

**ANSIEDADE E OBESIDADE: O IMPACTO DO ISOLAMENTO SOCIAL
DECORRENTE DA PANDEMIA - COVID 19 - REVISÃO INTEGRATIVA**

**ANXIETY AND OBESITY: THE IMPACT OF SOCIAL ISOLATION RESULTING
FROM THE PANDEMIC - COVID-19 - INTEGRATIVE REVIEW**

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Luiza Cristina Godim Domingues Dias¹ 

Universidade Estadual Paulista Júlio de Mesquita Filho

Ana Beatriz Vilela Pacheco² 

Universidade do Porto

Resumo: A atual pandemia teve um impacto na saúde física e mental da população, bem como nos profissionais de saúde envolvidos neste contexto. O isolamento social, uma medida imposta com o objetivo de reduzir os casos da doença, pode levar ao medo e ao pânico, com mudanças significativas no comportamento emocional e alimentar em termos de ansiedade e obesidade. A presente revisão tem como objetivo investigar se existe uma associação entre a ansiedade e a obesidade em tempos de isolamento social devido à pandemia, que seja superior à verificada em situações de não pandemia. Para o efeito, foi realizada uma revisão integrativa nas plataformas BVS e Scielo, tendo sido utilizados os descritores: obesidade, excesso de peso, ansiedade, isolamento social e pandemia de coronavírus. Foram selecionados artigos relacionados com a temática do estudo. Numa pandemia, estratégias como o isolamento social contribuem para o aumento dos níveis de ansiedade e de stress em indivíduos saudáveis, além de intensificarem os sintomas daqueles com perturbações psiquiátricas pré-existentes, que podem estar associados a uma maior ingestão energética, sobretudo de alimentos ricos em açúcares, o que aumenta a obesidade. A prática de atividade física e a psicoterapia são considerados métodos não farmacológicos, acessíveis e eficazes, para auxiliar no tratamento e reduzir a incidência de casos de ansiedade e de obesidade durante a pandemia de coronavírus. Os resultados deste estudo confirmam que a pandemia teve um impacto negativo na saúde mental da população, com alterações significativas no convívio social, nas atividades diárias, e um aumento dos casos de ansiedade e obesidade, que são fatores de risco associados à mortalidade por infeção com o vírus da SIDA. Os resultados do estudo permitem concluir que o isolamento social imposto pela situação da pandemia de 2019-nCoV contribuiu para o aumento da obesidade, devido ao agravamento de quadros psicológicos, como a ansiedade. Também há necessidade de maiores investimentos nos serviços de saúde prestados pelo sistema Único de Saúde – SUS.

Palavras chaves: Obesidade; Excesso de Peso; Ansiedade; Isolamento Social; Pandemia COVID-19.

Abstract: The current pandemic has had an impact on the physical and mental health of the population, as well as on the health professionals involved in this context. Social isolation, a measure imposed with the aim of reducing cases of the disease, can lead to fear and panic, with significant changes in emotional and eating behaviour in terms of anxiety and obesity. This review aims to investigate whether there is an association between anxiety and obesity in times of social isolation due to the pandemic that is greater than that observed in non-pandemic situations. To this end, an integrative review was conducted on the BVS and Scielo platforms, using the following descriptors: obesity, overweight, anxiety, social isolation, and coronavirus pandemic. Articles related to the study topic were selected. In a pandemic, strategies such as social isolation contribute to increased levels of anxiety and stress in healthy individuals, in addition to intensifying the symptoms of those with pre-existing psychiatric disorders, which may be associated with higher energy intake, especially of foods rich in sugars, which increases obesity. Physical activity and psychotherapy are considered non-pharmacological, accessible and effective methods to aid

¹ Docente da Universidade Estadual Paulista Júlio de Mesquita Filho – UNESP, campus de Botucatu, São Paulo. Doutora em Fisiopatologia em clínica médica – metabolismo e nutrição. Coordenadora do Núcleo de Atenção aos Transtornos Alimentares da UNESP, campus de Botucatu, São Paulo. E-mail: lc.dias@unesp.br

