

Determinants of Weight Loss and Regain in Men After Roux-En-Y Gastric Bypass: A Retrospective Analysis

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Introduction: Men constitute a minority of bariatric surgery patients despite facing a high burden of obesity-related complications. Little is known about factors influencing long-term weight outcomes in male patients. We aimed to identify clinical and behavioral determinants of weight loss maintenance and weight regain in men after Roux-en-Y gastric bypass (RYGB).

Methods: We retrospectively reviewed 100 men with obesity who underwent laparoscopic RYGB between 2013 and 2016. Inclusion was limited to those with ≥ 2 years of postoperative follow-up, yielding 43 patients for analysis. Clinical variables (age and comorbidities), behavioral factors (exercise and dumping syndrome - DS), and weight data were collected. Poisson regression identified factors associated with achieving normal body mass index (BMI) and significant weight regain. A linear regression model assessed predictors of percent excess weight loss (%EWL).

Results: Paradoxically, men who achieved a normal BMI postoperatively had a higher risk of significant weight regain. Specifically, achieving a normal BMI was associated with a greater likelihood of $\geq 20\%$ of total weight lost regained (adjusted prevalence ratio [PR] ~ 2.5 , $p < 0.05$). Longer follow-up duration was also associated with increased weight regain. On the other hand, the presence of DS was strongly associated with successful weight loss: men reporting dumping had a higher probability of attaining normal BMI (adjusted PR ~ 2.9 , $p < 0.05$). No other factors (age, baseline comorbidities, or exercise) showed significant associations with weight outcomes.

Conclusion: RYGB is effective in men, leading to substantial weight loss and improvement in comorbidities. However, early success (achieving a normal BMI) did not guarantee long-term weight stability, as those patients were more prone to weight regain. These findings highlight the need for extended follow-up and targeted support in male bariatric patients to sustain weight loss outcomes.

Keywords: RYGB, obesity, bariatric surgery, men, outcomes

Introduction

Obesity was officially classified as a disease in 2013 due to its significant impact on morbidity, mortality, and healthcare costs.^{1,2} Its global prevalence has risen steadily, with over 650 million adults with obesity by 2016. By 2022, nearly half of adults are overweight and 16% have obesity according to the World Health Organization.² Risk factors include sedentary behavior, genetic predisposition, and high-calorie dietary intake. Meanwhile, obesity is associated with the worsening of numerous health issues, including arthrosis, diabetes, sleep apnea, hypertension, and cancer.³

Although men with obesity face a particularly high burden of complications, they frequently delay seeking surgical treatment.⁴ They typically present with higher preoperative BMI, more pronounced metabolic profiles and tend to achieve greater absolute weight loss compared to women. In male patients, RYGB results substantial long lasting weight loss and significant improvements in obesity-related comorbidities, while sex-based differences in outcomes persist.^{5,6} This delay may be attributed to a combination of social, psychological, and structural factors. Studies show that men often perceive bariatric surgery as a last resort and associate it with stigma, weakness, or failure of personal responsibility.^{7,8} Additionally, men tend to underestimate the severity of their obesity and its health consequences,

which may reduce their perceived urgency for intervention.⁹ Mistrust in the healthcare system, limited social support, and a lack of gender-targeted counseling further contribute to low engagement among men.^{7,9}

Racial disparities further compound the underrepresentation of men in bariatric surgery, with Black men facing unique sociocultural and systemic barriers. Studies indicate that Black men often express lower trust in the healthcare system, skepticism toward bariatric surgery, and a greater tendency to view obesity as a manageable condition without surgical intervention.^{7,10} Cultural norms around body size and masculinity may also influence perceptions, leading to lower perceived need or appropriateness of surgery.⁸ Additionally, structural barriers such as reduced referral rates, limited access to specialized care, and insurance-related obstacles disproportionately affect Black men.^{9,11}

Long-term studies indicate that men are more prone to weight regain, especially in the absence of sustained lifestyle changes and regular physical activity.^{12–14} Male patients also experience consistent remission of comorbid conditions such as type 2 diabetes, hypertension, and dyslipidemia after RYGB. Evidence indicates that men demonstrate more favorable glycemic responses compared to women after RYGB.^{15–17}

