



## FOOD SECURITY IN THE COVID-19 PANDEMIC: AN IMPACT ON THE WORLD DIET

### SEGURANÇA ALIMENTAR NA PANDEMIA POR COVID-19: UM IMPACTO NA DIETA MUNDIAL

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#### Abstract

**Objective:** this study constitutes an integrative review on food insecurity during the pandemic, developed from the systematic selection in the scientific literature that currently observes and monitors COVID-19 and its relationship with hunger in Brazil and in the world. **Methods:** Data collection was carried out from April 12, 2020 to April 12, 2021, and bibliographic searches were carried out based on data obtained from official websites and documents published by WHO/WHO, UN, PAHO, MS, IBGE and the National Health Agency. **Results and Discussion:** for the UN, the COVID-19 pandemic can cause catastrophes of unimaginable proportions, doubling the number of hungry people in the world, reaching 265 million. In Brazil, half of the population had some degree of food insecurity in 2020, and the crisis caused by the coronavirus could create a situation of food insecurity for 40 million people in Latin America and the Caribbean, causing great hunger in several regions of the world. **Conclusion:** Pandemic highlighted the urgent need to adopt coordinated measures at global, national and local levels to prevent the impending humanitarian and food crisis, which threatens the most vulnerable

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groups. The moment is to build and strengthen initiatives aimed at social protection, ensuring full access to healthy and adequate food.

**Key words:** Food security, pandemic, hunger.

### Resumo

**Objetivo:** este estudo constitui uma revisão integrativa sobre a insegurança alimentar durante a pandemia, desenvolvida a partir da seleção sistemática na literatura científica que atualmente faz a observação e o monitoramento da COVID-19 e sua relação com a fome no Brasil e no mundo. **Métodos:** A coleta de dados foi realizada no período de 12 de abril de 2020 a 12 de abril de 2021, sendo as buscas bibliográficas realizadas a partir dos dados obtidos pelos sites e documentos oficiais publicados pela OMS/WHO, ONU, OPAS, MS, IBGE e Agência Nacional de Saúde. **Resultados e Discussão:** para a ONU, a pandemia da COVID-19 pode provocar catástrofes de proporções inimagináveis, dobrando o número de famintos no mundo, podendo chegar a 265 milhões. No Brasil metade da população teve algum grau de insegurança alimentar em 2020, sendo que a crise causada pelo coronavírus poderá gerar uma situação de insegurança alimentar para 40 milhões de pessoas na América Latina e no Caribe, provocando muita fome em várias regiões do mundo. **Conclusão:** A Pandemia deixou evidente a necessidade urgente da adoção de medidas coordenadas a nível mundial, nacional e local para prevenir a crise humanitária e alimentar iminente, que ameaça os grupos em maior situação de vulnerabilidade. O momento é construção e fortalecimento de iniciativas voltadas à proteção social, assegurando o pleno acesso à alimentação saudável e adequada.

**Palavras chave:** Segurança alimentar, pandemia, fome.

## INTRODUCTION

According to some studies and observatories, we are on the brink of another pandemic the hunger one, warns the World Food Program to the Security Council of the UNO United Nations<sup>1</sup>. To the United Nations - UN, Pandemic COVID-19 can cause disaster of unimaginable proportions, doubling on the number of starving people in the world, reaching up to 265 million<sup>2</sup>. And not just the UN, but the World Health Organization – WHO, together with the World Trade Organization – WTO, declare the risks of a food crisis during and after the pandemic<sup>3,4</sup>. This is related to a number of factors caused by the health crisis and the extreme inequality that already exists in most countries and around the world, including Brazil, that frighteningly continues as the second epicenter of the disease worldwide. It is noteworthy that this inequality severely affects Latin and South America among other continents and countries where there is an immense low income population with many living in underemployment, informality and in a lot of poverty and misery<sup>1,2,3</sup>.



The food crisis in the world has always existed in Brazil, and it was drawn from studies of Josué de Castro since the 40s, among other authors and researchers of the subject that were able to show data on evolution of malnutrition in Brazilian society, and these surveys and their data help to point out paths and solutions. In this slow transformation process, Brazil managed to get out of hunger map in 2014, although it was a great conquest, after the last few years, it can be noticed an increase in extreme poverty which can be further exacerbated by the lack of access to food during the pandemic, and Brazil's return to the hunger map. And what does this represent? The food will not reach the dish of the people for reasons added to the political and economic neglect, existing for centuries, going through different governances not coping with problems that generate this alarming situation of social inequality and hunger that are perpetuated in Brazil and several other poor and very unequal regions in the world.

