

Research Article

Patient Satisfaction and Quality of Life after Bariatric Surgery among Iraqi Patients

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ABSTRACT

Background & Objectives: Obesity is a global epidemic associated with significant health and economic burdens. Bariatric surgery has emerged as a highly effective intervention for severe obesity, offering substantial and sustained weight loss, resolution of comorbidities, and improved quality of life (QoL).

Materials and Methods: This cross-sectional descriptive study evaluated patient satisfaction

and QoL outcomes among 150 patients who underwent bariatric surgery in Al-Zahraa Teaching Hospital and private clinics in Wasit Province, Iraq. Participants completed a structured questionnaire assessing satisfaction with surgical outcomes, QoL metrics, and postoperative challenges.

Results: The findings revealed a mean BMI reduction of 15.7 kg. Gastric sleeve surgery was the most common procedure (60%). High satisfaction levels were reported, with 46.7% rating postoperative care as excellent, and 80% recommending surgery to others. QoL metrics demonstrated marked improvements, particularly in physical health (73.3% reporting better outcomes), social life (80% reporting positive changes), and emotional well-being (66.7% experiencing improvements). A strong positive correlation ($r = 0.65$, $p < 0.01$) was observed between patient satisfaction and QoL. Despite these positive results, 33.3% of patients reported difficulty adjusting to dietary changes, and 26.7% experienced side effects.

Conclusion: This study underscores the transformative impact of bariatric surgery on holistic patient well-being. However, the findings also highlight the importance of individualized care and ongoing follow-up to optimize outcomes

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and address challenges. Further research exploring long-term outcomes and strategies to enhance patient-centric care is recommended.

Keywords: Bariatric surgery, Quality of life, Satisfaction

INTRODUCTION

Obesity is a chronic disease with a multifactorial etiology, encompassing genetic, environmental, behavioral, and societal contributors [1]. Over the past few decades, the prevalence of obesity has soared globally, with the World Health Organization (WHO) estimating in 2023 that more than 1 billion people worldwide are living with obesity, a condition that significantly increases the risk of cardiovascular diseases, type 2 diabetes, and certain cancers [2]. The rapid rise in obesity rates has strained healthcare systems worldwide, prompting an urgent need for effective interventions. The direct medical costs associated with obesity-related conditions, such as type 2 diabetes, cardiovascular diseases, and certain malignancies, are staggering. Indirect costs, including lost productivity and reduced quality of life, further exacerbate the socioeconomic impact [3].

Given the limitations of non-surgical treatments for severe obesity, bariatric surgery has gained prominence as an effective strategy for achieving significant and sustained weight loss. Common bariatric procedures, such as Roux-en-Y gastric bypass (RYGB), sleeve gastrectomy, and adjustable gastric banding, have demonstrated robust efficacy in addressing obesity and its complications [4]. Bariatric surgery has emerged as a cornerstone treatment for severe obesity and its associated

comorbidities, representing a critical intervention when lifestyle modifications and pharmacological approaches have proven insufficient [5]. Bariatric surgery offers an effective means of achieving substantial and sustained weight loss while improving obesity-related comorbidities, enhancing overall health outcomes, and potentially extending life expectancy [6].

However, the success of bariatric surgery is not solely determined by the magnitude of weight loss or the resolution of comorbidities. Patient satisfaction and improvements in quality of life (QoL) are equally critical endpoints that offer a comprehensive perspective on the efficacy of these interventions. These subjective outcomes are influenced by a complex interplay of medical, psychological, and social factors that extend beyond clinical measures of success [7]. Understanding these dimensions is essential for guiding surgical decision-making, improving patient care, and optimizing long-term outcomes.

Patient satisfaction serves as a critical indicator of healthcare quality, encompassing various dimensions such as the effectiveness of treatment, the quality of patient-provider interactions, and the alignment of outcomes with patient expectations. In the context of bariatric surgery, satisfaction is influenced by multiple factors, including the degree of weight loss, the resolution of comorbidities, and improvements in physical appearance, self-esteem, and social functioning [8].

