

## Strategies for the promotion of healthy, adequate and sustainable food in Brazil in times of Covid-19

### *Estratégias para a promoção da alimentação saudável, adequada e sustentável no Brasil em tempos de Covid-19*

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#### ABSTRACT

The current scenario generated by the Covid-19 pandemic enhances the condition of food and nutrition insecurity due to the worsening of poverty, hunger and lack of access to food, as well as the excess consumption of foods considered unhealthy. The effects of the pandemic enhances the need for a new way of arranging the production, distribution and consumption of food, giving new meaning to the relationship between food,

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eating and the environment. Thus, it is suggested that a reflection be made on the strategies for the appropriate healthy, adequate and sustainable diet in Brazil to face this health emergency. Actions must be focused on the articulation of strategies that foster sovereignty, food and nutrition security and healthier and more sustainable food systems such as the strengthening of family farming; income assurance for the population; access to quality food; changes in the food environment; dissemination of information on healthy and sustainable food in official recommendations for the pandemic and food guides covering the entire food system, as well as food and nutrition education practices.

**Keywords:** Coronavirus. Diet, food, and nutrition. Diet, healthy. Food production. Sustainable development.

## RESUMO

*O cenário atual gerado pela pandemia da Covid-19 acentua a condição de insegurança alimentar e nutricional pelo agravamento da situação de pobreza, da fome e da falta de acesso aos alimentos, assim como pelo excesso do consumo de alimentos considerados não saudáveis. Os reflexos da pandemia reforçam a necessidade de uma nova forma de constituir a produção, a distribuição e o consumo dos alimentos, ressignificando a relação com o alimento, o comer e o ambiente. Assim, propõe-se refletir sobre as estratégias para a promoção da alimentação saudável, adequada e sustentável no Brasil para o enfrentamento desta emergência sanitária. As ações precisam estar centradas na articulação das estratégias que promovam a soberania, a segurança alimentar e nutricional e sistemas alimentares mais saudáveis e sustentáveis como o fortalecimento da agricultura familiar; garantia de renda para a população; acesso a alimentos de qualidade; mudanças no ambiente alimentar; divulgação de informações sobre alimentação saudável e sustentável em recomendações oficiais para a pandemia e guias alimentares que abranjam todo o sistema alimentar, assim como práticas de educação alimentar e nutricional.*

**Palavras-chave:** Coronavirus. Alimentos, dieta e nutrição. Dieta saudável. Produção de alimentos. Desenvolvimento sustentável.

## INTRODUCTION

The disease caused by the new coronavirus (Covid-19) is a worldwide public health emergency, characterized by the World Health Organization as a pandemic [1]. Among the countless reflections during the current pandemic, we highlight those that situate it in the context of the Anthropocene, dating from the 18<sup>th</sup> century at the beginning of industrialization and, consequently, the intensification of climate changes. In this framework, new pandemics are expected to occur as emergencies strictly related to the way in which the relationship between humans and nature is established [2]. Rodrigues and Chagas [3] highlighted the role of neoliberalism, as an economic and ideological doctrine, which weakens social protection and health systems in the world, including in the developed countries. Consequently, this brings to the fore the important recognition of government policies to face the pandemic. Reflecting on the investigation agenda in Brazil and global health in the framework of this international emergency, Ventura and collaborators [4] emphasize sustainability as one of the elements of analysis and the essential changes in the production and consumption systems in different fields, among which agriculture and health stand out. These authors advocate the continuity of public policies with actions focused on the structural dimensions of the system that are guided by the principles of equality and social justice in an integrated and combined way.

In relation to food and nutrition security and healthy eating of the population during the pandemic, besides the direct consequences of the disease, the problems associated with malnutrition in all its forms (malnutrition, deficiencies, overweight/obesity) are enhanced. The current scenario further exposes the country's social inequalities, putting into evidence hunger and lack of access to food for millions of Brazilians, particularly those historically vulnerable. This occurs both because of the characteristics of the housing areas and dwellings, as well as the negative impact on the unstable

income of informal workers, and the weakening of formal workers' employment bonds, increasing poverty and further reducing purchasing power [5]. Additional aspects of foods during the pandemic, as a consequence of the indispensable social isolation, show reduced consumption of fresh fruits and vegetables and high consumption of ultra-processed foods. These aspects can contribute to further increase the rates of overweight and obesity and intensify Noncommunicable Diseases (NCDs) [6-8]. Faced with this pandemic scenario and the consequent worsening of food and nutrition insecurity, this article aims to discuss strategies for the promotion of a healthy, adequate and sustainable diet in Brazil to face Covid-19.