However, disparities in outcomes persist, with men often reporting lower engagement in follow-up care and support programs, which may negatively influence success over the years.^{12,18} Moreover, while complication rates post-RYGB are generally similar across sexes, recent data indicate men have a slightly increased risk for certain adverse events, potentially linked to delayed health-seeking behavior.¹⁹ Large registry-based studies support these observations, confirming that sex differences remain even after adjusting for baseline characteristics.^{20,21} Samuels et al (2024), further emphasize that both sex and surgical technique independently influence sustained weight outcomes, underscoring the importance for personalized and sex-sensitive postoperative strategies.¹⁷

Despite their unique clinical profiles, male patients remain underrepresented in bariatric research, resulting in limited sex-specific data to guide care. RYGB is known for its beneficial effects on both weight and metabolic markers, but weight regain remains a concern.^{22,23} Several physiological and behavioral factors may contribute to weight outcomes, including DS, age, comorbidity severity, follow-up duration, and early achievement of normal BMI.^{24–26}

This study addresses the existing gap by examining clinical and behavioral predictors of weight loss durability and recurrence in men undergoing RYGB. The analysis aims to contribute to sex-specific understanding of postoperative outcomes, thereby informing more personalized strategies for long-term success.

Methods

This is a retrospective cohort study of male patients who underwent videolaparoscopic RYGB. Between 2013 and 2016, a total of 536 patients underwent videolaparoscopic Roux- n- Y gastric bypass surgery at a private health clinic in Brazil performed by a single surgeon. Among them, 100 were male and 436 were female. All surgeries used a standardized technique: one meter biliary and one meter alimentary limb, 50 mL pouch, linear stapled gastrojejunostomy, and jejunojunctionostomy with no reinforcement. For this study, only male patients with a minimum of two years of postoperative follow-up were included, resulting in a final sample of 43 individuals.

Inclusion criteria consisted of: (1) male sex and (2) availability of postoperative follow-up data for at least 2 years. The waiver of informed consent was approved by the institutional ethics committee, and patient confidentiality was rigorously maintained during data extraction using de-identified electronic medical records. Data were retrospectively collected from these records, covering information from preoperative and postoperative consultations. A standardized questionnaire was completed by the physician during each patient's visit to the clinic.

The variables analyzed included: age at surgery, follow-up duration (in months): calculated from the date of surgery to the date of the most recent follow-up visit, preoperative weight and BMI (defined as the highest weight recorded before surgery); and lowest postoperative weight and BMI (defined as the lowest value recorded after surgery). The final weight used to assess weight regain was the weight at the last follow-up visit and compared to the lowest postoperative weight, % EWL: calculated using the lowest postoperative weight as current weight. ($\%EWL = [(initial\ weight - current\ weight)/(initial\ weight - ideal\ weight)] \times 100$), total weight loss (TWL): calculated based on the lowest postoperative weight. Weight regain was assessed in two ways: as the absolute weight regained (in kilograms) and as the percentage of weight regained from the lowest postoperative weight. Obesity-related comorbidities (diabetes, hypertension and dyslipidemia): were considered present when the patient used at least one medication for the respective condition and

were recorded at the first visit before surgery and the last postoperative consultation. Dumping syndrome was classified as present or absent based on patient self-report during routine postoperative visits. Although no standardized diagnostic instrument was used, all patients were consistently questioned about the occurrence of symptoms suggestive of DS during follow-up. Engagement in physical exercise was recorded as a binary variable (yes/no), based on self-reported participation in any form of physical activity during the postoperative period. Due to the lack of consensus on standardized criteria for assessing weight regain, we adopted two commonly supported definitions: >15% weight regain from nadir and $\geq 20\%$ total weight loss (TWL) regain. These measures are grounded in previous literature. Voorwinde et al (2019) identified >15% weight regain from nadir as one of the most frequently applied and clinically relevant thresholds.²⁷ In parallel, Grover et al (2019) recommended $\geq 20\%$ TWL as an appropriate benchmark for defining successful long-term weight maintenance.²⁸

Statistical Analysis

In cross-sectional studies with binary outcomes, the most appropriate measure to assess the association between exposure and outcome is the prevalence ratio (PR). Poisson regression models with robust variance have been proposed as a suitable alternative for obtaining adjusted estimates of PR in the presence of confounding variables. In cross-sectional settings, this approach yields adjusted PR estimates that are very similar to those obtained using the Mantel-Haenszel (MH) method,^{29,30} particularly for outcomes with higher prevalence. In the present study, the prevalence of the outcomes ranged from 25.58% to 67.44%, indicating that the events were sufficiently common. Poisson regression models with robust variance were employed using the SAS PROC GENMOD procedure, with the REPEATED statement, to identify factors associated with: achieving normal BMI (18.5–25), weight regain >15%, weight regain $\geq 20\%$ of TWL. Independent variables included age, follow-up time, presence of obesity complications, DS, normal BMI, and exercise. Linear regression evaluated factors linked to %EWL. Statistical significance was set at $p < 0.05$, and analyses were performed in SAS 9.4.

