Literature Review
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The impact of appetite suppressants on the demand for bariatric surgery in Brazil: a current comparison and narrative review

Summary

Introduction: Brazil has a high prevalence of obesity and has established itself as one of the countries that performs the most bariatric surgeries, although the number of procedures still corresponds to a small fraction of individuals with surgical indications.[1–3] In recent years, the use of appetite suppressants, especially GLP-1 analogs, has grown significantly, accompanied by regulatory changes by Anvisa and intense media and social interest.[3–6,9–13,16–18]

Objective: To analyze, in light of recent literature and national data, the potential impact of appetite suppressants on the demand for bariatric surgery in Brazil.

Methods: Narrative review of indexed articles (PubMed, SciELO, LILACS) and official Brazilian documents on pharmacotherapy for obesity, epidemiology of bariatric surgery and regulation of appetite suppressants.[1–3,5–7,9–13]

Results: National studies show significant growth in bariatric surgeries in the SUS (Brazilian Public Health System) between 2010 and 2019, with almost 80,000 procedures, concentrated in the South and Southeast regions, and predominantly female participants.[1–3] In parallel, GLP-1 analogs demonstrate an average weight loss of around 10–16% of body weight, lower than the 25–30% observed after bariatric surgery, but with a favorable impact on metabolic comorbidities and great acceptance by patients seeking non-surgical alternatives.[9–11,16–18] There is evidence that the expanded use of these drugs may postpone or select the surgical indication, especially in grade I and II obesity, without replacing surgery in cases of severe obesity.[3–7,9–11,16–20]

Conclusion: Appetite suppressants tend to modify the profile and timing of demand for bariatric surgery in Brazil, functioning more as a complementary and case-filtering strategy than as a substitute for surgical treatment. National longitudinal studies are needed to quantify this impact and guide public policies.

Keywords: case-filtering, drugs, patients, grade I and II obesity, bariatric surgery, public policies, public policies

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Introduction

Obesity is one of the main public health challenges in Brazil, being associated with an increase in cardiovascular diseases, type 2 diabetes, certain types of cancer, and premature mortality. In recent decades, there has been a significant increase in the prevalence of overweight and obesity in adults, accompanied by increased healthcare costs and demand for highly complex therapies.[8,5,6]

Bariatric surgery, incorporated into the Brazilian Unified Health System (SUS) in the late 1990s, has become established as an effective therapeutic modality for grade III obesity and grade II obesity with comorbidities, promoting sustained weight loss and significant improvement in metabolic comorbidities.[1–3] Descriptive studies with SUS data between 2010 and 2019 estimate nearly 80,000 bariatric surgeries during that period, with a threefold increase in the volume of procedures and low in-hospital mortality, although access remains restricted in relation to the magnitude of the demand.[1–5,8]

Simultaneously, the pharmacological treatment of obesity has evolved with the development of new appetite suppressants, notably GLP-1 receptor agonists (such as liraglutide and semaglutide), which produce clinically relevant weight loss and improvement in cardiometabolic parameters.[9–11] In Brazil, the popularization of so-called "slimming pens" has led to the intensification of regulatory measures, including mandatory prescription retention, specific import rules, and a ban on the entry of products without sanitary registration.[11–13,6]

This scenario raises the central question of this article: to what extent does the increased use of appetite suppressants, especially GLP-1 analogs, impact the demand for bariatric surgery in Brazil, whether by reducing, postponing, or reorganizing the flow of patients eligible for surgical intervention?

Methodology

This is a narrative literature review, focusing on studies involving the Brazilian adult population and official documents related to the topic.

