



Eating practices of family farmers in the municipality of Petrópolis-RJ, Brazil

Práticas alimentares de agricultores familiares no município de Petrópolis-RJ

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Abstract

Objective: To identify healthy and unhealthy eating practices and habits of family farmers in the Caxambu district, in the city of Petrópolis-RJ, Brazil. **Methodology:** This is a cross-sectional study with a sample of 35 family farmers. Information was obtained through interviews, using a structured and standardized questionnaire. Eating practices were evaluated from the items of the questionnaire used by SISVAN associated to the frequencies of consumption of the questionnaire used by VIGITEL. **Results and Discussion:** The consumption of healthy foods (fruits, vegetables and greens), with the exception of beans, was low, and the consumption of unhealthy foods was considerably high when compared to other studies. In addition, almost half of the interviewed farmers have the habit of eating meals while watching TV, using their cell phones and/or computers, which is considered a risky behavior for the development of obesity. **Conclusions:** The eating practices of the family farmers of Caxambu deserve attention, for despite the easy access to healthy foods, it was found a low intake of fruits, vegetables and greens, and a high consumption of unhealthy foods, such as sweetened beverages and processed meats. There is evidence of the need to carry out actions aimed at improving the eating profile, the health and the quality of life of family farmers.

Keywords: Food consumption. Eating behavior. Agriculture.

Resumo

Objetivo: Identificar práticas de consumo e comportamento alimentar saudáveis e não saudáveis de agricultores familiares do bairro Caxambu, no município de Petrópolis-RJ. **Metodologia:** Trata-se de estudo transversal realizado com amostra de 35 agricultores familiares. Informações foram obtidas por meio de entrevistas, utilizando um questionário estruturado e padronizado. As práticas alimentares foram avaliadas a partir dos itens do questionário utilizado pelo SISVAN associados às frequências de consumo do questionário utilizado pelo VIGITEL. **Resultados e Discussão:** O consumo de alimentos saudáveis (frutas, legumes e verduras), com exceção do feijão, foi baixo, e o consumo de alimentos não saudáveis, consideravelmente alto, quando comparados com outros estudos. Além disso, quase metade dos agricultores entrevistados possui o hábito de realizar as refeições assistindo TV, mexendo no celular e/ou computador, o que é considerado um comportamento de risco para o desenvolvimento da obesidade. **Conclusões:** Os agricultores familiares do Caxambu possuem práticas alimentares que merecem atenção, pois apesar do fácil acesso a alimentos saudáveis, foram encontrados baixa ingestão de frutas, legumes e verduras e elevado consumo de alimentos não saudáveis, como as bebidas adoçadas e embutidos. Evidencia-se a necessidade de realizar ações voltadas para a melhoria do perfil alimentar, da saúde e qualidade de vida dos agricultores familiares.

Palavras-chave: Consumo de alimentos. Comportamento alimentar. Agricultura.

Introduction

Brazil, in the last decades, has undergone great social changes that have transformed the health and food consumption pattern of the population. The called nutritional transition, characterized by a reduction in hunger and malnutrition and increase in overweight and obesity, points to a new context of problems related to food and nutrition.¹

The available information on the patterns of food consumption of Brazilians is the result of researches carried out with the population, called nutritional surveys, which contribute to the implementation of Food and Nutrition Surveillance (VAN) in Brazil. Among these researches, the Family Budget Survey (POF) stands out, which in 2008 and 2009 carried out an analysis of the individual consumption of 34,003 Brazilians and pointed to a decrease in the consumption of staple foods and an increase in the consumption of processed and ultra-processed foods.²⁻⁴

This change in the pattern of food consumption of Brazilians, with the substitution of staple foods for processed products, is associated with an imbalance in the supply of nutrients and the excessive intake of calories, which in turn are related to the increase of obesity and of chronic non-communicable diseases.⁵

The eating profile of the population is closely associated with cultural, nutritional, socioeconomic and demographic aspects, and varies in relation to them. The results of the POF 2008-2009, e.g., showed that in rural areas the mean daily consumption per capita was much higher for rice, beans, sweet potatoes, cassava, cassava flour, mango, tangerine, fresh fish, salted fish and salted meats. In the urban area, the most consumed products were ready-to-eat or processed products, such as bread rolls, biscuits, yogurts, milkshakes, sandwiches, fried and baked savory snacks, pizzas, soft drinks, juices and beer. However, the consumption of raw salads and other vegetables was lower in the rural area than in urban areas, both in the prevalence of consumption (%) and in the quantity of consumption (g/day).²⁶

Despite the increase in the number of researches on food consumption of Brazilians, including national eating surveys and studies with specific population groups, little is known about the dietary practices of family farmers. The literature indicates that, with the commercialization of agriculture, characterized by the production of food for sale and not for self-consumption, the processed ones have gained space in the diet of farmers, which was previously based on the food they cultivated.⁷⁻⁹