² Discente do curso de nutrição da Universidade Federal do Porto – Portugal. Rua D. Manuel II, nº 290, 4050-392. Porto, Portugal. Email: up202008041@edu.ff.up.pt



in the treatment and reduce the incidence of anxiety and obesity during the coronavirus pandemic. The results of this study confirm that the pandemic has had a negative impact on the mental health of the population, with significant changes in social interaction, daily activities, and an increase in cases of anxiety and obesity, which are risk factors associated with mortality from HIV infection. The results of the study allow us to conclude that the social isolation imposed by the 2019-nCoV pandemic contributed to an increase in obesity due to the worsening of psychological conditions such as anxiety. There is also a need for greater investment in the health services provided by the Unified Health System (SUS).

Keywords: Obesity, Excess Weight, Anxiety, Social Isolation, COVID-19 Pandemic.

INTRODUCTION

The recent process of globalization has facilitated the spread of various infectious diseases. Some of these diseases are highly transmissible and, when they spread across several continents, they are called pandemics. A current example is the SARS-CoV-2 virus infection, known as “Covid-19”, which was discovered in China at the end of 2019 (Carneiro; Dall’igna, 2020). It spread rapidly, affecting thousands of people and leading to countless deaths.

This is a challenging condition for health systems and researchers around the world, on an unprecedented scale in the last 100 years. It affects the upper and lower airways, causing flu-like symptoms which can progress to severe acute respiratory syndrome (Bolsoni-Lopes; Furieria; Alonso-Vale, 2020), constituting the most significant public health emergency the international community has faced in decades. In an attempt to slow the virus's rapid spread, several countries have imposed restrictive measures on the daily lives of their populations, including social isolation.

Social isolation occurs when people are unable to leave their homes in order to prevent the spread of the virus. It is therefore also recommended that people suspected of having the virus remain in quarantine for fourteen days, as this is the incubation period for SARS-CoV-2 — the time it takes for the virus to manifest in an individual (Pereira *et al.*, 2020).

This period has two sides: staying at home, which includes digital education and limited outdoor physical activity, and stockpiling food due to purchasing restrictions. These factors can result in feelings such as anxiety, stress, boredom and compulsive eating for pleasure and as a form of compensation (Dalgarrondo, 2008). Anxiety is defined as a natural feeling of apprehension, fear, nervousness or agitation that occurs when an individual faces or anticipates a situation that may cause concern due to its challenges or unpredictable and unknown outcomes (Silva Neto *et al.*, 2020).

Anxiety becomes pathological when it is characterized by disproportionate restlessness in relation to the situation that triggers it. Its symptoms include excessive worry, nervousness, difficulty concentrating, fragility, irritability, sleep disturbances, muscle tension, and changes in eating behavior (Maynard *et al.*, 2020). This suffering can be experienced by the general

population as well as by the healthcare professionals involved (Pereira *et al.*, 2020; Schimdt *et al.*, 2020).

Psychological distress may also be associated with increased energy intake, particularly of foods high in sugar, due to their physiological effects which stimulate the production of neurotransmitters such as serotonin. Serotonin is known to reduce stress and anxiety, as well as having a positive effect on mood. However, it is also a determining factor in obesity (Silva Neto *et al.*, 2020).

The most commonly used parameter for diagnosing obesity is body mass index (BMI). BMI is calculated by dividing an individual's weight in kilograms by their height in meters squared. For adults, a normal weight is defined as a BMI between 18.5 and 24.9 kg/m². A BMI between 25.0 and 29.9 kg/m² is defined as being overweight or pre-obese. An individual is considered obese if their BMI is equal to or above 30 kg/m². Obese individuals can also be classified into one of three categories according to their BMI: class 1 (30.0–34.9 kg/m²); class 2 (35.0–39.9 kg/m²); and class 3 (≥ 40.0 kg/m²). The higher the BMI, the greater the risk of comorbidities (Abeso, 2016).