Data sources:

I. Bibliographic databases: PubMed, SciELO and LILACS, using descriptors in Portuguese and English related to "bariatric surgery", "obesity", "pharmacological treatment", "GLP-1", "appetite suppressants" and "Brazil".[1–3,5–7,9–13]

II. Official documents: notes and resolutions from Anvisa regarding GLP-1 analogues, sibutramine and weight-loss medications, as

well as reports and studies on bariatric surgery in the SUS.[11–13,18–20]

Inclusion criteria:

Original articles, observational studies, reviews, consensus statements, and position papers from scientific societies that address:

I. Bariatric surgeries in the SUS or in Brazil in general.[1–7]

II. Pharmacological treatment of obesity in adults, especially with the use of GLP-1 analogues.[9–11,6]

III. Regulatory and market aspects of weight loss drugs.[11–14,16–18]

Exclusion criteria:

Studies exclusively focused on pediatrics.

Articles without full text or focusing only on pharmacoeconomics outside the context of obesity.

The studies were analyzed qualitatively, with emphasis on numerical data on surgery volume, patient characteristics, efficacy and safety of appetite suppressants, and possible interactions between the two therapeutic strategies.[1–7,9–11,16–20]

Literature review

Overview of bariatric surgery in Brazil

Studies based on SUS information systems demonstrate consistent growth in bariatric surgeries over the last decade.[1–3] Between 2010 and 2016, more than 46,000 hospitalizations for bariatric surgery were recorded, predominantly among women, with an average age of around 39 years and a higher concentration in the South and Southeast regions.[3–5,9] An expanded analysis up to 2019 identified nearly 80,000 procedures in the SUS, showing an expansion of supply, a reduction in in-hospital mortality, and an increase in aggregate costs, but with large regional disparities and low coverage in relation to the total number of individuals with surgical indications.[1–3] Data from national registries and medical societies reinforce that, even adding the public and private sectors, only a small fraction of patients eligible for bariatric surgery actually undergo the procedure.[3–5,7,10] In addition to volume, studies point to the predominance of techniques such as Roux-en-Y gastric bypass and sleeve gastrectomy, as well as favorable results in terms of weight loss, glycemic control and reduced morbidity and mortality, which supports the role of surgery as a highly effective intervention in severe obesity.[3,7–9]

Pharmacological treatment of obesity and appetite suppressants

Pharmacological treatment of obesity in Brazil has historically involved the use of sibutramine and other anorexigenic drugs, whose efficacy profile is countered by concerns about cardiovascular safety and inappropriate use. Recent reviews highlight that sibutramine promotes modest weight loss, generally in the short term, and that its use should be carefully selected, especially in individuals with increased cardiovascular risk.[11,6]

In recent years, GLP-1 analogs have emerged as mainstays in the drug treatment of obesity, both as monotherapy and in combination with lifestyle changes.[9–11] Clinical trials and systematic reviews show average weight losses of the order of 10–16% of body weight, with variations according to the drug, dosage and duration of treatment, in addition to relevant benefits in glycemic control, blood pressure and other cardiometabolic outcomes.[9–11,6]

In the Brazilian market, the growing demand for these drugs has resulted in a strong expansion of prescriptions and widespread media visibility, while at the same time reports of indiscriminate use, misuse, and circulation of irregular products have emerged.[11–13,16–18] This prompted Anvisa to publish regulations on prescription retention, criteria for importing medicines based on semaglutide, liraglutide, and tirrizepatide, and a ban on the entry of unregistered slimming pens.[11–13]

Bariatric surgery versus GLP-1 analogs

Comparative studies, albeit indirect, suggest that bariatric surgery produces greater sustained weight loss than treatment with GLP-1 analogs, especially over longer time horizons.[9–11,16–18] Weight loss after bariatric surgery often approaches 25–30% of initial weight, with relatively stable plateaus, while GLP-1 generally achieves lower percentages and is more dependent on continued therapy.[9–11,16–18,6] In terms of cardiometabolic outcomes and mortality, there is robust evidence that bariatric surgery reduces major cardiovascular events and risk of death compared to conventional medical treatment, although there are still gaps in direct comparisons with modern GLP-1-based therapies.[16–18] Recent observational studies indicate that, in certain populations, surgery may be more cost-effective in the long term than chronic use of GLP-1 agonists, especially when considering cumulative medication costs.[16–18,9,3,8] On the other hand, the use of GLP-1 in patients who have already undergone bariatric surgery, particularly in those who have experienced weight regain, has shown promise, suggesting a complementary role for these drugs in the postoperative period.[9–11,16–18] Thus, rather than mutually exclusive alternatives, surgery and advanced pharmacy represent potentially synergistic strategies in long-term management.[7]

