

---

# SER Social

ALIMENTAÇÃO,  
ABASTECIMENTO E CRISE

Brasília, v. 23, n. 48, janeiro a junho de 2021

---

## **The daily menu in times of pandemic for individuals with anxiety and depression**

**O cardápio diário em tempos de pandemia para indivíduos com ansiedade e depressão / El menú diario en tiempos de pandemia para personas con ansiedad y depresión**

Daniela Gomes Alcoforado<sup>1</sup>

Miriam Leite Farias<sup>2</sup>

Juliana Gonçalves Machado<sup>3</sup>

---

1 Bacharel em Administração pela Universidade Federal de Pernambuco; mestre em Administração pela UFPE; doutoranda em Administração pela UFPE e pesquisadora visitante na International Psychoanalytic University Berlin, Alemanha. E-mail: [daniela.alcoforado@ufpe.br](mailto:daniela.alcoforado@ufpe.br).

2 Bacharel em Administração pela Universidade Federal da Paraíba (2015); mestre em Administração pela Universidade Federal de Pernambuco; doutoranda em Administração pela Universidade Federal de Pernambuco, com período de sanduíche na SKEMA Business School em Lille, França. E-mail: [miriamlfarias@gmail.com](mailto:miriamlfarias@gmail.com).

3 Bacharel em Nutrição pela Universidade Federal de Pernambuco; especialista em Saúde da Família pela Secretaria de Saúde da Cidade do Recife-PE. E-mail: [machado.julig@gmail.com](mailto:machado.julig@gmail.com).

Francisco Vicente Sales Melo<sup>4</sup>Thomas Kühn<sup>5</sup>

**Abstract:** The Covid-19 pandemic brought to light food and nutrition vulnerabilities in society, which were aggravated by the effects of social isolation and other measures to contain coronavirus spread in people's lives. This study explores how individuals with mental disorders are reacting to this pandemic time, focusing in the context of their eating habits. For that, nineteen in-depth interviews were conducted with people previously diagnosed with depression and/or anxiety. We found out that the pandemic affected food and nutrition security for the participants, once it has acted as a trigger activating vulnerabilities that make this part of society more susceptible to negative changes in eating habits. They are consuming unhealthy food, and experiencing binge, emotional eating and weight change. Also, financial problems, unemployment, and the rise of food prices were worsened by the pandemic, causing food access difficulties for some participants. Suggestions for policymakers were highlighted on the conclusion.

**Key Words:** Covid-19; depressive disorder; anxiety disorders; food and nutrition security; food consumption.

**Resumo:** A pandemia da Covid-19 trouxe à luz vulnerabilidades alimentares e nutricionais na sociedade, agravadas pelos efeitos do isolamento social e outras medidas para conter a disseminação do coronavírus na vida das pessoas. Este estudo explora como indivíduos com transtornos mentais estão reagindo à pandemia, focando no contexto de seus hábitos alimentares. Para tanto, foram realizadas dezenove entrevistas em profundidade com pessoas previamente diagnosticadas com depressão e/ou ansiedade. Verificamos que a pandemia afetou a segurança alimentar e nutricional dos participantes, uma vez que atuou como gatilho ativando vulnerabilidades que tornam esta parte da sociedade mais suscetível a mudanças negativas nos hábitos alimentares. Eles estão consumindo alimentos não saudáveis e experienciando compulsão alimentar e mudança de peso. Além disso, problemas financeiros, desemprego e aumento dos preços dos alimentos

---

4 Bacharel em Administração de Empresas pela Universidade de Fortaleza e Formação Superior em Gestão Estratégica de Empresas pela Faculdade Integrada do Ceará. Doutor em Administração pelo Propad/UFPE. Professor Adjunto do Departamento de Administração da Universidade Federal do Ceará (UFC). E-mail: vicsmelo@gmail.com.

5 Bacharel em Psicologia pela Universidade de Bremen. Doutor em Psicologia pela Universidade de Bremen, Alemanha. Professor de Psicologia do Trabalho e Organizacional da International Psychoanalytic University Berlin. E-mail: thomas.kuehn@ipu-berlin.de.

foram agravados pela pandemia, causando dificuldades de acesso aos alimentos para alguns participantes. Sugestões para formuladores de políticas públicas foram destacadas na conclusão.

**Palavras-chave:** Covid-19; transtorno depressivo; transtornos de ansiedade; segurança alimentar e nutricional; hábitos alimentares.

**Resumen:** La pandemia Covid-19 sacó a la luz las vulnerabilidades alimentarias y nutricionales de la sociedad, que se agravaron por los efectos del aislamiento social y otras medidas para contener la propagación del coronavirus. Este estudio exploró cómo personas con trastornos mentales están reaccionando a este momento pandémico, centrándose en el contexto de sus hábitos alimenticios. Así, se realizaron diecinueve entrevistas a personas previamente diagnosticadas con depresión y/o ansiedad. Descubrimos que la pandemia afectó la seguridad alimentaria y nutricional de los participantes, que a su vez ha actuado como desencadenante activando vulnerabilidades que hacen que esta parte de la sociedad sea más susceptible a cambios negativos en los hábitos alimentarios, como en el consumo de alimentos poco saludables, apetito emocional y cambios de peso. Además los problemas financieros, el desempleo y el aumento de los precios de los alimentos se vieron agravados por la pandemia, lo que provocó dificultades de acceso a los alimentos. Las sugerencias por los responsables fueron destacadas en la conclusión.

