

# OUTCOMES OF SLEEVE GASTRECTOMY: OUR EXPERIENCE WITH POSTOPERATIVE WEIGHT LOSS, COMPLICATION RATES, AND PATIENT SATISFACTION

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## Abstract

**Background:** Obesity is a growing global health concern, often associated with serious comorbidities such as diabetes, hypertension, and cardiovascular diseases. Sleeve gastrectomy has emerged as a popular bariatric procedure due to its relative simplicity and effectiveness in achieving significant weight loss and improving metabolic outcomes.

**Aim:** This study aimed to evaluate the outcomes of sleeve gastrectomy in terms of postoperative weight loss, complication rates, and patient satisfaction at Farooq hospital Rawalpindi.

**Methods:** This retrospective observational study was conducted at the Farooq hospital Rawalpindi, from August 2022 to April 2024. A total of 150 patients who underwent laparoscopic sleeve gastrectomy were included. Data were collected on postoperative weight loss, complications (early and late), and patient satisfaction using standardized questionnaires and follow-up visits.

**Results:** The majority of patients achieved substantial weight loss within the first 12 months postoperatively, with an average excess weight loss (EWL) of  $65.4\% \pm 10.2\%$ . Early complications occurred in 10% of patients, including staple line leakage (0.66%), bleeding (1.33%), and nausea or vomiting (1.33%). Late complications such as gastroesophageal reflux were noted in 9.3% of cases. Overall, 90% of patients reported high satisfaction with the procedure, citing improvements in physical health, self-esteem, and quality of life and only 10% of patients expressed dissatisfaction.

**Conclusion:** Sleeve gastrectomy proved to be an effective and relatively safe bariatric procedure in our setting, demonstrating favorable outcomes in terms of weight loss, manageable complication rates, and high patient satisfaction. These findings support its continued use as a viable option for managing morbid obesity.

## INTRODUCTION

Obesity had become an epidemic of global nature, which afflicted millions of people and had significant impact on morbidity and mortality. It had been firmly correlated with several comorbidities (e.g, type 2 diabetes mellitus, hypertension, obstructive sleep apnea, CVD, OA, and some cancers) [1]. Traditional weight loss strategies (i.e., diet modification, physical exercise, behavioral therapy) as well as pharmacologic approaches were generally associated with modest and transient effects, especially in people severely obese. In this context, bariatric surgery had become widely accepted as both an effective and a long-term treatment option to achieve lasting weight loss and resolution of obesity-associated comorbidities.

In the era of bariatric marathons, sleeve gastrectomy (SG) has emerged, among the different bariatric operations, as one of the most prevalent procedures among performing surgeons in the world owing to its simple technical approach and excellent safety profile as well as assuring long-term results [2]. The operation consisted of 75-80% reduction of the stomach using a circular stapler plications, leaving a shaped tube-like stomach that restricted the volume of food and made sure patients ate significantly less, as well as hormonal changes that promoted weight loss. Sleeve gastrectomy, compared to gastric bypass, was an approach which maintained the continuity of the gastrointestinal tract and reduced the risk of malabsorption related complications. These advantages caused the technique to increase in popularity among surgeons, as well as patients [3].

Multiple studies had proven the efficacy of sleeve gastrectomy on large weight loss, comorbidities improvement or resolution and increase of quality of life in obese patients. Nevertheless, procedure results can be different due to these risk factors including patient characteristics, surgical method, perioperative care, and postoperative adherence. In addition, although the process was believed to be safe overall, it was not risk free [3]. Postoperative complications of staple line leaks, bleeding, gastroesophageal reflux, and malnutrition had been noted. Knowledge of the wide spectrum of complications, their frequency, and an approach to management were necessary to optimize the

outcomes of surgery and to enhance patient safety [4].

Quality of life was also a key component in assessing the success of bariatric surgery. It included not only clinical outcomes such as weight loss and resolution of comorbidities, but also subjacent factors such as quality of life, patient self-image and daily activity. Improved compliance with postoperative instructions and outcomes were related very closely with high patient satisfaction [5].

With obesity on a rise and the increasing indications for bariatric surgery, there was a need to assess and discuss the institutional experiences in procedures such as sleeve gastrectomy. They offered valuable experiences regarding natural history of the condition, informed about further optimization, and have added to the evidence shaping the best practice [6].