Obesity is characterized by the excessive accumulation of body fat (Abeso, 2016). It is an increasingly prevalent condition that plays a significant role in the development of various other diseases, including diabetes, dyslipidaemia, hypertension, cardiovascular disease (CVD), sleep disorders, osteoarticular diseases, and cancer. Consequently, it is regarded as a pressing public health concern. Adipose tissue is a highly active organ and poses a greater danger when it accumulates in the intra-abdominal region. This leads to low-grade chronic inflammation, which can cause significant damage to the body (Carneiro; Dall'Igna, 2020).

In this scenario, social isolation is a safe and necessary measure, but it can have negative and unintended consequences. It can lead to fear, panic and increased anxiety, which can cause changes in various social aspects, including eating patterns, potentially resulting in increased obesity. Thus, the aim of this integrative review was to investigate whether anxiety is more strongly associated with obesity during a pandemic than in a non-pandemic situation, without an extensive review of the literature.

METHODOLOGY

This integrative review was guided by the following question: what impact does social isolation have on anxiety and obesity in the population during the pandemic?

Two databases were used to select the articles: Scientific Electronic Library Online (SciELO) and the Virtual Health Library (VHL). Articles were initially included in this integrative review if they were published in Portuguese, had an available abstract in the selected databases, were published between 2020 and 2021, were available on the platforms accessible during the search period and had a methodology that allowed the collection of relevant evidence.

The exclusion criteria were: duplicate works, those that did not correspond to the theme, academic conference abstract books, and final course projects. And the following descriptors were used in Portuguese: obesity, overweight, anxiety, social isolation, and COVID-19. The search was conducted online in February 2021 using the inclusion criteria and the following combinations: (obesity OR overweight) AND (social isolation OR COVID-19) and anxiety AND (social isolation OR COVID-19).

A total of 92 articles were found in the search: 59 corresponded to VHL and 33 to Scielo for the descriptors: anxiety AND (social isolation OR Covid-19), and three articles corresponded to VHL and seven to Scielo for the descriptors: (obesity OR overweight) AND (social isolation OR Covid-19). Thirty-two articles that were not relevant to the study, 15 duplicate articles and 30 articles that did not answer the guiding question of the study were excluded from the research. This resulted in a total of 15 articles for the integrative review.

RESULTS

After an integrative review of the literature, detailed in the methodology, 15 articles were selected to compose this study. They are presented in Table 1.

Table 1 – Integrative review on the topics of anxiety, body weight change, and the pandemic period.

AUTHORS/YEAR	POPULATION	MAIN FINDINGS
Barros <i>et al.</i> , 2020	Adult and elderly	Sadness, frequent nervousness and sleep disturbances were more prevalent among young adults, women and individuals with a history of depression. These high prevalence rates highlight the need to provide mental health and sleep quality services adapted to the context of the pandemic.
Botero <i>et al.</i> , 2020	Brazilians aged \geq 18 years	Prior to social isolation, age, the presence of chronic diseases and physical inactivity had a greater impact on the reduction in physical activity levels and increased sitting time during the 2019 Coronavirus Pandemic.
Bolsoni- Lopes <i>et al.</i> , 2020		This paper provides important reflections for healthcare professionals, researchers and managers. It covers the period from the beginning of the

