



Characteristics of food consumption during the Covid-19 pandemic among residents of the metropolitan region of Belém

Características do consumo alimentar durante a pandemia do Covid-19 entre moradores da região metropolitana de Belém

DOI: 10.56238/isevjhv2n5-027

Receipt of originals: 27/10/2023

Acceptance for publication: 07/09/2023

Thayane Cristina Souza Raiol

Institution: Maurício de Nassau University Center

ORCID: <https://orcid.org/0000-0003-0939-6550>

Eullén de Paula dos Santos da Silva

Institution: Mauritius University Center of Nassau

ORCID: <https://orcid.org/0000-0002-1306-0139>

Luana Cristina Costa de Miranda

Institution: Mauritius University Center of Nassau

ORCID: <https://orcid.org/0000-0003-0353-8212>

Mayko Guimarães Nascimento

Institution: Metropolitan University of the Amazon

ORCID: <https://orcid.org/0000-0001-8256-1482?lang=en>

ABSTRACT

INTRODUCTION: Food is important for a healthy life, it should be varied and of nutritional quality. In view of this, a research was developed addressing dietary variables of residents of the metropolitan region of Belém, Marabá and Santarém during the first peak of the new coronavirus pandemic. **OBJECTIVES:** To observe the participants' eating practices from March to August 2020. **METHODOLOGY:** The present study was a research project developed by the Academic League of Collective Health and Parasitology, of the UNINASSAU University Center, where the electronic form (Google forms) was used in which the participants (over 18 years old) answered objective questions related to the pandemic period, mainly about the food consumed. This study was approved by the CEP of the Evandro Chagas Institute on 08/21/2020 with opinion No. 4,229,578. **RESULTS AND DISCUSSION:** With social isolation, 89.8% of the 275 respondents reported a decrease in trips to supermarkets. Regarding the change in food consumption, it was observed: 33.1% stated that they had not changed their eating habits, 18.5% were consuming a greater amount of processed foods, 23.3% were consuming industrialized and natural foods, and 25.1% were consuming a greater amount of natural foods, which is positive, as these foods contribute to the strengthening of the immune system. In addition, the frequency of consumption of certain foods was addressed, in which there was a higher percentage for fruits and vegetables with 62.5% and 59.6%, respectively. However, a significant value was for pasta (46.9%) and sweets (38.5%). **CONCLUSION:** The changes reported by the participants show a qualitative improvement in the diet from the increase in the consumption of fruits and vegetables, but accentuated percentages of the consumption of pasta and sweets coexist.

Keywords: Food, Covid-19, Food consumption.



1 INTRODUCTION

Food is important for a healthy life, it should be varied and of nutritional quality. A good diet is an important determinant of good health and longevity, which involves understanding the importance of an adequate and balanced diet, which evolves over time and is influenced by a variety of social and economic factors in a complex form of interaction to shape personal dietary patterns. (PAHO, 2019). In addition, an unbalanced diet, both in quantity and quality, can generate a series of health consequences, and is linked to the development of diseases, especially Chronic Non-Communicable Diseases (NCDs). NCDs are a group of diseases that include obesity, cardiovascular diseases, diabetes, hypertension, cancer, and some lung diseases, which reduce quality of life and life expectancy (ABARCA-GÓMEZ, 2017). Therefore, it is important to prioritize fresh or minimally processed foods (BICALHO et al., 2020).