Self-consumption is related to ensuring all aspects of food and nutrition security – permanent access to food, nutritional quality of food and supply according to the quantity and needs of individuals. The decline in the consumption of food cultivated by the farmers themselves is therefore associated with a higher propensity of food insecurity.⁹

Being aware of the existence of differences in food consumption between urban and rural populations, the importance of assessing the food consumption of family farmers and the scarcity of scientific literature on the subject, the present study aimed to identify healthy and unhealthy eating practices and eating behavior of family farmers of the Caxambu district in the municipality of Petrópolis-RJ.

Methodology

This is a cross-sectional study with a quantitative approach, carried out from January to February, 2018, with family farmers from the Caxambu district, in the municipality of Petrópolis, Rio de Janeiro. The study population consisted of 35 family farmers, who were invited to participate in the study during meetings of the farmers' association of the district and through active search, by visiting their residences.

The data were collected through an interview, using a questionnaire composed of questions related to sociodemographic aspects: gender, age, level of education, family income, profession and dedication to agricultural activity and eating practices. The food consumption practices were evaluated through a weekly frequency of intake of healthy and unhealthy food markers, which compose the questionnaire used by the Food and Nutrition Surveillance System (SISVAN),³ associated with the frequencies used by the questionnaire of the Surveillance System for Risk and Protective Factors for Chronic Diseases by Telephone Survey (VIGITEL).¹⁰ The eating behavior was also evaluated using the SISVAN questionnaire as a basis, through two questions related to the habit of eating while watching TV, using the computer and/or cell phone and to eating meals.

The data collection was initiated only after the approval of the Research Ethics Committee of Arthur Sá Earp Neto Faculty (Opinion no. 2,379,849), as well as after the signing of the Informed Consent Form by each participant.

The data were entered and analyzed using the software Statistical Package for Social Sciences (SPSS), version 21. The results were presented as percentages, graphs and tables.

Results and discussion

The study population was predominantly male (91.4%), the mean age was 49.4 ± 11.9 years, 77.1% had incomplete elementary school, and almost 90% had monthly family income between one and five minimum wages (table 1). The sociodemographic profile of the farmers presented characteristics similar to those found in other studies also carried out with family farmers in Brazil.¹¹⁻¹³

Table 1. Sociodemographic profile of family farmers in the Caxambu district, Petrópolis-RJ, 2018.

	n	%
Gender		
Female	3	8.6
Male	32	91.4
Age		
< 40 years old	7	20.0
40 to 60 years old	23	65.7
> 60 years old	5	14.3
Level of education		
Incomplete elementary school	27	77.1
Complete elementary school	7	20.0
Complete high school	1	2.9
Monthly family income		
< 1 minimum wage	3	8.6
1 - 2 minimum wages	15	42.9
2 - 5 minimum wages	16	45.7
> 5 minimum wages	1	2.9

The frequency of farmers who regularly consume (on 5 or more days of the week) foods considered healthy was 85.7% for beans, 42.8% for fruits and 51.5% for vegetables. Among the farmers who consume fruits, 51.4% consume them once a day and the same percentage of farmers (51.4%) consume vegetables and greens at lunch and dinner. The frequency of regular consumption of foods considered unhealthy was 20% for processed meats; 80% for sweetened beverages; 32.4% for instant noodles and crackers and 20% for biscuits, sweets or treats (figure 1).