Research suggests that most patients report high levels of satisfaction following bariatric surgery, largely attributable to the significant improvements in health and well-being. However, satisfaction levels can vary based

on individual characteristics, surgical techniques, and postoperative experiences. For instance, patients with unrealistic expectations regarding weight loss or those who experience complications or inadequate follow-up care may report lower satisfaction levels [6, 9, 10]. Understanding these nuances is crucial for managing patient expectations and providing tailored care.

Quality of life (QoL) is a multidimensional construct encompassing physical, psychological, and social well-being. It is a vital metric for assessing the broader impact of bariatric surgery, reflecting changes in functional capacity, emotional health, and social interactions. Studies consistently show that bariatric surgery leads to significant improvements in QoL, driven by weight loss, enhanced mobility, and the alleviation of obesity-related symptoms [11]. Improved QoL is particularly pronounced in domains related to physical functioning and self-perception. Patients often report increased energy levels, reduced pain, and greater engagement in daily activities. Additionally, the psychological benefits of weight loss, such as improved body image and reduced stigma, contribute to enhanced mental health [12].

However, the trajectory of QoL improvement is not uniform across all patients. Some individuals may experience challenges related to dietary restrictions, loose skin, or persistent psychosocial issues, which can dampen the overall QoL gains [13, 14]. Addressing these factors requires a holistic approach to patient care, encompassing preoperative counseling, surgical precision, and comprehensive postoperative support. So, this study aimed to assess the satisfaction level, QoL changes, and challenges faced by Iraqi patients after Bariatric surgery.

MATERIALS AND METHODS

Study Design

This study employed a cross-sectional descriptive design to evaluate patient satisfaction and quality of life (QoL) after bariatric surgery.

Study Setting and Population

The study was conducted in AL-Zahraa Teaching Hospital and five private surgical clinics in AL-Kut city/ Wasit Province/ Iraq, from April 2023 to September 2023. The target population included patients who underwent bariatric surgery, such as sleeve gastrectomy or gastric bypass, at the facility within the last 1–3 years. Participants were aged 18 years and older.

Inclusion and Exclusion Criteria

Adults aged 18 years and above, undergone surgery in the last 1-3 years, and consented to participate were included. Patients unable to complete the questionnaire due to physical or cognitive impairments or non-consenting participants.

Sample type

A total of 150 participants were recruited through the convenience sampling method (non-probability sampling), where participants were selected based on their easy accessibility, availability, or willingness to participate, rather than through random selection.

Data Collection Tool

Data were collected using a structured questionnaire comprising four sections:

1. **Demographic and Clinical Data:** Included age, gender, body mass index (BMI) before and after surgery, type of surgery performed, and presence of comorbid conditions (e.g., diabetes, hypertension).
2. **Patient Satisfaction:** Assessed satisfaction with weight loss, improvement in comorbid conditions, postoperative care, and overall surgical outcomes.
3. **Quality of Life:** Evaluated physical health, social life, energy levels, and psychological well-being post-surgery.
4. **Challenges Post-Surgery:** Identified issues such as nutritional deficiencies, side effects, psychological challenges, and unmet expectations.

The questionnaire was developed from a previously published article with some modifications and then designed in Arabic to ensure comprehension and ease of use for participants [15].

Data Collection Procedure

Participants were invited to complete the questionnaire during routine follow-up visits. The author, who is responsible for data collection, met all patients while they were visiting the hospital or undergoing any checks in a private doctor's clinic. Specifically, potential participants were identified through the hospital's scheduling system for routine follow-up appointments in the surgical consultation ward. A trained researcher explained the study's objectives and ensured all queries were addressed. Data collection was anonymous to maintain confidentiality.