**Palabras clave:** Covid-19; transtorno depressivo; trastornos de ansiedad; seguridad alimentaria y nutricional; consumo de alimentos.

## Introduction

In early 2020, Covid-19 infection was declared a pandemic by the World Health Organization (WHO). In an effort to delay the spread of the virus around the world, social distancing measures were implemented, to reduce the physical contact between people. Entire collective activities and facilities closed their doors and people were advised and often obligated to stay in their homes. Despite the need for public health actions, they can make people feel isolated and lonely and can increase stress and anxiety. Furthermore, fear and anxiety about a new disease and what could happen can be overwhelming and cause strong emotions in individuals of all ages. (CDC, 2020).

Some governments applied drastic measures, such as borders restrictions and lockdowns, which affected food supply chains

globally and locally. Despite the fact that commodities weren't heavily affected yet, a disruption of supply chain due to problems with food transport and falling consumer demand caused by severe loss of farmers' production to occur, especially in family farms. Consequently, access to fresh and minimally processed food has been reduced, prices have risen in basic food products. Although supermarket chains have been succeeding in offering products to a part of the population, a great percentage of people are struggling with unemployment, loss of income and the rise of food costs. (UN, 2020).

The pandemic revealed systemic vulnerabilities in our society (CROCKETT; GRIER, 2020; BUBLITZ et al., 2020). In scenarios like this, it makes sense for governments to promote an expanded social safety net, to various portions of the population. However, in Brazil, the political elite sustains a counter-reform characterized by capital priority, and the depreciation of social protection and public funds. Among the rights attacked by capital interests, there is the human right to adequate food (SOUZA; SOARES, 2019). Previous actions taken under the food and nutrition security agenda, added to a political inertia and negligence to combat the virus, are impacting on which foods, how much food, and when people can buy food. It leads a part of population to access and consume majorly ultra-processed food, to the detriment of socially referenced foods. (SILVA FILHO; GOMES JÚNIOR, 2020).

The facts show that this pandemic context impacts on food and nutrition security of the population. According to Nordin, Boyle and Kemmer (2013), food and nutrition security involves the regular access of food in quantity and quality. It may be due to the long history of classic undernutrition in Brazil (MONTEIRO, 2003) that food and nutrition insecurity is commonly related to the lack of food access and hunger. However, a disbalance of food intake with the excess of some nutrients in detriment of others – caloric dense food *versus* nutrient dense food – is also a cause of food and nutrition insecurity. This excess may lead to obesity, but it doesn't exclude the possibility of micronutrient deficiency. (MAZUR; NAVARRO, 2015).

Adding to a greater risk for food and nutrition security, current literature has addressed how social isolation and loneliness increase the risk of mental disorders, especially if the individual suffers from high levels of Covid-19-specific worry and low distress tolerance (LIU et al., 2020; SANTINI et al., 2020). Thus, in the historical context of a pandemic period, individuals with depression and anxiety become even more vulnerable.

It is estimated that, worldwide, more than 264 million people suffer from depressive disorder (WHO, 2020). The consequences of mental disorders in society are massive: it can influence personal aspects of someone's life such as the relationships, employment, and financial stability (COSTELLO; FOLEY; ANGOLD, 2006), as well as opportunities lost and lowered quality of life. Individuals are not only struggling with the emotional and functional fights of their illness, but also with the social stigma related to this condition. (RÜSCH; ANGERMEYER; CORRIGAN, 2005).

Mental disorders also influence food behavior and eating patterns. Studies show that consumers with mental disorders tend to be more vulnerable to unhealthy foods and weight gain, especially due to episodes of binge and emotional eating (ALCOFORADO, 2018; WELLMAN et al., 2019). Emotional food consumption is eating in response to negative emotions, such as depressive feelings, and commonly a high level of stress leads to chips, chocolate, cookies (CHAPLIN; SMITH, 2011) and fatty food consumption. (MELO; ALCOFORADO; ARRAES, 2018).

It is widely known the consequences of unhealthy food in human welfare, and recently, chronic disorders were shown to be associated with worsened symptoms of Covid-19 syndrome (JORDAN; ADAB; CHENG, 2020). However, Brazilian Government appears to ignore the nutritional risks of ultra-processed food in people's lives, given the policies that benefit the food industry in detriment of local farmers (SOUZA; SOARES, 2019), who are responsible to produce fruits and vegetables that people should eat on a daily basis. The consequence is a risk of nutrition insecurity because of incentive

to processed and ultra-processed food production and consumption available in supermarkets.