In 2020 the world met a new virus of Sars Cov-19, or better known as COVID-19, and which was officially recognized by the WHO (World Health Organization) as a global pandemic crisis. After the arrival of COVID-19 in the world, measures to control and prevent the disease were taken by local health authorities to reduce mortality rates. The intervention measures most adopted by the governments of several countries were social distancing (social isolation) and lockdown (quarantine) (Montez, 2022), Due to the quarantine imposed by the government, the population's eating and behavioral habits changed. Confined people became bored, stressed, and vulnerable to exaggerated and compulsive food intake (RODRÍGUEZ-PÉREZ et al., 2020). Because of this, it was critical that at this time the individual was in a good immune state. In the case of COVID-19, boosting the immune system would help fight infections, through factors such as a healthy diet, a good nutritional status, and also helping to avoid preexisting chronic non-communicable diseases (Raphaelli, 2021). The successful adoption of social restriction as a Public Health measure brings proven benefits to reducing the transmission rate of COVID-19, however, negative effects are linked to this restriction and may have consequences for health in the medium and long term. (MALTA et al., 2020)

In view of this, a research was developed addressing dietary variables of residents of the metropolitan region of Belém, Marabá and Santarém during the first peak of the new coronavirus pandemic, with the objective of observing the eating practices of the participants from March to August 2020.



2 METHODOLOGY

The present work is a quantitative and qualitative study, it was a research project developed by the Academic League of Collective Health and Parasitology, of the UNINASSAU Belém University Center, where an electronic form (Google forms) was used in which the participants answered objective questions related to the pandemic period, mainly about the food consumed. It was shared over the Internet through social media (Instagram, Facebook and WhatsApp) to adults, who were encouraged to disclose it to their contacts.

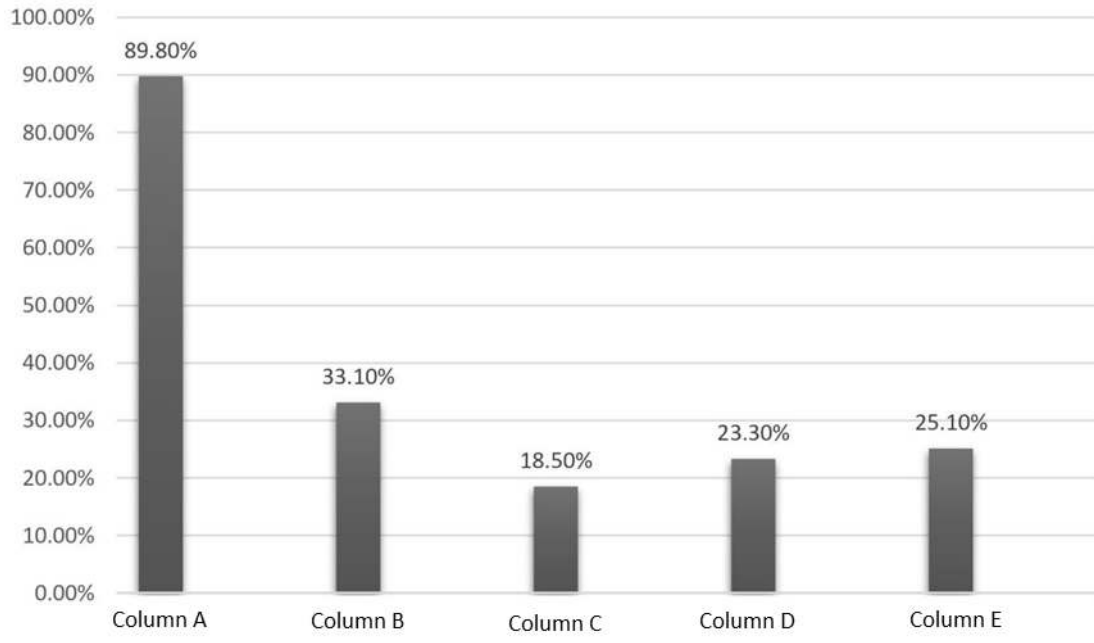
The only answer options for the questions were (1) Yes and (2) No. And the following questions were: (1) Reduced the number of trips to the supermarket, (2) Do not change eating habits, (3) Were consuming industrialized foods, (4) Consumed industrialized and natural foods, (5) Consumed only natural foods. After this first round of questions, there was the second round directed to the frequency of consumption (1) Fruits, (2) Vegetables, (3) Pasta, (4) Sweets, for these it was possible to mark more than one alternative. And finally the third round, with only (1) Yes, and (2) No answers. The question was: (1) Reported weight gain, (2) Did not report weight gain.

