

COVID-19 and obesity: difficulties faced by patients in the preoperative period for bariatric surgery

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ABSTRACT

Introduction: Obesity is a chronic disease that poses health risks and is associated with severe forms of COVID-19. During the COVID-19 pandemic, psychological difficulties may emerge more often in obese patients.

Objective: to evaluate possible impacts when coping with the pandemic in patients in the preoperative period for bariatric surgery. **Method:** A cross-sectional descriptive study with a qualitative approach and data collected through semi-structured interviews. The sample was composed of patients in the preoperative period for bariatric surgery. Three main thematic axes were previously established, and after transcribing the interviews, the answers were analyzed and classified into categories. **Results:** Seventeen patients in the preoperative period for bariatric surgery were interviewed, 10 females and 7 males. The mean age of participants was 36.7 ± 13.6 years, and the mean body mass index was 43.9 ± 8.4 kg/m². The patients had difficulties in following the nutritional protocol and performing physical activities, which are important in preparing for bariatric surgery. The moment experienced during the COVID-19 pandemic caused sequels, particularly emotional ones, in the interviewees. **Conclusion:** It is important to maintain frequent monitoring by multidisciplinary teams for these patients during the pandemic, even if remotely, to improve the management of their physical and mental health in the preoperative period of bariatric surgery.

Keywords: Bariatric surgery, Obesity, COVID-19.

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INTRODUCTION

Obesity is a disease whose causes include multiple factors, ranging from genetic influences to socioeconomic and behavioral aspects¹. Economic transition is also considered one of these factors, based on the theory that changes in food availability, associated with the development of a post-industrial consumer society, may influence the etiology of obesity². Over the years, the prevalence of excess weight and obesity has grown. In Brazil, there was an increase in the obesity rate, from 11.8% in 2006 to 19.8% in 2018³, and one of the consequences of this growing number of patients with obesity is the increased search for treatments to reduce weight. Lifestyle changes, whether associated with pharmacotherapy or not, are the initial options; when these measures fail and patients meet the required criteria, bariatric surgery becomes a possibility⁴.

Obesity was officially integrated into the International Classification of Diseases (ICD) in 1990. Previously, it was considered a risk factor, as people do not die from obesity itself, but rather from diseases favored by it¹. Excess weight is not necessarily associated with metabolic changes; however, it is a strong risk factor for these changes, increasing the chances of developing comorbid diseases such as type 2 diabetes and hypertension⁵. In the present scenario, obesity has been associated with severe forms of COVID-19⁶⁻⁸, an infectious disease caused by the newly discovered coronavirus SARS-CoV-2, responsible for the global pandemic declared on March 11 2020, by the World Health Organization (WHO). Most people infected with SARS-CoV-2 experience signs and symptoms of mild to moderate respiratory illness. However, the elderly and people with associated medical problems, such as obesity, cardiovascular diseases, diabetes, chronic respiratory diseases, and cancer, are more likely to develop the severe form of the disease⁹.

In response to the progressive global health crisis caused by the COVID-19 pandemic, and in accordance with recommendations from government authorities and professionals, the practice of bariatric surgery, which is an elective surgical procedure, has been postponed⁵. During this period, strong links can emerge between the psychosocial suffering associated with the current situation and inappropriate eating behaviors,

since the additional effect of the pandemic can negatively impact the ability of patients in the preoperative period for bariatric surgery to sustain changes into a healthy lifestyle¹⁰. These changes are important for a more effective result, since the weight relapse rate can reach 35%¹¹. Weight regain is multifactorial, and the factors involved include nutritional inadequacy, mental health problems, and a sedentary lifestyle¹². Therefore, these patients must be closely monitored for physical and emotional dysregulation secondary to the pandemic so that improvements in weight management and quality of life can be sustained¹³.

Thus, the present study aims to analyze the impact of coping with the pandemic by the novel coronavirus in patients with obesity who are in the preoperative period of bariatric surgery.

METHODS

This study is cross-sectional and descriptive, with a qualitative approach and data collected through semi-structured interviews. Qualitative research generates rich and detailed information, making it possible to keep the participants' perspectives intact, enabling an understanding of their behavior and its manifestations in a given context, and answering specific questions¹⁴. The research sample is non-random for convenience and is composed of patients with obesity in the preoperative period of bariatric surgery who agreed to participate in the research, coming from the bariatric surgery clinic of a university hospital and a private clinic in the same city. Patients hospitalized, those with decompensated severe disease, and those who did not answer the researchers' calls were excluded. Adhering to the physical isolation that this moment requires, the interviews were carried out by telephone, with information on all procedures and virtual acceptance of the Free and Informed Consent Form (FICF). The research was approved by the institution's Research Ethics Committee under Opinion No. 4.115.106. The identity of the patients was kept confidential.