With marketplaces being commonly the only way to access food in this pandemic situation, people who have depression and anxiety appear to be even more nutritionally vulnerable. Few studies recently explored the ways the marketplace can induce mental illness in consumers' lives (KOKU; ACQUAYE, 2017), and the ways consumers also use the marketplace as resources to deal with mental illness. (MACHIN et al., 2019).

This panorama shows us it is necessary to amplify the investigation of nutritional impact of social isolation measures on individuals with mental vulnerabilities, such as depression and anxiety. This study sought to explore how people with mental disorders have dealt with the Covid-19 pandemic experience in the context of their eating habits, in order to understand how this portion of the population copes with crisis situations, how the pandemic affects their food access and choices and how these problems can be better addressed by organizations and states in future circumstances. Finally, this paper is also necessary due the incipient research about the intersection of mental disorders and nutrition and food insecurity, mental well-being, and the marketplace.

## **Method**

A qualitative approach was applied to provide good opportunities for participants to voice their experiences and expectations during the social isolation period. Considering the exploratory nature and sensitiveness of this study, we were concerned to create a safe place for the participants that would minimize possible discomforts. We selected in-depth interviews as the most appropriate method of data collection. Ethical issues were considered and followed. The semi-structured script was approved by one of the authors, a doctor in Psychology, and the interviews were part of a bigger project led by the International Psychoanalytic University Berlin. The participants were informed about the research objectives and agreed to the consensual term presented at the beginning of each interview.

## **Data collect**

The Brazilian context was selected due its situation as epicenter of Covid-19 with high rates of contamination (CNN, 2020). Additionally, among developing countries, Brazil also leads the world ranking of depression. WHO report, released in February 2017, with global estimates of depression, pointed out that Brazil is the fifth country with the highest depression index (5.8%), and the country with the highest anxiety rate in the world (9.3%) (WHO, 2017). Therefore, all the participants had the Brazilian nationality and were facing social isolation measures when the interviews were conducted.

Participants were identified by posting an administrator-approved request to a Brazilian Facebook community focused in Depression and via recommendations. The researchers conducted 19 semi-structured in-depth interviews with an average duration of 1 hour and 20 minutes between April 23<sup>rd</sup> and May 12<sup>th</sup>, 2020. Respecting the local recommendations regarding the health of the interviewees, all interviews were conducted virtually and, after access granted, recorded.

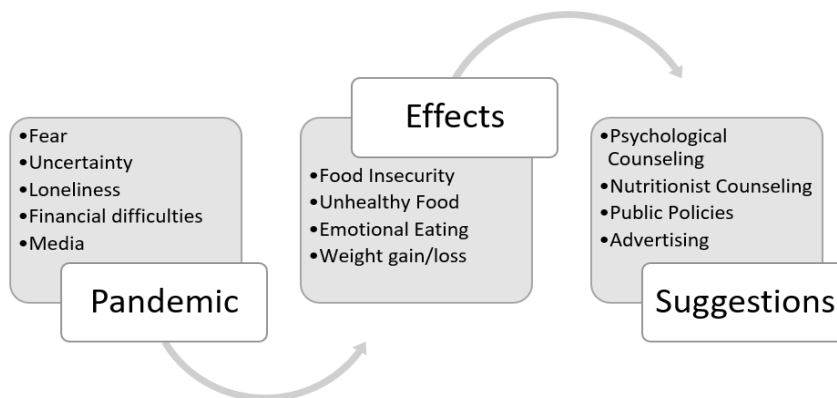
The final sample of participants consisted of 16 women and 3 men in the 20 – to 44-year age range. All participants were previously diagnosed with a mental disorder (depression and/or anxiety) over a 12-month timeframe. All of them agreed to participate voluntarily. The researchers assured data security and anonymity and different names were created for the participants during the analysis. Concerning the civil state, 11 were single, 06 were married and 02 were divorced. The personal average income varied from 72,28U\$ to 1462,24U\$, and 02 of the participants declared not having any income at the moment of the interview.

## **Data analysis**

Field notes were taken after the application of each interview to identify relevant aspects that appeared in the collected data. Thus, the data was collected and analyzed simultaneously, allowing a continuous approach of comparison and differentiation to be used in the analysis process. Following the end of the last interview, everything

was transcribed, and a Thematic Analysis was applied to obtain the useful information of the textual data (BRAUN; CLARKE, 2006). The remarkable themes that emerged from content analysis denote the main findings that can be seen in Figure 1.

**Figure 1** – Stress factors of the pandemic and their effects in consumers with mental disorders and suggestions for improvement of health and well-being



Source: Authors (2020).

## Results and discussion

The results show that social isolation and changes arising from Covid-19 pandemic has made people with mental disorders even more vulnerable, not only in the emotional sphere, but also in their eating and physical habits. According to the literature, the loneliness resulting from social isolation, in quarantine and lockdown situations, has impacted on major episodes of mental disorders, especially in people with low-stress tolerance and major worry concerning the pandemics. (LIU et al., 2020; SANTINI et al., 2020).