		<p>pandemic, when obesity was not recognised as a risk factor, to the current scenario, where a series of pathophysiological mechanisms connect these diseases clinically. Obesity increases the risk of a worse outcome from a SARS-CoV-2 infection, which is putting pressure on healthcare services and requires specialised care.</p>
Carneiro e Dall'igna, 2020		<p>Obesity is considered an inflammatory disease due to hypertrophy of adipose tissue, which causes an increase in pro-inflammatory cytokines and inhibits the secretion of anti-inflammatory adipokines. This inflammation may represent a 'vulnerability trigger' for the onset of complications in obese individuals infected with SARS-CoV-2.</p>
Costa <i>et al.</i> , 2021	People aged ≥ 18 years	<p>During the pandemic, weight gain was more common than weight loss. The risk of weight gain or loss was higher among younger people, men and those who were overweight at the start of the pandemic. The risk of weight gain was also higher among people with lower levels of education.</p>
Dias <i>et al.</i> , 2020		<p>Obesity was associated with 4,106 deaths, making it the sixth most common factor contributing to deaths from COVID-19 in Brazil, particularly among people under 60 years of age. Obesity is a significant contributing factor to deaths from the virus in Brazil.</p>
Maia e Dias, 2020	Students aged 18 to 25 years	<p>Compared to those who participated in the study during normal periods, students who participated during the pandemic period showed significantly higher levels of depression, anxiety and stress. These results suggest that the pandemic had a negative psychological impact on students.</p>
Maynard <i>et al.</i> , 2020	People aged 18 to 59 years	<p>A total of 1,000 questionnaires were administered, the majority of which were completed by eutrophic individuals who reported feeling anxious and experiencing changes in their meal preparation and consumption habits. A statistical difference was observed in the relationship between anxiety and food consumption: anxious individuals consumed the least healthy foods.</p>
Silva Neto <i>et al.</i> , 2020	Students aged 18 to 55 years	<p>Women were more concerned about their food consumption, and most individuals felt nervous, anxious and tense on more than half of the days. It was concluded that university students exhibit symptoms of anxiety, as well as increased food consumption resulting from stressful and anxious episodes.</p>
Nogueira-de-Almeida <i>et al.</i> , 2020		<p>Childhood and adolescent obesity can increase susceptibility to, and severity of, the effects of SARS-CoV-2 infection, and is associated with nutritional, cardiac, respiratory, renal, and immunological changes that can exacerbate these complications. The need for social isolation may cause or exacerbate obesity and its associated health</p>



		problems, so paediatricians need to be aware of this issue.
Ornell <i>et al.</i> , 2020		Public mental health policies must be implemented alongside strategies for responding to epidemics and pandemics, both before and during the event, and in the aftermath. Care protocols, such as those used in disaster situations, should address issues relevant to both individual and collective mental health.
Pereira <i>et al.</i> , 2020		Individuals subjected to social isolation are more susceptible to mental health disorders due to social deprivation and restraint. Symptoms of psychological distress, particularly those related to stress, anxiety and depression, can emerge as a result. This study highlights the importance of clear and informative communication about strategies to alleviate these symptoms, as well as the need to provide essential psychological and social support for these vulnerable individuals.
Pitanga <i>et al.</i> , 2020		It is important to continue and/or increase physical activity as a strategy to minimise the adverse effects of current and possible future pandemics that may require social distancing. Increasing physical activity levels in the population can combat obesity and other cardiometabolic disorders while improving mental health and immune function.
Schmidt <i>et al.</i> , 2020		Psychology can play a key role in addressing the repercussions of the greatest public health emergency faced by the international community in decades: the repercussions of the ongoing pandemic caused by the SARS-CoV-2 virus.
Silva <i>et al.</i> , 2021		There is a high prevalence of anxiety among healthcare professionals, with a higher risk among women and nurses. Measures are needed to prevent anxiety and to ensure that those with moderate to severe anxiety receive early and appropriate treatment.

Source: Prepared by the authors.

Since the World Health Organization (WHO, 2020c) declared the pandemic — defined as a contagious disease present on more than one continent — studies have been conducted to measure its impact on human mental health (Ornell *et al.*, 2020; Schmidt *et al.*, 2020; Pereira *et al.*, 2020).

Schmidt *et al.* (2020) conducted a narrative review of the literature to systematize knowledge about the implications for mental health and psychological interventions in the context of the new coronavirus pandemic. They concluded that psychology could make a significant contribution to coping with the repercussions of the current greatest public health emergency, but the potential and challenges for psychologists' practice during the pandemic are still being discussed.



