

Dissatisfaction with body weight and nutritional status among adolescents: population-based study in the city of Campinas, São Paulo, Brazil

Mariana Contiero San Martini (<https://orcid.org/0000-0002-0160-5576>)¹

Daniela de Assumpção (<https://orcid.org/0000-0003-1813-996X>)¹

Marilisa Berti de Azevedo Barros (<https://orcid.org/0000-0003-3974-195X>)¹

Antônio de Azevedo Barros Filho (<https://orcid.org/0000-0001-6239-1121>)¹

Abstract *The aim of this study was to investigate nutritional status and estimate the prevalence of weight dissatisfaction among adolescents 10 to 19 years. Population-based cross-sectional study was conducted in two-stage in Campinas, Brazil. Nutritional status was classified based on percentiles of body mass index for age recommended by the World Health Organization. Weight dissatisfaction was determined by desire to gain or lose weight. Prevalence rates and 95% confidence intervals were calculated for nutritional status and weight (dis)satisfaction. The Rao-Scale chi-squared test was used for the determination of associations with sociodemographic variables. 822 adolescents were analyzed with mean age of 14.1 years. 64.7% of the boys and 75.4% of the girls were classified as normal weight, whereas 30.5% and 22.2% with excess weight, respectively. Among the boys dissatisfied with their weight, 34.5% were normal weight, 45.3% were classified as overweight and 77.1% with obesity. Whereas the girls dissatisfied with their weight, 52.0% were classified as normal weight, 63.6% as overweight and 75.2% with obesity. The prevalence of excess weight was high, especially among the boys and younger adolescents (10-14 years). Weight dissatisfaction was more prevalent among the girls and older adolescents (15-19 years).*

Key words *Adolescent, Body weight, Nutritional status, Health surveys*

¹ Faculdade de Ciências Médicas, Universidade Estadual de Campinas. Cidade Universitária Zeferino Vaz, Barão Geraldo. 13083-970 Campinas SP Brasil. mari_martini08@yahoo.com.br

Introduction

The increase in the prevalence of overweight and obesity in the world has become a public health challenge^{1,2}. The number of individuals with excess weight went from 921 million in 1980 to 2.1 billion in 2013, corresponding to a 27.5% increase among adults and a 47.1% increase among children and adolescents³. Although the increase in excess weight has occurred in both rich and poor countries, 62.0% of individuals with obesity live in developing countries³.

In Brazil, the periodic execution of health surveys has enabled monitoring the nutritional status of the population. The Vigitel (Vigitel - Surveillance System of Risk and Protection Factors of Noncommunicable Disease by Telephone Survey) showed a trend toward an increase in excess weight (42.6 to 53.8%) and obesity (11.8 to 18.9%) among adults (≥ 18 years of age) residing in Brazilian capital cities and the Federal District in the 10 years between 2006 and 2016⁴. The National School Health Survey (*Pesquisa Nacional de Saúde do Escolar* - PeNSE, 2015) found that 23.7% of adolescents between 13 and 17 years of age were overweight and 7.8% were obese⁵. The 2008-2009 Household Budget Survey (*Pesquisa de Orçamentos Familiares* - POF) reports 20.5% and 4.9% rates of overweight and obesity among adolescents between 10 and 19 years of age⁶.

In this epidemic of excess weight, data from the PeNSE (2015) revealed that 80.0% of students considered their body image to be important or very important, but approximately 40.0% made no attempt to alter their body weight⁵. Excess weight is a disease that can cause physical and emotional harm, with consequences experienced throughout life^{7,8}. Children and adolescents with obesity are at greater risk of mortality, obesity in adulthood and the early development of cardiovascular disease, diabetes^{1,9,10} and psychological problems, such as depression and anxiety^{7,8,11}. Moreover, children and adolescents with excess weight tend to have greater dissatisfaction with their bodies and want to be thin^{11,12}.