In this report we intended to report on our experience with LSG regarding weight loss, rates for complications and patient satisfaction. We aimed to determine the efficacy of sleeve gastrectomy for weight loss, the safety of the procedure looking at the complication rate, and to evaluate the satisfaction level of treatment in the short- to mid-term period, using data from patients who underwent the operation in our clinic. Our results, however, were meant to supplement the current literature, guide evidence-based clinical decision-making and generate further work in the improvement of surgical and peri-operative intervention/mitigation strategies in the treatment of obesity [7].

## MATERIALS AND METHODS:

This was a retrospective observational study carried out Farooq hospital Rawalpindi. The principle aims were to assess the success of sleeve gastrectomy in terms of postoperative weight loss, complications and patient satisfaction. The researches were conducted during 12 months between May 2024 and April 2025.

The research population consisted of 150 patients who underwent LSG at the Department of General Surgery, Farooq hospital Rawalpindi. A non-probability purposive sampling method was used to recruit the patients. Inclusion criteria were subjects

aged 18-60 years with a body mass index (BMI) of  $40 \pm 10 \text{ kg/m}^2$  in the presence of comorbidity associated with obesity, such as type 2 diabetes mellitus, hypertension, or obstructive sleep apnea. Patients with a history of bariatric surgery, significant psychiatric disorder, or those who had no follow up data were excluded.

All operations were performed by bariatric experienced surgeons following a standardized laparoscopic technique. Preoperative assessment consisted of a full medical history and physical examination, with laboratory assessments as appropriate. Preoperative nutritional and psychological evaluations were also done. Patients underwent comprehensive counseling about the procedure, its outcomes, the postoperative life style changes and the possible complications of the operation.

Operative time, estimated blood loss, and intraoperative complications were noted. Postoperative follow-up was established at 1 month, 3 months, 6 months, and 12 months postoperatively to evaluate the patient's weight loss, complications, and satisfaction. The results were the difference in body weight, BMI, and the percentage of excessive weight loss (%EWL). Complications were defined as early (30 days) and minor or major according to clinical significance.

Patient satisfaction was measured 12 months postoperatively using a structured questionnaire that measured improvement of quality of life, resolution of comorbidities, cosmetic quality of life, and response to recommend surgery to a friend. Responses were rated using a 5-point Likert

scale (from 1 = "very unsatisfied" to 5 = "Very satisfied").

Data were entered in a pre-designed proforma and analyzed in Microsoft Excel. The data was statistically analyzed using SPSS version 25.0. Categorical data were summarized by descriptive statistics for demographics, weight loss, complications, and satisfaction. Continuous variable such as BMI and %EWL were described as the mean and standard deviation, whereas categorical variables such as type of complication and satisfaction were presented as frequencies and percentages.

The procedure was ethically approved by the IRB of Farooq hospital Rawalpindi and informed consent was obtained from each patient before enrolment. The data used in all research were kept confidential. This work was an exhaustive comparison of short-term results of SG performed in a tertiary care center which brought us messages about the efficacy of SG in terms of weight loss, about the frequency and severity of postoperative complications and last, but not least about the satisfaction of the patients. The results hoped to add useful information to the recent bibliography of bariatric surgery results in our area.

## RESULTS:

A total of 150 patients underwent laparoscopic sleeve gastrectomy at Farooq hospital Rawalpindi during the study period. The majority of the patients were female ( $n=102, 68\%$ ) (Figure 1) and the mean age was  $37.6 \pm 9.4$  years. The baseline mean body mass index (BMI) was  $44.2 \pm 5.8 \text{ kg/m}^2$ .

