



Knowledge, attitude and practice on regional food among families of preschool children

Conhecimento, atitude e prática sobre alimentos regionais entre famílias de pré-escolares

Conocimientos, actitudes y prácticas sobre alimentos regionales entre familias de niños preescolares

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This study evaluated the knowledge, attitude and practice on the use of regional food of families of preschool children at a rural area. Descriptive-exploratory study with quantitative approach, conducted with 200 families of preschool children, residing in two rural districts of Maranguape-CE, Brazil. We applied a Knowledge, Attitude and Practice survey, focusing on the use of regional food. The districts presented similarities with regard to gender ($p=1.000$), marital status ($p=0.603$), education ($p=0.349$), number of preschool children ($p=0.104$), and workplace ($p=0.632$), but had different results regarding family income ($p=0.033$). As for the regional foods, there was no statistically significant association in knowledge ($p=0.731$), attitude ($p=0.362$), and practice ($p=0.600$) in the study locations, prevailing the inadequate level in the three axes. We verified that the people responsible for preschool children in the two locations were unaware of the regional foods terminology and presented inappropriate knowledge, attitude and practice regarding their use.

Descriptors: Health Knowledge, Attitudes, Practice; Food Promotion; Health Promotion; Child; Preschool; Nursing.

Objetivou-se verificar conhecimento, atitude e prática de famílias de crianças na fase pré-escolar acerca do uso de alimentos regionais em zona rural brasileira. Estudo descritivo-exploratório, com abordagem quantitativa, realizado com 200 famílias de pré-escolares, residentes em duas localidades da zona rural de Maranguape-CE, Brasil, em setembro de 2009. Aplicou-se um inquérito do tipo Conhecimento, Atitude e Prática enfocando o uso dos alimentos regionais. As localidades apresentaram similaridades relacionadas ao sexo ($p=1,000$), estado civil ($p=0,603$), escolaridade ($p=0,349$), número de filhos pré-escolares ($p=0,104$) e local de trabalho ($p=0,632$). Contudo diferiram na variável renda familiar ($p=0,033$). Quanto aos alimentos regionais, não se observou relação estatisticamente significativa em conhecimento ($p=0,731$), atitude ($p=0,362$) e prática ($p=0,600$) nas referidas localidades, prevalecendo o nível inadequado nos três eixos do inquérito. Verificou-se que os responsáveis pelas crianças pré-escolares das duas localidades desconheciam a terminologia alimentos regionais e apresentaram conhecimento, atitude e prática inadequados com relação ao uso destes.

Descritores: Conhecimentos, Atitudes e Prática em Saúde; Promoção de Alimentos; Promoção da Saúde; Pré-Escolar; Enfermagem.

El objetivo fue verificar conocimiento, actitud y práctica de niños preescolares sobre uso de alimentos regionales en zona rural brasileña. Estudio exploratorio, descriptivo, cuantitativo, realizado con 200 familias de preescolares de dos comunidades de la zona rural de Maranguape-CE, Brasil, en septiembre de 2009. Se aplicó tipo encuesta Conocimiento, Actitud Y Práctica sobre uso de alimentos regionales. Las localidades presentaron semejanzas cuanto al sexo ($p=1,000$), estado civil ($p=0,603$), escolaridad ($p=0,349$), número de hijos preescolares ($p=0,104$) e local de trabajo ($p=0,632$). Pero, fueron diferentes en la variable sueldo familiar ($p=0,033$). Acerca de los alimentos regionales, no hubo relación estadísticamente significativa en conocimiento ($p = 0,731$), actitud ($p = 0,362$) y práctica ($p = 0,600$), prevaleciéndose el nivel inadecuado en los tres ejes de la encuesta. Los responsables por los niños preescolares de las dos localidades desconocían la terminología alimentos regionales y presentaron conocimiento, actitud y práctica inadecuados sobre uso de estos.

Descriptoros: Conocimientos, Actitudes y Práctica en Salud; Promoción de Alimentos; Promoción de la Salud; Preescolar; Enfermería.

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Introduction

Nutrition and food are basic requirements for the health promotion and protection, providing adequate growth and development for people, so they can have quality of life⁽¹⁾.

Brazil currently lives simultaneously with malnutrition and with alarming prevalence of overweight and obesity, a contrasting reality that characterizes a situation of nutritional transition⁽²⁾. Corroborating this fact, in 2006, the National Demographic Health Survey of Women and Children found that, in all Brazilian regions, the prevalence of malnutrition in children under five years was about 7%, and in the Northeast region this percentage was 5.7%. Similarly, the survey found situations of overweight in 7% of children in the same age group, indicating moderate exposure to childhood obesity in the country⁽³⁾.

