

Sociodemographic profile, health conditions and eating habits of older adults followed in geriatric outpatient clinic**Perfil sociodemográfico, condições de saúde e hábitos alimentares de idosos acompanhados em ambulatório geriátrico****Perfil sociodemográfico, condiciones de salud y hábitos alimentarios de ancianos seguidos en dispensario geriátrico****Received: 02/10/2018****Approved: 10/01/2019****Published: 13/05/2019****Hayanny Pires Netto Guimarães¹****Marcia Clara Simões²****Guilherme Rocha Pardi³**

This research aims to evaluate the aged population attended in a Geriatric Clinic of a public teaching hospital, according to sociodemographic characteristics, health conditions and feeding behavior. This is a cross-sectional, quantitative, descriptive study, developed from April to September 2017, with 105 older adults. The average age was 75.6 years (± 8.8), predominance of female population, white, single/separated/divorced/widowed, retired, low education and income, living with spouse/family. Less than one third consumed alcoholic beverages. Physical exercise practice was low, and the percentage of older people with functional disabilities was relevant. There was prevalence of excess body weight and risk for cardiovascular and metabolic diseases. The main reasons for eating choices and habits were: preference/like; health claim and price/income and, insufficient daily frequency consumption of fruits, vegetables and dairy products.

Descriptors: Aged; Ambulatory care; Nutritional status; Feeding behavior.

Esta pesquisa tem como objetivo avaliar a população idosa acompanhada num Ambulatório de Geriatria de um hospital público de ensino, conforme aspectos sociodemográficos, condições de saúde e comportamento alimentar. Trata-se de um estudo transversal, quantitativo e descritivo. Desenvolvido entre abril e setembro de 2017, com 105 idosos. A média de idade foi de 75,6 anos ($\pm 8,8$), predominância de população feminina, branca, solteira/separada/divorciada/viúva, aposentada, de baixa escolaridade e renda, morando com cônjuge/familiares. Menos de 1/3 consumia bebidas alcoólicas. A prática de exercícios físicos foi baixa, e, relevante o percentual de idosos com incapacidades funcionais. Houve prevalência de excesso de peso corporal e riscos para doenças cardiovasculares e metabólicas. Os principais motivos para escolhas e hábitos alimentares foram: preferência/gostar; alegação de saúde e preço/renda e, a insuficiente frequência diária de consumo de frutas, hortaliças e laticínios.

Descritores: Idoso; Assistência ambulatorial; Estado nutricional; Comportamento alimentar.

Esta investigación tiene como objetivo evaluar la población de edad avanzada acompañada de una clínica geriátrica de un hospital público de enseñanza, como las características sociodemográficas, de salud y de la conducta alimentaria. Este es un estudio descriptivo cuantitativo de la sección transversal. Desarrollado entre abril y septiembre de 2017, con 105 personas de edad avanzada. La edad media fue de 75,6 años ($\pm 8,8$), predominio de la población femenina, blanca, separados / divorciados / viudos, jubilados, bajo nivel de educación individual / e ingresos, vive con su cónyuge / familia. Menos de un tercio consume bebidas alcohólicas. El ejercicio físico es bajo, y relevante el porcentaje de personas de edad con discapacidades funcionales. Hprevalencia entera de exceso de peso corporal y el riesgo de enfermedades cardiovasculares y metabólicas. El m principalotivos para las opciones y los hábitos alimentarios fueron: la preferencia / similares; declaración de propiedades saludables y precio / ingresos y, Insuficiente frecuencia diaria de consumo de frutas, verduras y productos lácteos.

Descritores: Anciano; Atención ambulatoria; Estado nutricional; Conducta alimentaria.

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INTRODUCTION

The life expectancy at birth is increasing worldwide, because of the falling in the mortality rates, biotechnological advances and ease of access to information and health services¹.

Elderly population is defined as one from 60 years old or over. This limit applies to the developing countries, such as Brazil, rising to 65 when it comes to developed countries².

Population aging has occurred significantly, being a worldwide phenomenon. In 1950, there were about 204 million older adults in the world; in 1998, this number reached 579 million. By 2050, projections indicate 1.9 billion older people, equivalent to the population aged 0-14 years³.