Covid-19 pandemic, which affected Brazil intensely, has led to food and nutrition security concerns in individuals with depression and/or anxiety. We identified not only nutritional concerns regarding quality of food, emotional eating, and weight change, but also, there were concerns about providing enough food for the family, which impacted participants with low income.



In this study, it is highlighted that consumers with mental disorders need to be more addressed by public policies and organizations and some propositions will be suggested by the authors in the managerial implications section. The following cases were selected from all the interviews for their capacity to illustrate our main findings.

### **Food access**

According to Schneider and Ferrari (2015), characteristics of the place of production (natural conditions, cultural and gastronomic traditions) or the production process (artisanal, traditional) are critical parameters to define the quality of the product, including nutritionally. These characteristics are more prevalent in small food supply chains. However, in our study, local and agroecological fairs, where small producers usually sell their products, were not mentioned by any interviewee. The participants referred to consuming fresh and minimally processed food during conversation, but the access to it was related to supermarkets only. Nevertheless, it seems to be their habit before the pandemic.

Shopping for food through cell phone applications was seen as an opportunity to reduce exposure and, consequently, reduce anxiety and the fear of being contaminated by the coronavirus. Participants referred only to buying from supermarket apps, and buying from small markets through WhatsApp. Investing in digital environments and teleworking are some of the marketing strategies to mitigate economic effects of quarantine (CASTRO et al., 2020). Although many family farmers started sales on online platforms, again, there was no mention of participants buying from them. Improving technological support to local producers may increase their contact with potential clients, and it may induce more equity between big and small producers. Thus, a food and nutrition security net would be strengthened for both producer and consumer.

The participants sensed the rise in some food products, and some related they are very expensive, although the majority weren't impacted heavily by this fact. However, it is important

to note it added nutritional vulnerability to some, leading to an increase in the consumption of unhealthy foods. Lucia, a 44-year-old mother responsible for her household finances, reports how the increase in food prices by the markets has impacted her budget, which has led her to start consuming less healthy, but more affordable food.

What changed a lot was the matter of food [...] As the costs increased, you arrive at a supermarket, a vegetable that used to cost 2 reais, you buy for 8, so we have changed the way we eat [...] We didn't have the habit of eating bread and now we're eating it, because all of that was replaced by protein and vegetables, salad, these things. That's it, the way we changed, modified the food was this, for financial reasons. (Lucia, 44).

Yet, concerns about having food were identified. Because of the economic crisis in Brazil, which was aggravated by the pandemic, some participants are more worried about food wasting, shopping for food only when there is less food in the pantry. The pandemic worsened financial problems and the fear of unemployment, and this vulnerability showed to affect directly concerns involving food consumption for few interviewees, as we can note in the following citation:

So, I don't have much choice of what to buy. Our consumption is truly food, my concern is food. Not for me, but for my child. [...] My concern is about food, because I don't know about tomorrow. I don't know if it (the pandemic) will pass or not. I don't know if there is gonna be work or not. Unemployment is there. We don't live in a country where Governments think. My concern is with food. (Veronica, 35).

In Baker et al. (2020), it is seen that households with children tend to decrease overall spending, increasing spending on groceries more than households without children. It might reflect the need to prioritize basic needs, such as food, in consequence of financial difficulties caused by the uncertainties brought by the economic impacts of the pandemic. Veronica's concerns are an example of this situation and bring to light the reality of many families struggling with food and nutrition insecurity in this crisis.

## Eating habits

Some of the participants related a consumption of a traditional Brazilian plate, with rice, beans, vegetables. Veronica (35), for example, although she said she produced her own fried snacks, she considers it is better than to order it. And when asked about healthy eating, she stated: “Here in my house we eat real food, we don’t eat snacks and so on. [...] I like eating bread; I don’t know if it is healthy. But I like fruits, vegetables, food. I’m not used to junk food, so it is healthy”.

However, almost all the participants have experienced an increase in the consumption of unhealthy foods, such as bread, cake, pasta, sweets, chocolate, among others. When asked what they have been eating the most at the moment, some of the answers were: “now everything is bread, pasta, what I have bought is a lot of pasta because it fills and is what is cheap” (Lucia, 44); “Nutella. I eat almost a kilo of Nutella a week. I get anxious (when) I’m there studying, I start to get anxious, I take Nutella and eat, eat, eat and chocolate and Nutella and chocolate and Nutella and chocolate...”. (Cris, 31).

Most respondents declared higher consumption of sugary foods, such as chocolate and Nutella, which converges with the findings of Chaplin and Smith (2011), Alcoforado (2018), and Melo, Alcoforado and Arraes (2018). Sarah, 20, said that after the period of social isolation started, she began to add sugar to her daily diet in an unrestricted way; while Julia, 22, said that “there is always an addiction to something” and that recently the addiction has been chocolate, which she has been eating daily.