In this new pandemic scenario, food will not be available for several factors including: lack of staff to plant, harvest, distribute, deliver, store, because this group of workers who are essential to enable access to food, also needed to interrupt or stop their activities due to the pandemic because it brutally influences the existing food and nutrition security. All these factors are not dissociated, on the contrary, although we are all together on the planet, breathing better and free from so much pollution in this pandemic period, it is known that as soon as economic activities resume and isolation is suspended, this load of pollution and climate problems will continue to impact more and more systems. Added to it there are still other very serious issues aggravated by the pandemic as bad eating habits, with increased consumption of ultraprocessed food, reduction of fresh food, and the rise of sedentary lifestyle, with the lack of daily exercise in this period of social isolation, that can bring further damage to people's health.



## METHODS

The literature integrative review is a method that aims to synthesize results from research on a topic or issue in a systematic way, orderly and comprehensive, and to focus on a particular broad topic, trying to show what the world is talking about this theme, and can be motivated by both individual and collective interest. In the case of this work, the motivation is of a collective nature, the constant concern with the growth of hunger in Brazil and in the world during this period of pandemic, which is impacting a serious scenario of food insecurity in Brazil, in Latin America and South America as well as other regions of the world.

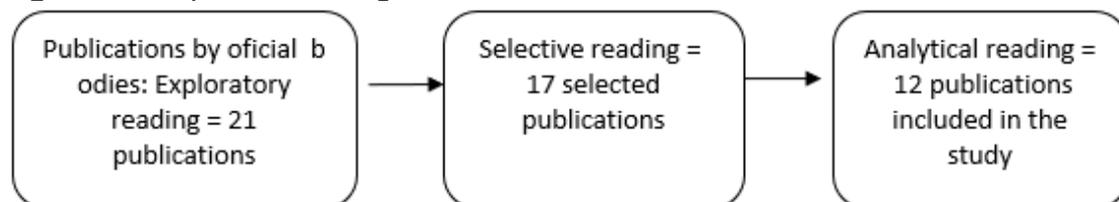
This study is an integrative review developed from the systematic selection of focused scientific literature to the effects of the pandemic on food security during the pandemic COVID-19 and its impact on food and diet in Brazil and in the world. Data collection was conducted from 12 April 2020 to 12 April 2021. A bibliographic search of publications was realized from the data obtained through agencies and institutions national and international that are reference on the subject, based on original research, the main sources of data in this period being the UN – United Nations, WHO/WHO – World Health Organization, PAHO – Pan American Health Organization, MS – Ministry of Health, IBGE – Brazilian Institute of Geography and Statistics, National Agency for Food and Nutrition Security considering that these are the national and international bodies and institutions that are responsible for official information on the subject in Brazil and in the world and that in this period only some of them held official data on this theme. This research was conducted in five stages: selection of the thematic issue, establishment of criteria of inclusion and exclusion of the work selected, analysis and interpretation of results. Data collection was carried out from April 12, 2020 to April 12 2021, where the search focused on data sources obtained from the official websites of WHO/WHO, UN, PAHO, MS, IBGE and the National Health Agency which have up-to-date information on the pandemic and famine situation. The bibliographic research was extended only to official national and international bodies that are monitoring COVID-19 in Brazil, Latin



America and other regions of the world and that are guiding nations and countries to face the situation of the Pandemic and hunger, among others serious problems at that time. They were used to search for information and data with the following descriptors (DeSC) of and their combinations in Portuguese and English: “COVID-19; Pandemics; Food and nutrition security; Public Policy” and/or “COVID-19; Pandemics; Food and nutritional security; Public policy”.

After the selection of official data bodies and institutions on the subject and according to the previously defined inclusion criteria, those that were duplicated or that did not include aspects related to the study were excluded, resulting in 12 selected works. According to that delimited basis, the next steps were followed: exploratory reading; selective reading and choice of material that fit the objectives and theme of this study; analytical reading and analysis of texts, ending with the interpretative reading and writing, trying to understand the subject and help seek solutions and recommendations to the facing of pandemic hunger.