Children are known to be extremely dependent on food to achieve a proper development, once in the growth stage; therefore, they are more sensitive to nutritional deficiencies and imbalances. In the preschool phase, we verify a strong growth, in which the quality of food is determinant for the organic maturation and for the physical and psychosocial health⁽⁴⁾.

A healthy diet should include some basic aspects, among which we highlight the variety, harmony, color, flavor, health security, and affordability. Thus, it is crucial to focus on the rescue of regional food habits and practices related to the consumption of locally produced food of high nutritional value, composing a varied meal from early life to old age⁽⁵⁻⁶⁾.

Regional foods are typical of certain region, they have high nutritional value, low-cost, and easy access, consisting of an effective alternative to combat nutritional deficiencies that affect the majority of low-income children of our country⁽⁷⁾.

One of the axes discussed during the Third National Conference on Food Safety and Nutrition, 2007, was the promotion of local economies and

regional production, and consumption of food based on cultural specificities, biodiversity, and agro-ecological conditions, supporting a closer relationship between food production and intake⁽⁸⁾.

Therefore, having an optimal diet focused on regional food, for most children, should be part of the overall strategy to ensure food and nutritional security for a population. Although is the responsibility of health professionals to promote and of mothers to perform actions for health promotion, the ultimate success also depends on the definition of feasible government policies and the participation and support of the whole society⁽²⁾.

By recognizing that parents are active subjects on their children's health, involving food, they have a significant share of interference, since children do not have yet the ability to choose foods based on their nutritional value.

In this way, it is of utmost importance to assess the knowledge, attitudes and practices (KAP) of parents in relation to feeding their children, so far not verified in the scientific literature. Other authors evaluated some important topics to the health performance such as the knowledge, attitude and practice in detecting prostate cancer, condom use⁽⁹⁾, among others.

Therefore, this study was relevant for investigating the KAP of families regarding the use of regional foods, which can enable health professionals, especially nurses, to obtain credible data for the implementation of educational interventions that meet the real needs of the community, thus promoting the health of children and their families.

In this perspective, this study aimed to evaluate the knowledge, attitude and practice on the use of regional foods of families of preschool children in two districts of the rural area of Maranguape, Ceará, Brazil.

Method

A descriptive and exploratory study with quantitative approach, conducted in two districts in

the rural area of Maranguape (districts A and B), in the metropolitan region of Fortaleza, Ceará, Brazil.

There is a Family Health Program (FHP) for each district, covering around 1,400 families each. We chose these districts in the rural area due to their location, for they were the nearest districts in the rural area of Maranguape, with an increased production and cultivation of regional foods, characterizing easy access and low cost inherent in this type of food and the support given by nurses and Community Health Agents (CHA) arising from previous research.

The sample corresponded to 200 families of these two districts that had preschool children treated in a Family Health Center (FHC). Thus, 110 relatives and/or guardians of district A and 90 of district B participated in the study.

For the inclusion criteria, we used relatives and/or guardians of preschool children registered in the FHC and residing in the localities covered by the abovementioned FHC. The exclusion criterion was relatives who presented mental or cognitive problems that made data collection impossible.

Data collection occurred in September 2009, through a Knowledge, Attitude and Practice (KAP) survey, focusing on the use of regional foods. We highlight that this investigation was built based on pertinent literature^(7,10) and on previous studies in this city, being submitted to a pre-test⁽¹¹⁾.

The KAP survey used in this study consists in a structured four-part questionnaire. The first part contains the identification data of the family and the other three concern the knowledge, attitude and practice in relation to regional foods. They address issues such as which regional foods does the participants know, their usefulness, the types of food prepared with them, the need to use such foods in children's diets and its justification, as well as if they have been used and how often⁽¹¹⁾.

To characterize whether the knowledge, attitude and practice were adequate or inadequate, we applied the following criteria: adequate knowledge

when reported having heard about regional foods; knowing that they serve to prepare varied diet; mention three types of food and at least two meals that can be prepared with them, except the juice; whether the attitude was considered appropriate when reported they would need to use regional foods in children's diets, because they can prevent nutritional disorders or ensure food safety and/or when mentioning it was a new food alternative. Finally, we considered as appropriate practice when they used regional foods in children's diets and reported being able to use them whenever deemed necessary^(7,11). We emphasize that the inadequate knowledge, attitude and practice follow the opposite of the criteria specified.

