

A Cross-Sectional Study of Quality of Life in Patients One Year After Bariatric Surgery

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ABSTRACT

Objective: To evaluate the quality of life (QoL) in patients one year after bariatric surgery, focusing on improvements across physical, mental, and social domains.

Methods: A cross-sectional study was conducted with a sample of 95 patients who had undergone bariatric surgery (gastric bypass or sleeve gastrectomy) and were at least one year post-procedure. Data were collected using the SF-36 QoL survey, assessing physical functioning, emotional well-being, social interaction, and general health perception. Descriptive statistics were used to analyze QoL outcomes pre- and post-surgery.

Results: Significant improvements were observed in all QoL domains. Physical functioning scores increased from a mean of 45 to 80, with 85% of patients reporting enhanced mobility and decreased pain. Mental health scores improved from 50 to 80, with 70% experiencing reduced symptoms of depression and anxiety. Social functioning rose from 55 to 85, with 75% reporting better social engagement. Comorbidities such as diabetes and hypertension showed substantial reduction, supporting overall health gains.

Conclusion: It is concluded that bariatric surgery significantly enhances QoL one year post-surgery across physical, psychological, and social domains. These findings highlight the procedure's comprehensive benefits beyond weight loss, with implications for holistic post-surgical support to sustain long-term QoL improvements

Keywords: *Antidiabetic, Biochemical Analysis, Diabetes Mellitus, Gymnema Sylvestre, Herbal Medicine, Hypoglycemic Effect, Insulin Secretion, Oxidative Stress, Pancreatic Regeneration, Phytotherapy, Streptozotocin, Type 1 Diabetes.*

1. INTRODUCTION

Bariatric surgery, a transformative intervention aimed at significant and sustained weight loss, has gained considerable traction as a primary treatment for individuals with severe obesity who have struggled with conventional weight-loss methods. This surgical approach, which includes procedures such as gastric bypass, sleeve gastrectomy, and adjustable gastric banding, is not only associated with substantial reductions in body weight but also yields improvements in obesity-related conditions, such as type 2 diabetes, hypertension, and obstructive sleep apnea[1]. However, one of the most profound impacts of bariatric surgery lies in its potential to enhance patients' quality of life (QoL), which encompasses a broad range of dimensions beyond physical health, including psychological well-being, social engagement, and overall life satisfaction. For many individuals facing the daily challenges of obesity, the physical constraints it imposes significantly diminish their capacity to engage fully in life. Restricted mobility, chronic pain, and the constant fatigue associated with obesity can lead to a downward spiral affecting mental health and social participation. This reduction in physical functioning often leads to social withdrawal, exacerbating feelings of isolation and low self-esteem. Consequently, the physical relief that follows bariatric surgery—often observed within months and extending into the first year—has a transformative effect on patients' everyday lives. Improvements in mobility and endurance enable patients to re-engage with activities they once enjoyed or aspired to participate in, from simple tasks like walking to more demanding pursuits such as exercise, travel, and social outings[2]. The restoration of physical function serves as a catalyst for enhanced mental and emotional well-being, which plays an essential role in the overall QoL for these individuals.

Psychological health is another critical facet impacted by bariatric surgery. Individuals with obesity frequently experience significant mental health challenges, including depression, anxiety, and body image dissatisfaction[3]. These issues often stem from societal stigma and the individual's internalized beliefs about their body weight and self-worth. A year after bariatric surgery, many patients report notable improvements in these psychological dimensions. The sense of achievement associated with substantial weight loss, alongside the encouragement from loved ones and healthcare providers, can foster renewed self-confidence[4]. Moreover, the relief from psychological distress is often supported by changes in body composition, which align with societal norms and may help to alleviate the stigma patients previously encountered. Consequently, these mental health benefits contribute significantly to the enhancement of QoL, although continued psychological support may be necessary for some individuals to help navigate the profound lifestyle and identity changes that accompany significant weight loss. Social functioning also sees meaningful improvement after bariatric surgery[5]. Obesity often limits social interactions, leading to avoidance of social gatherings, reduced romantic and sexual intimacy, and even decreased workplace participation. The physical and psychological benefits of surgery, such as increased energy and improved self-esteem, make it easier for patients to re-establish and build upon their social relationships. Moreover, these social gains often feed back positively into physical and mental health, as patients begin to feel more comfortable and valued in their interactions with others. For instance, returning to the workforce or participating more actively in family life can further reinforce the patient's self-esteem and satisfaction, supporting a more sustained and holistic improvement in QoL[6]. However, while the positive impact of bariatric surgery on QoL is well-documented, this transformation does not occur without challenges. Postoperative adjustments, such as adapting to dietary restrictions, managing physical discomfort, and the necessity for ongoing medical supervision, can pose obstacles to long-term quality-of-life improvements. Additionally, some patients may struggle with the psychological implications of rapid weight loss, which can lead to body dysmorphia or unexpected changes in interpersonal dynamics. These aspects underscore the importance of a multidisciplinary approach in post-bariatric care, involving dietitians, psychologists, physical therapists, and social support networks, to ensure that patients are well-equipped to navigate their new lives[7].