Projections regarding what is considered the ideal body differ between the sexes. In girls, there is a desire for a thin body in line with the idealization imposed by social representations. The female body is expected to be attractive, slender and healthy, with a median height^{13,14}. For males, the expectations are a taller body, broad shoulders and well-defined, rigid muscles, especially the biceps and abdomen^{14,15}.

Although body image is considered important and there is an expectation to achieve a body

standard that corresponds to social representations, many adolescents are overweight and do nothing to change this situation. Excess weight and excessive concern with one's physical appearance can harm one's health. Therefore, the aim of the present study was to investigate nutritional status and estimate the prevalence of dissatisfaction with body weight among adolescents 10 to 19 years of age, testing the hypothesis that dissatisfaction with body weight differs between the sexes, age groups and classifications of nutritional status.

Methods

A population-based cross-sectional study was conducted using data from the 2008-2009 Health Survey in the city of Campinas, state of São Paulo, Brazil. This survey was conducted with the community-dwelling population living in urban areas of Campinas in the period between 2008 to 2009.

The sample was determined using a two-stage probabilistic cluster sampling procedure. In the first stage, 50 census sectors were randomly selected with probability proportional to size (number of homes). The sectors established by the Brazilian Institute of Geography and Statistics for the 2000 demographic census were used. Considering the time elapsed since the census and the present study, a survey of the homes in the selected sectors was performed for the obtaining of an updated list of addresses. Homes were randomly selected from the census sectors in the second stage.

The population of the survey was composed of three age groups: adolescents (10 to 19 years), adults (20 to 59 years) and seniors (60 years or older). The sample size was obtained considering a 50% prevalence rate, 95% confidence interval, a sampling error of 4 to 5 percentage points and a design effect of 2, totaling 1000 individuals for each age group. Expecting an 80% response rate, the sample was correct to 1250. To reach the desired sample size, 2150, 700 and 3900 homes were independently selected for interviews with adolescents, adults and seniors, respectively.

The data were collected using a questionnaire organized into 14 thematic blocks, which had been tested in a pilot study and administered by trained and supervised interviewers. The section on eating habits had items addressing reported weight and height, whether the respondents wished to change his/her body weight, how much the respondent would like to weigh, and practices performed to achieve weight loss.

The present study was limited to the data on the adolescents (10 to 19 years of age), which were divided into two age ranges: 10 to 14 and 15 to 19 years. This classification was based on the fact that the majority of individuals between 10 to 14 years are at the onset or in the middle of puberty and the majority of those between 15 and 19 years have undergone puberty and are closer to adulthood. The interviews were administered directly to the adolescents with or without the participation of their parents. The dependent variable was determined based on the answers to the following questions:

1. *Would you like to gain or lose weight?* (no / yes, gain weight / yes, lose weight). If the answer was “yes”, the following question was posed:

2. *How much would you like to weigh?*

Adolescents who reported wanting to gain or lose weight were considered dissatisfied with their body weight. Those who wanted to lose weight were categorized into two groups: those who wanted to lose < 10% and those that wanted to lose \geq 10% of the weight reported at the time of the survey. This cutoff point was defined by the authors of the present study based on the fact that it presented the best distribution of the available data.

The following were the independent variables analyzed:

Demographic and socioeconomic characteristics: sex (male / female), age group (10 to 14 / 15 to 19 years), family income *per capita* using the Brazilian monthly minimum wage (BMMW) as reference (< BMMW / \geq BMMW to < 2 times the BMMW / \geq 2 times the BMMW) and schooling of the head of the family (0 to 7 / 8 to 11 / 12 or more years of study).

Body Mass Index (BMI): calculated from reported weight and height (kg/m²). The percentile cutoff points of BMI for age proposed by the World Health Organization were used. The adolescents were classified as underweight (< 3rd percentile), normal weight (3rd to 85th percentile), overweight (> 85th to 97th percentile) or obese (> 97th percentile)¹⁶.

In the statistical analyses, prevalence rates and 95% Confidence Intervals (95% CI) were estimated for the classifications of nutritional status according to the sociodemographic variables. Next, the prevalence of satisfaction and dissatisfaction with weight was calculated based on nutritional status, sex and age. Associations were determined using the Rao-Scott chi-squared test with the level of significance set to 5%.