This study was approved by the Research Ethics Committee (REC) of the Evandro Chagas Institute on 08/21/2020 under opinion No. 4,229,578. Only individuals over 18 years of age of both sexes, Brazilians, with or without symptoms of COVID-19, were used as inclusion criteria in the study, totaling 275 participants, between March and August 2020.

In addition, articles and scientific works whose theme was food consumption during the pandemic period in Brazil (2019-2022) were used on the Scielo, Google Scholar, Medline, and VHL platforms using the Boolean operators And and the descriptors such as Covid19, Food, Food consumption.

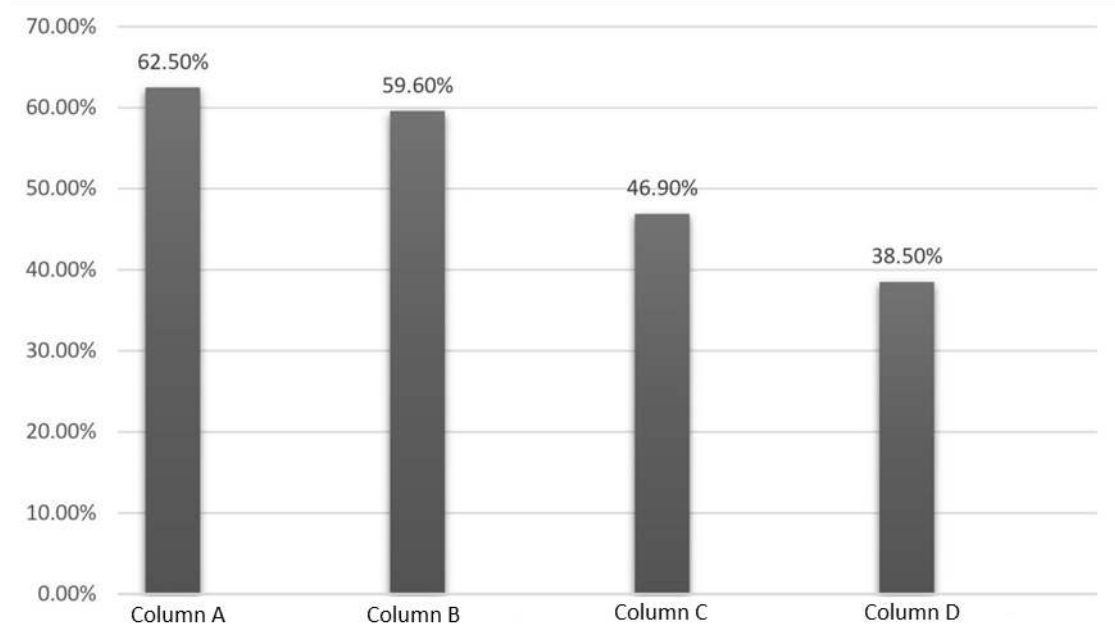
3 RESULTS AND DISCUSSION

Figure 1. Chart on participants' habits during the pandemic.