In Brazil, in 2000, it was estimated that the elderly population corresponded to 15 million (8.6% of the total population), compared to almost 11 million in 1991 (7.3% of the total population), and that in 20 years (2020), is approximately 32 million, corresponding to almost 13% of the future population. In 2050 it may reach 64 million people (29.7% of the total population), putting the country in sixth place among the ones with the largest contingent of elderly^{2-4,5}, having the Southeast the highest number of older adults (12.7%)⁴.

Negatively, this Brazilian population aging has been accompanied by progressive impairments in functional activities, and daily living (ADL), physiological and pathological, psychological changes and socioeconomic adversities that may impact even in the individuals' nutritional status, contributing to the increase of morbidity and mortality¹⁻⁶.

Aging in Brazil, at a fast pace and in a scenario of social, industrial, epidemiological, nutritional and also family transformations, creates new challenges for society, including increase in demand for health services¹.

Added to this reality are the nutritional transformations, where the global trend of evolution of protein-energy malnutrition declined. However, there is increase of excess body weight in all age groups⁷. Obesity is established as a nutritional disorder associated with high incidence of chronic non-

communicable diseases (CNCDs) or degenerative ones⁸.

In recent decades, the population is increasing the consumption of foods with high caloric density; high palatability, rich in sugar, fat and sodium; less satiating, and easy digestion and absorption. These features, as well as sedentary modern lifestyle, behavioral changes with meals in a short time and convenience in what one eats, promote increased food intake, contributing to energy imbalance and increased obesity incidence⁹.

As for the knowledge gaps in which the nutrition transition and aging relate to each other, a national study points to the importance of using food frequency questionnaire (FFQ) to identify relations between dietary patterns, health and occurrence of specific events in population health status¹⁰.

Nationally, a research points to inadequacies in the diet of the older adults in Brazil¹¹. Another study addressed the importance of population-based information on the overall quality of aged diet. The findings relate the most vulnerable subgroups of older people to the worst food standard and the poor quality of the diet, with other unhealthy behaviors¹². Still, research development on the diet condition of elderly population in non-hospital settings is necessary, in order to set priorities and adjust measures, according to the needs of the specific context.

Given the above, some questions arise: what is the socio-demographic profile, health conditions and eating behavior of the elderly seen in a geriatric outpatient clinic of a teaching hospital of Triângulo Mineiro? What are the main reasons why the aged obtain their pattern of eating habits? It is in this context that the present work has the aim to evaluate the elderly population seen in the Geriatric Outpatient Clinic of a public teaching hospital, as sociodemographic characteristics, health status and eating behavior.

METHOD

This is an observational, cross-sectional, quantitative and descriptive study, with epidemiological approach, carried out from

April to September 2017, with the aged seen in the Geriatric Outpatient Clinic of a public teaching hospital, a reference in high complexity for the Southern Triangle Macro-region of the State of Minas Gerais.

It was considered probabilistic sample calculation, based on the people who attended the service in the past six months, in a total of 144 older adults. The sampling calculation estimated population proportions, considering the lack of a priori proportions of interest, either from the literature or pilot ($\pi \neq 0.5$) with 95% confidence interval on the estimated proportion of the population and sampling error of 5% ($E=0.05$). Minimal final sample obtained was of 105 older people.

Elderly aged 60 years or over were included, of both genders, assisted in the Geriatric Outpatient Clinic of the public teaching hospital. The elderly were invited to participate in the study, prior to medical appointments, in an appropriate room. In order to characterize the population assisted at the outpatient clinic, in general, those who had auditory, visual or cognitive impairment (as previous analysis of medical records), were interviewed uttering the reading settings, voice tone and/or companion support to answer the questionnaire.

The losses were related to the patients who have not attended the medical appointments, and those who refused to participate in this research. There were no participants with cognitive impairment or dementia in the absence of their companions, or questionnaires excluded when data were being tabulated. In the end, the sample was obtained consisting of 105 elderly, 100% of the minimum sample initially defined.

Data were collected by semi-structured instrument, developed by the authors. The instrument was composed of the following dimensions: sociodemographic characteristics and health status, feeding behavior identification, inventories of reasons for the choice and standard of food habits, with more than one answer and script for assessment of nutritional status being possible.

As for sociodemographic characteristics, the variables integrated gender, age, skin color or race/ethnicity author reported,

marital status, educational level, occupation, monthly individual income, and how and with whom he lived at the time of the survey. Health conditions consisted of drinking, smoking, regular physical exercise, self-reported activities of daily living (ADLs) (as functions such as bathing, dressing, using the toilet, eating, tidying up, among others), nutritional status and continuous-use medications.