## IMPACTS OF THE PANDEMIC ON THE BRAZILIAN POPULATION

The health crisis and the social isolation measures bear an economic and social impact on the supply of adequate and healthy food and on the *Soberania e Segurança Alimentar e Nutricional* (SSAN, Food and Nutrition Sovereignty and Security), and food safety [5,6,9]. The food environment characteristics have been affected by the pandemic: food availability and physical access (restriction of street markets operations, closure of restaurants or only operating with food delivery or take away, closure of universities and schools) and food affordability (economic access to fresh food and its price oscillation and the lower purchasing power due to the reduction of family income), in addition to uncertainties regarding the food supply chains system [5,10-12]. Food distribution outlets have been hampered in almost all countries, with negative consequences mainly for the socially and economically most vulnerable population [12]. Furthermore, there is a lack of investigation about the impact of these changes and of social isolation on the daily eating habits that have caused food consumption expansion in the households, involving also changes in culinary practices and commensality.

Historically vulnerable populations (black people, traditional communities - indigenous, *quilombolas*, shellfish collectors, artisanal fishermen and gypsies, rural and peripheral population in urban areas, women, elderly people, and others) are those most affected by changes in the food system, reflecting on food consumption types [5,13,14]. The pandemic has enhanced this unstable situation, mainly affecting informal workers and those with low education, increasing the unemployment rates and the number of families in food insecurity situation [13,15].

In contrast, part of the population that maintains food access changed their relationship with food due to the demand for a greater food safety during the pandemic [16]. This situation can lead to an increase in the purchasing of ultra-processed food (UPF), due to their availability, variety and long shelf life, but with low nutritional quality. The consumption of UPF is associated with increased risk of mortality and NCDs [17,18]. The reduced intake of fresh and minimally processed foods (vegetables and fruits) and increased consumption of UPF (frozen pizzas/lasagna, snacks, chocolates and candies) have been observed in the Brazilian population during the pandemic [19].

In response to this situation, several reports and publications about healthy food have been published during the pandemic. In general, they carry information about food safety or care about eating, with a managerial rationale. Likewise, despite the acknowledged advances in the dietary guidelines aimed at healthy eating, there is still a recommendation gap for the improvement of food systems that ensure healthier and more sustainable diets, which is important and necessary especially in the pandemic context. In a review performed in 1982 of ninety world key dietary guidelines, Fabri observed that 90.2% were related to nutritional aspects (based on nutrients consumption), 3.2% addressed symbolic aspects (appreciation of culture and cooking) and 3.1% sustainable aspects

(fresh, local and seasonal foods) [20]. In addition, sanitary issues were also reviewed and it was observed that 3.5% of the messages were related to hygiene, mainly during food preparation and about proper hand washing procedure. These messages were present only in 4.5% of the dietary guidelines evaluated. The Dietary Guidelines for the Brazilian Population (2014) presents a set of recommendations for healthy eating, especially in the nutritional dimension. In this connection, it is inferred that healthy eating is connected to sustainable development and becomes important to promote and guarantee a suitable diet. Thus, recommendations and strategies for food and sustainability must be interconnected and should converge with human and ecosystem health [21].

Thus, there is an urgent need to reconsider the release of official information consistent with the health crisis such as the current pandemic situation. In addition, implementation of effective strategies is required in order to provide adequate, healthy and sustainable food at any time or situation, farm to fork strategy and food availability and biological use. However, this endeavor requires further political and social restructuring of the Brazilian society.

## **STRATEGIES AND ACTIONS TO TACKLE THE IMPACTS OF THE PANDEMIC IN THE BRAZILIAN POPULATION DIET**

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Considering the close relationship between the Covid-19 pandemic and climate change [2], it is essential to discuss adequate, healthy and sustainable food in an inseparable way, in view of the contemporaneous impact of these phenomena in food production and, in turn, in social and health inequalities. Healthy and sustainable diet is the key, to reduce malnutrition, including and especially during the pandemic. However, the diet should be available and affordable for everyone, in quantity and quality. To be effective, the diet must be based on local and agroecological foods, produced and processed by family farmers, free from chemicals, biologics and other contaminants that are harmful to those involved in the food systems, both in an acute or chronic way [22]. Thus, conscious and interconnected consumption becomes the drive that has the potential to promote healthy and sustainable food systems and, therefore, a sustainable diet [23]. On the other hand, in a combined way, it is also necessary to activate information, communication and education actions aimed at slanting politically food consumption. This will generate food habits based on daily food choices that are more in line with the environmental and social causes [24].