**Figure 1.** Steps of the integrative review



## RESULTS AND DISCUSSION

- The food security situation in Brazil and in the world accentuated by Covid19 (Coronavirus)

The new coronavirus crisis could lead to a situation of food insecurity for more than 40 million people in Latin America and the Caribbean, alert the United Nations (UN), fitting urgent action to avoid a "hunger pandemic". The World Food Programme (WFP) of the UN pointed out that in the 11 countries and



these regions where it operates the number of people who are in this condition increased from 3.4 million at the beginning of the year to 14 million. In the COVID-19 pandemic, the population in extreme poverty in Latin America and the Caribbean could reach more than 83.4 million people in 2020, which would imply a significant increase in hunger levels. The conclusion is one report of the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) and the United Nations Food and Agriculture Organization (FAO). The document proposes urgent actions to face the increase in hunger intensified by the pandemic in the countries and regions of the world that are most vulnerable<sup>3</sup>.

According to the report, after seven years of slow growth, the Latin America and Caribbean region could have the biggest drop in regional GDP in a century ranging from -5.3% to -10%, raising this year the number of people in extreme poverty compared to the previous year, amounting to 83.4 million<sup>3</sup>. The impact on hunger will also be significant, considering that in 2016-2018 there were already 53.7 million people in serious food insecurity in Latin America. The effects of the crisis are already visible in food systems: the vulnerability of workers has increased, as well as the prices of food in the basic basket, according to the consumer price index. Due to the lack of conditions to acquire healthy food in sufficient quantity and quality, many people are having to choose foods cheaper and of lower quality and value and nutrition<sup>3</sup>, often getting those high in sugar, sodium and saturated and trans fats instead of using a varied diet rich in vegetables and fruits, whole grains, roots, good sources of important minerals and vitamins to protect the health and other immune system factors, essential for promotion of various arboviruses including the prevention of COVID-19.

Brazil considered one of the “granaries of the world” may not have so drastic impacts. But this will depend on the public policies that will be adopted from now on. What is known until now is that the bulk of resources destined to fight Covid were not completely used as they should. It means that the resources and measures used to face a crisis with this dimension were few and this will imply in the growth of problems poverty and hunger which is nothing less than food insecurity.



Some exporting countries may literally adopt the decision to feed their own people instead of selling their products abroad. Thus, importers who depend on certain agricultural commodities to survive are at serious risk of becoming short of supplies, and this can happen to a large part of Asian and African countries. That, for example, depend on the production of basic products such as rice, wheat, are in greater vulnerability to be without their products and even with help and solidarity as well as, the food and vaccines will not come to everyone as they usually never arrived and many people will feel hungry and will die of starvation, but now the situation has further aggravates this.

Added to all this the lack of surveillance by governments in Brazil to keep food prices under control, which seems to increase every day, is impacting on inflation in Brazil in recent years, however there are many who are gaining with the health crisis. On the other hand it was published in Forbes magazine recently that the number of billionaires in Brazil more than doubled. Recalling that products basic as beans, rice, corn, wheat and cassava flour are the main sources of carbohydrates in various countries and that needs to have access guaranteed, as well as access to vegetables and fruit. In Brazil and Bahia it is not very different, there are different people which are distributed in different regions with immense difficulties and inequalities, most depend on these foods to survive with dignity with healthy eating<sup>5</sup>. Among the most vulnerable people, we highlight indigenous tribes, quilombola territories, homeless people, thousands of unemployed, who were already surviving and eating very poorly and many were already hungry, living in a framework of continuous food and nutritional insecurity, more exposed and vulnerable to COVID - 19<sup>6</sup>.



- The COVID19 and their impact on diet and in the lives of the poorest

The National Survey on Food Insecurity in the Context of the COVID-19 Pandemic in Brazil, carried out by the Brazilian Research Network on Food and Nutritional Sovereignty and Security (Rede Penssan), indicates that in the last months of last year the situation has worsened to 19 millions of Brazilians who went hungry and more than half of the households in the country faced some degree of food insecurity.

These data reveal a serious situation with the increase of 55.2% of Brazilian households, ie, corresponding to 116.8 million people living with some degree of food insecurity at the end of 2020 and 9% of them experienced serious food insecurity, that is, they went hungry in the three months prior to the period of data collection, which was carried out in December 2020, in 2,180 households. According to the researchers, the numbers found pointed to 19 million Brazilians who went hungry in the new coronavirus pandemic, double what was registered in 2009, with a return to the level observed in 2004, showing that we are facing a health crisis, added to the economic and political crisis, which makes the situation of the Brazilian people even more serious and leading to a current scenario of over 350,000 deaths, and lives that could have been saved if we had an efficient vaccination program, and in the midst of this chaos the country ranked second in the number of deaths, second only to the United States.