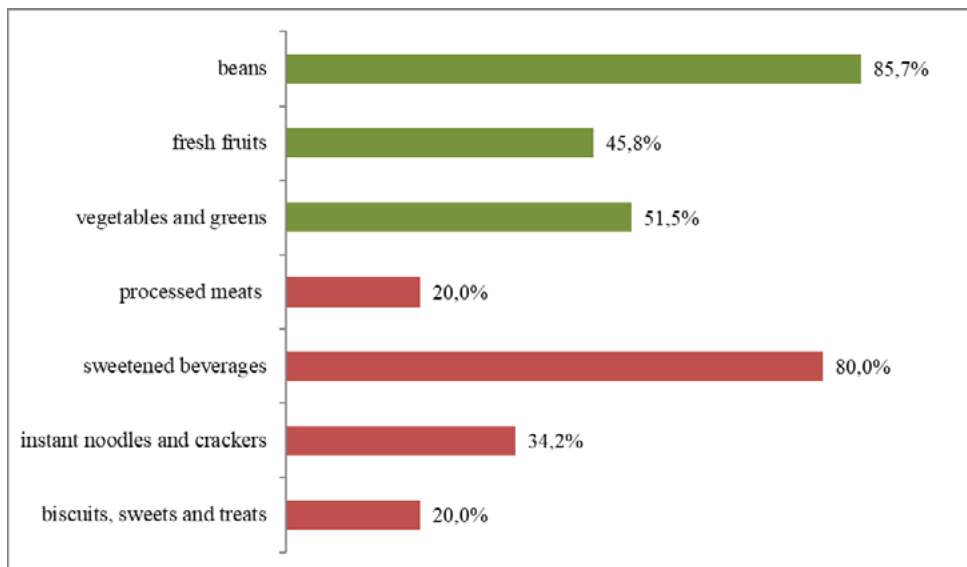


Figure 1. Frequency of regular consumption (on five or more days of the week) of healthy and unhealthy food of family farmers in the Caxambu district, Petrópolis-RJ, 2018.

The frequency of regular beans consumption found by VIGITEL in 2016 was 61.3%,¹⁰ while that of the National Health Survey (PNS) in 2013 was 71.9%,¹⁴ values lower than the ones observed in the present study (85.7%). The high percentage of regular beans consumption by farmers in Caxambu is very positive, since the consumption of this staple food, which is part of the Brazilian food culture, has been decreasing in recent years, with a reduction from 67.6% in 2011 to 61.3% in 2016.¹⁰

Luz,¹³ in his research with family farmers in Ibiúna (SP), found that 100% of his sample consumed rice and beans daily, as well as 81.3% and 47.7% consumed greens and vegetables, respectively, every day. However, in the present research, the values found for daily consumption of these foods were lower.

Table 2 shows that 65.7% of the farmers consume beans daily and only 25.7% and 28.6% consume fresh fruits and vegetables every day, respectively. The percentage of consumption of fruits and vegetables found is higher than the one described by VIGITEL 2016,¹⁰ in which the recommended intake (when referred to five or more times a day) was 24.4%, however, it was lower than the one observed in the PNS 2013.¹⁴ In this research, it was found a mean percentage of recommended consumption of fruits and vegetables of 37.3%, however, it is interesting to mention that consumption in the urban area (38.2%) was higher than in the rural area (31.2%).

Table 2. Frequency of consumption of healthy and unhealthy food of family farmers in the Caxambu district, Petrópolis-RJ, 2018.

	Frequency of consumption (%)				
	Every day	5-6 days a week	3-4 days a week	1-2 days a week	Almost never
Beans	65.7	20.0	5.7	8.6	-
Fresh fruits	25.7	17.1	34.3	22.9	-
Vegetables and greens	28.6	22.9	31.4	11.4	2.9
Processed meats	20.0	-	20.0	37.1	14.3
Sweetened beverages	77.1	2.9	5.7	5.7	-
Instant noodles and crackers	17.1	17.1	17.1	25.7	20.0
Biscuits, sweets and treats	14.3	5.7	22.9	22.9	28.6
					5.7

This difference between urban and rural areas may be related to the generally lower level of education of rural inhabitants and to the fact that consumption of fruits and vegetables has increased according to the level of education. The opposite occurred with beans consumption, which decreased as the level of education increased and it was higher in the rural area.¹⁴ When comparing the results of the present study with those found by the PNS 2013, it is verified that the mean consumption of fruits and vegetables in the study population is lower than the one of the country, which may be even more critical if we consider the issue of facilitated access of the Caxambu's family farmers to these foods once they are grown on their properties.

According to Lourenço,⁷ work in agriculture may discourage the consumption of vegetables. In her qualitative research with farmers from Petrópolis, many reported being “sick of seeing vegetables” because of the repetitive routine of agricultural work. She points to the exchange of food between families as a way to reduce the monotony of the available vegetables.

The Dietary Guidelines for the Brazilian Population directs the population to prepare *in natura* or minimally processed foods (varieties of grains, tubers and roots, vegetables and greens, fruits, milk, eggs, fish, meats) based on their diet. It states that their consumption, in great variety and predominantly of vegetable origin, is the basis for a nutritionally balanced, tasty, culturally appropriate diet that promotes a socially and environmentally sustainable food system.⁵

Regarding foods that mark unhealthy diets, the percentage of regular consumption of sweet foods observed in the present study (20%) was slightly higher than the one found by VIGITEL 2016 (18%).¹⁰ In the study conducted by Luz,¹³ approximately 10% of the farmers consumed sweet foods daily, whereas in the present research this figure was slightly higher (14%). The frequency of daily sweetened beverages consumption among family farmers in Caxambu (77.1%) was also higher than the one found in the cited study (57.4%).¹³

The frequency of sweetened beverages consumption is worrisome, since it tends to increase in many countries, including Brazil.¹⁵ Juices and soft drinks are among the foods that obtained the highest mean of daily consumption per capita in the POF 2008-2009. Nevertheless, there is a percentage difference between rural and urban areas. Juices and powdered juices were consumed by 41.1% of the urban population and by 33.1% of the rural population. The consumption of soft drinks also presented differences, 25.4% for urban areas and 11.4% for rural.² Differently from what was found by the POF 2008-2009, regular and daily ingestion of sweetened beverages by family farmers from Caxambu was very high (80% regular and 77.1% daily). It is necessary to consider, however, that the question used in the present study about the consumption of sweetened beverages included, besides soft drinks and artificial juices, natural juices sweetened with sugar.

