

FOOD AND NUTRITIONAL SAFETY: CONTEXTS AND IMPORTANCE IN PROMOTING SCHOOL HEALTH

SEGURANÇA ALIMENTAR E NUTRICIONAL: CONTEXTOS E IMPORTÂNCIA NA PROMOÇÃO DA SAÚDE ESCOLAR

SEGURIDAD ALIMENTARIA Y NUTRICIONAL: CONTEXTOS E IMPORTANCIA EN LA PROMOCIÓN DE LA SALUD ESCOLAR



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ABSTRACT: A bibliographic collection was raised, presenting the school as a privileged field of healthy eating practices in the promotion of food and nutritional security. We used electronic data from Scielo, government sources, non-electronic literature and studies in the Portuguese language, published between 2000 and 2020. It is evident that the concept of Food and Nutrition Security is still under construction, evolving as humanity advances, involving knowledge and political actions that enshrine it as a universal right. In this conception, several methods are used to evaluate the dimension of access to food, especially the analysis of income and/or food consumption in order to contribute to the elaboration of public policies that promote health in the school context because it is a conducive environment for the implementation of food and nutritional security actions. Thus, the importance that the school exerts in the formation of healthy eating habits is listed, with school feeding being one of the aspects of this training.

KEYWORDS: School feeding. Health policies. Health indicators. School health promotion. Food security.

RESUMO: *Levantou-se um acervo bibliográfico apresentando a escola enquanto campo privilegiado de práticas alimentares saudáveis na promoção da segurança alimentar e nutricional. Utilizou-se dados eletrônicos da Scielo, fontes governamentais, literaturas não eletrônicas e estudos na língua portuguesa, publicados no período entre 2000 a 2020. Evidencia-se que o conceito de Segurança Alimentar e Nutricional ainda se encontra em construção, evoluindo à medida que avança a humanidade, envolvendo saberes e ações políticas que a consagram como direito universal. Nesta concepção, vários métodos são utilizados para avaliar a dimensão de acesso aos alimentos, sobretudo a análise de renda e/ou consumo alimentar no intuito de contribuir na elaboração de políticas públicas promotoras de saúde no contexto escolar por ser um ambiente propício para a implementação das ações de segurança alimentar e nutricional. Assim, elenca-se a importância que a escola exerce na formação de hábitos alimentares saudáveis, tendo a alimentação escolar uma das vertentes dessa formação.*

PALAVRAS-CHAVE: *Alimentação escolar. Indicadores de saúde. Promoção da saúde escolar. Políticas de saúde. Segurança alimentar.*

RESUMEN: *Se recopiló un acervo bibliográfico que presenta a la escuela como un campo privilegiado de prácticas de alimentación saludable en la promoción de la seguridad alimentaria y nutricional. Se utilizaron datos electrónicos de Scielo, fuentes gubernamentales, literatura no electrónica y estudios en lengua portuguesa, publicados entre 2000 y 2020. Es evidente que el concepto de Seguridad Alimentaria y Nutricional aún está en construcción, evolucionando a medida que avanza la humanidad, involucrando conocimientos y acciones políticas que lo consagran como un derecho universal. En esta concepción, se utilizan varios métodos para evaluar la dimensión del acceso a los alimentos, especialmente el análisis de ingresos y/o consumo de alimentos con el fin de contribuir a la elaboración de políticas públicas que promuevan la salud en el contexto escolar porque es un ambiente propicio para la implementación de acciones de seguridad alimentaria y nutricional. Así, se enumera la importancia que la escuela ejerce en la formación de hábitos alimenticios saludables, siendo la alimentación escolar uno de los aspectos de esta formación.*

PALABRAS CLAVE: *Alimentación escolar. Indicadores de salud. Promoción de la salud. Políticas de salud. Seguridad alimentaria.*

Introduction

The Federal Constitution of 1988 recognizes health as a right of all and a duty of the State, which is the result of several conditions, namely, education, food, work, income and access to health services. More precisely in its article 60, the Human Right to Adequate Food (DHAA) is guaranteed, which is achieved when all people have guaranteed and uninterrupted access to healthy food through their own and sustainable means (BRASIL, 1988).

The human right to adequate and sufficient food goes beyond the simple acquisition and availability of food, being closely linked to respect for eating practices and habits, the individual's health condition and assistance to biologically vulnerable human groups (VALENTE, 2003).