In order to characterize feeding behavior of the older adults, which meals they routinely had was asked, as well as the application of a structured questionnaire on the frequency of food consumption and the quality of the food that is eaten (FFQ) - adapted from the FFQ ELSA - BRAZIL study, in 2008¹⁰. These questions were based on the last three months of consumption, including reasons for the choice and standard of the eating habits of the elderly.

The next dimension of the instrument corresponded to anthropometric assessments, measured at the time of application. Used to assess the nutritional status of the elderly, the following anthropometric measurements were verified: body weight and height, waist (WC) and calf (CC) circumference and the Body Mass Index (BMI).

The BMI was calculated using the formula: $[\text{weight (kg)}/\text{height (m)}^2]$. The current weight was measured using portable digital balance (Camry EB 9014, with a capacity of 150 kg and 100 g range). The height recorded using a portable vertical estadiometer (Avanutri with anthropometric rule between 20-200 cm).

To determine the nutritional status of the elderly by BMI, the criteria recommended by Lipschitz¹³ (1994) were adopted. Body weight and height of bedridden elderly or unable to physically remain in upright position for the measurement of the measures were obtained by applying formulas validated by estimates, using arm circumference (AC) and knee height (KH), according to gender, color or race/ethnicity and age¹⁴.

Waist and calf circumference were checked with the aid of inelastic tape (Nestlé®, limited to 150 cm). The waist

circumference (WC), a predictor of visceral adiposity and risk for cardiovascular (CVD) and metabolic diseases, was classified according to cutoff points proposed by the World Health Organization¹⁵. It was classified with increased risk for CVD and metabolic diseases women and men with WC higher or equal to 80 cm and 94 cm, respectively, and with much increased risk for CVD and metabolic diseases women and men with WC higher or equal to 88 cm and 102 cm, respectively. Finally, calf circumference (CC) aimed to investigate risk of protein-energy malnutrition or sarcopenia and muscle development in older adults, compared to ideal reference values set for the aged, over 31 cm¹⁶.

Data were organized into database, Excel®, by double entry and subsequent correction after identifying inconsistencies. Consequently, data analysis was performed,

with categorical variables analyzed by frequencies (absolute and relative). And, numerical variables being analyzed by measures of central tendency and dispersion (mean, median and standard deviation). Data were analyzed using the Statistical Package for Social Sciences software (SPSS) software, version 21.0. The study was approved by the Ethics in Research Committee of the Federal University of Triângulo Mineiro (CEP-UFTM), under Opinion: 1,958,434.

RESULTS

On the sociodemographic characteristics of the older adults, the average age was 75.6 years (SD=8.8), median 75 years, with a minimum of 61 and maximum of 99 years. There was predominance of female (68.6%). Regarding the individual monthly income, most of them earned up to a minimum wage (57.1%) (Table 1).

Table 1. Sociodemographic characteristics of the older adults seen in a geriatric outpatient clinic of a public teaching hospital. Uberaba, MG, 2017.

Variables	N	%
Age (years)		
60 - 79	72	68.6
≥ 80	33	31.4
Gender		
Female	72	68.6
Male	33	31.4
skin color or race / ethnicity author reported		
White	59	56.2
Black / Brown	44	41.9
Yellow / Indigenous	2	1.9
Marital status		
Single, Separated / Divorced, Widow/Widower	66	62.9
Married, Stable union / Partner	39	37.1
Education		
Illiterate	20	19
Elementary School	73	65.7
High school, complete or over	12	15.3
Occupation		
Retired or pensioner only	86	81.9
Retired or pensioner and still working	10	9.5
Not retired nor a pensioner and still working	5	4.8
Not retired nor pensioner, not working	4	3.8
Income		
Have no income	1	1
Even a minimum wage *	60	57.1
1 < to ≤ 3 minimum wages	38	36.2
More than 3 minimum wages	6	5.7
How and with whom he lived		
At home or apartment with spouse or family	93	88.6
At home or apartment alone or with caregiver	12	11.5

* The minimum wage at the time of data collection was R\$937,00.