Ornell *et al.* (2020) conducted a study to investigate whether a fear/stress pandemic is occurring alongside the current Coronavirus pandemic. When developing mental health strategies in cases of isolation, some key factors were considered. They concluded that fear during the pandemic increased anxiety and stress levels in healthy individuals and exacerbated symptoms in those with psychiatric disorders. The number of people whose mental health is affected during epidemics tends to exceed the number of people affected by the infection itself. The authors also emphasized the importance of implementing public mental health policies alongside epidemic and pandemic response strategies before, during and after the event. Furthermore, they suggested that assistance used in disaster situations should address issues relevant to the mental health of both individuals and the population as a whole.

Pereira *et al.* (2020) conducted an integrative review investigating the mental health consequences of social isolation during the pandemic and proposing coping strategies to minimize these consequences. It concluded that social isolation makes people more susceptible to mental health disorders due to social deprivation and restraint, and that symptoms of psychological distress, particularly those related to stress, anxiety and depression, emerge as a result. The study also highlighted the importance of clear and informative communication about strategies to alleviate these symptoms, as well as the need for emotional and psychological support.

Like Pereira *et al.* (2020), other authors have investigated emotions arising from social isolation and the pandemic. Barros *et al.* (2020) conducted a cross-sectional study with adults and elderly people to analyze emotions such as sadness and nervousness, as well as sleep disturbances, during the pandemic. They found an association between these emotions and sleep disturbances among young adults, women, and individuals with a history of depression. The study concluded that, due to the pandemic, there will be a need to increase mental health services, as well as services focused on improving sleep quality.

In a study conducted by Maia and Dias (2020), it was observed that anxiety and stress levels in the student population changed during the pandemic period (2020), compared to previous periods considered “normal”, i.e., without a contagious disease spreading across the planet. The study was conducted with two groups: group 1 consisted of 460 individuals with an average age of 20, ranging from 18 to 25 years old, and group 2 consisted of 159 individuals with an average age of 20, ranging from 18 to 25 years old. All participants completed a sociodemographic questionnaire and an anxiety, depression and stress assessment scale. Students who participated in the study during the pandemic period had significantly higher

levels of anxiety and stress compared to those who participated in the study during the normal period. These results suggest a negative psychological impact of the pandemic on students, and it is important to continue to explore its implications for mental health in order to prevent and mitigate its effects.

In a systematic review, Silva *et al.* (2021) investigated the prevalence of anxiety among healthcare professionals during the SARS-CoV-2 pandemic, finding it to be 35%. Regardless of continent or area of healthcare practice, they concluded that the prevalence of anxiety remained high, highlighting the following risk factors: being female; being a nursing professional directly involved in combating the disease; being infected with SARS-CoV-2; and having chronic non-communicable diseases.

Another relevant finding related to eating habits and their consequences, such as changes in body weight and obesity, was reported by Maynard *et al.* (2020), Silva Neto *et al.* (2020), Costa *et al.* (2021), Bolsoni-Lopes *et al.* (2020), Carneiro and Dall'igna (2020), Pitanga *et al.* (2020) and Nogueira-de-Almeida *et al.* (2020).

Maynard *et al.* (2020) conducted a study in which they collected data from a questionnaire on sociodemographic factors, symptoms, history of contact with SARS-CoV-2, changes in eating habits and physical activity, food consumption, and anxiety symptoms. The sample consisted of 1,000 participants, the majority of whom were eutrophic (54.7%) and anxious (84%). Regarding eating habits, 79.1% of participants reported changes in food consumption and meal preparation. Consumption of healthy foods such as whole foods, fruits, and beans was higher. Additionally, a statistical difference was observed in the relationship between anxiety and food consumption: those who were anxious consumed more unhealthy foods. While the level of anxiety in the sample was concerning, isolation enabled people to prepare and eat meals at home, thereby increasing their consumption of healthy foods.