A post-hoc power analysis was performed using G*Power version 3.1 to evaluate the adequacy of the sample size ($n=43$) for detecting moderate associations in the primary outcomes. Assuming a medium effect size ($w = 0.35$), an alpha level of 0.05, and two-tailed testing, the analysis demonstrated a statistical power of 0.83. This suggests that the study was sufficiently powered to detect clinically meaningful differences, despite the limited sample size. The use of a homogeneous cohort and standardized surgical technique further supports the internal validity of the findings.

Results

The flowchart (Figure 1) illustrates the process of patient selection and postoperative weight loss outcomes. A total of 100 male patients were initially analyzed. Following the inclusion criterion of a minimum two-year follow-up, 43 patients were included in the study. The mean age of the included patients was 39.7 years (40 ± 11), with an average follow-up of 48.3 months (48 ± 22). The mean preoperative BMI was 42.1 kg/m^2 (42 ± 05), which decreased postoperatively to 27.9 kg/m^2 (28 ± 04). Fifty-seven patients (57%) were excluded due to not meeting the follow-up requirement. Among the included cohort, the mean percentage of excess weight loss (%EWL) achieved was 84.5% (85 ± 19), with 27.9% of patients reaching a normal BMI.

Baseline Characteristics

Among the 43 participants, the majority presented multiple obesity complications preoperatively, including diabetes mellitus (67%), hypertension (69.7%) and dyslipidemia (57.1%). Twenty-one of 43 patients reported DS (48.8%). The baseline characteristics of all participants in this study are represented in Table 1.

Weight Loss and Normal BMI

Half of the participants (50%) reported DS post-RYGB, and its presence was significantly associated with achieving a normal BMI ($p=0.03$). No other measured factors (eg, age, comorbidity burden, or exercise) emerged as significant predictors of normal BMI in this cohort. Table 2 presents the unadjusted and adjusted prevalence ratios for achieving a normal BMI in men.

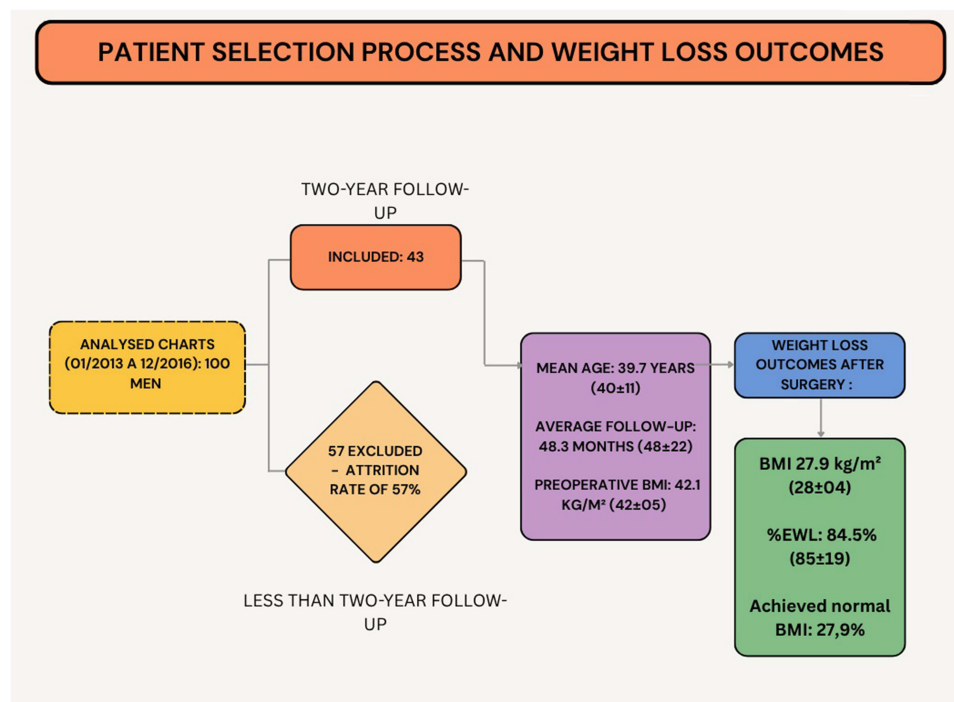


Figure 1 Flowchart: Patients selection process and weight loss outcomes.