On the health status of the elderly evaluated (Table 2), as the nutritional status, according to the Body Mass Index (BMI), most had excess body weight (47.6%), with an average of 27.24 kg/m² (SD=5.5 kg/m²) and median of 26.81 kg/m². The sample had an average weight of 65.890 kg (SD=14.10) and median of 65.400 kg. For body height, a mean of 1.55 m (SD=0.10) and median of 1.54 m.

For waist circumference, with a mean of 94.9 cm (SD=12.2) and a median of 95.5 cm, there was a prevalence risk for cardiovascular (CVD) and metabolic diseases (82.8%). In

relation to the circumference of the calf, it was obtained an average value of 34.9 cm (SD=4.67) and a median of 34.0 cm (Table 2).

Regarding the feeding behavior (Table 3), it can be observed that most aged performed meals daily: breakfast (92.4%), lunch (99%), afternoon snack I (87.6%) and dinner (76.2%). About the reasons to the food choices and standard of eating habits, it was highlighted: preference/taste (87.6%), health claim (78.1%), price/income (70.5%), appearance (67.6%) and physical accessibility (50.5%).

Table 2. Characteristics of the health status of the aged seen in a geriatric outpatient clinic of a public teaching hospital. Uberaba, MG, 2017.

Variables	N	%
Alcoholic beverages		
Yes	29	27.6
No	52	49.5
Ex-alcoholic	24	22.9
Smoking		
Yes	8	7.6
No	53	50.5
Ex- smoker	44	41.9
Regular physical exercise		
Yes	25	23.8
No	80	76.2
Daily Life Activity		
Independence	71	67.6
Partial dependence	25	23.8
Total dependence	9	8.6
Nutritional status according to BMI		
Low weight	16	15.2
Eutrophic	39	37.1
Excess body weight	50	47.6
Abdominal circumference		
Suitable / low risk for CVD and metabolic diseases	18	17.1
Increased risk for CVD and metabolic diseases	25	23.8
Risk greatly increased for CVD and metabolic diseases	62	59.0
Calf Circumference		
Suitable / low risk	89	85.6
Protein-energy malnutrition risk or sarcopenia	15	14.4
Polypharmacy		
Yes	55	52.4
No	50	47.6

Table 3. Feeding behavior of older adults seen in a geriatric outpatient clinic of a teaching hospital in Triângulo Mineiro, Uberaba, MG, 2017.

Variables	N	%
Daily meals*		
Breakfast	97	92.4
Morning snack	37	35.2
Lunch	104	99.0
Afternoon snack I	92	87.6
Afternoon snack II	11	10.5
Dinner	80	76.2
Evening snack	43	41.0
Reasons for choices and eating habits *		
Preference / taste	92	87.6
Appearance	71	67.6
Price / income	74	70.5
Health claim	82	78.1
Physical accessibility	53	50.5
Decrease of appetite / lack of appetite	27	25.7
Sensory changes	19	18.1
Practicality	26	24.8
Convenience	30	28.6
Not knowing the correct guidelines	46	43.8

* Not mutually exclusive issues, with the possibility of more than one answer

It was observed, a daily intake of food groups on the frequency of dietary intake: fruits or natural fruit juice (57.1%); vegetables (79.1%); dairy products (62.9%); meat and eggs (80%); cereals, such as rice (92.4%); and legumes such as beans (85.8%). A weekly or less frequently consumption for the food groups was observed: roots and tubers; oleaginous; fried food; sausages, canned food, preserve and frozen food; Fast-food; soft drinks or processed juices; and sweets, fruit preserves and sugary products (Table 4).

DISCUSSION

The proposal was to evaluate the elderly population in ambulatory care, according to socio-demographic characteristics, health status and feeding behaviors. On the socio-demographic profile, there was a prevalence of elderly aged 60-79 years, female, confirming the description that women's life expectancy (77 years) is higher than for men (69 years) in Brazil⁴, being white, single/separated/divorced or widowed, and widowhood expressive in the reports of the interviews, besides an important percentage of illiterate older adults with low education. There was also increased expression of retirees or pensioners, with individual monthly income of up to one minimum wage and living with spouse or family at the time of the survey.

Some of these socioeconomic data reaffirm those brought by the Brazilian National Household Survey - PNAD¹⁷, in which older people were mostly women with low income and education. This was possible to be assigned to the characteristics of the society and educational policies in the 1930s -1950, when the teaching was still restricted to specific social groups, and that men had more access to school than women¹⁸. Similar to that found in another study on living conditions, with 19,882 elderly aged 60-104 years, from different regions of Brazil, where women were the majority, with low education for

both genders and family monthly income of R\$1245.01 to R\$2490.00, for older adults living in 2 to 4 people, including the southeast region¹.