Carlos, a 23-year-old medicine student reported to be eating excessively fatty food, but he attested not to be concerned about his health at the moment. He said that compensating for the pandemic anxiety with unhealthy foods is a natural process within his disorder. In contrast, Hanna, 26, showed concern about excessive consumption of “junk food”. She said that there are days when she eats too much and days when she eats one package of instant noodles. Hanna reported that her poor diet is associated with emotional vulnerability

due to the uncertainty of Covid-19 pandemic and going to sleep and waking up very late. This finding is congruent with the study by Wu et al. (2019), who identified that short sleep and poor-quality sleep are related to poor diet, leading to higher chances of obesity.

The lack of cooking habit was also said to be a factor to unhealthy eating. Laura, a 27-year-old professor, mentioned she doesn't like cooking, and some days she "eats cookies the whole day". Interviewees who had culinary skills or who had someone responsible for it at home happened to have healthier lunches and dinners, even though they used to eat unhealthy snacks. This finding reinforces the recommendations of learning cooking skills to improve healthy eating habits given by the Food Guidelines for the Brazilian Population. (BRAZIL, 2014).

Ordering ready-to-eat food from food apps, such as iFood and UberEats, is known as an alternative for people who don't cook. Some food establishments adopted takeaway/delivery services to minimize financial impacts of the pandemic social measures (OLIVEIRA; ABRANCHES; LANA, 2020), and there has been a great increase in ordering through food applications since the beginning of the pandemic (BAKER et al., 2020; SOUTHEY, 2020). However, it wasn't seen in this study. Julia, 22, mentioned that she and her companion stopped ordering from iFood during the pandemic as a way to control house expenses. Also, the fear of buying contaminated food through delivery was referred to be a cause of stop ordering food, although there is a very low risk of Covid-19 contamination caused by food. (WHO, 2020).

Finally, Anne, a 27-year-old doctor, showed to be more vulnerable because she lost an aunt as victim of the coronavirus, in the beginning of the pandemic, and reported increase in alcohol consumption during the quarantine. Alcohol and depression are aspects already extensively related in literature and were also identified in this study. (BELLOS et al., 2016; AOYAMA et al., 2020).

## **Binge and emotional eating**

The main reasons for emotional eating were identified by the researchers as emotional instability, provided by uncertainty, fear, loneliness and negative news propagated by the media; in addition to the increase in the price of products at a time when most respondents are experiencing financial difficulties.

John, 29, is a lawyer and was already staying home before the social isolation period, as he was studying for an important exam. He said he feels the need to eat and it doesn't matter what type of food, but whatever he finds around the house. He explained that in the beginning of the pandemic in Brazil he has been monitoring the news daily, following what every TV article was showing in media, but that it caused him crying spells and anxiety attacks, so by the time of the interview he was avoiding to watch news to control his stress levels and weight gain: "I was already getting out of control. And what I told you, is the issue of anxiety attacks, you know, whenever I have anxiety attacks, I compensate with food. There were some days when I got sick because I was overeating". (John, 29).

As can be seen in John's speech, the level of stress has led to binge eating, as well as was investigated by Wellman et al. (2019), where it was concluded that perceived stress and depression mediates binge eating among males. Similarly, Hirschman and Stern (1998) had already pointed out depression as an underlying cause of eating disorders, such as binge eating.

Lucia also claimed to be eating excessively until she felt bad. She registered feeling an "agony" in eating everything to satisfy something that she was unable to explain. Satiation should be the main process that determines when we stop eating (CORNIL, 2017), but in the case of consumers with anxiety attacks, overeating can be a response to negative emotions, such as depressive feelings (VAN STRIEN et al., 2016), camouflaging the feeling of satiation.

## Weight change

Depression can lead to changes in weight, both increase and decrease. Overweight women are more likely to experience depressive episodes, while underweight men are more prone to depression (DARIMONT et al., 2020). In this article, we can see how the experience of the pandemic caused anxiety attacks that led to binge and emotional eating, consequently leading to changes in weight, even in a short period of time. During the time of the interviews, participants were in quarantine for approximately one month and they could already report a significant increase or decrease in weight: “We’re isolated, right, just over a month, and in this period [...] I had a weight gain of almost 10 kilos. This... scared me a lot, you know? So much so that I had to cut... I had to go back on a diet for that, not to harm me emotionally” (John, 29); “I lost almost 8 kg since the beginning of the quarantine and this is not the normal behavior of my body, I am a person who has a lot of difficulty in losing weight. And especially when it is not a healthy thing, that we know it is purely emotional” (Sarah, 20).

Almost half of the female respondents gained an average of 4kg in the first quarantine month. Sarah was the only female that registered weight loss, while John is the only male that registered weight gain. As a consequence of the change in weight, some participants have experienced a decrease in their self-esteem, in addition to John, that reported being on an extreme diet to try to lose weight, however, without any support from nutritionists or health professionals: “I’m fasting for 20 hours, but if I see that I’m feeling weak, that I’m very weak, I go and break that fast” (John, 29).