We tabulated and processed the data using the Statistical Package for Social Sciences, version 15.0 (SPSS Inc., Chicago, USA). For the analysis, we applied the descriptive statistics, using absolute and relative frequencies, and the tests for statistical significance: Chi-square test and Fisher-Freeman-Halton test. We established the level of significance at 5% and a confidence interval of 95%. We considered significant the test that presented p-value <0.05.

We submitted this study to the Research Ethics Committee (COMEPE) of the Universidade Federal do Ceará (UFC), which approved it under protocol No. 98/09, thus following the ethical principles of research involving human subjects, according with Resolution No. 196/96 of the National Health Council⁽¹²⁾. It is worth mentioning that all participants, after guided on the purpose of the research, signed the Free and Informed Consent Form.

Results

Table 1 shows that the two districts present similar results in relation to gender ($p=1.000$), marital status ($p=0.603$), education ($p=0.349$), number of preschool children ($p=0.104$), and workplace ($p=0.632$).

Table 1 - Distribution of respondents according to the districts A (n=110) and B (n=90) and socioeconomic conditions

Variables	District A	District B	p-value
	n (%)	n (%)	
Gender			1,000 ^a
Male	6 (54.5)	5 (45.5)	
Female	104 (55.0)	85 (45.0)	
Marital status			0,603 ^b
Married/stable union	77 (53.8)	66 (46.2)	
Single/others	33 (57.9)	24 (42.1)	
Education			0,349 ^b
No education	16 (69.6)	7 (30.4)	
Basic education	51 (52.6)	46 (47.4)	
High school	43 (53.8)	37 (46.2)	
Number of preschool children			0,104 ^b
1	101 (57.1)	76 (42.9)	
2	9 (39.1)	14 (60.9)	
Family income (Minimum wage)			0,033 ^b
<1	47 (60.3)	31 (39.7)	
1-2	57 (56.4)	44 (43.6)	
3-4	6 (28.6)	15 (71.4)	
Work outside the home			0,632 ^b
Yes	16 (59.3)	11 (40.7)	
No	94 (54.3)	79 (45.7)	

a - Chi-square test with continuity correction; b - Chi-square test

Nevertheless, the household income variable presented a statistically significant difference between the locations (p=0.033). There was prevalence of less than one minimum wage (n=47, 60.3%) and from one to two minimum wages (n=57, 56.4%) in district A, while for district B, there was prevalence from three to four minimum wages (n=15, 71.4%), not interfering in the analysis of this research. It is worth mentioning that the minimum wage in 2009 was US\$ 270.34 (R\$ 465.00).

Table 2 and Table 3 show the second phase of the KAP Survey, with regard to knowledge, attitude and practice on regional food. Regarding knowledge, of the 200 participants, only 51 (25.5%) reported having heard of these foods, with higher prevalence in the district A (n=39, 76.5%) than in B (n=12, 23.5%), representing a statistically significant association (p<0.0001). We

also highlight that although 149 (74.5%) respondents had never heard the terminology *regional food*, they all knew the food belonging to this classification, like cashew, banana, siriguela, pumpkin, and sweet-potato, both at district A (n=110, 55%) and B (n=90, 45%).

Regarding the usefulness of these foods, the juice preparation was mentioned as the main use in districts A (n=34, 41%) and B (n=49, 59%). As for the preparation type, cashew candy and banana smoothie represented other recipes made with regional foods, predominantly among 136 (68%) respondents.

Table 2 - Distribution of respondents according to the knowledge on the regional foods associated with the districts A (n=110) and B (n=90)

Knowledge	District A	District B	p-value
	n (%)	n (%)	
Have you ever heard of regional food (RF)?			<0.0001 ^a
Yes	39 (76.5)	12 (23.5)	
No	71 (64.5)	78 (52.3)	
If no - do you know cashew, banana, siriguela, pumpkin, or sweet-potato?	110 (55.0)	90 (45.0)	
Usefulness of RF?			
Varied diet	31 (91.2)	3 (8.8)	
Preparing juice	34 (41.0)	49 (59.0)	-
Other use	30 (62.5)	18 (37.5)	
Does not know	15 (42.9)	20 (57.1)	
Meals with RF			
Cashew meat	3 (100.0)	-	
Banana farofa	3 (100.0)	-	
Pumpkin puree	6 (100.0)	-	
Sweet-potato fries	2 (100.0)	-	-
Juice of siriguela leaves	4 (100.0)	-	
Does not know or does not remember	36 (63.2)	21 (36.8)	
Others	66 (48.5)	70 (51.5)	
Knowledge			0.731 ^a
Appropriate	18 (52.9)	16 (47.1)	
Inappropriate	92 (55.4)	74 (44.6)	

a - Chi-square test with continuity correction

After analyzing the topics related to knowledge, we found that 166 (83%) families had inadequate knowledge, 92 in district A (55.4%) and 74 in district

B (44.6%), based on the criteria established in this research.