The interview included three open questions, namely: 1. *"Did the period of physical isolation resulting from the COVID-19 pandemic have any emotional impact on you at this time of preparation for bariatric surgery? If so, please describe it."* 2.

"During this period, were there any difficulties, limitations, or adaptations regarding the guidelines established in the nutritional protocol? If so, please describe them." "Are you engaging in any form of physical activity during this pandemic period? If not, why?" According to what each question addressed, three thematic axes to be analyzed were previously determined. The first axis, "Eating Issues," refers to how coping with the COVID-19 pandemic impacted compliance with pre-established nutritional protocols for patients with obesity in the preoperative period of bariatric surgery. The thematic axis "Performing Physical Activities" refers to how the period of physical isolation resulting from the COVID-19 pandemic impacted the performance of physical activities by the interviewed patients. Finally, the "Emotional Issues" axis refers to the additional effect of coping with the COVID-19 pandemic on the emotional and psychological aspects of the interviewed patients.

The data were analyzed following the principles of content analysis (CA) proposed by Bardin¹⁵. Bardin¹⁵ postulates that CA comprises three fundamental phases: pre-analysis, exploration of the material, and treatment of the results. Thus, in the first phase of the analysis of this research, the collected material was organized from the transcripts of the interviews, and this constituted the first written version of the text. This process was also a moment of analysis, as it made it possible to capture some aspects of the answers and the context of the interviews.

The patients were numbered from "P01" to "P17" according to the chronological order in which the interviews were conducted. The transcribed interviews were edited to remove language mistakes and flaws, constituting a second version that became the reference text for the analyses¹⁶. Following the CA, the transcripts were coded into register units, which could be a theme, a word, or a phrase¹⁵ that appeared in the participants' responses during the interviews. Finally, the register units were categorized, interpreted, and discussed based on the bibliographic references in this field.

RESULTS AND DISCUSSION

There was an attempt to contact 26 patients by telephone for the interviews; of those, 17 answered the calls, and all agreed to participate in the research. Ten were female and 7 male. The mean age of participants was 36.7 ± 13.6 years, with a minimum age of 21 years and a maximum of 66. The mean body mass index (BMI) of the participants was 43.9 ± 8.4 kg/m², with a minimum BMI of 34.4 kg/m² and a maximum of 63 kg/m².

From the three major pre-established thematic axes, during the reading and analysis of the research participants' responses, categories emerged from which the register units present in the patients' speeches were selected (Figure 1).

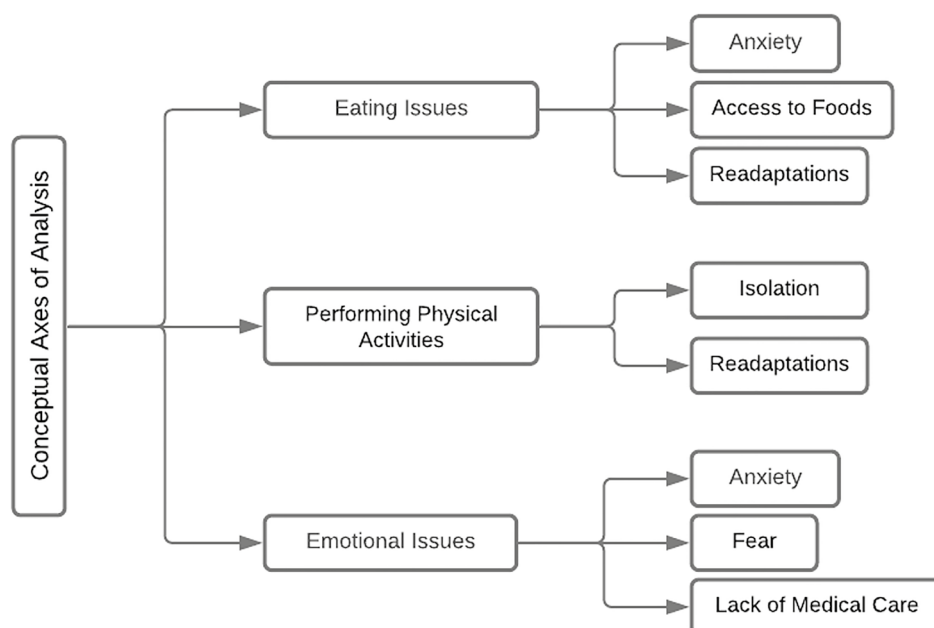


Figure 1. Axes and categories delimited by the analysis of the interviews. Prepared by the authors