In Brazil, the concept of Food and Nutritional Security (SAN) has undergone changes due to the history of man and society itself, thus articulating two well-defined dimensions: food, which is understood as the process of production, commercialization and, consequently, availability to food and; the nutritional dimension, which consists directly of the choice, preparation and consumption of food, establishing a close relationship with the health of the organism (BATISTA FILHO, 2007).

For a population to have FNS, it is necessary for them to have regular access to food in satisfactory quantity, sanitary and nutritional quality, guarantee of conservation and agri-food control, respecting the culture of each community, their eating and hygiene habits (BATISTA FILHO, 2007; ALVES; VALENTE JÚNIOR, 2007).

Brazil has made great advances in the field of SAN. Since 2003, the Federal Government has strengthened public policies in an attempt to improve the social and nutritional conditions of the most vulnerable groups through the promulgation of LOSAN (Organic Law on Food and Nutritional Security), the creation of the National Food and Nutritional Security System (SISAN) and the resumption of the National Council for Food and Nutritional Security (CONSEA) (CONSEA, 2011) until then extinguished by the current presidential mandate according to Provisional Measure (MP) nº 870, which removes CONSEA's autonomy in convening conferences with a focus on in the SAN, revoking the council's attribution of monitoring and articulating the national SAN policy (BRAZIL, 2019).

However, in order to discuss the current setbacks and violations of the DHAA by the current government, civil society organizations and social movements have come together to create spaces for participation and joint construction with society.

However, there is still a significant set of programs and actions related to food and

nutritional security. At a national level, since 2011, income transfer programs have been created in order to supplement family income and consequently improve nutrition (SANTOS; SANTOS, 2007).

Based on what was presented, the study aimed to list a bibliographical collection, in order to present the school as a privileged field for the adoption of healthy eating practices in the constant search for food and nutritional security.

Methodological path

This is a bibliographical survey carried out based on material already prepared, consisting of books, scientific articles and master's theses, currently available on the internet (GIL, 2002).

For Lakatos and Marconi (2001), bibliographic research encompasses all bibliography made public in relation to the topic studied, whose purpose is to put the researcher in direct contact with everything that has been documented on a given subject.

Electronic data sources from the *Scientific Electronic Library (SciELO)*, Portal de Periódicos da Coordenação de Aperfeiçoamento de Pessoal de Ensino Superior (Capes) were used, as well as government data and other non-electronic literature, as they are the main databases used for publication scientific and also be freely accessible to users.

The descriptors used during the research were Food Safety; School Meals; Public Health Policies; Indicators; Health Promotion in School Environments. These descriptors were reconciled with Boolean operators *OR* and *AND*, producing the following arrangement: (food security) *AND* (school food); (school feeding) *AND* (public health policies); (public health policies) *AND* (indicators); (public health policies) *OR* (public food policies).

Studies published in the Portuguese language, in the period between 2000 and 2020, were included for analysis, in addition to national resolutions that address the topic here presented, whose interest he was contextualize The SAN at the Brazil; cast you SAN determining indicators; point out public food security policies on the national scene and; present the school as a health-promoting environment.

And, as an exclusion criterion, studies that did not contribute to the theme presented here. The selected articles were read in full, naming those that aligned with the theme suggested by reading the abstracts, as well as those that met the inclusion criteria above mentioned.

Results and discussion

Contextualizing the concept of food and nutritional security in Brazil

The concept of SAN is a definition still under construction, which evolves as humanity advances and power relations in society change (BURITY *et al.*, 2010). It gained strength from the World Health Organization (WHO) in 1945, through the recognition of access to quality food as a human right, guaranteed by market mechanisms.

From the end of the Second World War, the food security framework was conceptualized as a question of food unavailability and a threat to European countries that were unable to produce food in sufficient quantity and quality to serve the poorest population. (BELIK, 2003).

Arising from the existential crisis in food production and, as a strategy to increase the productivity of some foods, the debate on a strategic storage policy aimed at guaranteeing food security, supply and increased food production, so it was not enough to just produce, but to ensure regular supply (BURITY *et al.*, 2010).