Abbreviations: BMI, body mass index; EWL, excess weight loss.

In the initial simple Poisson regression analysis, no variable showed a statistically significant association ($p < 0.05$) with achieving a normal BMI. However, in the multiple Poisson regression model, only the presence of DS was significantly associated with this outcome.

Men who reported DS had a 186% higher chance (PR of 2.86) of achieving a normal BMI compared to those without it, after adjusting for other covariates ($p = 0.0309$) (Table 2).

Table 1 Baseline Characteristics

Variables	
Age at surgery (years)	40 (± 11)
Follow-up time (months)	48 (± 22)
Highest weight (kg)	133 (± 21)
Lowest weight (kg)	88 (± 14)
Highest BMI	42 (± 05)
Lowest BMI	28 (± 04)
EWL (%)	85 (± 19)
Weight regain > 15% from nadir	72.09%
Weight regain $\geq 20\%$ TWL	32.50%
Normal BMI after surgery	27.9%
Diabetes mellitus	67%
Systemic arterial hypertension	69.7%
Hypercholesterolemia	57.1%
Dumping syndrome	48.80%

Notes: n = 43.

Abbreviations: BMI, body mass index; EWL, excess weight loss; TWL, total weight loss.

Table 2 Factors Associated with Achieving a Normal BMI After RYGB in Men

Variables	Non Adjusted Confidence Interval		Adjusted Prevalence Ratio *	
	PR (CI 95%)	p-Value	PR (CI 95%)	p-Value
Age at surgery	1.00 (0.96; 1.05)	0.7678	1.02 (0.98; 1.07)	0.2916
Follow-up time	0.99 (0.97; 1.02)	0.5661	0.99 (0.97; 1.02)	0.4781
Diabetes				
Yes	1	-	1	-
No	1.15 (0.42; 3.16)	0.7809	1.53 (0.51; 4.55)	0.4448
Hypertension				
Yes	1	-	1	-
No	1.29 (0.47; 3.50)	0.6153	1.25 (0.46; 3.40)	0.6602
Hypercholesterolemia				
Yes	1	-	1	-
No	1.39 (0.53; 3.61)	0.5005	1.15 (0.49; 2.67)	0.7456
Dumping syndrome				
No	1	-	1	-
Yes	2.09 (0.74; 5.93)	0.1636	2.86 (1.10; 7.43)	0.0309
Physical exercise				
No	1	-	1	-
Yes	1.94 (0.49; 7.57)	0.3427	1.82 (0.48; 6.83)	0.3777

Notes: n = 43, Poisson regression with robust variance, 95% CI. *Adjusted for age at surgery, follow-up time, diabetes, hypertension, hypercholesterolemia, dumping syndrome, and physical exercise.

Abbreviations: PR, prevalence ratio; CI, confidence interval; BMI, body mass index; RYGB, Roux-en-Y gastric bypass.

Weight Regain

Only the length of postoperative follow-up showed a significant correlation ($p < 0.0001$) (Table 3). In the simple Poisson regression model, follow-up time was the only variable significantly associated with weight regain $>15\%$ relative to the lowest recorded weight ($p < 0.05$). This association remained significant in the multiple Poisson regression model.

Each additional month of follow-up was associated with a 4% increase in the prevalence of weight regain $>15\%$, independent of other variables ($p < 0.0001$).