A study by Silva Neto *et al.* (2020) found a statistically significant correlation between students classified as overweight and feelings of anxiety, tension or stress, according to BMI. The authors hypothesized that this finding was partly explained by the increased demand for foods classified in this study as “anxiety-inducing foods”. The demand for such foods, including fried foods and sugary foods, is due to a neurotransmitter known as serotonin, which plays an important role in the central nervous system (CNS) due to its functions relating to appetite, mood and anxiety reduction. Changes in serotonin levels, which are characteristic of moments of CNS disturbance such as anxiety, have been linked to an increased desire to eat sweets and

carbohydrates, favoring weight gain and possibly explaining the correlation (Silva Neto *et al.*, 2020).

Costa *et al.* (2021) assessed changes in body weight among Brazilian citizens aged 18 years and older during the 2019 coronavirus disease (COVID-19) pandemic. Data reported prior to the pandemic and approximately six months after it were analyzed, with participants responding to questionnaires before and during the pandemic in Brazil. The author concluded that the prevalence of weight gain exceeded that of weight loss, except for the 55-64 age group, where the prevalence of weight gain and weight loss were similar.

In their analysis, Bolsoni-Lopes *et al.* (2020) pointed out that obesity is a risk factor for worsening cases of Covid-19. These results are considered to be of particular relevance to researchers and health professionals, as they indicate that obesity was not considered a risk factor at the beginning of the pandemic. Their results showed that, in the current scenario where care is differentiated, obesity is a risk factor that has contributed to hospital overcrowding, as well as all the other problems already documented in the literature.

Carneiro and Dall’Igna (2020) conducted a literature review to investigate the correlation between obesity-related risks and SARS-CoV-2 infection. The WHO considers obesity to be an inflammatory disease, which places the body in a condition that leads to changes in the innate and adaptive immune systems and reduces the response to treatment. The authors concluded that inflammation may represent a “vulnerability trigger” for the emergence of complications in obese individuals infected with SARS-CoV-2.

A literature review aimed at identifying factors that contribute to the increased susceptibility to, and severity of, the health consequences of, SARS-CoV-2 infection in obese children and adolescents revealed that obesity in childhood and adolescence can be considered a risk factor for increased susceptibility to, and severity of, SARS-CoV-2 infection, and is associated with nutritional, cardiac, respiratory, renal, and immunological changes, which can exacerbate the complications of SARS-CoV-2 infection. Therefore, social isolation may cause or exacerbate obesity and its comorbidities in this age group. Pediatricians must be aware of this urgent public health issue (Nogueira-de-Almeida *et al.*, 2020). In conclusion, the literature review revealed that there is a need to promote more strategies in the area of physical activity (Pitanga *et al.*, 2020; Botero *et al.*, 2020).

Pitanga *et al.* (2020) analyzed the intersection of pandemics involving physical inactivity, obesity, and the current global pandemic of SARS-CoV-2. The authors emphasized the importance of maintaining and/or increasing physical activity as a means of mitigating the



negative consequences of current and potential future pandemics. Higher levels of physical activity in the population can combat obesity and other cardiometabolic disorders while improving mental health and immune function. Given the benefits of regular physical activity for various organ systems, it is clear that raising population levels of physical activity may leave us better prepared for future pandemics similar to the current one. Those with healthy cardiovascular, metabolic, immune and mental health systems may be better able to withstand the effects of potential viral infections.

Botero *et al.* (2020) investigated the impact of the 2019 coronavirus pandemic on physical activity and sedentary behavior among Brazilians aged 18 years and over. They concluded that older age, chronic diseases and physical inactivity prior to social isolation increased the risk of reduced physical activity and increased sitting time during the pandemic. Their results showed that physical inactivity prior to social isolation had a greater impact on reducing physical activity levels and increasing sitting time during the pandemic.