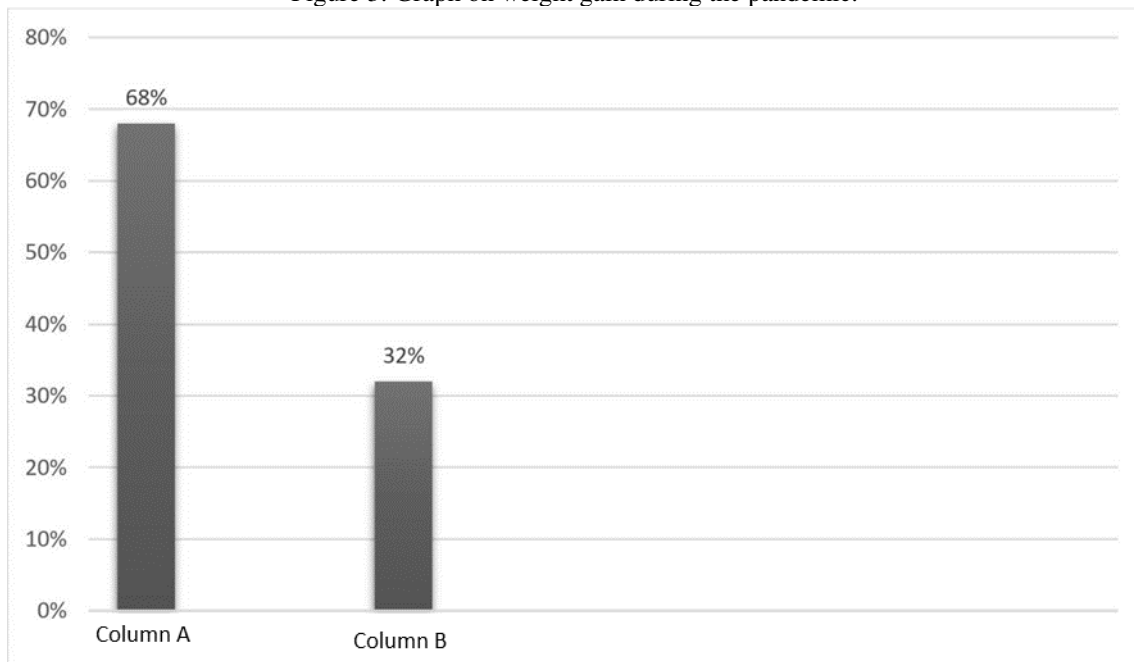
Graph 1 shows that with social isolation, 89.8% (Column A) of the 275 participants reduced their visits to the supermarket. Aro *et al.* 2021 also found in their survey during the pandemic period that 59.2% of their respondents remained at home, but went out to the supermarket. In this way, the impact that the pandemic had in Brazil is notorious, even changing trips to supermarkets, something that was so routine. In addition, in the first graph, it is noted that there was a change of 33.10% (Column B) in the eating habits of the interviewees, with 18.5% (Column C) consuming more processed foods, 23.30% (Column D) consuming processed and natural foods, and 25.10% (Column E) consuming only natural foods. According to Maynard 2020, in his study only 19.7% of respondents consumed vegetables every day of the week and 26.7% fruits. In the same study, there was a large record of the consumption of fried foods (27.6%), snacks (16.9%) and fast food (21.0%) at least once a week. Thus, having very close results in different regions of the country.

Figure 2. Chart on food preference during the pandemic.



In graph number 2, where the second round of questions is found, we identified that 62.5% (Column A) reported the consumption of fruits, 59.6% (Column B) vegetables, 46.9% (Column C) pasta and 38.1% (Column D) sweets. According to *Montez 2022* during the pandemic there was a significant increase in the consumption of fruits and vegetables in countries including Brazil, Spain, China, France, the Netherlands, and India. Thus, there was an improvement in the markers of healthy eating.

Figure 3. Graph on weight gain during the pandemic.





In the third round of questions, represented by graph 3 composed of two very objective questions about weight gain in this period, where 68% (Column A) of respondents reported no weight gain, and 32% (Column B) reported that they gained weight during this period. Pereira *et. al* 2021 in his studies highlights and justifies that during the period of social isolation there was a change in eating habits and a decrease in the practice of physical activities, increasing the consumption of soft drinks, fast food, and ultra-processed foods, consequently generating weight gain. *Rafaelli 2021* also highlighted in his studies an increase in the consumption of ultra-processed foods, but also brought us an increase in the consumption of healthier foods, due to the longer time of availability at home, thus possibly being one of the factors that covered the metropolitan region of Belém, since in it the highest rate was of no weight gain.