At the beginning of the 90s, the concept of food security included the principle of access to safe, quality food, produced in a balanced and sustainable way, being consolidated at the International Nutrition Conference in 1992, held in Rome (BURITY *et al.*, 2010). In this way, the Food and Agriculture Organization of the United Nations (FAO) The importance of the sanitary, biological, nutritional and cultural quality of food for FNS is reiterated (IPEA, 2002).

In this way, Food and Nutritional Security is characterized as the human right to eat regularly and adequately with sufficient quality and quantity without, above all, interfering with other essential needs, whose eating practices respect cultural diversity and environmental preservation, economically and socially sustainable (BRASIL, 2006). However, this concept only gained strength in Brazil after the creation of the Brazilian Food and Nutrition Security Forum (FBSAN) in 1998 (BURITY *et al.*, 2010).

It is understood, then, that the concept of Food Security is in constant construction, which involves diverse knowledge and political actions that enshrine it as a universal right. Therefore, knowing the prevalence of food insecurity and associated factors becomes relevant in the permanent search for evaluating the population's living conditions and, consequently, for planning preventive public policies, promoting health and combating hunger (SALLES-COSTA *et al.*, 2008).

Food and nutritional security indicators

FAO (*Food and agriculture Organization*), since 1996, has provided guidance on the construction of a protocol of indicators related to Food and Nutritional Security, so that it can be used as a local, national or international standard model for assessing the magnitude of food insecurity (FAO, 1996).

An indicator consists of the dimension of certain pertinent information about a phenomenon characteristic of the state of food security, representing the reality surrounding the process with a view to formulating public policies, being represented by a number, an attribute of a specific event under observation or by the list of these, whose objective is to quantify the number of individuals in a situation of food shortage (KEPPLE; SEGALL-CORRÊA, 2011).

In Brazil, as well as internationally, some indicators are used to estimate SAN, among them the 24-hour record, which measures food consumption based on a quantitative record of food intake in the last 24 hours; often in food in one right period, generally in last week the application of the questionnaire; in addition to research into family spending on food purchases. However, such surveys are considered complex and subject to variability, whether due to the interviewer's standardization or the interviewee's information ability (PÉREZ-ESCAMILLA, 2005).

Pérez-Escamilla and Segall-Corrêa (2008) also state that there are five methods available and widely used in SAN evaluation surveys, they are the Food and agriculture Organization (FAO); the Assessment of Individual Dietary Intake; the Family Budget Survey (POF); the Brazilian Food Insecurity Scale (EBIA); and Anthropometry.

The FAO survey instrument predicts calories per inhabitant of a country from food scales and household budget surveys. The method in question provides low application costs and the possibility of comparing data with other countries; on the other hand, the information is imprecise, as it does not assess access to food, much less the quality of the diet offered, placing emphasis on average energy consumption rather than energy distribution, thus not identifying the groups most susceptible to food insecurity (GALESI; QUESADA; OLIVEIRA, 2009).

Another method for assessing food insecurity is individual dietary intake surveys, including 24-hour recall and food frequency. Such instruments allow assessing the adequacy of the population's energy and nutritional consumption (PESSANHA; VANNIER; MITCHELL, 2008), which analyze the assessment of food intake in the short, medium and long term, covering quantity, quality, home and individuals at risk (FISBERG *et al.*, 2008). However, the

aforementioned instruments also have their disadvantages, such as the difficulty in estimating portion sizes, the content in food composition tables and, mainly, the participant's memory of their last food intake (CRISPIM *et al.*, 2003).

As for the Household Budget Survey, this method is based on household interviews where a resident reports family income, the amount of food consumed inside and outside the home, food produced at home, as well as food received. The POF makes it possible to assess the adequacy of household energy intake and the percentage of expenditure on food, thus allowing the identification of households in a situation of food insecurity. However, the method presents some difficulty in estimating the amount of food wasted, as well as quantifying that consumed outside the home, since the interviewee reports what they spent on food, not what they consumed (PÉREZ-ESCAMILLA; SEGALL-CORRÊA, 2008).

However, in recent decades there has been significant progress in estimating food insecurity through the use of scales based on the perception reported by the interviewee and, as a proposal to verify families at risk of food insecurity, it was decided to use the EBIA, which categorizes families into four categories, namely: food security; mild food insecurity; moderate food insecurity and severe food insecurity (YUYAMA *et al.*, 2008).

