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Impact of the COVID-19 pandemic on adult obesity

Impacto de la pandemia de COVID-19 en la obesidad adult

Impacto da pandemia de COVID-19 na obesidade de adultos

ABSTRACT

Methods: reflective study with documentary analysis based on searches carried out in the Google Scholar and Pubmed database, during the month of November 2020, whose theoretical framework was based on the theory of human motivation or hierarchy of needs basic human beings by Abraham Maslow. Results: this scenario can be even more impacted due to the pandemic period caused by COVID-19, where the accumulation of adiposity causes metabolic complications. Conclusion: the present study points out that the COVID-19 pandemic may be an important factor for Brazilians to change their habits and this is a warning factor for the development of obesity in adults, understanding that it has an impact on each of the five levels. the hierarchy of the Maslow pyramid.

DESCRIPTORS: COVID-19; Obesity; Nutrition; Public Health.

RESUMEN

Métodos: estudio reflexivo con análisis documental basado en búsquedas realizadas en la base de datos Google Scholar y Pubmed, durante el mes de noviembre de 2020, cuyo marco teórico se basó en la teoría de la motivación humana o jerarquía de necesidades básicas de los seres humanos de Abraham Maslow. Resultados: este escenario puede verse aún más afectado por el período pandémico provocado por el COVID-19, donde la acumulación de adiposidad provoca complicaciones metabólicas. Conclusión: el presente estudio señala que la pandemia COVID-19 puede ser un factor importante para que los brasileños cambien sus hábitos y este es un factor de alerta para el desarrollo de la obesidad en adultos, entendiendo que tiene un impacto en cada uno de los cinco niveles. .la jerarquía de la pirámide de Maslow.

DESCRIPTORES: COVID-19; Obesidad; Nutrición; Salud pública.

RESUMO

Objetivo: relacionar os pilares da Teoria das Necessidades Humanas Básicas de Abraham Maslow com os possíveis riscos e fatores de influência para desenvolver obesidade durante a pandemia da COVID-19. Métodos: estudo do tipo reflexivo com análise documental a partir de buscas realizadas na base de dados Google Acadêmico e Pubmed, durante o mês de novembro de 2020, cujo referencial teórico foi pautado na teoria da motivação humana ou hierarquia das necessidades humanas básicas de Abraham Maslow. Resultados: esse cenário pode ser ainda mais impactado devido ao período de pandemia ocasionado pelo COVID-19, onde o acúmulo de adiposidade acarreta complicações metabólicas. Conclusão: o presente estudo aponta que a pandemia da COVID-19 pode ser um fator importante para que os brasileiros mudem seus hábitos e isso é um fator de alerta para desenvolvimento de obesidade em adultos entendendo-se por apresentar impacto em cada um dos cinco níveis hierárquicos da pirâmide de Maslow.

DESCRITORES: COVID-19; Obesidade; Nutrição; Saúde Pública.

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INTRODUCTION

Much has been described in the world literature about the impacts of the pandemic caused by SARS-CoV2 (COVID-19) on socioeconomic, political and health aspects in general. However, little has been said about one of the possible impacts that this pandemic can have on the world population, and more specifically, in Brazil, about aspects of inadequate and unbalanced nutrition, resulting in a serious disease: Obesity.

According to the Brazilian Society of Endocrinology and Metabolism, it is characterized by obesity, the excessive accumulation of body fat in the individual.¹ It is understood as a multifactorial disease, as its causes are related to biological, historical, socioeconomic, cultural and political issues. Being considered the second most important risk factor for the development of chronic non-communicable diseases (NCDs), such as cardiovascular disease, diabetes, cancer and other metabolic complications.²

The National Health Survey, in 2013, found that 56,9% (IBGE, 2015) of the Brazilian population is overweight and obesity affects almost 30 million adults.³ Data from the Brazilian Association for the Study of Metabolic Syndrome Obesity (ABESO), it is estimated that by 2025, 2,3 billion adults will be overweight. In the Brazilian context, this chronic disease increased by 67,8% in the last thirteen years, from 11,8% (2006) to 20,3% (2019).⁴ The World Health Organization (WHO) classifies obesity according to the Body Mass Index (BMI), which is defined as the ratio of weight in kilograms divided by the square of height in meters ($BMI = kg/m^2$). Obesity in adults is diagnosed by a BMI above 30 kg/m^2 .

Due to the metabolic changes caused by obesity, such as insulin resistance and inflammation, the relationship between the amplification of its res-

ponse in COVID-19 has been studied, where obese patients have difficulty fighting infection, a trend that can be observed in other infectious diseases, like the flu and hepatitis. Thus, obesity is an important factor in aggravating Covid-19 and can increase the risk of mortality by up to four times.⁶ Therefore, analyzing the current scenario, the Government has adopted social distancing measures with the intention of preventing the spread of the virus, and that is why we had gyms that were closed for long periods or still remain, condominiums with restricted walking, even some beaches had restrictions on its use, different issues allowing Brazilians to become more and more sedentary and anxious.