Table 3 Factors Associated with $>15\%$ Weight Regain from Postoperative Nadir in Men

Variables	Non Adjusted Confidence Interval		Adjusted Prevalence ratio *	
	PR (CI 95%)	p-Value	PR (CI 95%)	p-Value
Age at surgery	0.99 (0.95; 1.03)	0.7289	0.99 (0.94; 1.05)	0.8527
Follow-up time	1.04 (1.02; 1.06)	< 0.0001	1.04 (1.02; 1.06)	< 0.0001
Normal BMI				
Yes	1.48 (0.53; 4.14)	0.4595	1.30 (0.48; 3.49)	0.6062
No	1	-	1	-
Diabetes				
Yes	1	-	1	-
No	1.32 (0.46; 3.73)	0.6028	1.70 (0.56; 5.14)	0.3506
Hypertension				
Yes	1.74 (0.44; 6.92)	0.4304	3.38 (0.80; 14.30)	0.0986
No	1	-	1	-
Hypercholesterolemia				
Yes	1	-	1	-
No	1.67 (0.60; 4.62)	0.3266	2.28 (0.89; 5.85)	0.0848

Notes: n = 43, Poisson regression with robust variance, 95% CI. *Adjusted for age at surgery, follow-up time, normal BMI, diabetes, hypertension, and hypercholesterolemia.

Abbreviations: PR, prevalence ratio; CI, confidence interval; BMI, body mass index.

In the initial simple Poisson regression analysis, only follow-up time was significantly associated with the occurrence of weight regain $\geq 20\%$ TWL ($p < 0.05$). In the subsequent multiple Poisson regression model, both follow-up time and achieving a normal BMI were significantly associated with this outcome.

Each additional year of follow-up was associated with a 4% increase in the chances of significant weight regain ($\geq 20\%$ TWL), after adjusting for other variables ($p = 0.0003$). Additionally, men who reached a normal BMI had a 155% higher (PR of 2.55) chance of weight regain $\geq 20\%$ TWL compared to those who did not, independent of other covariates ($p = 0.0205$) (Table 4).

Initially, in the simple linear regression analysis, only the variable normal BMI showed a statistically significant association ($p < 0.05$) with EWL. Subsequently, in the multiple linear regression model, normal BMI remained the only variable significantly associated with EWL.

Men who achieved a normal BMI had, on average, a 30.30% greater excess weight loss compared to those who did not, after adjusting for other variables ($p < 0.0001$) (Table 5).

Table 4 Factors Associated with Weight Regain $\geq 20\%$ TWL in Men

Variables	Non Adjusted Confidence Interval		Adjusted Prevalence Ratio *	
	PR (CI 95%)	p-Value	PR (CI 95%)	p-Value
Age at surgery	1.01 (0.97; 1.05)	0.5917	1.02 (0.98; 1.06)	0.2963
Follow-up time	1.03 (1.02; 1.05)	< 0.0001	1.04 (1.02; 1.06)	0.0003
Normal BMI				
Yes	1.94 (0.85; 4.41)	0.1150	2.55 (1.15; 5.62)	0.0205
No	1	-	1	-
Hypertension				
Yes	1.42 (0.48; 4.21)	0.5285	1.20 (0.42; 3.46)	0.7310
No	1	-	1	-
Dumping syndrome				
Yes	1.89 (0.75; 4.71)	0.1743	0.84 (0.30; 2.36)	0.7434
No	1	-	1	-
Physical exercise				
Yes	1	-	1	-
No	1.94 (0.85; 4.41)	0.1150	1.30 (0.55; 3.07)	0.5483

Notes: n = 43, Poisson regression with robust variance, 95% CI. *Adjusted for age at surgery, follow-up time, normal BMI, hypertension, dumping syndrome, and physical exercise.

Abbreviations: PR, prevalence ratio; CI confidence interval; BMI, body mass index; TWL, total weight loss.

Table 5 Factor Associated with %EWL (Linear Regression Model)

Variables	Regression Coefficients (β) Unadjusted		Regression Coefficients (β) Adjusted *		
	(β) (CI 95%)	p-Value	R ²	(β) (CI 95%)	p-Value
Regression model – EWL			0.54		
Intercept	-	-		82.33 (66.59; 98.08)	< 0.0001
Age at surgery	-0.09 (-0.64; 0.45)	0.7181		-0.13 (-0.53; 0.28)	0.5315
Normal BMI after surgery					
Yes	30.29 (21.35; 39.24)	< 0.0001		30.30 (21.15; 39.45)	< 0.0001
No	0	-		0	-
Hypertension					
Yes	-5.07 (-18.07; 7.91)	0.4339		-1.68 (-11.50; 8.13)	0.7302
No	0	-		0	-

Notes: n = 43, Linear regression model, confidence interval (CI). * Adjusted by age at surgery, normal BMI and Hypertension.