## General considerations

In this article, it was possible to observe how the Covid-19 pandemic impacted eating habits, increasing nutritional vulnerability of people with mental disorders. Food and nutrition security showed to be at risk given the negative changes in food consumption reported by the participants, who increased frequency of processed and

ultra-processed food ingestion, in addition to reduced physical activity, which led to an increase or decrease in weight.

However, not only food quality was affected. Some participants experienced a more serious risk for food and nutrition security caused by the rise of food price and financial problems during the pandemic. Few interviewees have concerns about having food for all households, and it also impacted food choices, once more caloric-dense foods – which are usually cheaper – were preferred to ensure people would not feel hungry. Thus, it shows that the right to adequate and healthy food should be enforced.

The lack of access to local food producers by the participants with mental disorders should be addressed. Perhaps it happens due to the advantage that supermarkets offer a vaster variety of products, including sugary and fatty food, which are highly searched by depressed and anxious people. But it could also be because there aren't local and agroecological fairs in their neighborhood, or they are not enough divulgated.

This study found that people with depression or high levels of anxiety have characteristics inherent to the disease that are aggravated in times of crisis, uncertainty and loneliness, as in the pandemic of Covid-19. Although most of the research participants were medicated and with the disease under control, the pandemic served as a trigger activating vulnerabilities, such as feelings of pessimism, preoccupation, social withdrawal, and others (see BECK et al., 1961) that make this part of society more susceptible to negative changes in eating habits.

The authors believe that both the state and the market have the role of turning to vulnerable people, in order not to instigate behaviors that are harmful to their health, aiming at increasing the well-being of depressed and anxious individuals. Some propositions suggested in this article will be described below.

## Managerial Implications

Initially, it is important to highlight the lack of a coping plan by the Brazilian Government to combat the coronavirus and to manage its social and economic impacts, including in the right to adequate and healthy food. This lack caused a misadministration of the health situation in Brazil, and aggravated the economic crisis it already existed in. Thus, it is essential to demand that the Federal Government applies a coping plan to address health and social problems caused by management errors. Some organizations have already suggested plans, such as the document launched by Frente pela Vida in July (FRENTE PELA VIDA, 2020). Now social pressure is important so the proposals can be put into action.

Given the nutritional vulnerability shown in individuals with depression and anxiety, the authors suggest a wide campaign for food and nutrition education, based on the Food Guideline for Brazilian Population (BRAZIL, 2014), in addition to the propagation of advertising pieces that encourage the consumption of healthy foods and lower consumption of alcoholic beverages. Also, they strongly support policies to fortify small food supply chains, strengthening the production from local producers and family farms, as well as policies and strategies to improve access to local and agroecological fairs.

In addition, the state can police the change in prices of products in times of pandemic, so as not to allow an exaggerated increase in essential health goods. In Brazil, for example, to collect donations for the purchase of food and hygiene products in pandemic period, there have been several live-stream concerts, however, most of the funders of the shows are drink companies with high alcohol content and such event serves as an alert for family members of people with mental disorders, as it can encourage the consumption of items harmful to health.

It is also suggested to encourage the search for physical activity videos online. It was observed in this research that none of the participants continued to exercise at home during the quarantine period.



Even individuals who were physically active left physical exercises aside. Thus, by encouraging the practice of physical exercises in government advertising campaigns, in addition to campaigns that could be promoted on the social networks of world-renowned brands, people with depression and anxiety could improve their well-being and mental health.

Furthermore, it is important to highlight the role of the media in spreading messages that can cause anxiety, depressive episodes and panic attacks in individuals with mental disorders. Almost all of the participants in this project are trying not to watch any more news because they have experienced anxiety issues, in addition to not being able to sleep after realizing how the situation of Covid-19 was on a global level. Thus, psychological and psychiatric online support is a measure of extreme need in times of pandemic and could be offered by the state or third sector organizations.

Finally, as the pandemic continues, social connection should be maintained to avoid loneliness in quarantine or lockdown situations. Individuals with mental disorders are strongly triggered by social isolation and intervention efforts should be made by family members and friends to prevent the development of depressive episodes.

### **Directions for future research**

The authors of this paper are aligned with Holmes et al (2020, p. 547) when stating that “there is an urgent need for research to address how mental health consequences for vulnerable groups can be mitigated under pandemic conditions, and on the impact of repeated media consumption and health messaging around Covid-19”. It is necessary to investigate which food consumption characteristics are inherent to such a portion of the population and how the marketplace and organizations can turn to it.

Some suggestions for studies are: how mental disorders affect eating behaviour in times of pandemic, how times of crisis impact body image of vulnerable people and how the state can act to promote innovative solutions that address food and nutrition security in individuals with depression and anxiety. In addition, experimental

studies can assess how media consumption impacts the eating habits of individuals with mental disorders, during and after the pandemic of Covid-19.