In the "Eating Issues" axis, the interviewed patients encountered difficulties in maintaining compliance with the nutritional protocol, with anxiety being the main obstacle. Thus, patients who presented emotional difficulties with consequent repercussions on their eating issues were included in the "Anxiety" category, with an intrinsic relationship between anxiety and inappropriate eating behaviors being therefore observed. The patients said sentences such as: *"I'm trying to follow [the protocol] as much as possible. But there are days when there is no way, you know? When anxiety attacks and such."* (P02). A survey conducted at the University of Brasília with individuals between 22 and 64 years old found that psychological factors interfere in the practice of adequate eating habits¹⁷. It is a well-described observation in the literature that patients who are candidates for bariatric surgery face emotional changes that can affect their diet^{18,19}. Psychosomatic studies on eating proposed by Canetti et al²⁰ reveal that high food consumption occurs at moments of boredom, depression, and fatigue, with the influence of emotions on eating behavior is greater in people with obesity. Due to coping with the pandemic and because they are part of a risk group, the interviewed patients needed to strictly respect quarantine and physical isolation, intensifying this relationship between anxiety and inadequate eating habits, as stated in the statement *"Focusing on the diet is more difficult now, because I am locked at home all day"* (P13).

Another difficulty described by the patients was registered in the category "Access to Food." With the COVID-19 pandemic, the WHO recommended reducing access to public spaces that generate crowding as a preventive measure²¹. Thus, areas frequented by the interviewed patients, such as street grocery markets, were closed for a period, making it difficult to obtain adequate food for the nutritional protocol. P03 exemplifies the situation: *"The [greatest] difficulty now is finding fruit."* The pandemic not only affected food supply and demand, but it also reduced purchasing power and the ability to produce and distribute food, affecting particularly the most vulnerable, as demonstrated by P17: *"The household budget has dropped a little. [...] My husband is a craftsman and depends a lot on tourism. He is a small entrepreneur and was very much impacted."* Similar to our findings, Souza et al.²²

carried out a cross-sectional study with patients in the preoperative period for bariatric surgery and found that the cost of food had a negative impact on the diet of 59% of those evaluated by the research.

The patients also had difficulties in making the necessary replacements to maintain the nutritional protocol, which caused a third category, "Readaptations," to be registered. Sentences were recorded such as: *"I can't find anything anywhere, so I need to choose other foods"* (P16). Faced with the need to replace food and for this to be done correctly, patients who are knowledgeable about food and know how to interpret food labels are able to perform these adaptations more effectively², as seen in: *"I'm not following any strict diet, [...] but I do follow the parts of food choice, of avoiding certain types of food that don't add [nutritional value]"* (P02). However, Souza et al.²² found an increase in the consumption of processed and ultra-processed foods at the expense of fresh foods, confirming the need for greater guidance to these patients.

Regarding the axis "Performing Physical Activities," the category "Isolation" was highly scored and referred to the impact on the practice of physical activities from the fact that sports facilities are closed, as a measure to prevent the transmission of COVID-19. Because these patients are part of a risk group, they were massively instructed to comply with isolation measures, leaving their homes only for strictly necessary. *"I haven't been doing any physical activity because the condominium gym is closed, and it is forbidden to circulate in the condominium"* (P01). Holt-Lunstad et al.²³ demonstrated in a meta-analysis that loneliness can cause physical inactivity. Studies on the pandemic have already shown that the general population reduced the frequency of physical activities due to isolation²⁴, which may be related to loneliness. For the group of patients in this study, the reduction in physical exercises has an even greater impact. It is known that the practice of physical exercises improves cardiac function and post-surgical results in candidates for bariatric surgery, who are instructed to practice them regularly²⁵.

During the pandemic period, alternative activities can be performed within the residence, such as muscle strengthening exercises, dancing, stretching, balance exercises, and stair climbing, preferably with technological aids such as videos with series of exercises, mobile applications, and on-line professional guidance²⁶.