Objective

The main objective of the study is to find the quality of life in patients one year after bariatric surgery.

2. METHODOLOGY

This cross-sectional study was conducted during 2024 July to 2025 February. By focusing on a sample of 95 patients, this design allows for the analysis of QoL at a single point in time, providing insight into the short-term outcomes and potential benefits of the procedure within the first year.

Participants

The study involved 95 patients who underwent bariatric surgery across various procedures, including gastric bypass and sleeve gastrectomy. All participants met the study's inclusion criteria of being at least one year post-surgery and were over

the age of 18. Exclusion criteria included patients who had undergone revision surgery, experienced severe postoperative complications requiring hospitalization within the last year, or had significant psychiatric disorders that could impact their response.

Data Collection

To assess QoL, participants completed validated questionnaires designed to measure various dimensions of QoL, including physical health, psychological well-being, and social functioning. Data collection took place through online or in-person surveys administered during follow-up visits. Patient demographic information, including age, sex, type of surgery, and preoperative and postoperative weight, was also collected to enable subgroup analyses.

Measures

The primary measure used for assessing QoL was the RAND 36-Item Short Form Health Survey (SF-36), a widely used tool that assesses physical and mental health-related QoL across domains such as physical functioning, energy/fatigue, emotional well-being, and social functioning. The study also included additional questions about patients’ perceived physical improvements, mental health, and social relationships post-surgery.

Data Analysis

Data analysis involved descriptive statistics for demographic information and SF-36 scores, providing an overall profile of patient outcomes. Mean and median scores were calculated for each QoL domain, and comparisons were made between demographic subgroups.

3. RESULTS

Table 1: Demographic and Baseline Values of Patients

Characteristic	Value
Sample Size	95 patients
Average Age (years)	42 (range: 22–65)
Gender Distribution	Female: 68%, Male: 32%
Type of Surgery	Gastric Bypass: 55%, Sleeve Gastrectomy: 45%
Average Preoperative BMI (kg/m²)	42.5
Average Postoperative BMI (kg/m²)	30.6
Average Weight Loss (% of total body weight)	28%
Comorbidities at Baseline	Diabetes: 40%, Hypertension: 35%, Sleep Apnea: 25%, Joint Pain: 45%
Average Preoperative QoL Score (SF-36 Overall)	43
Average Postoperative QoL Score (SF-36 Overall)	76
Follow-up Duration	1 year post-surgery

Table 2: Quality of Life (QoL) Scores by Domain (SF-36)

QoL Domain	Preoperative Score (Mean)	Postoperative Score (Mean)	% of Patients Reporting Improvement
Physical Functioning	45	80	85%
Role Limitations due to Physical Health	40	75	82%
Energy/Fatigue	35	70	78%

Emotional Well-being	50	80	70%
Social Functioning	55	85	75%
Pain Management	30	65	80%
General Health Perception	45	78	73%

Table 3: Subgroup Analysis

Subgroup	Physical Functioning	Mental Health Improvements	General Health Perception
Female Patients	Moderate	Higher	Moderate
Male Patients	Higher	Moderate	Moderate
Gastric Bypass Patients	Higher	Moderate	Higher
Sleeve Gastrectomy Patients	Moderate	Higher	Moderate

Table 4: Baseline Comorbidities and Improvement Post-Surgery

Comorbidity	Prevalence Pre-Surgery	% Reporting Improvement Post-Surgery
Type 2 Diabetes	40%	85%
Hypertension	35%	78%
Sleep Apnea	25%	90%
Joint Pain	45%	82%
High Cholesterol	30%	80%
Depression/Anxiety	50%	70%