The present article ends with the speech of an interviewee, which demonstrates how important it is to give a voice to more vulnerable people, especially in times of pandemic and uncertainty:

As this research is about depression, mainly I would highlight that this change in my habits, it was 101% emotional. When the cases started to happen closer to me, I started to feel more what was happening. Before, I was isolated as a precaution, I was at home, because I didn't want to catch the virus, but then my family started having cases, my friends, cases started to appear, so this changed my perception a lot... and the fact that you are at home, unable to go to the hospital, without having a companion there for the person you love, without having any news, it has destroyed my emotional and because of that I can't eat properly, I can't exercise, I can't concentrate properly at work. (Sarah, 20).

Aceito para publicação em 26/11/2020.

## References

ALCOFORADO, D. G. **Depressão e Hábitos de Consumo**: um Estudo Cross-Cultural entre Brasil e Alemanha. 2018. 171 pages. Thesis (Master in Business Management). Universidade Federal de Pernambuco, 2018. Retrieved from <https://repositorio.ufpe.br/handle/123456789/29977>.

AOYAMA, M. et al. Insomnia and changes in alcohol consumption: Relation between possible complicated grief and depression among bereaved family caregivers. **Journal of Affective Disorders**, v. 275, p. 1-6, 1 out. 2020.

BAKER, S. R. et al. How Does Household Spending Respond to an Epidemic? Consumption during the 2020 Covid-19 Pandemic. **The Review of Asset Pricing Studies**, 21 jul. 2020.

BELLOS, S. et al. Longitudinal association between different levels of alcohol consumption and a new onset of depression and generalized anxiety disorder: Results from an international study in primary care. **Psychiatry Research**, v. 243, p. 30-34, 2016.

BRAUN, V.; CLARKE, V. Using thematic analysis in psychology. **Qualitative Research in Psychology**, 3:2, 77-101, 2006.

BRAZIL. Departamento de Atenção Básica, Secretaria de Atenção à Saúde, Ministério da Saúde. **Guia Alimentar para a População Brasileira**. 2. ed. Brasília: Ministério da Saúde; 2014.

BUBLITZ, M. G. et al. Pandemic Reveals Vulnerabilities in Food Access: Confronting Hunger Amidst a Crisis. **Journal of Public Policy & Marketing** (published online May 28, 2020), 2020.

CASTRO, B. L. G. DE et al. Covid-19 e organizações: estratégias de enfrentamento para redução de impactos. **Revista Psicologia: Organizações e Trabalho**, v. 20, n. 3, p. 1059-1063, 2020.

CDC, CENTER. FOR DISEASE CONTROL AND PREVENTION. **Mental Health and Coping During Covid-19 | CDC**. Retrieved from: <<https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/managing-stress-anxiety.html>>. Accessed in: August 29, 2020.

CHAPLIN, K.; SMITH, A. P. Breakfast and snacks: associations with cognitive failures, minor injuries, accidents and stress. **Nutrients**, v. 3, n. 5, p. 515-28, May, 2011.

CNN. **Brazil coronavirus: Latin America is now the “epicenter”**. Retrieved from: <<https://edition.cnn.com/2020/05/26/americas/latin-america-coronavirus-toll-intl/index.html>>. Accessed in: August 29, 2020.

CORNIL, Y. Mind Over Stomach: A Review of the Cognitive Drivers of Food Satiation. **Journal of the Association for Consumer Research**, v. 2, n. 4, p. 419-429, 2017.

COSTELLO, E. J.; FOLEY, D. L.; ANGOLD, A. 10-Year research update review: The epidemiology of child and adolescent psychiatric disorders: II. Developmental epidemiology. **Journal of the American Academy of Child and Adolescent Psychiatry**. Elsevier Inc., 2006.

CROCKETT, D.; GRIER, S. A. Race in the Marketplace and Covid-19. **Journal of Public Policy & Marketing** (published online May 28, 2020), 2020.

DARIMONT, T. et al. Body weight and self-perception are associated with depression: Results from the National Health and Nutrition Examination Survey (NHANES) 2005–2016. **Journal of Affective Disorders**, v. 274, p. 929-934, Sept. 1, 2020.

UN, UNITED NATIONS. **Policy Brief: The Impact of Covid-19 on Food Security and Nutrition**. Jun, 2020. Retrieved from: <<https://reliefweb.int/report/world/policy-brief-impact-covid-19-food-security-and-nutrition-june-2020>>. Accessed in: Aug. 27, 2020.

FRENTE PELA VIDA. **Plano Nacional de Enfrentamento à Pandemia da Covid-19**. 2ª Edition, July 15, 2020. Retrieved from: <<https://frentepelavida.org.br/>>. Accessed in: August 28, 2020

HIRSCHMAN, E. C.; STERN, B. B. Consumer Behavior and the Wayward Mind: the Influence of Mania and Depression on Consumption. **NA – Advances in Consumer Research Volume 25**, 1998.

HOLMES, E. A. et al. Multidisciplinary research priorities for the Covid-19 pandemic: a call for action for mental health science. **The Lancet Psychiatry**. Elsevier Ltd, June 1st, 2020.