Most of the patients in this study lived with spouse or family, then being vulnerable housing (live alone) of low occurrence. Coincident to that found in other studies, in which 78.3% lived with 2-4 people¹⁹ and 68.7% of the elderly lived with a family member; most in multigenerational households²⁰. It indicates that, with aging, there is a preference or greater needs that the elderly live accompanied by spouses, family and/or friends for more health care and emotional bonds protectors of mental health.

Regarding the health status of the population evaluated, 27.6% of the elderly consumed alcohol, which goes against other studies¹⁹⁻²¹. Even though they are licit drugs, easy to access and with consumption encouraged in social relations, including people over 60, it is harmful to health and should be avoided, especially against the frequent polypharmacy.

In the research group, 52.4% used 5 or more different medications on a daily basis, due to multiple diagnoses of diseases and health problems, and the alcoholic beverage could cause adverse effects or even reduce the action potential²¹.

The excessive consumption of alcoholic beverage is a risk factor for excess weight body and related diseases, since, ethanol is the only psychoactive drug that provides energy to the body metabolism, 7.1 calories per gram (kcal/g), an intermediate energy source with respect to proteins and carbohydrates (4.0 kcal/g) and lipids (9.0 kcal/g)²².

Smoking in this study was low, however, substantial the report of ex-smokers. These data are against the 11.7% of smokers in a study with the elderly population of the Southeast region¹⁹ and the 10.2% in smokers aged 18 or more in Brasil²³.

Table 4. Frequency of food intake in elderly cared for in a geriatric outpatient clinic of a teaching hospital in Triângulo Mineiro, Uberaba, MG, 2017.

Food groups	Feeding Consumption Frequency							
	More than 3x / day	2-3x / day	1x / day	5-6x / week	2-4x / week	1x / week	1-3x / month	Never / rarely
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
A - Fruit or natural fruit juice	2(1,9)	38(36,2)	20(19,0)	12(11,4)	27(25,7)	1(1,0)	3(2,9)	2(1,9)
B - Vegetable	1(1,0)	48(45,7)	34(32,4)	9(8,6)	10(9,5)	1(1,0)	1(1,0)	1(1,0)
C - Roots and tubers	0(0)	4(3,8)	6(5,7)	10(9,5)	57(54,3)	21(20,0)	5(4,8)	2(1,9)
D - Oleaginous	0(0)	0(0)	2(1,9)	0(0)	4(3,8)	2(1,9)	7(6,7)	90(85,7)
E - Dairy	2(1,9)	38(36,2)	26(24,8)	6(5,7)	19(18,1)	4(3,8)	4(3,8)	6(5,7)
F - Meat and eggs	0(0)	55(52,4)	29(27,6)	9(8,6)	10(9,5)	2(1,9)	0(0)	0(0)
G - Cereals (rice)	1(1,0)	62(59,0)	34(32,4)	6(5,7)	0(0)	0(0)	0(0)	2(1,9)
H - Legumes (beans)	1(1,0)	55(52,4)	34(32,4)	7(6,7)	7(6,7)	0(0)	0(0)	1(1,0)
I - Fried food	0(0)	1(1,0)	3(2,9)	4(3,8)	26(24,8)	23(21,9)	31(29,5)	17(16,2)
Sausages, canned, preserved and frozen food	0(0)	0(0)	4(3,8)	3(2,9)	33(31,4)	15(14,3)	16(15,2)	34(32,4)
K - Fast-food	0(0)	0(0)	0(0)	0(0)	2(1,9)	5(4,8)	29(27,6)	69(65,7)
L - Soft drinks or industrialized juices	1(1,0)	6(5,7)	12(11,4)	8(7,6)	20(19,0)	12(11,4)	22(21,0)	24(22,9)
M - Sweets, fruit preserves and sugary products	0(0)	3(2,9)	13(12,4)	3(2,9)	19(18,1)	17(16,2)	29(27,6)	21(20,0)

The practice of regular exercise was low, although there is a predominance of the independence of functional capacity related to DLAs. Similar to that identified by other studies¹⁹⁻²¹, in which a minority of elderly practiced some physical activity. Given the benefits that regular exercise can provide to this public, one highlights the importance of higher education institutions and health departments to promote actions and interventions in the community in this regard.

