

112 - INFLUENCE OF SCHOOL SNACK AND OBESITY IN SCHOOLS: LITERATURE REVIEW

JEYSON GUILBERTH FERREIRA SAMPAIO
 LAÉCIO DE LIMA ARAUJO
 DAVID MARCOS EMÉRITO ARAÚJO
 FEDERAL UNIVERSITY OF PIAUI (UFPI) – TERESINA – PIAUÍ – BRAZIL
 jeysonguilberth@hotmail.com

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INTRODUCTION

Of all living beings, only man and some animals that he domesticates are fattening, and this is because they regularly consume more food than they need to meet their energy expenditure from the biological work that converts and quickly stores in fat that excess of food. In this way obesity is the excess of body fat causing energy imbalance and causing damage to health. Excess body fat in adults is closely linked to several risk factors for heart disease such as diabetes, high blood pressure, hyperlipidemia, in addition to other types of chronic diseases.

According to Freitas et. al. (2009) state that one of the factors that causes obesity is the excessive time that children and adolescents take to watching television or playing virtual games. In their study, it was found that it is possible through food education to prevent increased rates of obesity, and consequently reduce public spending on health problems caused by overweight and sedentary lifestyle in adulthood. The sedentary activity of watching television influences with their commercials the consumption of fatty foods, and the familiar habits.

Obesity is not only present in adults, on the contrary, obesity in children and adolescents is increasing very rapidly in some countries of the world including Brazil, and one of the countries most affected by childhood obesity is undoubtedly the United States. In the last decades, overweight and obesity in schoolchildren increased at alarming levels (WANG et al., 2002, FERRARI and BARBOSA, 2008).

According to these researchers, research shows that there is a lower percentage of obese school-age children, related to adolescents who show higher numbers in overweight and obesity, thus obesity represents a serious public health problem, especially among children and adolescents.

Obesity is one of the main concerns today, and is seen as a consequence of wrong eating habits, especially among young people (children and adolescents) who stop eating healthy, going for the salty snacks, pastries, pizzas and other during school hours.

It is estimated that 30% or 40% of students are obese or overweight due to inadequate diet both at home and at school, sedentary lifestyle and genetic factors. The objective of this study was to carry out an integrative review regarding school snack and its relationship with obesity in children and adolescents.

MATERIALS AND METHODS

This study refers to an integrative review, in which the literature of a certain theme starts to compose the review and the analysis is not random, but from the selection of inclusion and exclusion criteria. This review involves a few steps, such as the definition of the question; definition of strategies and selection of inclusion / exclusion criteria; the search in literature; selection of publications by applying the criteria; and the analysis of selected publications for review.

Some questions guide the present research: what is the influence of school snack on the body composition index of schoolchildren? How Does School Snack Reflect on Obesity? How has obesity been treated in children and adolescents in school?

The searches were carried out in August 2017, in the following databases: SCIELO, PUBMED and LILACS. The terms used in the searches were: School snack (e) Obesity; Physical Education (e) Obesity; Schooling (e) Obesity.

Portuguese publications were included, without restriction or delimitation regarding the period of time. Following the initial search, a preliminary selection involved the identification and deletion of duplicate publications, keeping only one element. After this stage, the process of applying the inclusion and exclusion criteria was started.

From the titles and / or abstracts, it was sought to identify the publications that could be included and excluded from the study, excluding those that were distanced from the study objective. As an inclusion criterion, the publications dealing with school snacks and obesity were considered; with priority the publications with full text, articles in scientific journals. All publications that were distanced from the study objective were excluded.

After the selection of the publications for the review, they were read and analyzed, aiming at identifying in each of them the contents that make it possible to relate obesity and school snacks for children and adolescents.

Content of the publications related to the objective of the study were classified and selected in categories and presented in table 1, referring to: authors, year of publication, methodology and results.

RESULTS

Initial searches resulted in 509 publications. 136 publications were excluded and 373 publications remained. Inclusion and exclusion criteria were applied, which resulted in the exclusion of 367 publications and the final selection of 06 publications to compose the review study.

Frame 1. Characterization and distribution of publications dealing with obesity and school snack.