The data were entered into a database created using EpiData 3.1 (EpiData Association, Odense,

Denmark) and the statistical analyses were performed using the *svy* module of Stata 14.0 (Stata Corporation, College Station, Texas, USA), which enables the analysis of data from complex samples.

The project for this study received approval from the Human Research Ethics Committee of the School of Medical Sciences of the State University of Campinas. Participants aged 18 years or older and parents/guardians of those under 18 years of age signed a statement of informed consent.

Results

A total of 822 adolescents were analyzed. Mean age was 14.1 years (95% CI: 13.8 to 14.3). Among the boys, 64.7% were in the normal BMI range, 17.1% were overweight and 13.3% were obese. Among the girls, 75.4% were in the normal BMI range, 15.3% were overweight and 6.9% were obese. Compared to the boys, the prevalence of the normal weight was higher and the prevalence of obesity was lower among the girls (Table 1). Significant differences were found between the two age groups ($p < 0.001$). The prevalence of the normal weight was higher (79.0%) and the prevalence of overweight (12.1%) and obesity (5.5%) was lower among the older adolescents (15 to 19 years of age). No significant associations were found between nutritional status and family income *per capita* or schooling of the head of the household (Table 1).

A total of 51.2% of the adolescents were satisfied with their weight, 14.3% wanted to gain weight, 16.2% wanted to lose < 10% and 18.3% wanted to lose \geq 10% of their body weight. In the group of younger adolescents (10 to 14 years), 63.9% of those with normal weight, 58.2% of those classified as overweight and 30.3% of those classified with obesity were satisfied with their weight (Table 2). The prevalence of dissatisfaction with body weight was higher among the different categories of nutritional status in the group of older adolescents (15 to 19 years): 50.2% of those with normal weight, 75.2% of those with excess weight and 95.5% of those with obesity were dissatisfied with their body weight. In contrast, 49.8% of those with normal weight, 24.7% of those with excess weight and 4.4% of those with obesity were satisfied with their body weight (Table 2).

Among the boys with obesity, 22.9% reported being satisfied with their weight, 28.2% were in the younger age group (10 to 14 years)

Table 1. Prevalence of nutritional status categories among adolescents 10 to 19 years of age according to sex, age group, family income per capita and schooling of head of household. City of Campinas Health Survey, 2008/2009.

Variables and categories	n ^a	Prevalence (95% CI) ^b			
		Underweight	Normal weight	Overweight	Obesity
Sex	p = 0.002 ^c				
Male	416	4.8 (3.0-7.7)	64.7 (59.7-69.4)	17.1 (13.5-21.5)	13.3 (10.2-17.2)
Female	406	2.4 (1.2-4.5)	75.4 (71.5-79.0)	15.3 (12.0-19.4)	6.9 (5.0-9.4)
Total	822	3.6 (2.4-5.5)	69.9 (67.1-72.7)	16.2 (13.8-19.1)	10.2 (8.2-12.5)
Age group (in years)	p < 0.001 ^c				
10 to 14	427	3.9 (2.3-6.7)	61.6 (56.9-66.1)	20.1 (16.2-24.6)	14.4 (11.0-18.6)
15 to 19	395	3.3 (1.9-5.8)	79.0 (75.4-82.2)	12.1 (9.6-15.2)	5.5 (3.8-8.0)
Family income per capita	p = 0.635 ^c				
< 1	499	3,2 (2,0-5,0)	70,6 (66,7-74,3)	14,9 (12,1-18,2)	11,2 (8,7-14,5)
≥ 1 a < 2	186	4,8 (2,2-10,1)	70,5 (62,3-77,6)	16,7 (11,6-23,4)	8,0 (4,4-14,2)
≥ 2	137	3,5 (1,1-10,6)	66,9 (58,2-74,5)	20,3 (15,3-26,5)	9,3 (5,0-16,5)
Schooling of head of family (in years)	p = 0.089 ^c				
0 to 7	324	5.5 (3.2-9.2)	70.1 (66.2-73.7)	13.9 (10.5-18.1)	10.5 (7.9-13.9)
8 to 11	292	2.8 (1.5-5.2)	68.1 (61.9-73.6)	16.4 (11.8-22.3)	12.7 (9.2-17.4)
12 or +	199	2.1 (0.6-6.9)	72.3 (66.3-77.6)	19.2 (14.6-24.8)	6.4 (3.8-10.5)