The considerable percentage of aged with some dependence on functional capacity for the DLA is worrying, and was also reported by 20.6% of the elderly in another research¹⁹. The quality of life in old age is closely related to independence and autonomy to carry out the DLAs²⁴. Population aging requires alternatives that enable the active permanence of the aged in society.

Regarding the nutritional status, according to BMI, with an average of 27.24 kg/m² (± 5.5 kg/m²), the majority had excess body weight, reinforcing the decline in malnutrition in recent decades, and in return, increase of excess body weight and obesity in all age groups, risk factors for CNCDS, which are the leading causes of death among adults and the elderly, nowadays⁷. In another study²⁵, the elderly population were overweight (15.1%) and obese (26.6%), with average value of 27.52 kg/m² (± 4.84 kg/m²) and another research, in which 58.8%²¹ and 46.5%²⁶ of the elderly had excess body weight.

According to the Brazilian Association for the Study of Obesity and Metabolic Syndrome - ABESO, the increase in obesity occurs in more poor and less educated population, probably due to low cost of high energy density foods, as well as factors such as decreased number of meals made at home; increased of "fast food" as in fast-food chains and the larger size of the "normal" portions, leading to increased caloric content of the meals⁹.

To cope with this scenario, it is necessary the expansion of intersectoral actions that target the determinants of health and nutrition. Also, the promotion of adequate and healthy food in the Unified Health System (SUS).

There was a high prevalence of risk for CVDs and metabolic disorders, according to the evaluation of abdominal circumference, averaging 94,9cm (± 12.2 cm). The excess of visceral fat and weight in general is associated with a high incidence of CNCDS and mortality²⁷, a situation also found in other studies^{25,26}.

The risk of protein-energy malnutrition or sarcopenia in the population studied was low in the evaluation of calf circumference, with a mean of 34.9 cm (± 4.67 cm) and a median of 34.0 cm for both genders. Similar data were found in another study, in which of the 44 elderly women evaluated, seven (15.9%) showed CC less than 31 cm²⁸.

With regard to feeding behavior, it was observed that most older adults had four meals a day: breakfast, lunch, afternoon snack I and dinner, much behind the recommendations of the "Ten steps to healthy eating for older people" of the Ministry of Health², namely: 3 main meals (breakfast, lunch and dinner) and 2 healthy snacks, a result similar to those found in another study¹⁹.

Among the major reasons declared by the elderly for their food choices and eating habits standard, are preference or like the food; health claim; food prices or the monthly income; the appearance; and physical accessibility to acquire them. The same reasons also found in a study of buying and consume patterns of elderly in the south of Minas Gerais²⁹, in which, economic factors such as food price, nutritional quality and health claim, the taste, appearance and cultural issues appeared as important attributes for food choices. Feeding is more than the intake of nutrients, which should enhance the cultural, social and economic feeding practices⁷.

The feeding behavior of the elderly was also evaluated by a qualitative food frequency questionnaire, since a national study shows the importance of using food frequency questionnaires (FFQ) to identify relations between dietary patterns, health and occurrence of specific events in the health status of the population, such as cardiovascular disease and diabetes¹⁰.

The food culture of the elderly in this research is characterized as a traditional feeding, prevailing the daily consumption of fresh food and less frequently processed and ultraprocessed food rich in sugars, fats, sodium and food additives, risky for CNCD such as systemic arterial hypertension, diabetes mellitus type 2 and CVDs. In accordance with the recommendations for proper and healthy food present in the "New Food Guide for the Brazilian Population"⁷, that suggests that in natura foods are preferred, giving priority to those of vegetable origin. Processed foods should be used in small quantities, avoiding the ultraprocessed ones.

Despite the daily consumption of fruit or natural fruit juice, vegetables and dairy products, it was found low frequency of daily intake of these food groups, for consumption with frequency of 2 or more times a day occurred only by 38.1%, 46.7% and 38.1% of the elderly in general, respectively. It is much below the values recommended for all the elderly population of 3 or more daily servings for the three groups².