Table 5: Post-Surgery QoL Outcomes in Key Domains

QoL Domain	Mean Score Preoperative	Mean Score Postoperative	% of Patients Reporting Improvement
Physical Health	45	80	85%
Social Relationships	55	85	75%
Mental Health	50	80	70%
Pain Reduction	30	65	80%
General Life Satisfaction	40	78	73%

4. DISCUSSION

The results of this study demonstrate that bariatric surgery has a significant positive impact on the quality of life (QoL) of patients one year post-surgery, particularly in areas of physical functioning, mental health, and social interaction[9,10]. The notable improvements across these domains underscore the multifaceted benefits of bariatric surgery, going beyond weight loss to enhance overall well-being and daily life. This discussion explores key findings, their implications, and areas for future research to ensure optimal long-term outcomes for bariatric patients. One of the most profound improvements observed in this study was in physical functioning. Pre-surgery, many patients were limited by mobility constraints, joint pain, and chronic fatigue, impacting their capacity to engage in everyday activities. One year after surgery, 85% of patients reported significant improvements in physical health, enabling them to participate more actively in their daily lives. This improvement

aligns with other studies that link weight loss to enhanced mobility, reduction in musculoskeletal pain, and improved stamina[11]. These findings highlight the role of bariatric surgery as an effective intervention not only for weight reduction but also for restoring physical capabilities, which is crucial for long-term health and independence. However, continued physical therapy and support may be beneficial, especially for patients with lingering physical health issues. The study's findings also reveal notable improvements in mental health, with 70% of patients reporting reduced symptoms of depression and anxiety. This enhancement in mental well-being is likely due to a combination of factors, including weight loss, positive body image changes, and increased confidence in social settings. Furthermore, reduced social stigma and a newfound ability to participate in activities may contribute to improved self-esteem. Nevertheless, it is essential to recognize that some patients may struggle with the psychological adjustments post-surgery, such as the rapid weight loss and shifts in self-identity[12]. Therefore, integrating psychological support into post-bariatric care could be vital in helping patients maintain mental health improvements and addressing any emerging challenges related to body image and self-esteem. Social functioning, a commonly overlooked aspect of obesity, showed substantial improvement, with 75% of patients reporting a positive change in their social lives. Pre-surgery, many patients faced social isolation or limited participation in family, work, and social settings due to weight-related physical and emotional constraints. Post-surgery, increased confidence and physical abilities encouraged greater involvement in social and family activities, enhancing their overall QoL. Additionally, patients experiencing improvements in romantic and familial relationships reported that physical health gains also positively impacted intimacy and shared activities[13]. This social reintegration is essential for maintaining long-term psychological and emotional health, as social connectedness plays a fundamental role in overall life satisfaction. Improvements in comorbidities such as type 2 diabetes, hypertension, and sleep apnea were substantial, with over 75% of patients reporting relief or control of symptoms. This aligns with established research that links bariatric surgery to improvements in metabolic health. Not only do these improvements reduce the medical burden and healthcare costs for patients, but they also contribute significantly to enhanced QoL by reducing the need for continuous medication and healthcare visits. The reduction in chronic disease burden likely enhances patients' perceptions of their health, contributing to a higher general health satisfaction score[14]. These findings emphasize the importance of bariatric surgery as a preventive healthcare measure for managing chronic conditions in patients with severe obesity[15]. Despite the positive outcomes, it is essential to acknowledge the challenges some patients face post-surgery. While physical and mental improvements were significant, some individuals encountered difficulties adapting to lifestyle changes, such as dietary restrictions and the rapid physical transformation. Additionally, while the cross-sectional design of this study provides valuable insight into QoL at one point in time, it limits our understanding of long-term outcomes[16]. A longitudinal approach could offer a more comprehensive view of QoL changes and potential declines in specific areas over several years. Another limitation is the reliance on self-reported data, which may introduce reporting bias, particularly in areas related to emotional and social well-being.

5. CONCLUSION

It is concluded that bariatric surgery significantly improves quality of life in patients one year post-surgery, enhancing physical health, mental well-being, and social engagement. These benefits extend beyond weight loss, addressing key challenges faced by individuals with severe obesity. Sustained improvements, however, may require integrated post-surgical support to help patients adapt to lifestyle changes and maintain these gains long-term.

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