BMMW = Brazilian monthly minimum wage. ^aNumber of individuals in unweighted sample. ^b95% Confidence Interval. ^cp-value of Rao Scott.

Table 2. Prevalence of satisfaction and dissatisfaction with body weight among adolescents 10 to 19 years of age. City of Campinas Health Survey, 2008/2009.

Variables and categories	n ^a	Prevalence (95% CI) ^b			
		Satisfied	Wants to gain weight	Wants to lose weight	
				< 10%	≥ 10%
BMI (kg/m2)		p < 0.001 ^c			
Underweight	30	54.0 (33.2-73.5)	42.7 (25.4-62.0)	0.0	3.2 (0.5-19.2)
Normal weight	573	56.2 (50.2-62.1)	17.6 (14.0-22.0)	18.0 (14.5-22.2)	8.1 (6.0-10.8)
Overweight	133	46.2 (36.0-56.7)	3.0 (1.1-7.8)	18.2 (12.0-26.7)	32.5 (23.4-43.2)
Obesity	84	23.5 (15.5-34.1)	0.0	5.9 (2.7-12.6)	70.5 (61.4-78.1)
Total	820	51.2 (45.5-56.8)	14.3 (11.4-17.9)	16.2 (13.2-19.7)	18.3 (15.7-21.2)
Total population					
10 and 14 years					
BMI (kg/m2)		p < 0.001 ^c			
Underweight	17	59.6 (32.2-82.0)	34.6 (15.3-60.8)	0.0	5.8 (0.8-31.3)
Normal weight	262	63.9 (55.8-71.3)	12.9 (9.0-18.0)	13.4 (9.1-19.3)	9.8 (6.8-13.9)
Overweight	85	58.2 (44.6-70.7)	3.6 (1.1-10.8)	13.1 (6.9-23.6)	25.1 (15.5-37.9)
Obesity	62	30.3 (19.8-43.4)	0.0	4.9 (1.7-13.8)	64.7 (52.5-75.2)
15 to 19 years					
BMI (kg/m2)		p < 0.001 ^c			
Underweight	13	46.9 (19.0-77.0)	53.1 (23.0-81.0)	0.0	0.0
Normal weight	311	49.8 (43.0-56.5)	21.6 (17.0-27.1)	21.9 (17.2-27.5)	6.7 (4.2-10.6)
Overweight	48	24.7 (13.8-40.0)	2.0 (0.3-13.6)	27.3 (16.4-41.8)	45.9 (32.1-60.5)
Obesity	22	4.4 (0.6-27.7)	0.0	8.8 (2.3-28.1)	86.7 (66.6-95.5)

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Table 2. Prevalence of satisfaction and dissatisfaction with body weight among adolescents 10 to 19 years of age. City of Campinas Health Survey, 2008/2009.