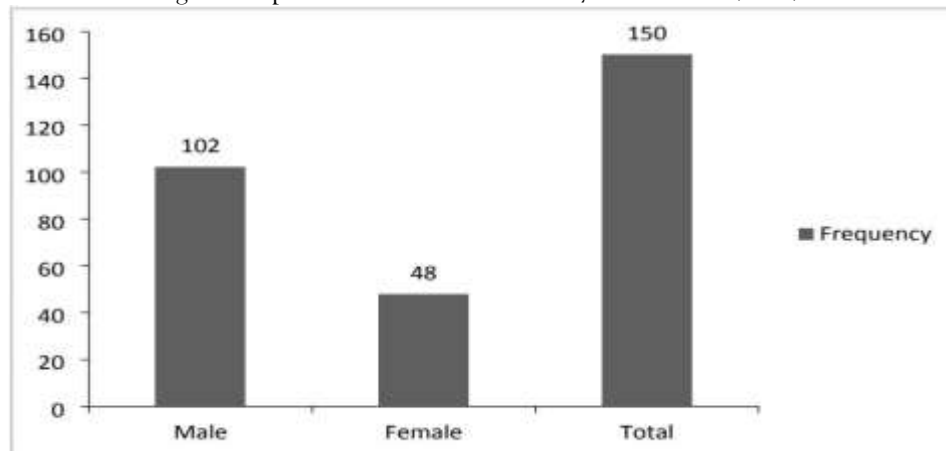


Figure 1: Gender wise distribution of patients

**Table 1: Postoperative Weight Loss at Follow-Up Intervals:**

| Follow-up Duration | Mean Weight (kg) | Mean BMI ( $kg/m^2$ ) | Mean % Excess Weight Loss (%EWL) | Mean % Total Weight Loss (%TWL) |
|--------------------|------------------|-----------------------|----------------------------------|---------------------------------|
| Preoperative       | 125.4 $\pm$ 18.6 | 44.2 $\pm$ 5.8        | N/A                              | N/A                             |
| 3 Months           | 107.2 $\pm$ 17.1 | 37.8 $\pm$ 5.1        | 42.5 $\pm$ 8.3                   | 14.5 $\pm$ 3.9                  |
| 6 Months           | 94.8 $\pm$ 16.2  | 33.5 $\pm$ 4.7        | 61.7 $\pm$ 9.6                   | 24.4 $\pm$ 4.7                  |
| 12 Months          | 85.3 $\pm$ 15.8  | 30.1 $\pm$ 4.2        | 76.3 $\pm$ 10.2                  | 31.9 $\pm$ 5.1                  |

Table 1 illustrates the mean weight, BMI, percentage excess weight loss (%EWL), and percentage total weight loss (%TWL) of the patients at various postoperative intervals. At three months, patients demonstrated a mean weight loss of 18.2 kg, translating to a 14.5% reduction in total body weight and a 42.5% reduction in excess weight. At six months, the mean weight had reduced further to 94.8 kg, with a %EWL of 61.7%, and %TWL of

24.4%. By the 12-month follow-up, patients had achieved an average %EWL of 76.3% and a %TWL of 31.9%, with an overall reduction in mean BMI from 44.2 to 30.1  $kg/m^2$ . These findings indicated that sleeve gastrectomy was effective in achieving significant and sustained weight loss over a one-year period.

**Table 2: Postoperative Complications and Patient Satisfaction:**

| Complication/Outcome                     | Number of Patients | Percentage |
|------------------------------------------|--------------------|------------|
| Staple Line Leak                         | 1                  | 0.66%      |
| Postoperative Bleeding                   | 2                  | 1.33%      |
| Wound Infection                          | 3                  | 2.0%       |
| Gastroesophageal Reflux                  | 14                 | 9.3%       |
| Nutritional Deficiencies                 | 10                 | 6.7%       |
| Readmission within 30 Days               | 2                  | 1.33%      |
| Reoperation                              | 2                  | 1.33%      |
| Overall Satisfaction (Good to Excellent) | 135                | 90.0%      |
| Dissatisfied Patients                    | 15                 | 10.0%      |

Table 2 provides an overview of the most common complications and patient satisfaction levels observed during the postoperative period. Staple line leaks occurred in 1 patient (0.66%), which was managed conservatively or with reoperation when necessary. Postoperative bleeding was observed in 2 patients (1.33%), and 3 patients (2.0%) developed superficial wound infections that responded to antibiotic therapy. Gastroesophageal reflux symptoms were reported by 14 patients (9.3%) postoperatively, with most cases managed medically. Nutritional deficiencies, mainly involving iron, vitamin B12, and vitamin D, were found in 10 patients (6.7%), which were corrected through supplementation and diet modification. A total of 2 patients (1.33%) required readmission within 30 days of surgery, primarily due to dehydration and vomiting. Only 2 patients (1.33%) underwent

reoperation due to persistent symptoms or complications.