Regarding the attitude, referring to the third phase of the KAP survey, we verified that almost all respondents (99%) indicated regional food as necessary in the children’s diet. However, the main reason mentioned to justify this need was the fact that these are healthy and strong foods and because they have vitamins, district A (n=50, 39.1%) and district B (n=78, 60.9%).

Table 3 – Distribution of respondents according to attitude and practice on the regional foods associated with the districts A (n=110) and B (n=90)

Attitude and Practice	District A	District B	p-value
	n (%)	n (%)	
Is it necessary to use RF in eating?			
Yes	109 (54.8)	90 (45.2)	-
No	1 (100.0)	-	
Why is it necessary?			
Prevent nutritional disorder	27 (93.1)	2 (6.9)	
Food safety	23 (85.2)	4 (14.8)	<0.0001 ^b
New food alternative	1 (33.3)	2 (66.7)	
Strong, healthy, vitamins	50 (39.1)	78 (60.9)	
Does not know	9 (69.2)	4 (30.8)	
Do you use RF in the child’s diet?			
Yes	99 (52.9)	88 (47.1)	1.000 ^c
No	11 (84.6)	2 (15.4)	
How often can we use this food in a month?			
Whenever deemed necessary	70 (56)	55 (44)	0.869 ^b
Established the amount of days	40 (54.8)	33 (45.2)	
Attitude			0.362 ^a
Appropriate	28 (60.9)	18 (39.1)	
Inappropriate	82 (53.2)	72 (46.8)	
Practice			
Appropriate	12 (50.0)	12 (50.0)	0.600 ^b
Inappropriate	98 (55.7)	78 (44.3)	

a – Chi-square test; b – Fisher-Freeman-Halton test; c – Chi-square test with continuity correction

The attitude axis presented no statistically significant association between the groups (p=0.362), with prevalence of inadequate attitude in 154 (77%) families, being 82 in district A (53.2%) and 72 in

district B (46.8%), which may be related to the lack of knowledge of the real purpose of regional food.

Also in Table 2, as regards to the practice on regional foods, we can identify that in districts A (n=99, 52.9%) and B (n=88, 47.1%) they reported having used these foods in children’s diets, without statistical significance (p=1.000). Regarding the consumption of regional foods in the month, most respondents from districts A (n=70, 56%) and B (n=55, 44%) claimed they can use regional food whenever they deem necessary (p=0.869).

It was also found that most participants used regional foods in children’s diets. However, when asked which meals they prepared with these foods, they mentioned the juice, candy, and banana smoothie, which do not represent an appropriate practice, based on the criteria established for the research. Therefore, we identified an inadequate practice in districts A (n=98, 55.7%) and B (n=78, 44.3%).

Discussion

The analysis of the socioeconomic conditions of the families in study indicates a context of social vulnerability; thus, we highlight the existence of mothers with low education and low income, factors associated with a higher risk of developing disorders of nutritional status. Corroborating the findings, the level of parental education from primary school to the 12th grade, we found that the risk of childhood obesity was lower the higher the educational level⁽¹³⁾.

In this context, a study performed to unravel the causes of the decrease in child undernutrition in Brazil, analyzing the period from 1996 to 2007, revealed a 50% reduction of child malnutrition, which is associated with the favorable evolution of some factors such as increased maternal education and family income, expansion of healthcare, and improved sanitation⁽¹⁴⁾.

Thus, food is not only a matter of individual choice, it may be influenced by several factors that frustrate or restrict the choice for a more adequate food, such as social exclusion caused by poverty and quality

of available information for people^(2,15), and the factors related to knowledge, attitude and practices of families.

Focusing on regional food, the knowledge axis revealed ignorance of families with regard to the regional foods terminology. Nonetheless, when questioned about these foods individually, they all revealed knowledge.