Variables and categories	n ^a	Prevalence (95% CI) ^b			
		Satisfied	Wants to gain weight	Wants to lose weight	
				< 10%	≥ 10%
Boys					
BMI (kg/m ²)		p < 0.001 ^c			
Underweight	20	56.0 (31.2-78.0)	39.2 (21.5-60.4)	0.0	4.8 (0.7-25.2)
Normal weight	268	65.5 (58.1-72.1)	19.8 (15.0-25.7)	9.9 (6.5-14.7)	4.8 (2.8-8.0)
Overweight	71	54.6 (41.0-67.6)	4.0 (1.3-11.5)	21.1 (12.3-33.9)	20.2 (11.6-32.7)
Obesity	56	22.9 (13.4-36.3)	0.0	3.5 (0.9-12.7)	73.6 (61.3-83.0)
Boys 10 to 14 years					
BMI (kg/m ²)		p < 0.001 ^c			
Underweight	10	61.2 (28.2-86.3)	29.0 (11.9-55.4)	0.0	9.6 (1.4-43.1)
Normal weight	122	72.7 (62.9-80.8)	10.6 (6.2-17.5)	8.4 (4.0-16.6)	8.1 (4.5-14.3)
Overweight	48	64.0 (45.9-78.8)	3.9 (0.9-14.6)	12.8 (5.1-28.5)	19.1 (9.9-33.5)
Obesity	42	28.2 (15.6-45.5)	0.0	2.3 (0.3-14.8)	69.3 (53.1-81.9)
Boys 15 to 19 years					
BMI (kg/m ²)		p < 0.001 ^c			
Underweight	10	50.7 (19.7-81.2)	49.2 (18.7-80.2)	0.0	0.0
Normal weight	146	59.3 (50.6-67.5)	27.4 (20.9-35.1)	11.1 (6.4-18.5)	1.9 (0.6-5.8)
Overweight	23	34.5 (16.3-58.7)	4.2 (0.5-26.5)	38.7 (21.0-60.0)	22.4 (9.2-45.3)
Obesity	14	6.9 (0.8-38.3)	0.0	6.9 (0.8-38.2)	86.1 (56.4-96.7)
Girls					
BMI (kg/m ²)		p < 0.001 ^c			
Underweight	10	50.0 (19.7-80.3)	50.0 (19.7-80.3)	0.0	0.0
Normal weight	305	48.0 (40.4-55.6)	15.6 (11.7-20.5)	25.3 (19.8-31.7)	11.1 (7.5-16.0)
Overweight	62	36.4 (24.5-50.2)	1.8 (0.2-12.4)	14.8 (7.3-27.5)	47.0 (32.2-62.4)
Obesity	28	24.9 (12.6-43.1)	0.0	11.0 (3.5-29.1)	64.2 (47.1-78.3)
Girls 10 to 14 years					
BMI (kg/m ²)		p < 0.001 ^c			
Underweight	7	57.1 (22.0-86.3)	42.8 (13.7-77.9)	0.0	0.0
Normal weight	140	56.0 (45.1-66.4)	14.8 (9.2-22.9)	17.8 (11.3-26.8)	11.2 (6.6-18.4)
Overweight	37	50.4 (34.9-65.9)	3.0 (0.4-19.1)	13.4 (5.1-30.9)	33.0 (17.3-53.5)
Obesity	20	34.7 (18.7-55.0)	0.0	10.4 (2.4-35.5)	54.8 (34.9-73.3)
Girls 15 to 19 years					
BMI (kg/m ²)		p < 0.001 ^c			
Underweight	3	33.4 (3.9-85.8)	66.6 (14.1-96.0)	0.0	0.0
Normal weight	165	41.0 (31.8-50.8)	16.2 (11.6-22.3)	31.7 (24.6-39.6)	10.9 (6.5-17.8)
Overweight	25	15.5 (6.0-34.3)	0.0	16.7 (6.2-37.7)	67.7 (48.4-82.4)
Obesity	8	0.0	0.0	12.2 (2.0-48.0)	87.7 (51.9-97.9)

^aNumber of individuals in unweighted sample. ^b95% Confidence Interval. ^cp-value of Rao Scott.

and 6.9% were in the older age group (15 to 19 years), demonstrating greater satisfaction among the younger adolescents with obesity. A total of 71.6% of the boys between 10 and 14 years of age and 93.0% of those between 15 and 19 years of age wanted to lose weight (Table 2).

Among the girls with obesity, 24.9% reported being satisfied with their weight and 34.7% were in the younger age group (10 to 14 years). A total 75.2% of the girls with obesity, 65.2% of those between 10 and 14 years of age and 99.9% of those between 15 and 19 years of age wanted

to lose weight. Statistically significant differences were found in the analysis of the categories of nutritional status according to sex and age (Table 2).