Some patients claimed to make such changes, included in the category "Readaptations," as pointed out in: *"I started using music, dance, things from my reality"* (P17). Brito et al.²⁷, in their study on physical activities during the pandemic, found that adherence to the practice of physical activities is greater when there is a physical educator who prescribes the exercise and monitors it, even if remotely, reinforcing the importance of multidisciplinary help for patients with obesity in the preoperative period for bariatric surgery during the pandemic period. Patient P02 reported the experience of online monitoring with a physical educator: *"One day I tested it with my teacher and saw that it works! So, now I do aerobic exercises and weight training with my own body weight."*

Finally, in the axis "Emotional Issues", the study results showed the category "Anxiety" as an important emotional change among the interviewees. Patients in the preoperative period for bariatric surgery tend to have generalized anxiety due to their expectation of surgery²⁸. This feeling occurs due to the expectation of weight loss and changes after surgery, as can be seen in P6's words: *"I had hoped to be approaching a new life, and with this pandemic it ended up taking a little longer."* With the COVID-19 pandemic and the postponement of elective procedures such as bariatric surgery⁵, there was an increase in anxiety among respondents. The patients stated that uncertainty and lack of perspective about the new date caused anxiety and nervousness, as demonstrated by P10: *"I had already gone through the administrative procedures for the surgery, and then came that anxiety about not knowing when it will be."* P02 said: *"I get this feeling of helplessness, of not being able to plan my life."* Indeed.

Fear, which can be defined as a force that aims to avoid dangers of any kind²⁹, was also a point highlighted by patients. In human beings, fear is culturally constructed³⁰. In the case of the COVID-19 pandemic, fear comes from mortality, characterizing the "Fear" category of the "Emotional Issues" axis. Patients with obesity and metabolic disorders are part of a risk group for COVID-19, with a greater possibility of complications and a higher mortality rate³¹, which justifies the fear reported, as illustrated by this statement: *"Very, very afraid."*

Because in addition to being obese, I am diabetic and hypertensive. And these are all risk factors" (P11). Grannell et al.³², in a study carried out in Dublin, Ireland, presented a report on the emotional impact of the pandemic on patients with obesity, and fear was one of the most frequently reported issues, reinforcing our findings. When in excess, this feeling can increase anxiety and stress, intensifying pre-existing psychiatric dysfunctions³³, especially due to the strong association between obesity and depression³⁴, requiring psychological monitoring of these patients.

Another factor that emotionally affected the interviewed patients was the last category, "Lack of Medical Assistance." All patients in the preoperative period for bariatric surgery must receive psychological support, which does not necessarily need to be in person³⁵. Before the pandemic, the surgery candidates had face-to-face and continuous monitoring by a multidisciplinary team. However, the interviewed patients reported a certain distancing from this type of follow-up, impacting the fight against the pandemic, as in: *"It had the impact that I used to have several kinds of follow-up and started having none at all"* (P17). In their research, Grannell et al.³² found that the patients interviewed also had their follow-ups suspended, demonstrating that this situation occurs in many places. Thus, ways to minimize the damage must be found. Orgden et al.³⁵ describe ways to provide care remotely through online connections, which can be useful in this period of pandemic and physical isolation (Figure 2). Those authors defend that, in the preoperative period and the 6- to 9-month postoperative period, there should be a psychological screening and orientation if psychological problems are identified in the bariatric surgery process. All patients should access online information about everything that involves the procedure, associated with group therapy with other patients facing the same situation. If these two methods fail, the patients should be referred to individual psychotherapy. This method proposed by Orgden et al.³⁵ is effective and inexpensive, and can be applied in various bariatric surgery centers, since effective distance monitoring for these patients is important, to reduce the progression of both obesity and the psychological difficulties faced.

