by the institutional Research Ethics Committee (process No. 26/2009).

Table I - *General sample characteristics*

Variables	Values
Age (years)	79.86 ± 3.06
Body Mass (kg)	54.07 ± 5.10
Height (m)	1.54 ± 0.03
BMI (kg/m²)	22.85 ± 2.01
Arm circunference (cm)	24.92 ± 1.23
Calf circunference (cm)	30.32 ± 1.34

Data presented as average ± standard deviation; BMI = body mass index

Instruments and procedures

The nutritional assessment was done through the Mini Nutritional Assessment (MNA), which is a non-invasive and effective tool to detect malnutrition and risk of malnutrition [8]. The Mini Nutritional Assessment is composed of simple measures and questions that can be

answered in, approximately, 10 minutes. Besides the screening, the Mini Nutritional Assessment (MNA) is divided in four parts: anthropometric assessment, global assessment, dietary assessment and self-assessment [9]. The sum of the scores makes it possible to identify the nutritional status besides detecting risks [10].

The anthropometric assessment consists of body mass (BM) measures, height, body mass index (BMI), arm circumference and calf circumference. The BM was obtained by using a calibrated digital scale (Digital Scale BC554 IronMan/InnerScan Tanita®), weighing the elderly barefoot and wearing light clothes. The height was measured barefoot, using a portable stadiometer (Sanny®). The arm and the calf circumference were measured using a metallic tape measure (Cescorf®). The arm circumference measure was collected on the midpoint between the acromion and the olecranon. The calf circumference was measured on the point of the biggest leg perimeter [11].

The elderly people who were not able to stay in the upright position had their BM and height estimated by equations [12,13].The arm and calf circumferences, subscapularis fold of skin and the distance between the knee and the ankle were used to estimate the BM [12]. To estimate the height, the distance between the knee and the ankle and the age were used [13].

Statistical analysis

Data were analyzed descriptively. The results are presented as dispersion measures, measures of position, absolute frequency and relative frequency.

Results

Table II shows the nutritional status of the elderly assessed by MNA.

Table II - *Nutritional Status of the 391institutionalized elderly*

Variables	Absolute Values	Relative Values
Out of risk of malnutrition		
Total	197	50.4%
Men	52	26.3%
Women	145	73.4%
At risk of malnutrition		
Total	158	40.4%
Men	47	29.8%
Women	111	70.2%
Suffering from malnutrition		
Total	36	9.2%
Men	9	25%
Women	27	75%

Discussion

Taking into consideration the risk of malnutrition observed in institutionalized elderly, mainly caused by the radical change in their routine, the present study aims to check the malnutritional status of all elderly residents in long stay institutions in the city of Praia Grande/SP. Our results have revealed that half (49.6%) of the assessed elderly present either risk of malnutrition or malnutrition (Table II).

The nutritional assessment was done using the MNA, which is a validated method [8]. The use of MNA is recommended by the American Society of Parenteral and Enteral Nutrition and by the European Society of Parenteral and Enteral Nutrition [7,14] and this version is validated for the elderly Brazilian population [15]. Therefore, the reliability of the method reinforces the results found here.

The aging condition improves the development of many different pathologies, which become more serious in long stay institutions for elderly [16]. There are some factors that may be related to this condition, such as neurophysiological diseases (e.g. depression) [3], inappropriate nutritional interventions [17], physical inactivity [18], and, yet, the isolation environment itself, inherent to long stay institutions for elderly [3].

The malnutrition makes the elderly functional capacity decrease, what harms their quality of life [19], besides being the strongest risk factor to predict the short-term mortality [20]. Thus, obtaining an early diagnose is essential for the elderly health. The results of the present study do not seem to be exclusive of the region studied, once the studies in other areas of Brazil have shown high risk of malnutrition in elderly [21]. Study observed that 55,6% of the 344 institutionalized elderly in the city of Rio de Janeiro presented risk of malnutrition and 8,3% suffered from malnutrition [21].

The nutritional deficiency is pointed out as one of the main causes of frailty in the elderly, resulting from the progressive decline of multiple physiological systems [22] and, therefore, malnutrition may play an important role in the progression of cognitive loss, impairment of functional status and increased mortality [23].

Some limitations must be highlighted in this study. Although the MNA is widely used to assess nutrition status in the elderly [24], we do not use any more reliable or complementary assessment tools as by biochemical parameters. In addition, the body mass of some participants was estimated rather than directly measured by the digital scale as the others, which would have greater accuracy.

The nutritional assessment as part of the routine of elderly LSIE residents has great importance, considering the large number of elderly at risk of malnutrition and those already suffering from malnutrition, as found, in addition to the risks associated with these conditions. It is necessary to adopt measures to revert this situation. Besides that, the reformulation of public policies that guarantee a standardized assessment system for residents of LSIE in Brazil is urgently needed to provide better management and care for the elderly [25].

Conclusion

The assessment of the nutritional status of institutionalized elderly in the city of Praia Grande/SP has shown that 49.6% of the elderly presented risk of malnutrition or malnutrition. Considering the constant increase of the municipal population in the last 10 years, the interest of the region for the quality of life, data gathered is worrying and reflects the need to build new policies concerning the care-related issues in healthy aging, including qualified assistance in long stay institutions.

Conflicts of interest: the authors declare no conflict of interest.

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