Contemporary food systems infer a human ontogeny between malnutrition/hunger and obesity. When considering climate change, they make up a global syndemic condition that affects most people in the world [25]. Food systems need to be convergent with the fostering of human and planet health [26]. For this reason, food systems and Covid-19 pandemic are linked and demand a new practice of food production and consumption, resignifying the relationship with the environment [27]. With the pandemic, concerns about changes in food systems and food insecurity increased, reflecting the need to implement strategies to minimize the impact of the pandemic on the population's diet [28,29].

These are emergency strategies and can be grouped into four main axes: (1) enhancement of family farming and agroecological production; (2) improvement of food supply chain with the consolidation of short food supply chains; (3) assurance of access to healthy, adequate and sustainable food; (4) dissemination of information and recommendations to the population. Food is a constitutional right in Brazil. The regular and permanent food availability and, also, physical and economic access to quality food is provided by law. Therefore, it is the government responsibility to

take actions that guarantee the human right to healthy food. Thus these strategies must become Food Sovereignty and Nutrition Security policies that value the production of agroecological food from family farmers and short food supply chains, offering and ensuring plain availability and access to healthy and sustainable food.

The strengthening of family farming is an important strategy due to family farming different functions: guarantee of food and nutrition sovereignty and security, and food safety for its contribution in the production of food for human consumption; generation of jobs and income in the countryside; interaction with local culture and appreciation of local eating habits; production of material and immaterial goods and services; environmental preservation [30,31]. Historically, family farming has developed agroecological practices that preserve the planet's cultural and environmental diversity, but family farming is also in a vulnerable situation [32]. In Brazil, the resilience of agroecological farmers organized in networks and in cooperatives to minimize the impacts of the pandemic on food production, marketing and consumption stand out [10].

Stimulating short food supply chains avoids the risk of food shortages, promotes family farming, facilitates physical and financial availability and accessibility, and allows access to fresh, healthy, pesticide-free, seasonal and local/regional food [22,33-34]. Food production must be close to the consumption locations, supporting convenience and a sustainable food system [35]. Strategies such as the delivery of food kits at home have been an important farmers' production outflow, besides providing consumers with fresh food [10]. Street markets facilitate the purchase of healthy and sustainable food with less risk of contamination, because they are operating outdoor, and may be another opportunity for direct sales between producer and consumer [36]. Encouragement to expand urban agriculture and community gardens can also assist in greater access to fresh food, especially during the pandemic, within an accessible physical boundary of the community's food environment [37].

We ought to recognize that exposure to a food environment that offers high UPF availability and access favors inappropriate food choices, because a greater availability and lower prices increase the chances of such food consumption [26]. Despite the radical changes in the way food is obtained during the pandemic, there is a way to proceed and demand policies that protect food environments, adapting them to the inevitable changes and supporting adequate, healthy and sustainable food for all. Aid policies should be created ensuring healthy eating by the population, particularly allowing access to fresh fruits and vegetables. As a complement, incentives should be provided to fresh food producers to stay in the business of rural production and to maintain access to markets, seeking farmers' protection and their food security [38].

Access to healthy, adequate and sustainable food by the population in pandemic times can be obtained through income transfer programs, food and nutrition programs and emergency food distribution. Among the actions taken by the Brazilian Government to ensure income in the framework of the Covid-19 pandemic, emergency aid and the Emergency Program for Maintaining Employment and Income stand out; however, according to Trovão [39], they have proven to be insufficient, due to bureaucratic aspects and slow implementation. It should be added that the program for maintaining jobs and income only involves formal workers, leaving aside those who perform informal jobs. In addition, none of these programs, despite guaranteeing income, ensures regular and continuous access to quality food in sufficient quantity.

Among the Brazilian food and nutrition programs, the *Programa Nacional de Alimentação Escolar* (PNAE, School Feeding Program), the *Programa de Aquisição de Alimentos* (PAA, Food

Acquisition Program) and the *Programa de Alimentação do Trabalhador* (PAT, Workers' Food Program) stand out as relevant SSAN strategies, which should be strengthened, especially, in the current pandemic scenario [40,41]. However, even with their contributions, these programs seem to face operational and implementation stumbling blocks in connection with food and nutrition security, and food safety.