Abbreviations: BMI, body mass index; EWL, excess weight loss.

Discussion

Despite a higher burden of obesity complications among men, they remain a minority in bariatric and metabolic surgery (BMS) programs,^{31,32} tend to present with more advanced conditions, and may have higher perioperative risk.³³

Our findings emphasize several notable points regarding male patients with obesity undergoing RYGB. Our DS rate (48,8%) is similar to Nofal et al findings, affecting between 25% and 50% of patients after gastric surgery. They also described a rise to approximately 40% after primary RYGB. Additionally, this review underscores the importance of adopting standardized diagnostic frameworks, such as the Sigstad scoring system or provocative glucose testing, to minimize misclassification and improve both clinical care and research reliability.³⁴ In our study, DS was associated with achieving normal BMI after surgery, and as shown in Looveren R Van et al and Malory N et al,'s studies it is possibly because the unpleasant symptoms reinforce cautious dietary intake and discourage intake of high-sugar or high-fat foods.^{24,25} This also suggests that physiological responses to surgery may play a more prominent motivational or behavioral role in men, warranting further investigation.^{7,8} On the other hand, Kermansaravi M et al found no significant association between DS and weight loss outcomes. Although patients in the severe DS group showed a slightly higher percentage of total weight loss (%TWL) compared to those in the mild-to-moderate group, this difference was not statistically significant. Similarly, at one-year follow-up, the severity and frequency of individual DS symptoms did not demonstrate a significant impact on %TWL.²⁶

Given the lack of consensus regarding weight regain assessment criteria, we chose to use >15% regain from nadir and >20% total weight loss (TWL) regain was based on previous published data. A study by Voorwinde et al (2019) systematically applied six definitions of weight regain in a large cohort and found that a >15% weight regain from nadir (based on total body weight) was one of the most frequently used and relevant cutoffs.²⁷ In a complementary analysis, Grover et al (2019) proposed that $\geq 20\%$ TWL is an ideal benchmark to define successful long-term weight maintenance.²⁸ This measure is less influenced by preoperative BMI and more aligned with medical literature standards, making it more suitable for cross-study and cross-intervention comparisons. Therefore, using multiple thresholds like >15% and $\geq 20\%$ TWL allows for both early detection of regain and assessment of persistent satisfactory results in a standardized and evidence-based manner. Applying these measures, we observed that each additional month of follow-up was associated with a 4% increase in weight regain >15% of nadir, while each additional year was linked to a 4% increase in significant weight regain ($\geq 20\%$ TWL). Weight regain associated with follow-up duration aligns with the findings reported by Noria SF et al, who, in a recent review, highlighted that weight regain varies substantially depending on the definition used and the length of time since surgery.³⁵ The review also emphasized the importance of identifying the underlying reasons for treatment discontinuation, including changes in health insurance coverage, financial constraints, perceived lack of efficacy, adverse events, transition to different treatment modalities, loss to follow-up, or censoring due to study cut-off dates. It is well established that a substantial proportion of patients experience significant weight regain during long-term postoperative follow-up.³⁵ Poor adherence to follow-up appointments is a significant contributor to weight regain. Follow-up rates drop to ~30–54% at 5 years, which is associated with reduced effectiveness of long-term weight management.³⁶

Moreover, men who achieved a normal BMI had a 155% higher chance of weight regain $\geq 20\%$ TWL compared to those who did not, independent of other covariates ($p = 0.0205$). Ru CG et al reported that the proportion of patients experiencing significant weight regain (>15% of the weight lost) progressively increased after the third and fifth postoperative years in both groups. However, this increase was statistically higher among patients who received no therapy or discontinued treatment, reaching nearly 50% by the fifth year.³⁷ Budney et al,'s review notes that substantial initial weight loss can sometimes lead to physiological adaptations (eg, reduced resting metabolic rate, muscle mass loss) that predispose patients to regain weight later. Weight regain rates range widely (6% at 2 years to 76% at 6 years), influenced by multiple factors including baseline BMI, metabolic changes, and behavioral factors.³⁶