DISCUSSION

Studies emphasize the need to increase the provision of mental health services not only during the pandemic, but also in the context of other epidemics. They highlight that care should be provided before, during and after the problem and its consequences. In this regard, PAHO (2020) corroborates the urgent need for greater investment in mental health services. According to a policy brief on “Covid-19 and mental health”, the current pandemic is highlighting the urgent need to increase investment in mental health services, or risk a significant rise in mental health conditions in the coming months. Reports already indicate an increase in symptoms of depression and anxiety in several countries (PAHO, 2020).

The literature shows that anxiety is defined as an unpleasant mood involving negative thoughts about the future and internal restlessness. It includes somatic and physiological manifestations such as dyspnea, tachycardia, tremors, sweating and dizziness, as well as psychological manifestations such as internal restlessness and mental discomfort (Dalgallardo, 2008).

Anxiety syndromes are initially classified into two main groups: conditions in which anxiety is constant and permanent (generalized anxiety disorder and panic disorder), characterized by excessive anxiety symptoms for at least six months, including insomnia, distress, irritability, and difficulty concentrating. The second group comprises conditions involving sudden and intense anxiety attacks, known as panic attacks. These attacks present

symptoms such as a rapid heartbeat, a sense of loss of control, and a fear of having a heart attack or dying. If these attacks occur repeatedly, they can constitute panic disorder (Hollander; Simeon, 2004).

Despite its everyday banality, eating behavior is a complex human phenomenon of central importance. According to Bernard and Trouvé (1976), it includes several complementary dimensions: physiological/nutritional, psychodynamic/affective, and relational (Dalgarrondo, 2008).

Several studies have highlighted the issue of obesity (Maynard *et al.*, 2020; Silva Neto *et al.*, 2020; Costa *et al.*, 2021; Bolsoni-Lopes *et al.*, 2020; Carneiro; Dall'igna, 2020; Pitanga *et al.*, 2020; Nogueira-de-Almeida *et al.*, 2020). One hypothesis for this result during the pandemic period is the development of compulsive eating, which was discussed earlier, due to mood swings. Dalgarrondo (2008) conceptualizes this disorder as follows – the author also refers to this act as “binge eating” or, literally, “compulsive eating”:

[...] a condition similar to bulimia, but differing from it in the absence of vomiting and self-induced purging, characterized by a strong sense of guilt or discomfort after consuming a large quantity of food over a short period (Dalgarrondo, 2008, p. 240).

It is common knowledge that physical activity and/or exercise generates greater calorie expenditure (Teixeira, 2008). From a mental health perspective, these activities are important for releasing endorphins, which are neurotransmitters responsible for well-being (Otto; Smits, 2011).

CONCLUSION

According to the evaluation of the results of the integrative review and the findings of this study on the topic under investigation, we observed that the measures imposed by governments during the current pandemic, such as social isolation, have had a negative impact on the mental health of the global population. This has led to significant changes in social interaction and daily activities, as well as an increase in psychological anxiety. This contributes to changes in eating behavior and an increase in obesity, which is an important health risk factor associated with deaths from a SARS-CoV-2 infection.

In light of the pandemic, it is crucial to reflect on and implement new public mental health policies, alongside strategies for effective healthcare interventions. Mental health professionals, such as psychologists, psychiatrists and social workers, should play a leading role alongside other teams.

Assistance protocols, similar to those used in disaster situations, should cover areas relevant to mental health, both at the individual and collective levels. Thus, it is necessary to implement more effective interventions in the area of health, as well as to increase investment in research and strategic actions for mental health, in parallel with infectious outbreaks around the world.

This review also considered relevant strategies, such as physical activity and psychotherapy. These are accessible, non-pharmacological methods that have been shown to be highly effective in assisting with the treatment and reduction of anxiety and consequent obesity during the pandemic. This contributes to the prevention, control and reduction of these pathologies. However, new government strategies are needed to minimize future damage.

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