In the case of PNAE, the emergency regulations make food supply more flexible through food kits and/or ready meals. However, occasionally in some models, the Program faces challenges, such as: the cost of the individual kits supply, which tends to exceed the daily *per capita* amount made available by funds transferred from the Federal Government; the need to establish dynamics to prevent people agglomerations during preparation and distribution of the food kits; in addition, to complying with the principle of universality in the supply of school meals for basic education schoolchildren. Furthermore, this modality tends to offer less fresh food originating from family farming, and more processed and ultra-processed foods. Some Brazilian States have adopted the allowance of food vouchers for the school audience, which are accredited to large supermarket chains and thus fail to strengthen small businesses and do not guarantee food purchase from family farmers [42].

Regarding the PAA, Sambuichi and collaborators stated that the program is strategic to face the impacts of the pandemic, since by absorbing the production of family farming, the program contributes to the food and nutrition sovereignty and security both of farming families and consumers of their products [43]. However, we still do not have a broader and more concrete analysis of the PAA's actual contribution to face the impacts of the pandemic, due to the fact that institutional markets, such as the PNAE, also have difficulties in getting established [42]. The PAT, on the other hand, despite its indisputable importance and contribution to food and nutrition security and worker's health, has shortcomings such as the optional adhesion of companies and the fact that this program serves only formally employed workers. In addition jobs are in unstable conditions; limiting the PAT reach.

Seeking information on food and Covid-19 contamination forms increased at the beginning of the pandemic [44]. However, the information available is not always adequate and reliable [45]. With increasing concern about food, time may be right for governments to launch effective strategies and actions regarding food and nutrition education with their nutrition teams promoting new and conscious consumption patterns and food practices committed with sustainability, stimulating the purchasing of food from local family farming and strengthening sustainable food systems. Thus, it is imperative to expand informative, educational and communicational initiatives that help expand the production of different information materials with different approaches and media (videos, podcast, booklets, among others) that aim at different social groups (traditional, indigenous, forest and water population, homeless, poor suburbs), also considering the regional markers of race, gender, social classes and generation, health professionals and public policy administrators [46]. We ought to focus on matters such as food security, promotion of healthy, adequate and sustainable food in times of pandemic. In a complementary way, it is necessary to reformulate the guidelines of the food guides, considering the inclusion of recommendations that promote reflections and changes in the food systems in order to minimize the situations of food and nutritional insecurity, reduce the risk of new epidemics and assist the population with adequate hygiene and safety measures to prepare and consume food [20].

In these educational initiatives, we can highlight other normative provisions on food and nutrition issued in recent decades: the Reference Landmark of Food and Nutrition Education for Public Policies was published by the former *Ministério do Desenvolvimento Social* (MDS, Ministry of Social Development). This document synthesizes a process of collaborative discussion and defines

guidelines for practices in food and nutrition education that stand out in terms of popular education references, valuing popular knowledge and practices; socio-environmental sustainability; and eating as a social practice. This practice brings to light the socio-cultural dimensions, the symbolic, affective and sensory values of diet, food and eating, as well as the appreciation of different expressions of food identities and cultures [47]. Such principles need to be recovered to enhance the coping strategies also during the pandemic.

Chart 1 summarizes the main actions proposed by the authors as essential to minimize the impacts of the pandemic on the Brazilian population’s diet. We can observe the burgeoning of initiatives such as the strengthening of family farming, the expansion of public equipment for food security, food and nutrition, and school feeding, improvement in the food supply chain with the maintenance and creation of street markets in neighborhoods with less access and availability of food, and community and urban gardens. Furthermore, the importance of educational actions to promote healthier and more sustainable food systems should be considered.