In another study, postoperative characteristics independently associated with greater weight regain included younger age, elevated fasting triglyceride levels (≥ 200 mg/dL), the presence of venous edema with ulcerations, reduced physical functioning, poorer overall health status, and increased depressive symptomatology.³⁸ Younger age may correlate with lifestyle factors such as demanding schedules or inconsistent self-monitoring.^{38,39} In a stratified cohort study, patients undergoing bariatric surgery were categorized into five age groups: <30, 30–39, 40–49, 50–59, and ≥ 60 years at the time

of operation. Analysis of postoperative outcomes demonstrated that younger patients achieved significantly greater weight loss compared to older counterparts across both evaluated time points. Furthermore, the number of obesity-related comorbidities achieving complete remission, defined as normalization of clinical parameters without pharmacological treatment, was markedly higher among younger age groups. These findings indicate that primary bariatric surgery is associated with superior weight reduction and higher remission rates of metabolic comorbidities in younger individuals, while still providing clinically meaningful benefits in older patients.⁴⁰ However, in our study, age was not identified as a significant factor associated with weight regain.

On the other hand, patients who rapidly reached normal BMI were paradoxically more prone to $\geq 20\%$ TWL regain in our study, suggesting possible metabolic or behavioral “rebound”.⁴¹ This aligns with previous reports showing that swift early weight loss does not guarantee stability later.^{42–45}

As expected, men who had a higher %EWL achieved more frequently a normal BMI after surgery. Despite significant preoperative comorbidity burden, male patients achieved substantial excess weight loss (mean %EWL 84.5%) and a notable reduction in BMI over follow-up period, reinforcing the efficacy of RYGB in our study population. As shown in previous studies, male BMS candidates can benefit from focused interventions for longer follow-up, psychological support, and behavioral adherence to mitigate weight regain.^{46–49}

According to a review by Budny et al, strategies to reduce weight regain post-surgery are:

- **Lifestyle and Behavioral Interventions:** Adherence to dietary recommendations, increased physical activity (≥ 150 min/week with strength training), and behavioral therapy (including cognitive behavioral therapy) are critical to minimizing weight regain.
- **Multidisciplinary Follow-Up:** Regular, long-term follow-up visits with a team including surgeons, dietitians, psychologists, and internists are emphasized as the gold standard for sustained outcomes.
- **Nutritional Support:** Long-term monitoring of nutrient status, individualized supplementation, and preoperative correction of deficiencies improve long-term weight management.
- **Pharmacologic Options:** In selected cases, adjunct pharmacotherapy initiated at weight plateau can help enhance weight maintenance.
- **Revision Surgery:** Considered for patients with anatomical causes of weight regain or insufficient weight loss.³⁶

Conclusion

This study reinforces the effectiveness of Roux-en-Y gastric bypass in men with obesity, demonstrating substantial excess weight loss and significant long-term improvements in obesity-related comorbidities.

These findings, when integrated with prior research identifying cultural, racial, and psychosocial barriers to care among men, especially Black men, underscore the necessity of individualized follow-up protocols, targeted education, and culturally sensitive interventions to improve engagement, adherence, and long-term outcomes in male bariatric patients. The study’s limitations include its retrospective, single-center design and a restricted sample size. Future studies would strengthen the conclusion.

Data Sharing Statement

The data that support the findings of this study are not publicly available due to patient privacy concerns and institutional policies. Access to de-identified data may be granted upon reasonable request to the corresponding author, with approval from the institutional review board.

Ethical Approval

This study was approved by the Research Ethics Committee of the Faculty of Medicine, University of Brasília (CEP-FM/UnB), Brasília, Brazil (Approval No. 5.132.515, CAAE: 52496421.5.0000.5558). The study was conducted in accordance with the Declaration of Helsinki. Due to the retrospective nature of this study using de-identified medical records, the Research Ethics Committee granted a waiver of informed consent in accordance with Brazilian Resolution 466/2012, as individual patient consent was not feasible and the research posed minimal risk to participants.

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Author Contributions

Luiza Bandeira de Mello Alves da Silva: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Project administration; Writing – original draft; Writing – review and editing. Eduardo Nogueira Freitas Ximenes: Data curation; Investigation; Resources; Writing – review and editing. Sergio Lincoln de Matos Arruda: Conceptualization; Methodology; Supervision; Writing – review and editing. João Batista de Sousa: Conceptualization; Methodology; Project administration; Supervision; Writing – review and editing. All authors have given final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

The authors declare no conflict of interest.

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