4 CONCLUSION

The changes reported by the participants show a qualitative improvement in the diet from the increase in the consumption of fruits and vegetables, but accentuated percentages of the consumption of pasta and sweets coexist.

Not only in the metropolitan region of Belém, but according to studies carried out in other regions, the negative impact of the pandemic on the population's dietary profile, as well as its consequences on health, is evident.

The research becomes important to society because the results suggest that there is a need for intervention in relation to the increase in the consumption of ultra-processed products, since eating behaviors are directly linked to a higher prevalence to the development of chronic non-communicable diseases, and to the worsening of the clinical status of the individual who contracts Covid-19.



REFERENCES

ARO, Fabiana de et al. COMPORTAMENTO ALIMENTAR EM TEMPOS DE PANDEMIA POR COVID-19 / EATING BEHAVIOR IN TIMES BY COVID-19. Brazilian Journal: of development, São Paulo, v. 7, n. 6, p. 59736-59748, jun. 2021. Acesso em: 10 dez. 2021

ABARCA-GÓMEZ, L. “Worldwide trends in body-mass index, underweight, overweight, and obesity from 1975 to 2016: a pooled analysis of 2416 population-based measurement studies in 128· 9 million children, adolescents, and adults”.The Lancet,vol. 390, n. 10113, 2017

BICALHO DE SOUZA, E.; BAPTISTA TITO VIEIRA, B. Avaliação do consumo alimentar durante o covid-19. JIM - Jornal de Investigação Médica , v. 1, n. 2, p. 032-043, 19 Dez.2020. Disponível em: Avaliação do consumo alimentar durante o covid-19 | JIM - Jornal de Investigação Médica (ponteditora.org). Acesso em: 10 dez. 2021

MALTA, D.C. et al. Distanciamento social, sentimento de tristeza e estilos de vida da população brasileira durante a pandemia de COVID-19. Saúde em Debate, v. 44, p. 177-190,2021.

MAYNARD, D. da C.; ANJOS, H. A. dos .; MAGALHÃES, A.C. das V. .; GRIMES , L. N. .; COSTA, M. G. O. .; SANTOS, R.B. Consumo alimentar e ansiedade entre a população adulta durante a pandemia COVID-19 no Brasil. Pesquisa, Sociedade e Desenvolvimento, [S. l.], v.9, n. 11, p. e4279119905, 2020. DOI: 10.33448/rsd-v9i11.9905. Disponível em:<https://rsdjournal.org/index.php/rsd/article/view/9905>. Acesso em: 12 jan. 2023

OPAS-Organização Pan-Americana da Saúde. “Folha informativa –COVID-19”.Portal Eletrônico da OPAS[2020]. Disponível em<www.paho.org>.Acesso em: 12/03/2023

PEREIRA, Larissa Santos *et al.* CONSUMO ALIMENTAR DA POPULAÇÃO ADULTA DURANTE A PANDEMIA DA COVID-19 NO BRASIL REVISÃO SISTEMÁTICA. 2022. 21 f. Tese (Doutorado) - Curso de Especialização em Gestão de Organização Pública em Saúde, Universidade Federal de Santa Maria, Sarandi, Rs, 2022

RAPHAELLI, *et. al.* A pandemia de COVID-19 no Brasil favoreceu o consumo de alimentos ultraprocessados? / COVID-19 pandemic in Brazil favored the consumption of ultra-processed foods? Brazilian Applied Science Review, [S.L.], v. 5, n. 3, p. 1297-1313, 6 maio 2021. Brazilian Applied Science Review. <http://dx.doi.org/10.34115/basrv5n3-002>.

RODRÍGUEZ-PÉREZ, C. et al. Changes in Dietary Behaviours during the COVID-19 Outbreak Confinement in the Spanish COVIDiet Study. Nutrients, v. 12, n. 1730, p. 1- 19, 2020.