Similarly, in the same region of Brazil, the survey found a little consumption of regional foods in the children's daily diet. These foods do not constitute a priority among the population of rural areas, which is often due to the lack of knowledge about their use, with prevalence of consumption of foods with low energy and nutritional value⁽¹⁶⁾.

Regional foods are typical foods of certain regions. Among them, in the Northeast region, we highlight: cashew, acerola, and siriguela that are rich in vitamin C; bananas, regulating food rich in potassium; pumpkin, rich in Vitamin A; sweet-potato, considered an high energy food; among others⁽⁷⁾. Despite the region in study being rich in many of these foods, the population is unaware of their importance to the promotion of healthy eating and prevention of nutritional deficiencies, as can be seen in the axis associated with attitude.

Inadequate knowledge is known for directly influencing attitude. Therefore, in this study, despite finding prevalent inadequate attitude in 154 (77%) families, there was no statistically significant association found regarding the attitude of the families on regional food and the districts ($p=0.362$).

Although almost all the participants find the use of regional food necessary, they did not know that these foods could prevent nutritional disorders, promote food security, and be a new food option.

In this context, the dissemination of the immense variety of Brazilian fruits, vegetables, tubers, and legumes becomes essential, assisting in guiding communities towards an affordable food that uses local resources, considering that the use of these and other foods may contribute to the food and nutritional security of our communities⁽⁷⁾.

A poor diet can be a precursor to many

nutritional problems, such as low weight, malnutrition, obesity, developmental delay, anemia, infections, among others. An adequate food quality and quantity that provide the necessary nutrients for the growth and development of children should be emphasized as a priority for the prevention of nutritional disorders and the child health promotion⁽⁵⁾.

Thus, knowledge is the basis for having an attitude and, therefore, a safe practice in relation to regional food. So, if this is not satisfactory, it may compromise the process, as shown in the present study, since we also identified the prevalence of the inadequate level of practice in 176 (88%) families, without any statistically significant association between the districts ($p=0.600$).

A research conducted in day care centers in the Southeast region of Brazil, in a city of Minas Gerais, analyzed the food consumption of preschool children and found that children consumed a greater quantity of foods belonging to the groups of cereal, pasta, legumes, dairy products, sweets, and fats at the detriment of fruits, vegetables, roots and tubers. This also characterizes a low consumption of regional foods⁽¹⁷⁾, with the need to conduct effective intervention in childhood⁽¹⁸⁾ and adolescence aimed at the prevention, control, and treatment of overweight⁽¹⁹⁾.

Knowledge, attitude and practice related to regional food were inadequate in the two study sites, even though a region rich in many regional foods in quantity, variety, and quality.

In this way, considering the importance of regional food to compose a healthy and low-cost eating, accessible to low-income rural population⁽²⁰⁾, it is necessary that health professionals conduct educational strategies that encourage healthy eating habits, addressing the local reality, exploring the natural wealth, and the importance of consumption of each food for the child health promotion⁽¹⁵⁾.

Conclusion

In this study, we verified that those responsible

for preschool children of the two districts are unfamiliar with the regional foods terminology and present inappropriate knowledge, attitude and practice regarding their use.

For that reason, it is worth highlighting that the non-use of regional foods in the children's daily diet is associated with the lack of knowledge on their nutritional potential, as well as the socioeconomic conditions of families and popular culture, which characterizes the need to propagate or disseminate the benefits of regional foods in the children's diet.

In this sense, it is necessary an effective action by all health professionals, proposing educational strategies with families of preschool children such as roundtable discussions, with complementary feeding as main theme, construction of educational games involving the theme of healthy eating and the importance of regional food, group approach, among others. These strategies are necessary to increasingly improve not only the knowledge on regional food by low-income population, but also actions that support the acquisition of appropriate attitudes and practices as regard to its use, thus contributing to the prevention of nutritional deficiencies and disorders in children.

Among health professionals, nurses stand out as health promoters, as they integrate health education to their professional practice through educational interventions, considering the local standard of living, its cultures, customs, and economics that generate knowledge and behavior changes, adapting to the reality experienced by each family and promoting a better quality of life.

Collaborations

Silveira ML contributed to the conception of the study, data collection, analysis, and interpretation, and drafting the article. Martins MC contributed to the conception of the study, analysis, interpretation of data, drafting the article, and final approval of the version to be published. Oliveira EKF and Joventino ES contributed to the analysis, data interpretation,

and drafting the article. Ximenes LB contributed to drafting the article and final approval of the version to be published.