According to Pérez-Rosales, deputy representative of the Pan American Health Organization / World Health Organization (PAHO/WHO) in Brazil, increasing the price of sweetened beverages is one of the best strategies to improve the Brazilian population's diet and reduce the prevalence of chronic non-communicable diseases.¹⁶

In relation to other unhealthy foods, about 20% of Caxambu's farmers consumed processed meats daily. Schneider, Duro & Assunção,¹⁷ in a study with 2,730 residents of the urban area of Pelotas-RS, observed that 16.6% of participants consumed processed meats each day. The percentage found in the present study was higher (20%) than the one found by the authors, however, the one observed in the study of Luz,¹³ with family farmers from Ibiúna-SP, was even higher (24.3%).

The POF 2008-2009 presented low values of food consumption prevalence of instant noodles for urban areas (1.9%) and for rural areas (0.7%). However, they were not significantly as low for the consumption of crackers – 15.1% in the urban area and 20.2% in the rural area.² In the study conducted by Luz,¹³ these percentages were higher: 6.5% for daily consumption of instant noodles and 32.7% for crackers. About 17.1% of Caxambu's farmers consumed instant noodles and crackers every day. Nonetheless, it is believed that, as in the POF's and in Luz's studies,¹³ the consumption of instant noodles is lower than the one of crackers, since during the interviews this was reported by the farmers.

Excessive consumption of sodium and saturated fat, usually present in foods such as processed meats, instant noodles and crackers, increases the risk of developing cardiovascular diseases. Furthermore, the consumption of ultra-processed foods, due to their forms of production, distribution, marketing and consumption, negatively affects culture, social life and the environment.⁵

Regarding eating behavior, approximately 90% of the farmers eat main meals regularly (breakfast, lunch and dinner), with an average number of daily meals of 4.5 ± 0.9 , varying from 3-6 meals, similar to that found by Batista¹⁸ in a study with family farmers from Ubá-MG – average of five meals/day with variation of 3-7 meals. The previous version of the Dietary Guidelines for the Brazilian Population, launched in 2008, directed the population, in one of its guidelines, to eat three daily meals interspersed with snacks.¹⁹ However, the current version prioritizes, among other things, eating with regularity and attention, in appropriate environments and, whenever possible, with company.⁵ This recommendation is based on the last result analyzed here, the habit of eating meals while watching television. Almost half of the family farmers from Caxambu (45.7%) have the habit of eating meals while watching TV, using their cell phones and/or computers, which is considered a risk behavior for the development of obesity, because it may compromise the biological mechanisms that signal satiety.³

Conclusions

The present study was carried out with a sample of family farmers from the Caxambu district, mostly composed of middle-aged men with low family income and level of education. Regarding the observed eating practices, it was expected that the consumption of healthy foods would be high in the study population, since a large part of the farmers produce these foods on their properties. Except for beans, the consumption of other foods considered healthy – vegetables, greens and fruits – was low, and the consumption of unhealthy foods was considerably high compared to other studies.

Another fact that was not expected, since residents of rural areas have different habits of urban dwellers, was the high percentage of farmers who have the habit of eating while watching TV, using their cell phone and/or computer.

Knowing the eating practices of family farmers is essential to outline strategies to improve the food profile and, consequently, the health and quality of life of this public. Thus, municipal, state and federal actions could be carried out, since family agriculture is present throughout Brazil, aimed at raising awareness about the importance of healthy eating habits for health.

In order to carry out these actions, partnerships with public and private universities could be established in projects aimed at promoting healthy eating practices and also in the management of agricultural systems, thus creating shared value for students, farmers and educational institutions. In addition, basic health units close to agricultural production sites could also invest more in eating and nutrition education actions targeting this public.

It is worth noting that more studies on the eating practices of family farmers are needed to advance the scientific literature on the subject, still little studied, as well as to improve the food profile and, consequently, the health of this public that plays an important role in the economy and food security of Brazil.

Contributors

Da Silva NR worked at all stages from study conception to reviewing the final version of the article; de Oliveira AGS participated in the study conception, data analysis and revision of the final version of the article.

Conflict of interest: The authors declare that there are no conflicts of interest.

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