Ethical Considerations

Ethical approval was obtained from the Ethical Committee of the College of Medicine/ Wasit University. Before any data collection, the researcher explained the study's objectives, the voluntary nature of participation, and the measures taken to ensure anonymity and confidentiality. Informed consent was obtained from each participant before they completed the questionnaire. This consent process included a written consent form, which was signed by the participant, documenting their agreement to participate. All queries were addressed to ensure full understanding. Data confidentiality and participants' rights were upheld throughout the study.

Data Analysis

Data were entered into statistical software SPSS version 26 for analysis. Descriptive statistics were used to summarize demographic and clinical characteristics. Satisfaction and QoL scores were analyzed using frequency distributions and percentages. The correlation coefficient was used for the association between patient satisfaction and QoL. A p-value less than 0.05 was considered a significant value.

Patient satisfaction scores

The patient satisfaction scoring system was adapted from established Likert-scale methodologies commonly used in patient-reported outcome measures. Each satisfaction item was assigned numerical values ranging from 1 (lowest satisfaction) to 5 (highest satisfaction), consistent with standard practice for quantifying subjective responses. For overall satisfaction, responses ranged from "very dissatisfied" (1) to "very

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satisfied" (5). For specific aspects such as weight loss, resolution of comorbidities, and postoperative care, the scale ranged from "poor" to "excellent", also scored from 1 to 5. The question regarding recommendation of bariatric surgery was scored dichotomously, with "Yes" assigned 5 and "No" assigned 1, reflecting positive or negative endorsement. To enable comparison across participants who may have answered different numbers of items or to standardize the scores, total satisfaction scores were normalized by dividing by the maximum possible score and multiplying by 100. This normalization facilitates the interpretation of satisfaction as a percentage of the maximum achievable score. While this scoring approach was designed specifically for our study, it's based on common ways of measuring satisfaction in healthcare, so we're confident it gives a good picture of how patients felt about their surgery.

RESULTS

In this study, the analysis of results depended on data collected from 150 patients undergoing bariatric surgery. The mean (SD)

of those patients before surgery was 45.2 (6.3) Kg while it was 29.5 (4.8) Kg after surgery. The mean BMI reduction was 15.7 (5.5) Kg.

Other sociodemographic and clinical features of patients are demonstrated in Table 1. Females represented the highest percentage (60%) among the study participants who underwent surgeries. Those patients aged between 30 and 39 years were the highest percentage (40%). Gastric Sleeve was done among 90 (60%) of patients. Most of the patients (60%) were previously diagnosed with chronic conditions, mainly hypertension (33.3%).

Table 2 shows patients' satisfaction after surgery. The frequency of the excellent choice answer was highest for both postoperative care in 70 (46.7%) and weight loss, 60 (40%). Exactly half 75 (50%) of the sample were very satisfied with the overall results from the surgery, as seen in Table 3.

When patients were asked if they would recommend the surgery for others, most of them (80%) answered yes.

Table 1: Demographic and clinical characteristics of participants (N=150)

Variable	Category	Frequency	Percentage (%)
Age (years)	18-29	45	30
	30-39	60	40
	40-49	30	20
	≥50	15	10
Gender	Male	60	40
	Female	90	60
Type of Surgery	Gastric Sleeve	90	60
	Gastric Bypass	45	30
	Other	15	10
Comorbidities	Diabetes	40	26.7
	Hypertension	50	33.3
	Others	20	13.3
	None	40	26.7

Table 2: Patient satisfaction levels post-surgery

Satisfaction Aspect	Excellent (%)	Good (%)	Fair (%)	Poor (%)
Weight Loss	60 (40)	50 (33.3)	30 (20)	10 (6.7)
Improve Comorbidities	45 (30)	55 (36.7)	40 (26.7)	10 (6.7)
Postoperative Care	70 (46.7)	50 (33.3)	20 (13.3)	10 (6.7)

Table 3: Overall satisfaction with surgery outcomes (n = 150)

Level of Satisfaction	Frequency	Percentage
Very satisfied	75	50
Satisfied	50	33.3
Neutral	15	10
Dissatisfied	5	3.3
Very dissatisfied	5	3.3

Questions related to quality of life after surgery are shown in Table 4. Most of the patients (73.3%) felt much better and better regarding their physical health and activity. Social life was also improved in 70 (46.7%) and 50 (33.3%), becoming much better and better than before the surgery.