Discussion

The findings of this review indicate that Brazil is experiencing a scenario of coexistence between the gradual expansion of bariatric surgeries and the accelerated growth in the use of appetite suppressants, especially GLP-1 analogs.[1–3,5–7,9–11] Surgery remains the gold standard treatment for severe obesity, with robust results in weight loss, improvement of comorbidities, and reduction in mortality, but with limited and unequal access in regional and socioeconomic terms.[1–4,18–20]

Modern pharmacotherapy broadens the range of options for patients with grade I and II obesity and for those who, due to surgical risk, comorbidities, or individual preference, seek non-invasive alternatives.[9–11] It is plausible that, in the short and medium term, the availability of effective appetite suppressants will reduce the immediate pressure for surgery in specific segments of the population, by postponing surgical indication in individuals with a good drug response.[9–11,16–18] In these cases, the effect would be to "filter" the candidates, so that patients who arrive for bariatric surgery tend to present with more severe obesity, a history of previous therapeutic failure, and a more complex clinical profile.[3,5–7,9]

On the other hand, regulatory and economic factors may act in the opposite direction. Rising costs, the need for prolonged use of GLP-1, and restrictions imposed by Anvisa on access to and importation of slimming pens may limit the maintenance of long-term pharmacological treatment, especially in the population dependent on the SUS.[11–13] In these cases, some patients may migrate to actively seeking bariatric surgery, mainly in the private sector or in public referral centers, which would tend to maintain or even increase the demand for procedures.[1–4,10,18–20]

The available literature is still insufficient to accurately quantify the impact of appetite suppressants on bariatric surgery rates in Brazil, as most studies address the two topics separately.[1–7,9–11,16–20] However, international experiences suggest that, despite the "apparent competition", surgery remains the central intervention for severe obesity, while GLP-1 and other drugs play an important role in the extended care pathway, either as a bridge or as adjuvants in the postoperative period.[6,7,9–11,16–18]

From a public policy perspective, it is essential to integrate surgical and pharmacological strategies into obesity care pathways, with clear criteria for indication, outcome monitoring, and economic evaluation.[18–20] The absence of national registries that combine data on the use of obesity medications and bariatric surgeries limits the understanding of the actual patient flow and hinders the planning of installed capacity in the SUS.[3,6,9,17–20]

Conclusion

Appetite suppressants, particularly GLP-1 analogs, represent an important advance in the clinical treatment of obesity and have been influencing how patients and healthcare professionals view the indication for bariatric surgery in Brazil.[9–11,16–18] Current evidence suggests that these drugs tend to modulate and stratify demand, postponing or avoiding surgery in certain cases of less severe obesity, but do not replace bariatric surgery in individuals with grade III obesity or significant comorbidities.[3,6,9,15–18] The coexistence of increased pharmacotherapy availability and the gradual expansion of surgery points to an integrated care model, in which appetite suppressants can act before or after surgical intervention, potentially improving long-term outcomes.[9–11,16–20] However, challenges related to access, cost, regulation, and regional disparities persist, requiring specific monitoring and research.[6] Investments in national registries that combine data on bariatric surgery, appetite suppressant use, and clinical outcomes are essential to ensure that clinical and public health decisions are based on robust and up-to-date evidence.[3,17–20]

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Conflicts of interest

The author declares there is no conflict of interest.

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