**Chart 1.** Actions to minimize the impacts of the pandemic on the diet of the Brazilian population.

Actions that allow to strengthen family farming and short marketing channels	Actions that enable access to food by the population	Actions that promote healthy, adequate and sustainable eating practices
<ul style="list-style-type: none"> <li>- Credit lines for food production, especially for family farming, with priority given to traditional communities and agroecological production;</li> <li>- Strengthening of technical assistance bodies;</li> <li>- Guaranteed acquisition of food production from family farmers;</li> <li>- Prioritizing the purchase of food from traditional communities.</li> </ul>	<ul style="list-style-type: none"> <li>- Income transfer programs to provide access to food;</li> <li>- Expansion of service to the population in food and nutrition programs: school meals; public food and nutrition facilities, such as soup kitchens, food banks and low priced canteens;</li> <li>- Destination of food purchased in food and nutrition programs (PNAE, university cafeteria, low priced canteens, among others) that are not in operation for the population in a situation of social vulnerability;</li> <li>- Expansion of service provided by the Worker Food Program (PAT);</li> <li>- Government incentive so that financial access to fruits and vegetables is facilitated;</li> <li>- Promotion for the creation of community gardens;</li> <li>- Transfer of soft drink taxes and incentives, and application of these resources to the SSAN guarantee.</li> </ul>	<ul style="list-style-type: none"> <li>- Strengthening of informative, educational and communicational strategies and actions in food and nutrition that:</li> <li>- Promote new modes of consumption and dietary practices committed to sustainability, thus stimulating the local acquisition of family farming and the strengthening of sustainable food systems;</li> <li>- Respect the principles of critical food and nutrition education, valuing popular knowledge and practices, socio-environmental sustainability, cultures and local food identities as well as eating as a political act;</li> <li>- Expand the production of different materials with different languages (videos, podcast, booklets etc.) with languages suitable for different social groups.</li> </ul>

Integrated actions that enable the strengthening of family farming, the provision of food to the population and the promotion of healthy, adequate and sustainable food

- PAA guarantee and expansion;
- Guarantee and expansion of the public purchase of food from family farming through compliance with Law No. 11947/2009 (PNAE) and Law No. 13,987/2020 (exceptionally changes Law No. 11,947/2009, of PNAE, in addition to Resolutions No. 2/2020 and No. 6/2020 of the National Education Development Fund) and Decree No. 8,473/2015 (Institutional Purchase - PAA);
- Expansion of the mandatory Institutional Purchase for state and municipal public administration bodies;
- Local food supply strategies such as the creation of fairs that enable the strengthening of short marketing chains, especially in neighborhoods with a large population and with little availability of fresh and/or fresh food;
- Dissemination of information on healthy and sustainable food in food guides and official recommendations, going beyond the nutritional perspective.

Note: PAA: *Programa de Aquisição de Alimentos*; PNAE: *Programa Nacional de Alimentação Escolar*; PAT: *Programa de Alimentação do Trabalhador*; SSAN: *Soberania e Segurança Alimentar e Nutricional*.

As described above, governmental actions have provided basic food kits and emergency financial assistance programs for the low-income and more vulnerable population. However, these measures are not sufficient to ensure agility in the access to food or quality food for all. With the incipient initiatives of the Brazilian Government to face its biggest health crisis [7,10,48], independent initiatives emerge from social movements, unions, universities, social organizations and associations in meeting the needs of the population, including the Human Right to Adequate Food [7]. It is also worth reiterating that this initial government intervention is the result of the implementation of neoliberal policies, with the consequent and dramatic reduction in public investments in essential social protection, health and education services, as well as the discouragement of family farming due to the absence of tax incentives or access to financing programs, or preferentially financing agribusiness, a policy which, incidentally, has preceded the emergence of the pandemic.

In this context, there is a stimulus to political-humanitarian actions, solidarity networks, socio-assistance support and even the expansion of socio-environmental awareness, essential to reconsider the relationships established with eating, food, health and the environment of the individuals, communities and the world. These actions, driven and/or intensified in the context of the pandemic, constitute strategies that should be implemented with a close relationship between food and nutrition public policies and civil society; as well as the structural and contingent dimensions intended for assuring the most fundamental right of human beings: food [7].

Therefore, this time should also be used to review the pandemic considering the modes of production and lifestyle imposed by capitalism. It is relevant to formulate political strategies articulating local and global actions, both emergencial and structural. This is because, there is a correspondence between the core of the pandemic's emergence and the determinants of food and nutrition insecurity. The origin of these problems resides in the modes of production and in the relationship of human beings with nature, particularly due to hegemonic food systems. These actions must impact on these food systems marked by different forms of exploitation that generate inequalities and expose a large portion of the Brazilian and world population to vulnerability. The food systems that need to be debated and supported are those based on sustainability and social justice which ensure availability and access to healthy food for all the living beings on the planet.

## CONTRIBUTORS

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