



ORIGINAL ARTICLE

Consumption of fruits and vegetables associated with other risk behaviors among adolescents in Northeast Brazil



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KEYWORDS

Adolescent;
Food consumption;
Risk factors

Abstract

Objective: To determine the prevalence of consumption of fruits and vegetables and identify the association with low level of physical activity, exposure to sedentary behavior, consumption of soft drinks and overweight/obesity in adolescents.

Methods: This is a cross-sectional school-based study with a representative sample of 3992 students aged 14–19 years from the state of Sergipe, Brazil. The outcome was low consumption of fruits and vegetables (<5servings/day). Independent variables were: level of physical activity, sedentary behavior, consumption of soft drinks, and overweight/obesity. Global Student Health Survey questionnaire and body mass and height measurements were used, as well as chi-square test and crude and adjusted binary logistic regression. The significance level adopted was 5%.

Results: The prevalence of inadequate consumption of fruits and vegetables was high – 88.6% (95%CI=87.6–89.5). Higher likelihood of low consumption of fruits and vegetables was verified among boys who were exposed to sedentary behavior (OR=1.63; 95%CI=1.18–2.24), who consumed soft drinks (OR=3.04; 95%CI=2.10–4.40), with insufficiently physical activity (OR=1.98; 95%CI=1.43–2.73) and girls who consumed soft drinks (OR=1.88; 95%CI=1.43–2.47) and those with overweight/obesity (OR=1.63; 95%CI=1.19–2.23).

Conclusions: There is a need of public policies aimed at encouraging the consumption of healthy foods among adolescents.

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PALAVRAS-CHAVE

Adolescente;
Consumo de
alimentos;
Fatores de risco

Consumo de frutas e vegetais associado a outros comportamentos de risco em adolescentes no Nordeste do Brasil

Resumo

Objetivo: Determinar a prevalência do consumo de frutas e vegetais e identificar a associação com o baixo nível de atividade física, exposição a comportamentos sedentários, consumo de refrigerantes e sobrepeso/obesidade em adolescentes.

Métodos: Este é um estudo transversal de base escolar com uma amostra representativa de 3992 alunos com idades entre 14 e 19 anos do estado de Sergipe, Brasil. O desfecho foi o baixo consumo de frutas e vegetais (<5 porções/dia). As variáveis independentes foram: nível de atividade física, comportamento sedentário, consumo de refrigerantes, e sobrepeso/obesidade. Foram usados o questionário Global Student Health Survey e o peso corporal e altura, bem como o teste do qui-quadrado e regressão logística binária (análise ajustada e bruta). O nível de significância adotado foi de 5%.

Resultados: A prevalência de consumo inadequado de frutas e hortaliças foi alta – 88,6% (IC95%=87,6-89,5). Verificou-se maior probabilidade de baixo consumo de frutas e legumes em meninos que estavam expostos a comportamento sedentário (OR=1,63; IC95%=1,18-2,24), que consumiam refrigerantes (OR=3,04; IC95%=2,10-4,40), com atividade física insuficiente (OR=1,98; IC95%=1,43-2,73) e meninas que consumiam refrigerantes (OR=1,88, IC95%=1,43-2,47) e aquelas com sobrepeso/obesidade (OR=1,63, IC95%=1,19-2,23).

Conclusões: Há a necessidade de políticas públicas destinadas a incentivar o consumo de alimentos saudáveis entre os adolescentes.

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Introduction

In the last decade, encouraging increased consumption of fruits and vegetables has become a public health priority in many countries as a protective effect on the risk of obesity,¹ type II diabetes mellitus,² cardiovascular diseases³ and some types of cancer.⁴ Estimates from the World Health Organization (WHO) show that 2.7 million deaths around the world registered in 2000 could have been avoided with adequate consumption of fruits, legumes and vegetables, reducing by 1.8% the global burden of diseases.⁵

However, in Brazil, this consumption is below that recommended by WHO, which advocates the daily consumption of at least 400g of fruits and vegetables, equivalent to five servings.⁶ On research conducted by VIGITEL telephone survey in Brazilian capitals in 2010, the frequency of adults who consume the recommended amount ranged from 11.3% in Rio Branco (Acre, North Region) to 24.8% in Florianópolis (Santa Catarina, South Region). The lowest frequencies, in males, have occurred in Rio Branco (Acre, 10.0%), Macapá (Amapá, 10.6%) and Aracaju (Sergipe, 11.2%); and, in females, in Rio Branco (Acre, 12.5%), Manaus (Amazonas, 14.9%) and Macapá (Amapá, 15.3%).⁷

Although non-communicable chronic diseases (NCDs) manifest more frequently in adulthood, the identification of health risk behaviors has been widely documented in literature, focusing on young individuals.⁸ Inappropriate eating habits, smoking, alcohol consumption, insufficient levels of physical activity, obesity and excessive time in sedentary leisure activities are some of the most common behaviors during adolescence.⁹ Adolescents show excessive consumption of soft drinks, sugars and snacks like “fast

foods” with high fat contents (especially saturated fat) and low intake of fiber and potassium.¹⁰

Given the above and considering the adequate consumption of fruits and vegetables as a challenge to public health policies in the prevention of diseases, the aim of this study was to determine the prevalence of low consumption of fruits and vegetables among adolescents from public schools in the state Sergipe and its association with low levels of physical activity, exposure to sedentary behavior, consumption of soft drinks and overweight/obesity.

Method

This study is a secondary analysis of data of an epidemiological cross-sectional survey entitled “Living and Health Conducts of Adolescents Residents in Rural and Urban Areas in the State of Sergipe, Brazil”, developed in 2011 by the Research Group in Physical Education and Health of the Federal Institute of Education, Science and Technology of Sergipe (GPEFiS/IFS). This project was approved by the Ethics Committee on Human Research of the University Hospital of the Federal University of Sergipe (CEP/UFS) under protocol number CAAE – 2006.0.000.107-10.

According to information from the Brazilian Institute of Geography and Statistics,¹¹ in 2011, the state of Sergipe, northeastern Brazil, has an area of 21,910.348km², a total population of 2,068,031 people, including 233,119 adolescents (13–19 years). The state has 75 municipalities geographically divided into eight territories.

The study target population was limited to students aged 14–19 years of both sexes, regularly enrolled in the day or

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