According to WHO, the disease caused by the new coronavirus (COVID-19) is an infectious disease caused by a newly discovered virus. Most people infected with the virus will develop COVID-19 and can experience one respiratory disease mild to moderate and will recover without the need for special treatment<sup>1</sup>. Nonetheless, other people can not resist and died, in June 2020 in Brazil there were already more than 50,000 deaths and in September there were 131,000 deaths, with more than 4 millions of cases already confirmed and registered<sup>6,7</sup>. The older people with underlying medical problems (comorbidities), such as cardiovascular disease, diabetes, chronic respiratory diseases and cancer, are more likely to develop severe disease<sup>4,8</sup>.



The coronavirus, called SARS-CoV-2, has caused the interruption of the population's daily activities, due to the need for social isolation to curb the progress of the disease, which in less than four months has already expanded to 190 countries, highlighting Brazil in this sad world scenario<sup>1</sup>. The main signs and symptoms caused by the virus can include fever, cough and difficulty breathing, as well as gastrointestinal symptoms, including diarrhea, vomiting and abdominal pain, loss of smell, change in taste and decreased appetite<sup>1</sup>. The transmission of the disease usually occurs through the air or through direct contact with people and occurs through droplets of saliva, sneezing, coughing and secretions that can contaminate hands and surfaces<sup>6</sup>.

The SARS-CoV-2 virus is spread mainly through droplets of saliva or nasal secretion when an infected person coughs or sneezes, so it is important to practice breathing etiquette (eg coughing on a bent elbow) and wearing a mask, disposable or cloth, whenever you leave the house. At the moment, there are still no vaccines or specific treatments for the COVID-19. However, there are many clinical trials in progress evaluating possible treatments, it is expected that as soon as possible we will have a result that changes this lethality picture of the virus or by creating a vaccine or antiviral that treats the disease. WHO will continue to provide updated information as clinical findings become available. The best way to prevent and slow the spread of the disease is, first of all, to be well - informed about the virus SARS-CoV-2, its transmission and controls of prevention, the disease can cause, the main symptoms, as it spreads and how to protect yourself from it. Among the most important recommendations are: not crowding (remain in social isolation), cleaning and washing hands using soap and running water and then drying it preferably on paper towels, using alcohol gel frequently and not touching the face during these external activities, always wearing masks when performing external activities<sup>4,8</sup>.

There are several measures proposed to try to contain the spread of Covid-19, the WHO and the main health institutions in Brazil have disclosed as main precautions: hand hygiene, cover your mouth with your forearm or disposable handkerchief when coughing and sneezing, avoiding crowding



and remain in isolation at home, social distance and, in case of any symptoms, enter into quarantine for up to 14 days<sup>4</sup>. It is also recommended to lay people in well - ventilated rooms, airy and that companies and public institutions, as well as many private industries should consider conducting teleworking (working at home), virtual meetings and cancellation of trips to prevent the spread of the virus<sup>9</sup>.

Worldwide, the containment measures and containment taken to combat COVID-19 threaten to increase the relative poverty levels of workers in the economy that comes to 56 % in low - income countries, according to a new paper published by the Organization International Labor Office. In high-income countries, relative poverty levels among informal workers are estimated to increase by 52%, while in upper-middle-income countries, the increase is estimated to be around 21 %<sup>2,3</sup>.

Globally, around 1.6 billion of the 2 billion workers in the informal economy are and will be affected by containment and containment measures. Most work in the most affected sectors or in small vulnerable economic units more vulnerable to crises. This includes people working in hotel and food services, manufacturing, wholesale and retail trade, and the more than 500 million farmers who supply urban markets. Women are particularly the most affected in high-risk sectors, says the study. In many countries, COVID-19 containment measures cannot be implemented effectively, because these workers need to continue working to feed their families and are exposed to COVID - 19 on a daily basis. This force field has generated a lot of polarization between maintaining the economy and controlling the expansion of the coronavirus, this polarization compromises the efforts of governments to protect the population and fight the pandemic, and can become a source of social tension in countries with large informal economies, says report<sup>2,3</sup>.