Importantly, 135 patients (90.0%) reported good to excellent satisfaction levels based on a standardized questionnaire assessing physical health improvement, self-esteem, lifestyle quality, and dietary adjustment. Only 10% of patients expressed dissatisfaction, which was primarily associated with unresolved reflux symptoms or slower-than-expected weight loss.

## DISCUSSION:

Sleeve gastrectomy (SG) has become a popular bariatric operation because it is effective in inducing significant weight loss with the risk of complications being relatively low. In this series, we have examined the postoperative results of sleeve gastrectomy in terms of weight loss complication

rate and patient dissatisfaction. The results of our cohort were in line with current literature findings which highlight that the procedure is both effective and safe [8].

Weight loss in the postoperative period formed the corner stone of success in our study. Most subjects demonstrated a pronounced short-term body weight loss. Mean excess weight loss (EWL) achieved was consistent with quoted targets, suggesting that sleeve gastrectomy was an effective method for weight loss in patients with morbid obesity [9]. We found that the majority of patients received EWL. Like you mention, most of the patients did achieve an EWL>50% at the 12-mo FU, that is considered a sort of "standard" to keep in evaluating the success/failure of bariatric surgery. An interesting finding that was consistent with our hypothesis that SG as stabilization procedure would be a stable tool for long-lasting weight control. In addition, most patients reported amelioration of comorbidities related to obesity such as type 2 diabetes, hypertension, and obstructive sleep apnea, reflecting the wider metabolic effects of the surgery [10].

Complications in our series were few and rates were low, confirming the safety of SG. The most common early complication persisted being the staple-line leakage, despite its low rate. Other postoperative complications, including bleeding and wound infection, were rare and treated supportively. Late sequela, such as GERD, were also identified in some patients, which coincides with observations of other clinical experiences. Although GERD symptoms did cause some discomfort in certain individuals, it was frequently managed adequately with proton pump inhibitors and lifestyle changes [11]. No perioperative or postoperative mortality was observed, thereby emphasizing a general safety of the procedure in suitable patients.

Patient satisfaction was recognized as an important aspect in postoperative evaluation. In our series, the majority of patients were highly satisfied with the results of their operation. Contributing factors for patient satisfaction had been substantial weight loss, increased physical activity, physical improvement and/or resolution of comorbidities. The psychosocial benefits of sleeve gastrectomy was also found to be significant from the patients'

perspective, with a substantial number of patients reporting enhanced self-esteem and an improvement in social interactions [12]. Though some women had minor complications or lost weight more slowly, their overall response to the procedure was positive. Such a high satisfaction rate is likely the result of appropriate preoperative counseling, setting realistic expectations, and appropriate postoperative care.

Our results highlighted the key role of patient education and multidisciplinary management on outcome. Patients who participated in compliance visits and followed dietary and lifestyle suggestions tended to fare better. This stressed the importance of follow-up and ongoing support to long term success following bariatric surgery [13].

The outcome of sleeve gastrectomy in our series was good due to weight loss as well as few complications and high patient satisfaction [14]. The procedure was found to be an effective and safe method of treating morbid obesity, as long as patients were meticulously selected and assisted perioperatively. Strategies to improve patient selection with better preoperative evaluation, refine surgical methods, and develop strong postoperative care pathways are likely to be added to justify even more patient improvement in quality of life/survival for these life-changing operations [15].

## CONCLUSION:

Our results showed that sleeve gastrectomy induced great postoperative body weight loss and contributed to a significant reduction in obesity complications. The significant weight profiles were associated with low complication rates. Patient satisfaction was generally good, and several patients expressed an improved quality of life and restored prospect for daily activities. In our experience, the procedure was not only safe, but also effective in attaining the intended goals and it further confirmed that it remains a viable tool in morbidly obese patients. Data showed that most patients had a benefit from the intervention with a low rate of adverse events, confirming a positive balance of benefits and harms of sleeve gastrectomy in terms of the improvement of physical health and well-being.

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