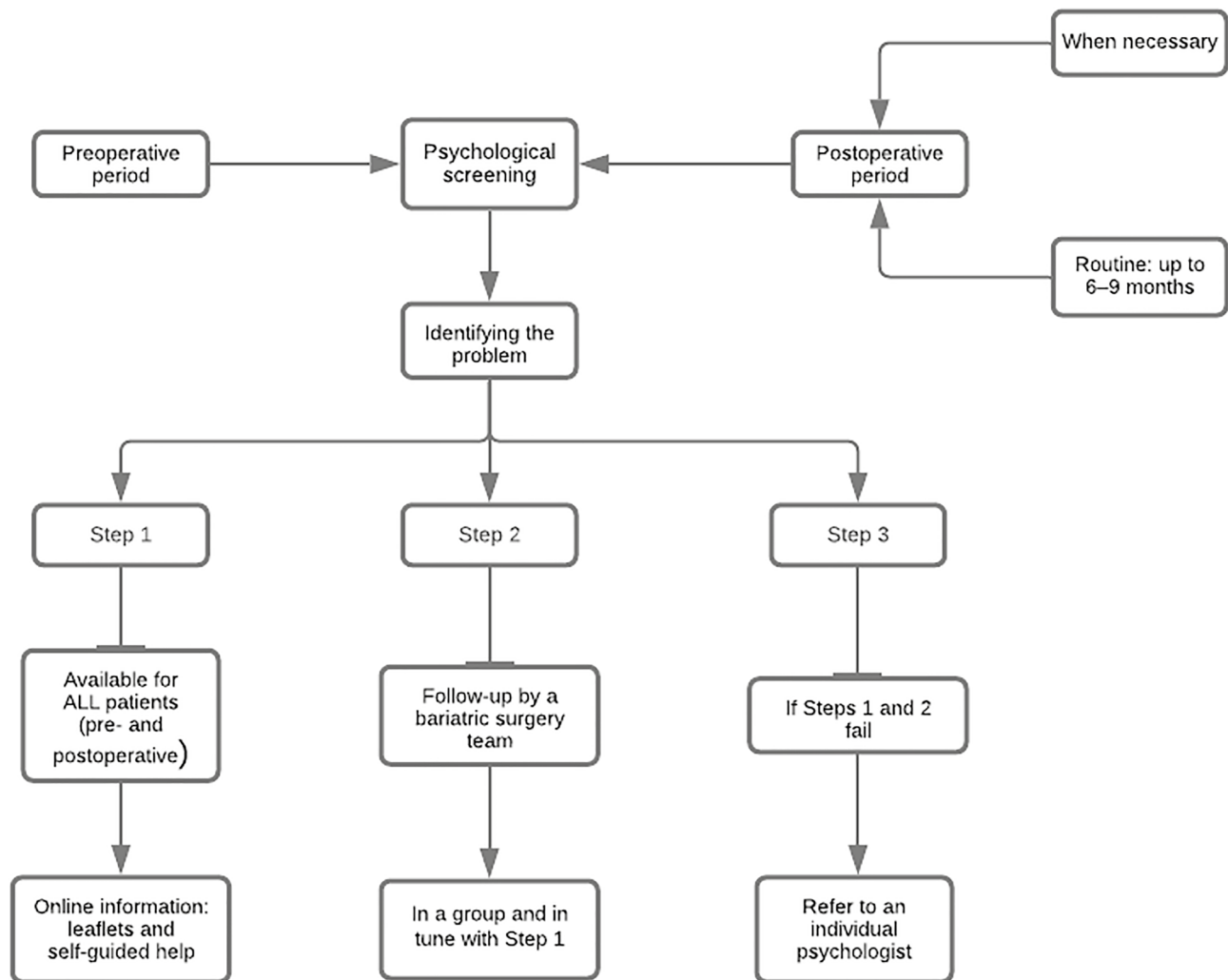


Figure 2. Follow-up model for pre- and post-operative patients for bariatric surgery. Adapted from Orgden et al³⁵

The results of the present study contribute to understanding the impact of the COVID-19 pandemic on the lives of patients in the preoperative period of bariatric surgery and assist in developing more specific recommendations for interventions regarding emotional and dietary issues and in the performance of physical activities. However, these findings must be interpreted within a context in which there are limitations: first, participants were recruited from a university hospital and a private health service in a city in Northeastern Brazil, and this may not reflect the impacts on other populations of bariatric surgery candidates around the world; and second, the COVID-19 pandemic is still ongoing, and further studies need to be done in an attempt to expand the results and seek more precisely the real impact on patients in the preoperative period of bariatric surgery.

CONCLUSION

This is the first qualitative study to analyze the impact of the COVID-19 pandemic on the emotional and behavioral aspects of Brazilian patients with obesity in the preoperative period of bariatric surgery. The results reveal negative impacts on food issues, physical exercise, and emotional performance in most patients. It is important to focus on educating this group about their condition and about the foods that are part of the dietary guidance, so that these patients can better deal with the limitations imposed by the pandemic period. In addition, patients should be instructed to maintain physical activities in safe spaces, so as not to worsen their obesity condition. It is suggested that there is a need to maintain effective, intense, and daily monitoring by multidisciplinary teams for these patients.

during the pandemic, even if remotely, to improve the management of their physical and mental health in the preoperative period of bariatric surgery.

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AAJ contributed substantially to the study design and data interpretation; JMSC e RKSL participated in the interpretation of data and writing of the preliminary version; ALON reviewed and approved the final version; MRMA was responsible for the accuracy or completeness of any part of the study.

There was no source of support or funding for the present study.

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Editor:

Prof. Dr. Felipe Villela Gomes

Received: jun 29, 2021

Approved: aug 26, 2021