According to the Brazilian Institute of Geography and Statistics (IBGE), severe food insecurity, in which people reported going hungry, reached 4.6% of Brazilian households, equivalent to 3.1 million homes, in 2017-2018<sup>9</sup>. This percentage means that 10.3 million people who live in these households are in this situation of food and nutritional insecurity, and 7.7



million are residents of urban areas and 2.6 million in rural areas, these data are the Household Budget Survey 2017 -2018: Analysis of Food Security in Brazil. Severe insecurity appears when residents have experienced severe food consumption deprivation, which may lead to hunger. In 2017-2018, of the 68.9 million households in Brazil, 36.7%, equivalent to 25.3 million homes, had some degree of food insecurity: mild (24%, or 16.4 million), moderate (8.1%, or 5.6 million) or severe (4.6%, or 3.1 million). According to IBGE, the population of 207.1 million inhabitants in 2017 to 2018, 122.2 million were residents of households with food security, while 84.9 million were living with some food insecurity, as follows: 56 million in households with food insecurity, 18.6 million in moderately insecure food households and 10.3 million people in severely insecure food households. According to the Brazilian Scale of Direct and Domestic Measurement of Food Insecurity adopted by IBGE, food security is guaranteed when the family has regular and permanent access to quality food, in sufficient quantity, without compromising access to other essential needs. In mild food insecurity, there is concern or uncertainty about future access to food and inadequate food quality resulting from strategies aimed at not compromising the amount of food. In moderate, there is a quantitative reduction of food among adults and/or disruption in eating patterns resulting from lack of food<sup>9,10</sup>. In severe food insecurity, there is a severe quantitative reduction of food among children, that is, a disruption in eating patterns resulting from the lack of food among all residents. In this situation, hunger becomes an experience at home and even though the Human Right to one to adequate food, guaranteed and enshrined in the Federal Constitution since 1988, unfortunately hunger persists and intensifies amid the biggest health crisis in the last 100 years, where this social inequality and the political disregard in Brazil continues unresolved<sup>11,12</sup>.



## FINAL CONSIDERATIONS

The Covid-19 pandemic revealed the existence of a real and immediate threat to food and nutrition security (FNS), especially for the most vulnerable groups. We can say that we have a challenging scenario, compared to the immense social inequality as well as the immense territorial proportions in which we live in Brazil, it is necessary to strengthen all policies and programs that impacts directly and indirectly in increasing the food security. It is also essential to reduce, mitigate and improve access to water, land, housing and food for the most vulnerable people, especially in countries that are at war and developing countries due to the already existing food and nutritional insecurity scenario. In Brazil it is necessary urgently the adoption by the Brazilian government increasing access to food policies, support for family farming, increase the cash transfers and do come to those who are really in need of support to be able to eat and have shelter, expansion and qualification of the offer of services, productive inclusion, creating several initiatives for the recovery of food production chains, controlling and regulating the prices of basic foods to the final consumer, maintaining and guaranteeing the production of food for domestic supply and not prioritizing exports over scarcity in the country. In addition to that establish a pact to combat extreme poverty with municipalities, states and civil society, which is essential for the country to face these new challenges. In this pandemic, some actions and new initiatives were identified, as well as the adaptation of strategies already implemented in the country that contribute to food and nutrition security. The new government measures created were: Emergency Basic Income (Federal Government); Encouragement of state Food Acquisition Programs (PAA) and emergency food donation (states and municipalities). The pre-existing measures that underwent changes due to the pandemic were the National School Feeding Program (PNAE), which started distributing food baskets and credits to students to be able to purchase food equivalent to that received at school. The national Food Acquisition Program (PAA), the Bolsa Família Program (PBF), started to distribute food through public FNS facilities in the states and



municipalities. Increase of the programme of Popular Restaurants for catering, as well as increase in meal volume of supply due to the increase of people with this demand during pandemic. We can conclude that the governmental measures adopted in Brazil and in the world are unfortunately not enough to avoid the food and nutritional insecurity intensified in the pandemic and that this health crisis showed the violation of fundamental human rights such as the human right to healthy and adequate food, exposing the deep inequalities and injustices of food systems and their nations, as well as the need to restructuring public policies that ensure, in addition to providing food, sufficient conditions for maintenance of life and human dignity. The Pandemic highlighted the urgent need for coordinated action at global, national and local levels to prevent the impending humanitarian and food crisis that threatens the most vulnerable groups. It is necessary that all states and municipalities and the federal government have a food and nutrition security plan aligned with each other and focused on fighting hunger. The moment is the construction and strengthening of initiatives aimed at social protection, ensuring full access to healthy and adequate food for all peoples in Brazil and in the world.

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