Author / Year	Kind of study	Methodology	Result
PRODA NOV; CIMAD ON. 2016	Fieldresearch, exploratory and descriptive character.	Twenty-six students aged seven to eight years were surveyed, their parents and the class teacher. A questionnaire was used which included related to lifestyle (hours of TV / day) and eating habits.	The results showed that the majority of children spend their free time in front of the television on average 3h / day, which the children ask the their parents products advertised on television and that, at school snack, consume industrialized products taken from home.

OLIVEIRA; POLL. 2016	Cross-sectional prospective study with quantitative and qualitative approach	The students enrolled in a state school in the municipality of Venâncio Aires / RS, aged between five and nine years, were evaluated. Data were collected through questionnaires sent to the households to be answered by the parents.	Regarding nutritional status, 59.42 were overweight (n = 41), 39.13% (n = 27) eutrophic, and 1.45% (n = 1) in leanness. Considering the weekly consumption, the foods consumed, respectively, include rice and pasta, potatoes, cassava (79.41%), beans or lentils (76.92%), bread (73.77%), fruits (42.86%), vegetables (29.85%) and soft drinks (29.41%)
CARVALHO; BELEM; ODA. 2017.	No description	A total of 226 children aged 6 to 10 years were studied, of which 133 were female and 93 were males from August to September 2009, at a state school in Umuarama, PR. An anthropometric evaluation was performed on the children and a questionnaire was applied containing 10 closed questions in which the subject was related to eating habits and physical activity.	There were 18 (19.35%) boys with nutritional deficits (BMI <10), 17 (18.25%) were overweight (10 <BMI <90) and 20 (21.5%) presented a obesity (BMI > 90), (BMI <<10) 22 (16.54%) presented nutritional status among overweight (10 <BMI <90) and 31 (23.3%) presented obesity (BMI > 90).
D'AVILA; SILVA; VASCONCELOS. 2016.	Cross-sectional study	Cross-sectional study with a probabilistic sample of 2481 students enrolled in public and private schools in Florianópolis, Santa Catarina, Brazil. The percentage of body fat was investigated through the skin folds of the triceps and subscapular. Were performed crude and adjusted analyzes using Poisson regression, estimating prevalence ratios and 95% confidence intervals.	The prevalence of excess body fat was 23.9%, presenting no significant difference between sex (p = 0.359) and age (p = 0.202). Body fat was associated with different factors in schoolchildren aged 11 to 14 years: consuming less than 3 meals a day (PR = 1.62; CI: 1.38-1.91) and food at risk more than 3 times a day (RP = 0.61, CI: 0.47-0.79). No significant difference was observed with physical activity.
PEREIRA TS et al. 2017	Experimental study	The study was carried out during the second semester of 2013 with 59 adolescents between the ages of thirteen and sixteen, enrolled in two classes of the eighth grade of a municipal school in the municipality of Lavras - Minas Gerais. The intervention proposed in this study was composed of four stages: Presentation of the project and recruitment of participants; Identification of dietary habits and application of the initial evaluation questionnaire; Lecture / game type Quiz; Application of the final evaluation questionnaire.	The eating habits of the adolescents who participated in the research revealed high consumption of high-calorie foods rich in simple sugars, sodium and fat (sweets, snacks and soft drinks) and low consumption of fruits, vegetables and vegetables.
FERNANDES et al. 2009.	Intervention study	Sample composed of 135 schoolchildren from a private school and a public school in Florianópolis (SC), divided into intervention groups (n = 55) and without intervention (n = 80). Two anthropometric and food consumption evaluations were performed before and after the implementation of a nutritional education program. The program was composed of eight biweekly meetings and addressed themes related to healthy eating, preparation of adequate snacks and physical activity. Nutritional diagnosis was obtained by body of the Canteens of Santa Catarina. The data were analyzed in the Statistical Package for the Social Sciences, considering as significant p ≤ 0.05, mass index for age, according to the Centers for Disease Control and Prevention, and foods consumed at school were classified as either permitted or prohibited by the Law	The percentage of overweight / obese students increased from 21.8 to 23.6% in the intervention groups and from 33.7 to 35.0% in the non-intervention groups (p > 0.05). There was a significant decrease in the consumption of artificial juice (p = 0.013), food prohibited by the Law, in the intervention classes. In the non-intervention groups, a significant increase was observed in the consumption of banned foods, such as industrial salty snack (p = 0.021) and refrigerant (p = 0.031). In addition, morning cereal, an appropriate food for the school snack, had reduced consumption (p = 0.039).