The challenges facing the participants in this study are listed in Table 5. The main challenge was difficulty adjusting to the new feeding procedure and diet (33.3%), followed by side effects of the surgery (26.7%). Figure 1, a scatterplot with patient satisfaction scores and QoL scores, shows a positive correlation ($r = 0.65$, $p < 0.01$), indicating that higher satisfaction is associated with better QoL outcomes. Regarding the patient's expectations after surgery, half of them, 50% (75 participants), mentioned that the result of the surgery exceeded their expectations, and only 15% (23 participants) were below expectations.

Table 4: Quality of life metrics post-surgery

QoL Aspect	Much Better (%)	Better (%)	Same (%)	Worse (%)	Much Worse (%)
Physical Health	60 (40)	50 (33.3)	30 (20)	5 (3.3)	5 (3.3)
Social Life	70 (46.7)	50 (33.3)	20 (13.3)	5 (3.3)	5 (3.3)
Energy Levels	50 (33.3)	60 (40)	30 (20)	5 (3.3)	5 (3.3)
Emotional Well-Being	Positive 100 (66.7)	Negative 30 (20)	No change 20 (13.3)		

Table 5: Challenges experienced post-surgery

Challenge	Frequency	Percentage (%)
Difficulty adjusting to the new diet	50	33.3
Side effects of surgery	40	26.7
Other feeding problems	30	20
Psychological Effects	25	16.7
Difficulty practicing physical activity	20	13.3
Failure to achieve expected results	15	10