EBIA works with fifteen questions that concern the experience of food insufficiency in the last three months, including the concern that food may run out to the experience of spending a whole day without eating. When there is no positive answer, the family is classified as food insecure, however, at levels different from the sum of points obtained in the questionnaire, the family is classified as food insecure (SALLES-COSTA *et al.*, 2008). In addition to its low application cost, EBIA makes it possible to identify how an individual understands and perceives food insecurity and hunger. On the other hand, the scale does not make it possible to identify the lack of basic sanitation, much less the microbiological quality of food (PESSANHA; VANNIER; MITCHELL, 2008).

In this conception, several methods are used to assess the dimension of access to food, mainly based on the analysis of income and/or food consumption. However, household food insecurity perception scales have gained prominence in recent years as they are a qualitative instrument that aims to measure subjective phenomena and, therefore, are increasingly adapted and applied internationally (KEPPLE; SEGALL-CORRÊA, 2011).

Public food security policies on the national scene

Food security is the subject of discussion regarding the planning and elaboration of public policies in Brazil. Its concept ensures that SAN guarantees everyone's right to regular and permanent access to food of sufficient quality and quantity, without compromising essential needs, through the adoption of health-promoting practices and, above all, respecting cultural, economic and social diversity (BRASIL, 2006).

Faced with the global scenario of malnutrition, the National Institute of Food and Nutrition (INAN) developed a policy in Brazil that was capable of combating food and nutritional problems and that sought to meet the needs of various segments of society, such as children, pregnant women, elderly, rural and urban workers. In this way, the 1st National Food and Nutrition Program (PRONAN) was born, multisectoral in nature and integrating four axes, namely: food supplementation for pregnant women, nursing mothers and children; encouraging workers to eat; support for small, low-income producers and; fortification programs (VASCONCELOS, 2005).

Through social movements, the beginning of the 20th century was marked by advances in the construction of public policies that met certain principles, such as reducing the cost of food in the family budget and guaranteeing the biological, nutritional, sanitary and technological quality of food. (CUSTODY *et al.*, 2011).

One of these programs was the Strengthening of Family Agriculture (PRONAF), in response to the internal food supply. This program was implemented with the aim of providing resources to family farmers, especially those with greater difficulty in economic integration in a system of three modalities, namely: credit; infrastructure and training (SILVA; CÓRREA; NEDEC, 2007).

Along with PRONAF, other mechanisms to protect and guarantee income and financing were developed, such as Family Farming Insurance (SAF), Garantia Safra and the Family Farming Price Guarantee Program (PGPAF) (CONSEA, 2011).

In 2003, the federal government launched a new framework capable of combating extreme poverty in the country, the Zero Hunger Program, designed around four aspects: access to food, education and income transfer actions; strengthening family farming; income generation and; mobilization and social control (ARANHA, 2010), covering several factors associated with SAN.

With regard to income transfer, the Bolsa Família Program (PBF) is mentioned, a strategic program to ensure the human right to food, whose backdrop was the worsening

situation of poverty and vulnerability of Brazilian families, deepened by the economic crisis and increasing unemployment rates (TAGAKI, 2006).

Another significant advance among public policies to guarantee the human right to food was the implementation of the Food Acquisition Program (PAA) and the National School Meal Program (PNAE), which authorize direct purchases from registered family farmers, decentralizing public purchases and creating a market for small producers (CONSEA, 2011).

Also worth highlighting is the Minimum Price Guarantee Policy (PGPM) program, which defends a low price policy for traditional peoples and communities, creating instruments that make it possible to sell their products to the PAA; as well as the National Plan for the Promotion of Sociobiodiversity Product Chains, which recognizes the natural and sociocultural potential of Brazilian biodiversity, providing opportunities for investments in sustainable businesses in the innovation of food products (CONSEA, 2011).

It is also worth highlighting the Workers' Food Program (PAT), in order to guarantee greater productivity and quality of life for workers, the Cisterns Program, for better water capture and coexistence in the semi-arid region; and, finally, the School Health Program (PSE), whose goal is to assist schoolchildren by promoting physical activity and encouraging eating habits healthy.

Given this opportunity, it is worth mentioning that current policy faces a new challenge in terms of problems arising from food insecurity, as if hunger and malnutrition are leaving the scene, obesity and overweight are gaining a prominent place in modern society, with consequences severe consequences in the national health system.