DISCUSSION

Table 1 shows that there are current studies on the relation between school snack and obesity, proving to be a topic of wide investigation, since obesity is becoming more and more common in the school environment.

The consumption of caloric foods by schoolchildren was reported in the study by Pereira TS et al. (2017), where the eating habits of the adolescents who participated in the research revealed that all the students surveyed reported having a habit of consuming sweets and treats, 40.68% said they consume three or more times a day. Fast food snacks were also present in the diet of all students, and 16.95% reported consuming this type of food three or more times a day. Consumption of soft drinks at least twice a day was reported by 35.59% of adolescents. In contrast, only 23.73% of the adolescents reported consuming fruit three or more times a day and 13.56% consumed vegetables and vegetables with the same frequency.

Fernandes et al. (2009), in a controlled intervention study on the effectiveness of a nutritional education program aimed at obesity prevention and improvements in the food consumption profile of elementary school students from two schools in

the city of Florianópolis. The prevalence of overweight / obesity in the intervention groups increased from 21.8% before the nutritional education program to 23.6% after the program. In the non-intervention groups, prevalence varied from 33.7 to 35.0%. With regard to food consumption, intervention groups, the consumption of foods prohibited by the Law of Canteens in 2 or 3 days of collection went from 38.2 to 29.1% and in the groups that did not go through the program, the consumption of these foods in 2 or 3 days of collection increased from 25 to 21.3%. It was also noted that in the intervention groups, there was a decrease in the consumption of artificial juice and processed salty foods prohibited by the Law of Canteens after the application of the program.

The results of the study by D'Avila G.L. et al. (2016) confirm the influence of behavioral habits of schoolchildren, factors associated with excess body fat, which may contribute to the increase of obesity that is viewed in a worrisome way, as it can continue into adulthood and cause consequences such as type 2 diabetes mellitus, hypertension, dyslipidemias, metabolic syndrome and coronary artery disease.

In another study it was found that 74.77% of the children surveyed, eat fast snacks out of the house and 15.92% said to eat frequently and reported eating pasta at least twice a week. Already consumption of vegetables and vegetables is not constant for the vast majority of children (59.67%). These eating habits, which consist of a diet rich in animal fats, sugar and refined foods, as well as a reduced intake of complex carbohydrates and fibers, favor energy supply and consequently obesity (CARVALHO et al., 2017).

Oliveira; Poll (2016) places an alert about the growing obesity index, where the prevalence of overweight children, as well as the daily consumption of soft drinks and soft drinks, was observed in the study by 29.41% of the children and 3 to 4 times a week by 17.65% of schoolchildren and only 27 children (42.86%) consume fruits daily, and 20 (29.85%) consume vegetables every day, which leads to thinking about the incentive to consumption, given the importance of good nutrition for health maintenance.

Parents can interfere in the formation of children's eating patterns. For they provide for the school snack artificial juices, chocolates, industrialized white bread, industrialized cookie and stuffed biscuit (PRODANOV; CIMADON, 2016).

It is in agreement with the considerations / recommendations presented in the literature that there should be guidelines regarding healthy life habits and that these actions are essential and should be stimulated in the family and school contexts, with the need to implement activities focused on food education and nutritional status in the school environment, since in a nutritional education program the result was positive (FERNANDES PS et al., 2009. PRODANOV, CIMADON, 2016. OLIVEIRA, POLL, 2016. CARVALHO et al. CONCLUSION

CONCLUSION

The school snack has a strong influence on the obesity index at the school level, since poor nutrition associated with lack of physical activity is a determining factor for the increase of these indices.

The literature shows the great consumption of industrialized foods, rich in fats and sugar, food that endangers the health of the students, since they spend most of the time in the school environment. It is noted that it is necessary to develop activities that promote the conscious consumption of healthy foods in the school environment.