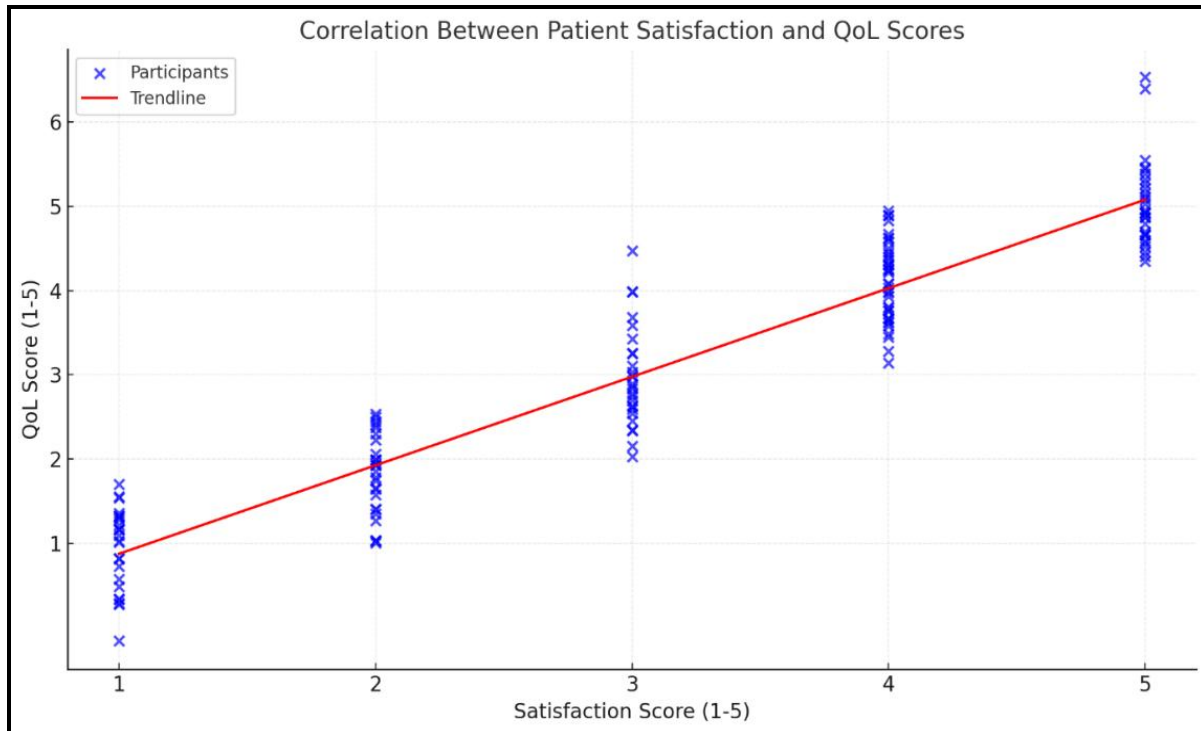


Figure 1: Correlation between patient satisfaction and QoL scores

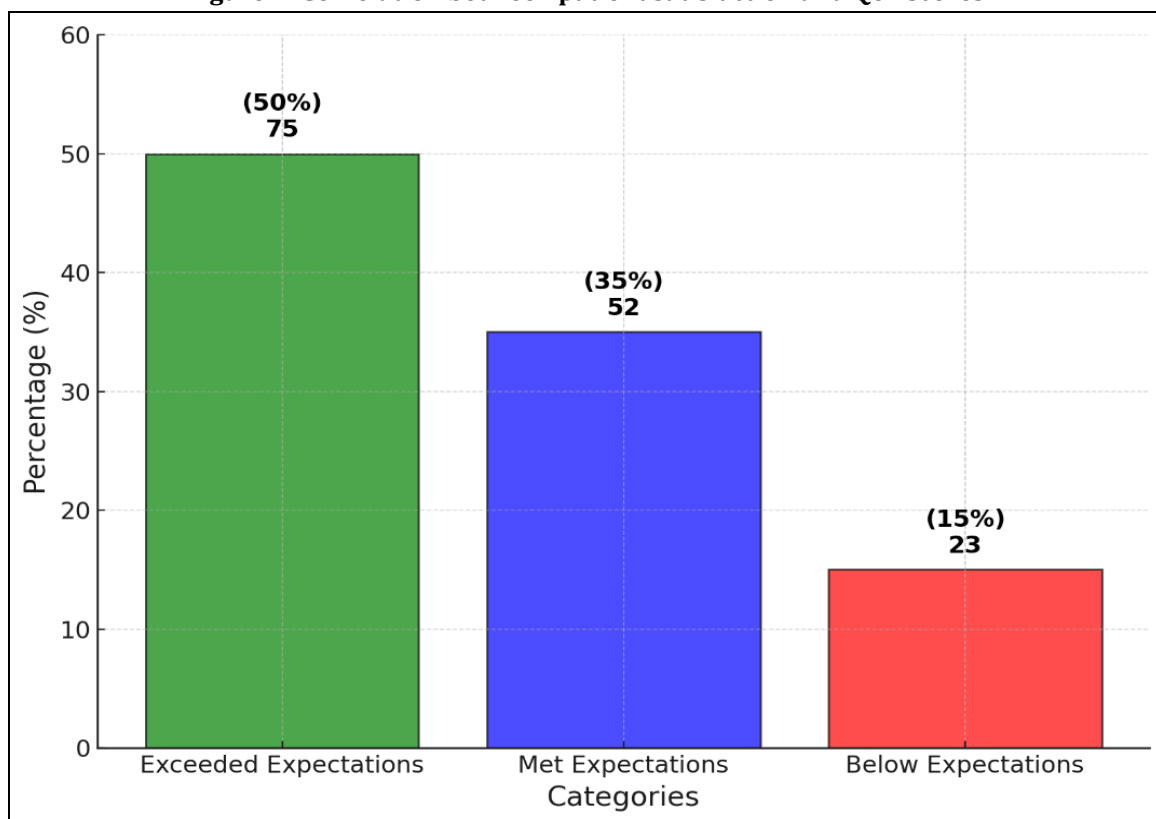


Figure 2: Satisfaction vs. pre-surgery expectations

DISCUSSION

This study evaluated patient satisfaction and quality of life (QoL) following bariatric surgery among 150 participants. The findings indicate a significant improvement in patients' BMI post-surgery, along with high levels of satisfaction and enhanced QoL across multiple domains.

The mean BMI reduction of 15.7 kg reflects the effectiveness of bariatric surgery in achieving substantial weight loss. This aligns with findings from prior studies that highlight bariatric surgery as a gold-standard intervention for obesity management [16]. Gastric sleeve procedures accounted for the majority (60%) of surgeries, a trend consistent with the growing preference for this less invasive approach.

Patients expressed high satisfaction levels with specific aspects of care, particularly postoperative support (46.7% rating it as excellent) and weight loss outcomes (40% excellent). These findings suggest the critical role of tailored postoperative care in enhancing patient satisfaction, as mentioned in a previous study [17]. Importantly, half of the participants reported being "very satisfied" overall, with 80% recommending surgery to others. This reinforces the importance of managing expectations pre-surgery to ensure alignment with postoperative outcomes. Even a study found that while initial improvements in quality of life were observed post-surgery, some patients experienced a decline in satisfaction over a 10-year follow-up period [18].

Quality of life measures showed marked improvements, particularly in physical health, social life, and emotional well-being, with over 70% of patients reporting positive

changes. This underscores the transformative impact of bariatric surgery on patients' holistic well-being, a finding consistent with studies reporting enhanced physical and psychosocial functioning post-surgery [19, 20]. Emotional well-being improved in two-thirds of participants, while negative effects were minimal (20%), suggesting that the psychological benefits of surgery often outweigh potential challenges. Another study observed an increased risk of psychiatric illness presentations and substance abuse in the long-term postoperative period, suggesting the need for ongoing mental health support [21].