The school environment as a promoter of food and nutritional security

The school context, according to Valentim (2014), presents itself as a favorable and privileged environment for health promotion, given the fact that children and adolescents spend most of their time there. Thus, school meals contribute not only by offering food to students, but, above all, by encouraging them to adopt healthy eating practices in the constant promotion of food and nutritional security.

In the mid-1930s, public school meals were under the responsibility of the “Caixa Escolar”, a council made up of parents and teachers, which paid for the purchase of textbooks, clothing and food for the most vulnerable students in the population, in with the aim of encouraging students to attend schools (CARVALHO; BERNARDO, 2012).

At the same time, as Magalhães (2014) states, the first records emerged about the food and nutritional situation of the Brazilian population, thus creating a situational diagnosis in an attempt to consider a better food supply for this class. The author also reports on research into the living conditions of 500 working-class families in Recife. In this study, the monthly salary was compared with food expenses, revealing that more than 70% of these families' salaries compromised the acquisition of food.

The study reported above contributed to the government of Getúlio Vargas reorganizing the minimum wage and founding the Social Security Assistance Service (SAPS), whose objective was to guarantee better working conditions for workers and pensioners (ARRUDA; ARRUDA, 2007).

With a view to designating school feeding as a public policy in the midst of social problems, the National Food Commission (CNA), established in 1945, legalized the Food and Nutrition Plan, whose goal was to intensify actions in the area of Nutrition, namely: the Assistance Plan for Nutritional Education for Children and Adolescents; the Regional Food Plans and the Food Technology Plans (FROZI; GALEAZZI, 2004). However, among all the proposals presented by the CNA, only the School Meal Policy was implemented.

Initially, as the Brazilian government did not have favorable financial resources, it extended an agreement with the United Nations Children's Fund (Unicef) so that this body could supply powdered milk to schools from 1955 to 1960 (FROZI; GALEAZZI, 2004). Thus, the School Lunch Campaign was created in 1955, initially serving the states of São Paulo, Amazonas, Minas Gerais, Pará, Ceará and the municipalities of Rio de Janeiro and Teresina-PI (FERREIRA, 2008), whose objective was to improve the learning and nutritional conditions of students, consequently, promoting a reduction in school dropout rates (BRAZIL, 1956).

However, the agreement with UNICEF was dissolved and the Brazilian government began to buy diversified food at a lower cost from the U.S. government through the program called "Food for Peace". Subsequently, the program decided to offer small meals in school meals, such as soy noodles or fish-based protein concentrates, which supplied up to 15% of the daily nutritional needs of schoolchildren (VASCONCELOS, 2005).

With the end of the agreement, the government intensified the production of processed foods by national industries, thus stimulating, in 1979, the creation of the National School Food Program (PNAE), initially administered by the Student Assistance Foundation (FAE), continuing with the distribution of soy-based foods and enriched flour, however, they did not respond to the eating habits of schoolchildren (FERREIRA, 2008).

In the case of Brazil, the PNAE is regulated by Law No. 11,947 of June 16, 2009, whose goal is to guarantee a healthy and adequate diet for all students enrolled in public schools and philanthropic entities (BRASIL, 2009).

The program establishes that at least 30% of financial resources must be used to purchase foodstuffs originating directly from family farming, favoring traditional, indigenous and quilombola communities, at the same time, promoting economic development, reducing social inequality, minimizing rural exodus and ensuring SAN in the countryside (ASSIS; PRIORE; FRANCESCHIN, 2017).

Finally, the PNAE establishes that the food supply must be diversified, in order to meet regional eating habits, meet the nutritional needs of schoolchildren and, above all, assist growth and academic performance, an offer that is under the responsibility of the Municipal, State and Union spheres, thus subsidizing the promotion of SAN (BRASIL, 2013) and the definition of guidelines for school feeding, including the implementation of food and nutritional education that permeates the pedagogical curriculum (BRASIL, 2009).

Final remarks

Given this opportunity, it is evident that schoolchildren's nutrition is based on two primary axes in promoting FNS, namely: food and nutritional education and the supply of food in satisfactory quality and quantity in order to collaborate in the student's development. Therefore, it is important to highlight the importance that school plays in the formation of healthy eating habits, with school meals as one of the aspects of this training.

In this way, it is hoped that the school, as a guide for actions, provides conditions for equal access to safe and healthy food in achieving food and nutritional security.

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