The aim of the study was to relate the pillars of Abraham Maslow's Basic Human Needs Theory with the possible risks and influencing factors for developing obesity during the corona virus disease 19 (COVID-19) pandemic.

METHOD

This is a reflective-theoretical study, with documental analysis based on searches carried out in the Google Academic and Pubmed database, during the month of November 2020, whose theoretical framework was based on the theory of human motivation or hierarchy of basic human needs by Abraham Maslow.⁷

Such theory organizes the basic needs common to everyone in a hierarchical way, and satisfaction at a given level must be fulfilled to move to the next level, which is a behavioral motivation and is directly related to survival. The levels of needs created by Maslow are five: (1) basic and physiological needs, (2) security needs, (3) love needs, (4) esteem needs, and (5) self-fulfillment needs.^{7,9}

These two large online databases were chosen because they were sufficient to meet the study objectives.

PubMed Central® (PMC) is a free full-text archive of biomedical and life sciences journal literature from the National Library of Medicine of the US National Institutes of Health (NIH/NLM). PubMed® comprises more than 32 million citations from MEDLINE biomedical literature, life science journals, and online books. MEDLINE® is an English acronym for Online Medical Literature Analysis and Retrieval System is the bibliographic database of the US National Library of Medicine (NLM). It contains more than 18 million references to scientific journal articles, with a greater concentration on biomedicine, but it also contains articles on nursing, veterinary medicine, pharmacology, dentistry, among others.

Google Scholar is a freely accessible virtual search engine that organizes and lists full texts or metadata from academic literature in a wide variety of publishing formats. Although the size of the Google Scholar database is not disclosed by Google, scientometric researchers have estimated that it contains around 389 million documents, making it the world's largest academic search engine as of January 2018.⁸

For the searches, the descriptors "obesidade", "covid" and "qualidade de vida" were used and the Boolean "and" connector. We chose not to limit the time span and language of the text. Therefore, the inclusion criteria for this study were: full texts available for free, all languages found, with no time limit. Exclusion criteria: studies with hospitalized patients. By crossing the descriptors, 26 articles were obtained. After analyzing the full text, and applying the inclusion and exclusion criteria, eight studies comprised the scope of this review.

Data were treated according to Bardin's content analysis. The steps of the analysis were: 1) pre-analysis, 2) exploration of the material and 3) treatment of results, inference and interpretation.⁹

RESULTS

The results of the search in the databases chosen for this study are shown in the table below (Chart 1).

DISCUSSION

Basic or physiological needs

For Maslow, they are those directly related to the existence and survival of human beings, with the needs of food, water, sex, breathing, sleep and sanitation being in this group.¹⁸ Analyzing the need for “food” during times of social distance, it is easy to see that the function of food goes beyond nutrition, “physical hunger”. Emotions are also reflected in eating behavior. It is

common for individuals to use food as a way to deal with various situations, such as stress, anxiety, boredom, when they want to show affection for someone, when they want to celebrate something or some special date.

The so-called “emotional hunger” can manifest itself in several ways: overeating and more frequently, difficulty in distinguishing the feeling of hunger and satiety and increased desire for industrialized foods, with more calories. In addition to the false idea that food should be stored so that there is no need to leave the house, and generally these foods are of the non-perishable genus, that is, they can be stored for long periods and bring less difficulties in conservation, which

leads to exposure to filled biscuits, snacks, soft drinks, chocolate drinks and frozen ready-to-eat dishes. Thus, a person dominated by such a need tends to perceive only the stimuli that aim to satisfy them.

Security Needs

They refer to individual protection against dangers and threats, such as the need for health, food, work, resources, morality, and family security.¹⁸

During the COVID-19 pandemic many companies, businesses closed their doors and consequently many people lost their jobs, affecting countless families in relation to the financial budget. Family income is directly

Chart 1 – Characteristics of the studies found in the search performed. 2020.

TITLE	COUNTRY	OBJECTIVE	SOURCE
Sarcopenia during COVID-19 lockdown restrictions: long-term health effects of short-term muscle loss ¹⁰ .	England	Discuss how the combination of reduced physical activity and poorer quality of diet, along with other factors related to lifestyle and risk of hospitalization.	Kirwan, R. et al., 2020.
Obesity, eating behavior and physical activity during COVID-19 lockdown: A study of UK adults ¹¹ .	England	To examine weight-related behaviors and weight control barriers among UK adults during COVID-19 social blockade.	Robinson, E. et al., 2021.
Determinants of the Lifestyle Changes during COVID-19 Pandemic in the Residents of Northern Italy ¹² .	Italy	Observe the effects of blocking on lifestyle changes and assess its determinants.	Canello, R. et al., 2020.
Does Sars-Cov-2 threaten our dreams? Effect of quarantine on sleep quality and body mass index ¹³ .	Italy	To investigate the effect of quarantine on sleep quality (SQ) and body mass index (BMI), and whether the change in SQ was related to work modalities.	Barrea, L. et al., 2020.
Analysis of the Impact of the Confinement Resulting from COVID-19 on the Lifestyle and Psychological Wellbeing of Spanish Pregnant Women: An Internet-Based Cross-Sectional Survey ¹⁴ .	Spain	To analyze the impact of confinement due to the COVID-19 pandemics on the eating habits, exercise and quality of life of pregnant women.	Biviá-Roig, G. et al., 2020.
Impact of COVID-19 and comorbidities on health and economics: Focus on developing countries and India ¹⁵ .	India	Review available literature regarding the impact of COVID-19 and comorbidities on health and the economy.	Singh, AK; Misra, A., 2020.
Diet, Nutrition, Obesity, and Their Implications for COVID-19 Mortality: Development of a Marginalized Two-Part Model for Semicontinuous Data ¹⁶ .	Iran	To assess the effect of diet, nutrition, obesity and their implications for mortality from COVID-19 among 188 countries, using new statistical models from two marginalized parts.	Kamyari, N. et al., 2021.
Clinical characteristics and risk factors for mortality in obstetric patients with severe COVID-19 in Brazil: a surveillance database analysis ¹⁷ .	Brazil	Describe the clinical characteristics of pregnant and postpartum women with severe COVID-19 in Brazil and examine the risk factors for mortality.	Takemoto, M. et al., 2020.