Discussion

In the present study, the prevalence of overweight and obesity was high among the adolescents, especially the boys and younger adolescents (10 to 14 years). Moreover, the prevalence of satisfaction with body weight was lower among the girls and older adolescents (15 to 19 years).

A total of 17.1% and 13.3% of the boys were overweight and obese, respectively, whereas the rates were respectively 15.3% and 6.9% among the girls. These values are higher than what was expected for the cutoff points of BMI for age (> 85th percentile), which would be 12.0% overweight and 2.9% obese¹⁶. Data from the 2008–2009 Household Budget Survey show that 15.7% and 5.8% of boys were overweight and obese, respectively, whereas these values were respectively 15.4% and 4.0% for girls⁶. Thus, higher rates of overweight and obesity were found in the city of Campinas compared to national data, with the exception of the overweight category among girls. Data from the PeNSE (2009) revealed that 16.0% of students in the 9th year of basic education were overweight and 7.2% were obese¹⁷, which are much closer to the rates found in the present study (16.2% overweight and 10.2% with obesity).

The present findings reveal the overweight and obesity were more prevalent among the boys than the girls. A systematic review that analyzed trends in overweight and obesity between 1980 and 2013 in Canada found a greater frequency of excess weight among males (25.5% versus 22.0%), whereas the prevalence was higher among females in the United States (29.7% versus 28.8%), although this difference was non-significant³.

Among the girls in the present study, the prevalence of the normal BMI range was higher and the prevalence of satisfaction with body weight was lower. This may be explained by the fact that adolescent girls are more concerned with appearance, place considerable importance on being slender and are more attentive to and influenced by advertising and the opinions of friends, whereas boys internalize their ideal for larger, more muscular bodies and do not express their body concerns^{18,19}. Data from the PeNSE

(2009) reveal that girls were most exposed to inadequate eating practices, with higher frequencies of the regular consumption (≥ 5 days a week) of treats, cookies and processed meats as well as lower frequencies of the regular consumption of milk and beans and the habit of having lunch or dinner with their mothers or guardians²⁰. A study conducted in a municipality in the state of Paraná (southern Brazil) involving 2562 adolescent students between 14 and 19 years of age found that boys consumed more fruits, beans and milk and ate the main meals of the day more than girls²¹. The omission of meals is an inadequate behavior often adopted by the female sex in an attempt to lose weight²².

While the prevalence of overweight and obesity was higher among the younger adolescents (10 to 14 years), the older adolescents (15 to 19 years) had a greater frequency of dissatisfaction with body weight in all nutritional status categories. Among the younger adolescents, only those with obesity had a high frequency of dissatisfaction with body weight (69.6%), indicating that the older adolescents were more concerned with their weight. Similar results have been reported in previous studies, in which the prevalence of overweight and obesity was higher among boys 15 to 19 years of age compared to those between 10 and 14 years of age²³ and postpubescent girls (12 to 14 years) were most dissatisfied with their bodies than prepubescent girls (10 to 11 years) due to the greater concern and attention given to body characteristics that attract the opposite sex, making girls more susceptible to dissatisfaction with their bodies²⁴. Adolescents generally become more critical of themselves and more concerned with appearance as they get older²⁵.

A total of 48.8% of the participants wanted to lose or gain weight. Analyzing dissatisfaction with body image, Conti et al.²⁴ found that adolescents of both sexes demonstrated concerns with weight, body size and appearance; the aspects that most caused dissatisfaction were weight, stomach and thighs among the boys and weight, chest/breasts and stomach among the girls. In a study conducted with 573 adolescents with normal weight range in the city of Campinas, Brazil, the prevalence of dissatisfaction with weight was 43.8% (95% CI: 37.9 to 49.8), with greater dissatisfaction found among the girls, adolescents between 15 and 19 years of age, those that had a larger number of appliances in the home, ex-smokers, those that consumed alcoholic beverages and those that reported a medical diagnosis of chronic diseases²⁶. In a study conducted

in the city of Caruaru (northeast Brazil), 80.8% of adolescent girls and 59.5% of adolescent boys with excess weight (overweight/obesity) wanted to lose weight²⁷. These values are higher than those found in the present investigation.

