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ORIGINAL ARTICLE

Body weight and food consumption scores in adolescents from northeast Brazil



Augusto Cesar Barreto Neto*, Maria Izabel Siqueira de Andrade, Vera Lúcia de Menezes Lima, Alcides da Silva Diniz

Universidade Federal de Pernambuco (UFPE), Recife, PE, Brazil

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KEYWORDS

Overweight; Food consumption; Cardiovascular diseases; Adolescents

Abstract

Objective: The aim of the present study was to determine the prevalence of excess weight and analyze eating habits in relation to cardiovascular disease in adolescents from the city of Vitória de Santo Antão, state of Pernambuco, northeast Brazil.

Methods: A cross-sectional study was carried out with male and female students (10–19 years old) enrolled at public and private schools in Vitória de Santo Antão. Sociodemographic, anthropometric and lifestyle variables were collected. Food consumption was evaluated using a Food Frequency Questionnaire and subsequently converted to monthly intake pattern scores, obtaining the intake distribution for a group of foods associated with the risk of developing cardiovascular disease and for a group of protective foods. The significance level for the statistical tests was set at 5.0%.

Results: The sample consisted of 2866 students. The female gender accounted for 54.2% of the sample, and median age was 14 years (interquartile range: 12-16 years). The food intake scores showed greater dispersion in the group of protective foods (51.1%). Higher median scores for consumption of risk foods were found among adolescents whose mothers had more than 9 years of schooling (p<0.001).

Conclusions: Excess weight was prevalent among the students analyzed. The consumption of risk foods was only associated with maternal schooling, which shows the need for nutritional interventions directed at families, regardless of socioeconomic status.

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^{*} Corresponding author.

PALAVRAS-CHAVE

Sobrepeso; Consumo alimentar; Doenças cardiovasculares; Adolescentes

Peso corporal e escores de consumo alimentar em adolescentes no nordeste brasileiro

Resumo

Objetivo: Determinar a prevalência de excesso de peso e analisar o consumo alimentar de risco e proteção para doenças cardiovasculares em adolescentes escolares da cidade de Vitória de Santo Antão, Pernambuco, Brasil.

Métodos: Estudo transversal com adolescentes de ambos os sexos entre 10 e 19 anos, matriculados em 39 escolas públicas e privadas de Vitória de Santo Antão (PE). Foram obtidas variáveis sociodemográficas, antropométricas e do estilo de vida. O consumo alimentar foi avaliado por meio de questionário de frequência alimentar e posteriormente convertido em escores de padrão de consumo mensal. Obtiveram-se a distribuição de consumo para um grupo de alimentos associados ao risco de desenvolvimento de doenças cardiovasculares (Grupo Risco) e um grupo de alimentos protetores (Grupo Proteção). O nível de significância usado na decisão dos testes estatísticos foi de 5%.

Resultados: A amostra foi constituída por 2.866 escolares; 54,2% do sexo feminino, com idade mediana de 14 anos (Intervalo Interquartílico =12-16). A análise dos escores de consumo alimentar mostrou maior dispersão no grupo de alimentos protetores (51,1%) e maiores medianas de consumo de alimentos de risco nos adolescentes com mães de escolaridade >9 anos (p<0,001). Conclusões: O excesso de peso foi frequente nos adolescentes estudados. Os escores de consumo alimentar do grupo risco revelaram associação apenas com a escolaridade materna e evidenciaram a necessidade de maior conhecimento de educação nutricional as famílias, independentemente das condições socioeconômicas.

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Introduction

In recent years, Brazil has experienced a significant change in the eating patterns of the population, a phenomenon that is part of the nutritional transition context, with a significant increase in the prevalence of overweight and obesity.¹

It is a fact of concern that excess weight affects individuals since early ages, especially in adolescence. Data from the Household Budget Survey (POF – Pesquisa de Orçamento Familiar) by the Brazilian Institute of Geography and Statistics – IBGE show that between 1974–1975 and 2008–2009, the prevalence of overweight among adolescents increased from 11.3% to 20.5%, and the obesity rate increased from 1.1% to 4.9%.^{2,3}

Due to this change in the nutritional pattern, assessment of food consumption in adolescence has received attention, particularly considering propositions that associate inadequate eating habits in childhood and adolescence to the development of chronic diseases in adulthood, especially cardiovascular diseases.⁴

In spite of the existing information on the prevalence of overweight and obesity in different age groups, data from Northeast Brazil adolescents are still scarce and more research is needed outside the metropolitan area, where the behavior of adolescents occurs in a differentiated manner. Additionally, analysis of the eating habits of this population group allows the identification of dietary factors associated with the genesis of excess weight, with the possibility of creating interventions and public policies for control and prevention of obesity and associated diseases. Therefore, the aim of this study was to determine the prevalence of overweight and analyze risk and protective food

consumption for cardiovascular disease (CVD) among adolescent students in the city of Vitória de Santo Antão, state of Pernambuco, in northeast Brazil.

Method

This was a cross-sectional study with adolescents of both genders, aged between 10 and 19 years, enrolled in public and private schools of Vitória de Santo Antão, Pernambuco, from April 2010 to August 2011. The adolescents present at the time of enrollment were eligible for the study, and we excluded those who had/reported mental health problem (reported by parents or school teachers), physical problem (due to the impossibility of obtaining anthropometric measurements), consumptive diseases, pregnancy or use of drugs that interfered with glucose or lipid metabolism and/or blood pressure levels.

Sample size was estimated using the SampleXS program (Brixton Health, Brixton UKI2, UK) using the formula: $n=A/[E^*E+(A/N)]$, where n=sample size; A=3.8416PQW; P=prevalence of the population in percentage; Q=(100-P); E=maximum acceptable sample error; w=likely effect of design; N=population size. For the calculation, an estimated prevalence of metabolic syndrome of 3.0% was taken as reference, f= as it was calculated by a previous research project entitled "Profile of Metabolic Syndrome and Apolipoproteins in School Adolescents with Excess Weight in the Municipality of Vitoria de Santo Antao, Pernambuco", which has excess weight as one of the outcome variables. The reference population consisted of 21,515 adolescents enrolled in the schools; confidence level of 95%, sampling error of 1% and effect of design of 2.5 were

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