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Rua José da Prata, Nº 231, Centro – Altos – PI
(86) 99513-0864
jeysonguilberth@hotmail.com

INFLUENCE OF SCHOOL SNACK AND OBESITY IN SCHOOLS: LITERATURE REVIEW.

In the last decades, overweight and obesity in schoolchildren have risen to alarming levels and are seen as consequences of wrong eating habits. This study aimed to carry out an integrative review regarding school snack and its relationship with obesity in children and adolescents. The data search was performed in August 2017, in the following databases: SCIELO, PUBMED and LILACS. The terms used in the searches were: School snack (e) Obesity; Physical Education (e) Obesity; Schooling (e) Obesity. The selection process resulted in 06 publications for the review study. It was concluded that the school snack has a strong influence on the school-level obesity index, since poor diet associated with lack of physical activity is a determining factor for the increase of these indexes.

Keywords: Obesity; School lunch; Eating habits.

INFLUENCE DE LA LANGUE SCOLAIRE ET DE L'OBÉSITÉ DANS LES ÉCOLES: EXAMEN DE LA LITTÉRATURE

Au cours des dernières décennies, le surpoids et l'obésité chez les écoliers ont atteint des niveaux alarmants et sont considérés comme les conséquences de mauvaises habitudes alimentaires. Cette étude visait à effectuer une revue intégrative concernant les collations à l'école et sa relation avec l'obésité chez les enfants et les adolescents. La recherche de données a été effectuée en août 2017 dans les bases de données suivantes: SCIELO, PUBMED et LILACS. Les termes utilisés dans les recherches étaient: Collation scolaire (e) Obésité; Éducation physique (e) Obésité; Scolarisation (e) Obésité. Le processus de sélection a donné lieu à 06 publications pour l'étude d'examen. Il a été conclu que le goûter scolaire a une forte influence sur l'indice d'obésité au niveau de l'école, car une mauvaise alimentation associée à un manque d'activité physique est un facteur déterminant pour l'augmentation de ces indices.

Mots-clés: Mode de vie sédentaire; École; L'état nutritionnel.

INFLUENCIA DEL LANCHE ESCOLAR Y OBESIDAD EN ESCOLARES: REVISIÓN DE LITERATURA

En las últimas décadas, el sobrepeso y obesidad en escolares han aumentado en niveles alarmantes, siendo vistas como consecuencias de hábitos alimentarios erróneos. Este estudio tuvo como objetivo realizar una revisión integrativa referente a la merienda escolar y su relación con la obesidad en niños y adolescentes. La búsqueda de datos fue realizada en el mes de agosto de 2017, en las siguientes bases de datos: SCIELO, PUBMED y LILACS. Los términos empleados en las búsquedas fueron: Lanche escolar (e) Obesidad; Educación Física (e) Obesidad; Escolares (e) Obesidad. El proceso de selección resultó en 06 publicaciones para el estudio de revisión. Se concluyó que la merienda escolar tiene fuerte interferencia en el índice de obesidad a nivel escolar, pues la mala alimentación asociada a la falta de actividad física es factor determinante para el aumento de esos índices.

Palabras clave: Obesidad; Bodega escolar; Hábitos alimenticios.

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Nas últimas décadas, o sobrepeso e obesidade em escolares aumentaram em níveis alarmantes, sendo vista como consequências de hábitos alimentares errados. Este estudo teve como objetivo realizar uma revisão integrativa referente ao lanche escolar e sua relação com a obesidade em crianças e adolescentes. A busca de dados foi realizada no mês de agosto de 2017, nas seguintes bases de dados: SCIELO, PUBMED e LILACS. Os termos empregados nas buscas foram: Lanche escolar (e) Obesidade; Educação Física (e) Obesidade; Escolares (e) Obesidade. O processo de seleção resultou em 06 publicações para o estudo de revisão. Concluiu-se que o lanche escolar tem forte interferência no índice de obesidade em nível escolar, pois a má alimentação associada à falta de atividade física é fator determinante para o aumento desses índices.

Palavras-chave: Obesidade; Lanche escolar; Hábitos alimentares.