In a study conducted in the city of Vitória (southeast Brazil), 86.0% of the adolescents were in the normal weight range and 14.0% were overweight, but 62.7% wanted to lose weight, 23.2% wanted to gain weight and 14.0% wanted to gain muscle mass, demonstrating that the individuals did not have perceptions of their bodies in line with the results of the nutritional assessment²⁸. A study conducted with 831 students in the 8th grade of basic education in the city of Porto Velho (northern Brazil) identified greater dissatisfaction with body image among the girls and individuals with excess weight (overweight or obesity); moreover, those classified as underweight were more satisfied with their body image than those in the normal weight range²⁹. Analyzing more than 9000 high school students in New Zealand, researchers found that 60.6% (95% CI: 59.1 to 62.1) of the boys and 38.5% (95% CI: 37.2 to 39.9) of the girls were happy with their weight and that body satisfaction was higher among those who had friends with whom to talk, those with friends who cared about healthy eating and physical activity, those who had parents that stimulated the practice of physical exercise and the adoption of a healthy diet and those who were not teased by their families because of their weight³⁰.

The influence of the media on the standardization of the ideal of beauty can lead to physical and emotional problems in adolescents, such as discontent with and the non-acceptance of one's own body, the constant desire for modifications (such as plastic surgery), a distorted body image and eating disorders, especially anorexia and bulimia³¹. A distorted body image (overestimated or underestimated body shape and/or size) is a frequent problem in many adolescents²⁴.

The present study has limitations that should be considered, such as the use of self-reported information regarding weight and height in adolescents, who are in a constant state of body transformation, with rapid growth and physical development. However, studies have reported a

good level of agreement between measured and reported weight and height in this population, considering it valid to use self-reported information in epidemiological studies^{32,33}. Another limitation was the fact that dissatisfaction with body weight was not measured using a scale, but rather a closed-ended question addressing whether the adolescent would like to gain or lose weight. The strengths of this study include the use of data from a population-based survey and a design with a detailed analysis to identify socio-demographic differences regarding nutritional status categories and (dis)satisfaction with body weight. Another strong point was the categorization of participants who wanted to lose weight based on the desired reduction (< 10% or ≥ 10% of body weight).

It should be pointed out that Brazil drafted a Strategic Action Plan to Combat Chronic Non-Communicable Diseases, establishing commitments and investments to reduce the prevalence of obesity among adolescents between 2011 and 2022³⁴. Another measure of considerable importance is the Inter-Sector Strategy for the Prevention and Control of Obesity, which sets guidelines for states and municipalities through intersectoral actions involving the participation of civil society, a healthy diet, the regular practice of physical exercise and the control of advertising, especially at schools and places frequented by adolescents³⁵.

Dissatisfaction with one's body weight can lead to inadequate health behaviors and interfere with the growth and development of adolescents. The results of the present study can contribute to the discussion of this issue and the planning of public policies. These findings can also assist health professionals in understanding the desires and anguish of each adolescent with regards to his/her weight.

In conclusion, the prevalence of excess weight was high in the present study, especially among boys and individuals between 10 and 14 years of age. No significant association was found between nutritional status and family income *per capita* or the level of schooling of the head of the household. The prevalence of dissatisfaction with weight was higher among the girls as well as adolescents between 15 and 19 years of age.

Collaborations

All authors participated in the conception of the study, read and approved the content of this manuscript. MCS Martini performed the analysis and interpretation of the data, performed the literature review and wrote the manuscript. D de Assumpção accompanied the data collection and performed the analyses, interpretation of the results and writing of the manuscript. MBA Barros contributed to the conception of the analysis and performed a critical review of the manuscript. AA Barros Filho oriented the proposal of the article and approved the final version for publication.

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