Despite these positive outcomes, several challenges were identified. Difficulty adjusting to new dietary habits (33.3%) and side effects of surgery (26.7%) were the most commonly reported issues, even in other studies [22]. However, the side effects and postoperative complications varied between patients according to several factors like age and BMI [23]. These findings emphasize the need for robust preoperative counseling and ongoing nutritional support to help patients navigate lifestyle changes post-surgery. A previous study indicated that a subset of patients reported decision regret five years after surgery, often associated with postoperative complications and unmet weight loss expectations [24]. Regular follow-up and monitoring are advised to enable early detection and management of potential long-term complications.

The correlation analysis revealed a moderately strong positive relationship ($r = 0.65$, $p < 0.01$) between patient satisfaction and QoL, highlighting the entangled nature of these outcomes. Another study found a strong correlation [25]. Patients with exceeded or

met expectations demonstrated higher satisfaction, reinforcing the need for realistic preoperative discussions about expected results. This study has limitations, including its cross-sectional design, which precludes causation, and reliance on self-reported measures, which may introduce bias. Future research should explore long-term outcomes and interventions to address reported challenges, including psychological support and tailored exercise programs.

CONCLUSION

Bariatric surgery significantly improves patient satisfaction and QoL, but addressing postoperative challenges is crucial to maximizing benefits. These findings support the continued use of bariatric surgery as a key intervention for obesity, with attention to patient-centric care and support systems. Further research exploring long-term outcomes and strategies to enhance patient-centric care is recommended.

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Author's Contribution: designed the study, developed the methodology, analyzed data, and drafted the initial manuscript-**TMJT**; developed the research idea, collected data, and drafted the initial manuscript-**AAJM**.

Both authors contributed to critical revision and approved the final version.

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