JORDAN, R. E.; ADAB, P.; CHENG, K. K. **Covid-19**: Risk factors for severe disease and death. *The BMJ*. BMJ Publishing Group, Mar. 26, 2020. Retrieved from: <[www.gov.uk/government/publications/covid-19-guidance-on-social-distancing-and-for-](http://www.gov.uk/government/publications/covid-19-guidance-on-social-distancing-and-for-)>. Accessed in: August 29, 2020.

KOKU, P. S.; ACQUAYE, H. E. Marketing dispossession: A strategy for financial services that considers customers' mental health. **International Journal of Bank Marketing**, v. 35, n. 1, p. 112-127, 2017.

LIU, C. H. et al. Factors associated with depression, anxiety, and PTSD symptomatology during the Covid-19 pandemic: Clinical implications for U.S. young adult mental health. **Psychiatry Research**, v. 290, Aug. 1, 2020.

MACHIN, J. E. et al. The marketplace, mental well-being, and me: Exploring self-efficacy, self-esteem, and self-compassion in consumer coping. **Journal of Business Research**, v. 100, p. 410-420, 1 jul. 2019.

MAZUR, C. E.; NAVARRO, F. Insegurança Alimentar e Obesidade em Adultos: Qual a Relação? **Saúde (Santa Maria)**, v. 41, n. 2, p. 35-44, Dec. 18, 2015.

MELO, F. V. S.; ALCOFORADO, D. G.; ARRAES, N. G. Hábitos e preferências de consumo de pessoas diagnosticadas com depressão. **Revista Brasileira de Marketing**, v. 17, n. 6, p. 881-894, 2018.

MONTEIRO, C. A. A dimensão da pobreza, da desnutrição e da fome no Brasil. **Estudos Avançados**, v. 17, n. 48, p. 7-20, Aug., 2003.

NORDIN, S. M.; BOYLE, M.; KEMMER, T. M. Position of the Academy of Nutrition and Dietetics: Nutrition Security in Developing Nations: Sustainable Food, Water, and Health. **Journal of the Academy of Nutrition and Dietetics**, v. 113, n. 4, p. 581-595, 2013.

OLIVEIRA, T. C.; ABRANCHES, M. V.; LANA, R. M. Food (in)security in Brazil in the context of the SARS-CoV-2 pandemic. **Cadernos de Saúde Pública**, v. 36, n. 4, 2020.

RÜSCH, N.; ANGERMEYER, M. C.; CORRIGAN, P. W. Mental illness stigma: Concepts, consequences, and initiatives to reduce stigma. **European Psychiatry**. Elsevier Masson SAS, 2005.

SANTINI, Z. I. et al. Social disconnectedness, perceived isolation, and symptoms of depression and anxiety among older Americans (NSHAP): a longitudinal mediation analysis. **The Lancet Public Health**, v. 5, n. 1, p. e62-e70, Jan. 1, 2020.

SCHNEIDER, S.; FERRARI, D. L. Short Food Supply Chains, Cooperation and Quality Products in the Family Farming-The Process of Agrifood Production Relocalization in Santa Catarina, Brazil. **Organizações rurais & agroindustriais**, v. 17, n. 1, p. 56-71, 2015.

SILVA FILHO, O. J.; GOMES, N. N. The future at the kitchen table: Covid-19 and the food supply. **Cadernos de Saude Publica**, v. 36, n. 5, 2020.

SOUTHEY, F. **Online food delivery ‘one of the only winners’ in coronavirus outbreak**. Retrieved from: <<https://www.foodnavigator.com/Article/2020/03/19/Online-food-delivery-one-of-the-only-winners-in-coronavirus-outbreak#>>. Accessed in: Aug. 29, 2020.

SOUZA, G.; SOARES, M. G. M. Contrarreformas e Recuo Civilizatório: Um Breve Balanço Do Governo Temer. **SER Social**, v. 21, n. 44, p. 11-28, Mar. 13, 2019.

VAN STRIEN, T. et al. Emotional eating as a mediator between depression and weight gain. **Appetite**, v. 100, p. 216-224, 2016.

WELLMAN, J. D. et al. Sex differences in the relationships among weight stigma, depression, and binge eating. **Appetite**, v. 133, p. 166-173, Feb. 1, 2019.

WHO, W. H. O. **Depression and Other Common Mental Disorders: Global Health Estimates**. Geneva: 2017. Retrieved from: <<http://apps.who.int/iris/bitstream/10665/254610/1/WHO-MSD-MER-2017.2-eng.pdf>>.

WHO, World Health Organization. **Depression**. Retrieved from: <[https://www.who.int/health-topics/depression#tab=tab\\_1](https://www.who.int/health-topics/depression#tab=tab_1)>. Accessed in: August 29, 2020a.

WHO, W. H. O. **Covid-19 and Food Safety: Guidance for Food Businesses**. 2020. Retrieved from: <<https://www.who.int/publications/i/item/covid-19-and-food-safety-guidance-for-food-businesses>>. Accessed in: Aug. 29, 2020b.

WU, I. H. C. et al. Sleep and obesity: the mediating role of health behaviors among African Americans. **Sleep Health**, v. 5, n. 2, p. 193-200, 2019.