References

1. Ministério da Saúde (BR). Secretaria de Atenção à Saúde, Departamento de Atenção Básica. Política nacional de alimentação e nutrição. Brasília: Ministério da Saúde; 2003.
2. Souza EB. Transição nutricional no Brasil: análise dos principais fatores. *Cad UniFOA*. 2010; (13):49-53.
3. Ministério da Saúde (BR). Pesquisa Nacional de Demografia e Saúde da Criança e da Mulher – PNDS 2006: dimensões do processo reprodutivo e da saúde da criança. Brasília: Ministério da Saúde; 2009.
4. Simon VGN, Souza JMP, Souza SB. Breastfeeding, complementary feeding, overweight and obesity in pre-school children. *Rev Saúde Pública*. 2009; 43(1):60-9.
5. Martins MC, Veras JE, Uchoa JL, Pinheiro PN, Vieira NF, Ximenes LB. Food safety and the use of regional foods: the validation of a serial album. *Rev Esc Enferm USP*. 2012; 46(6):1354-61.
6. Ministério da Saúde (BR). Secretaria de Atenção à Saúde. Dez passos para uma alimentação saudável: guia alimentar para crianças menores de 2 anos: um guia para o profissional da saúde na atenção básica. Brasília: Ministério da Saúde; 2013.
7. Ministério da Saúde (BR). Alimentos Regionais Brasileiros. Brasília: Ministério da Saúde; 2002.
8. Conselho Nacional de Segurança Alimentar e Nutricional (CONSEA). III Conferência Nacional de Segurança Alimentar e Nutricional. Fortaleza: CNSA; 2007.
9. Sousa LB, Cunha DFF, Ximenes LB, Pinheiro AKB, Vieira NFC. Conhecimentos, atitudes e prática de mulheres acerca do uso do preservativo. *Rev Enferm UERJ*. 2011; 19(1):147-52.
10. Food and Agriculture Organization of the United

- Nations (FAO). The State of Food Insecurity in the World – Economic crises – impacts and lessons learned. Rome: FAO; 2009.
11. Martins MC, Ximenes LB, Casimiro CF, Silveira VG, Frota MA. Estratégia educativa com enfoque nos hábitos alimentares de crianças: alimentos regionais. *Cogitare Enferm.* 2009; 14(3):463-9.
 12. Ministério da Saúde (BR). Conselho Nacional de Saúde, Comissão Nacional de Ética em Pesquisa. Resolução nº 196 de 10 de outubro de 1996. Aprova as diretrizes e normas regulamentadoras de pesquisa envolvendo seres humanos. Brasília: Ministério da Saúde; 1996.
 13. Branco S, Jorge MS, Chaves H. Obesidade infantil – a realidade de um Centro de Saúde. *Acta Med Port.* 2011; 24(S2):509-516.
 14. Monteiro CA, Benicio MHA, Konno SC, Silva ACF, Lima ALL, Conde, WL. Causas do declínio da desnutrição infantil no Brasil, 1996-2007. *Rev Saúde Pública.* 2009; 43(1):35-43.
 15. Martins MC, Aires JS, Sampaio AFA, Frota MA, Ximenes LB. Intervenção educativa utilizando álbum seriado sobre alimentos regionais: relato de experiência. *Rev Rene.* 2012; 13(4):948-57.
 16. Martins MC, Frota MA. Fatores que interferem na utilização de alimentos regionais na cidade de Maranguape, Ceará. *Cad Saúde Coletiva.* 2007; 15(2):169-81.
 17. Castro TG, Novaes JF, Silva MR, Costa NMB, Franceschini SCC, Tinôco ALA, et al. Caracterização do consumo alimentar, ambiente socioeconômico e estado nutricional de pré-escolares de creches municipais. *Rev Nutr.* 2005; 18(3):321-30.
 18. Luce Kruse MH, Silveira Schenini F, Guimarães Ribeiro R, Griebeler Oliveira S, Fantin Cervelin A. Saúde e obesidade: discursos de enfermeiras. *Aquichan.* 2012; 12(2):109-21.
 19. Pelegrini A, Silva DAS, Petroski EL, Glaner MF. Estado nutricional e fatores associados em escolares domiciliados na área rural e urbana. *Rev Nutr.* 2010; 23(5):839-46.
 20. Campos L, Leite AJM, Almeida PC. Nível socioeconômico e sua influência sobre a prevalência de sobrepeso e obesidade em escolares adolescentes da cidade de Fortaleza. *Rev Nutr.* 2006; 19(5):531-8.