associated with food and nutrition security, health. In this situation, many people do not have access to health, or because of the fear of going to a hospital in an emergency and then being exposed to the virus or for having lost the health plan that work provided, for example. It may also no longer have access to controlled medicines due to the lack of supplies at pharmacies and health posts. Some families may choose to buy foods with a longer shelf life, to the detriment of fruits and vegetables, so they don't always have to leave the house, and generally these foods are ultra-processed, and are more related to obesity. The simple fact that some professionals such as nutritionists, doctors and psychologists have had the approval of the Federal Councils to carry out online consultations can bring insecurity to the patient. All of these issues destabilize the individual's security. However, in the context of health security, we have a key point that is essential to ensure the recognition of families and individuals who need follow-up, which are the Family Health Strategies (FHS), through home visits. According to Assis, L.M.B et al., with the pandemic, some feelings such as loneliness, "emptiness", anguish, psychosomatic issues intensified and the demand for home visits increased. Thus, the conduct centered on the individual is essential to develop the action plan, directing goals and follow-up as needed.¹⁹

Social Needs

They refer to the need for affection of the people we live with, such as: friends, girlfriend/boyfriend, wife/husband and children. Related to life in society, social interaction, friendship, respect, love, leisure.¹⁸

Human beings tend to build affective bonds with the objective of feeling part of society and are often not prepared to live moments of distancing and social isolation. As an example, many churches and temples

Human beings tend to build affective bonds with the objective of feeling part of society and are often not prepared to live moments of distancing and social isolation. As an example, many churches and temples were unable to carry out their religious services due to the crowding.

were unable to carry out their religious services due to the crowding. Physical exercise is deprived both in gyms and in open environments such as beaches, outdoor gyms and squares. As the reality of most Brazilians is the lack of space and equipment at home to carry out physical activities, or the fear of getting injured due to lack of professional monitoring or even lack of courage, increasing sedentary lifestyle, which will impact on the increase in body weight.

Ego needs (esteem)

They relate to self-esteem, confidence, achievements and respect from others.¹⁸ Human beings need to recognize their personal capabilities and be recognized by other people for what they perform and in relation to the body, aesthetics is no different. Until the end of the 19th century, overweight men and women were considered the standard of beauty and fertility. Nowadays, there has been a change from the beauty model to a thin body, featuring an aesthetic standard called "good shape".²⁰ Overweight individuals tend to get frustrated more easily for not having a good relationship with food and then take their emotions out on it, and may even develop eating disorders. Emotions, feelings and binge eating can increase in times of social isolation and this becomes a vicious cycle due to loss of self-control. The psychologically affected person with obesity is the result of social stigmas and values linked to the current culture that considers the "fat body" outside the social standard.

Self-actualization needs

They are directly related to the person's integral fulfillment, that is, they express the highest level of needs.¹⁸ The individual needs to make full use of potential, capacity and the existence of ideologies. It is related to esteem needs: autonomy, independence and self-control. And if

the individual cannot deal with their emotions, with their ego, they find it difficult to accept themselves, in the midst of social isolation, this will increase and they will also have difficulty reaching this level.

CONCLUSION

The COVID-19 pandemic may be an important factor for Brazilians to change their habits. Quarantine-related stress and anxiety have been asso-

ciated with increased consumption of ultra-processed/processed foods and reduced physical exercise. Such changes may increase the risk of developing obesity that is associated with cardiac complications, diabetes and lung diseases that have been shown to increase the risk of more serious complications from COVID-19. Thus, the present study points out that the COVID-19 pandemic can be considered a warning factor for the development of obesity in adults, as it has an impact on the

five hierarchical levels of the Maslow pyramid. Therefore, it is suggested to maintain a healthy lifestyle with a balanced diet (fruits, vegetables, whole grains and less consumption of processed foods), which is the best way to obtain all the essential nutrients to maintain good health, normal immune function and lower chances of developing obesity and diseases associated with it, along with the practice of physical exercise, good hydration and regulated sleep. ■

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