Study aiming to evaluate the feeding of elderly of a São Paulo municipality also found average number of daily servings of fruits, vegetables and milk and dairy products, below the minimum recommended, indicating the need for nutrition education and encouraging the consumption of these group food for the elderly³⁰.

It was also found low intake of the group of meat or eggs, on a weekly or less frequent ingestion by 20% of the population. The recommendation is one daily serving of red meat, poultry, fish or eggs², food source group of amino acids essential for, among other functions, maintenance of skeletal muscle mass, which declines with the physiological aging process.

Oleaginous consumption proved rare among older people, since 85.7% of the sample never or almost never consumed it, possibly because they are foods that are not part of the food culture of the elderly population of southeastern Brazil.

Some of these data on qualitative food intake by FFQ, reaffirm the ones brought by another research¹⁹, which, when analyzing

food frequency, found low intake of food groups of fruits/vegetables, milk/dairy and meat.

There was daily consumption of food groups of cereals, such as rice, and legumes, such as beans, by the majority of the aged, in accordance with the daily recommendations of rice and beans consumption every day or at least 5 times a week, for being a Brazilian dish with complete combination of essential amino acids².

No daily consumption of fast foods has been registered, with reports of consumption of never or almost never by 65.7% of the aged, in general. Food consumption of fried food, sausages, canned, preserves, frozen and sweets, fruit preserves and other sugary products in a frequency of 1 time per week or less, showing that these food groups are not part of the eating routine of this population.

However, there was a high percentage of older adults with daily and weekly consumption of soft drinks or industrialized juices, rich in sugars, sodium and food additives, and belonging to the group of ultraprocessed foods that should be avoided or consumed at most twice a week².

CONCLUSION

Regarding the nutritional status of the aged evaluated, there was a high prevalence of overweight and risk for CVDs and metabolic disorders, however, low risk of protein-energy malnutrition or sarcopenia.

As for the eating behavior, it was evidenced they had four daily meals. The main reasons to food choices were preference or liking of food consumed, health claim, price or income, appearance and physical accessibility to food. This is because feeding is more than just the intake of nutrients; it also portrays and defines the cultural, social and economic dimensions.

With the FFQ it was possible to delineate and track the daily consumption of fruits or natural fruit juice, vegetables, dairy, meat or eggs, cereals and leguminous, however, on a daily basis insufficient for fruits, vegetables and dairy products. A weekly consumption or less than that, of roots and tubers, oleaginous, fried foods, sausages, canned, preserved and

frozen food, fast food, soft drinks and processed juices, sweets, fruit preserves and sugary products. Thus, improvements in feeding are needed, with particular attention to the need of increasing the daily frequency consumption of fruits, vegetables, milk and dairy products, emphasizing the importance of the policy of encouraging better nutrition in the aged.

Some limitations of this study deserve mention: the bias of the memory of the survey participants related to the responses to the qualitative FFQ, nonetheless, its speed and ease of administration and low cost makes it a reference method for the assessment of food consumption; aspects related to the cross-sectional approach of the research, in which there is no possibility to establish the temporality of the factors associated, limiting the interpretation regarding the causal role of associations; the use of BMI to assess the nutritional status of the aged, in order not to predict the distribution of body fat and not differentiate lean mass from fat mass, but an index quite used to produce basic information of the physical variations of individuals, enabling the nutritional classification in degrees, besides being a noninvasive, inexpensive, easy and fast method, with good correlation with morbidity and mortality indicators and recommended by the World Health Organization due to its convenience and accessibility.

In view of the above and the actual population aging, which has repercussions in the social, health, and public policy fields, it is recommended the creation of alternatives for the older people to remain in society with autonomy and independence, availability of health services to meet new demands, security, social security and public policies that address adequately the needs of this population. Otherwise, the aging of the Brazilian population could fall to reflect a serious social problem.

In this context, recognition of sociodemographic, health and food conditions of the aged, presented herein, may add to other researches on the subject, helping to identify vulnerable groups with the need for better health care. In this same scenario, it can

also contribute to the development and implementation of public policies and programs in the surveyed area, as well as through intervention programs, contribute to the health, production and spread of scientific knowledge.

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CONTRIBUTIONS

Hayanny Pires Netto Guimarães participated in the conception, design, collection and tabulation, analysis and interpretation of data, writing and critical review. **Márcia Clara Simões** and **Guilherme Rocha Pardi** contributed to the conception and design of the study, analysis of results and critical review.

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