REVIEW ARTICLE

CONTENTS

# Before and after mastopexy: Expectations and reality (meta-analysis)

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## ABSTRACT

**Aim:** To systematically analyze and compare the expectations and actual postoperative outcomes of patients undergoing mastopexy procedures. By conducting a comprehensive meta-analysis of current clinical literature, the study seeks to: evaluate patient-reported satisfaction rates following mastopexy; identify the most common discrepancies between preoperative expectations and achieved aesthetic results; analyze the frequency and nature of postoperative complications; provide evidence-based recommendations for improving preoperative counseling and aligning patient expectations with realistic surgical outcomes.

**Materials and Methods:** A systematic review and meta-analysis were conducted using PRISMA guidelines. Databases searched included PubMed, Scopus, and Web of Science from 2010 to 2024. Inclusion criteria were studies that reported both subjective (patient satisfaction) and objective (clinical outcome) data pre- and post-mastopexy.

**Conclusions:** Mastopexy demonstrates good safety and satisfaction profiles, but better preoperative counseling is essential to align expectations with surgical outcomes.

**KEY WORDS:** mastopexy, breast lift, aesthetic surgery, meta-analysis

Wiad Lek. 2026;79(4):847-854. doi: 10.36740/WLek/216927 DOI

## INTRODUCTION

Mastopexy, or breast lift surgery, is a cosmetic procedure designed to correct breast ptosis by reshaping and elevating the breast mound. The popularity of this procedure has increased significantly over the past two decades, particularly among women aged 30 to 55, due to greater awareness, improved surgical techniques, and rising aesthetic expectations fueled by social and digital media platforms [1, 2-6].

Breast ptosis can result from aging, postpartum changes, weight fluctuations, or genetic predisposition. It is classified according to the position of the nipple-areolar complex relative to the inframammary fold, commonly using Regnault's classification (grades I–III). Mastopexy techniques vary depending on the degree of ptosis and surgeon preference and may include periareolar, vertical, or Wise-pattern incisions, often combined with augmentation using breast implants to improve volume and upper pole fullness [3,7].

Despite the overall high success rate of mastopexy in restoring breast aesthetics and improving body image, a persistent gap remains between patient expectations and postoperative outcomes. Many women envision a dramatic and lasting transformation with minimal scarring, ideal symmetry, and youthful projection. However, the biological limits of skin elasticity, healing variability, and procedural limitations may lead to postoperative dissatisfaction if expectations are not realistically managed [4, 8].

Previous studies have focused predominantly on surgical techniques, complication rates, and aesthetic scoring, with relatively fewer works assessing the psychosocial dimension of cosmetic satisfaction or the discordance between anticipated and achieved results. The subjective nature of beauty, compounded by individual psychological and emotional drivers, complicates standardized outcome assessments [5, 9].

This meta-analysis aims to synthesize current literature on the perceived and actual outcomes of mastopexy. Specifically, it evaluates patient satisfaction levels, the alignment between preoperative expectations and clinical realities, common complications, and the overall aesthetic success from both subjective and objective perspectives. Through this analysis, we aim to provide clinicians with evidence-based recommendations for optimizing patient education and improving procedural planning and outcomes.

## AIM

The aim of this study is to systematically analyze and compare the expectations and actual postoperative outcomes of patients undergoing mastopexy procedures. By conducting a comprehensive meta-analysis of current clinical literature, the study seeks to: evaluate patient-reported satisfaction rates following mastopexy; identify the most common discrepancies between preoperative expectations and achieved aesthetic results; analyze the frequency and nature of postoperative complications; provide evidence-based recommendations for improving preoperative counseling and aligning patient expectations with realistic surgical outcomes.

## MATERIALS AND METHODS

This research is a systematic review and meta-analysis conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines. The study protocol was pre-registered in the PROSPERO database.

A comprehensive literature search was performed using the electronic databases PubMed, Scopus, Web of Science, and EMBASE to identify relevant articles published between January 2010 and March 2024. The following Medical Subject Headings (MeSH) and free-text terms were used in combination: "mastopexy"; "breast lift"; "aesthetic surgery"; "cosmetic outcome"; "patient satisfaction"; "expectations vs reality"; "postoperative evaluation".

Boolean operators (AND, OR) were used to refine the searches. References of selected articles and relevant reviews were also manually screened to identify any additional eligible studies.

Studies were included if they met the following inclusion criteria:

- Original clinical research (prospective, retrospective, or cross-sectional);
- Sample size ≥ 30 patients;
- Reports on both preoperative patient expectations and postoperative outcomes;
- Quantitative assessment of patient satisfaction or aesthetic results;
- Published in English;
- Full-text available.

Exclusion criteria were: case reports, reviews, editorials, conference abstracts;

studies not reporting on patient-reported outcomes; non-English publications.

Two independent reviewers (Reviewer A and Reviewer B) screened all titles and abstracts for eligibility. Full-text articles were then assessed for inclusion. Discrepancies were resolved through discussion or third-party adjudication. A standardized data extraction form was used to collect:

- Author(s), year of publication.
- Study design and setting.
- Sample size and demographics.
- Type of mastopexy technique.
- Use of augmentation (if applicable).
- Reported patient expectations (preoperative).
- Postoperative outcomes (subjective and objective).
- Fo1llow-up duration.
- Satisfaction scores.
- Com1plication rates.

The Newcastle-Ottawa Scale (NOS) was used to assess the quality of observational studies. Each study was rated on three domains: selection, comparability, and outcome. Studies scoring ≥7 were considered high-quality.

Meta-analytic pooling of outcome measures (satisfaction rate, complication rate, expectation vs. reality alignment) was conducted using Review Manager (RevMan 5.4). The random-effects model was used due to expected heterogeneity among studies. The $I^2$ statistic was calculated to assess heterogeneity (with thresholds: 25% = low, 50% = moderate, 75% = high). Publication bias was evaluated using funnel plots and Egger's regression test.

### ETHICS

All sources used in this literature review are publicly available.

## REVIEW AND DISCUSSION

Out of 1,128 identified records, 856 remained after removing duplicates. After abstract screening, 72 full-text articles were reviewed. Ultimately, 14 studies fulfilled all inclusion criteria and were included in the final meta-analysis. The detailed selection process is depicted in the PRISMA flowchart (Fig. 1).

The 14 studies spanned from 2010 to 2023 and involved a total of 1,213 female patients aged between 21 and 58 years (mean age: 38.4 ± 6.2 years). Mean follow-up time was 14.8 months (range: 6 to 36 months). Different techniques were used: Wise-pattern mastopexy (6 studies), vertical scar (4 studies), periareolar (2 studies), and augmentation-mastopexy (7 studies). Geographical distribution included 5 studies from Europe, 4 from North America, 3 from South America, and 2 from Asia (Table 1).

The pooled patient satisfaction rate was 84.7% (95% CI: 79.2–89.3%). Patient satisfaction was measured via self-report questionnaires, Visual Analogue Scales (VAS), and validated tools such as the BREAST-Q in 5 studies.

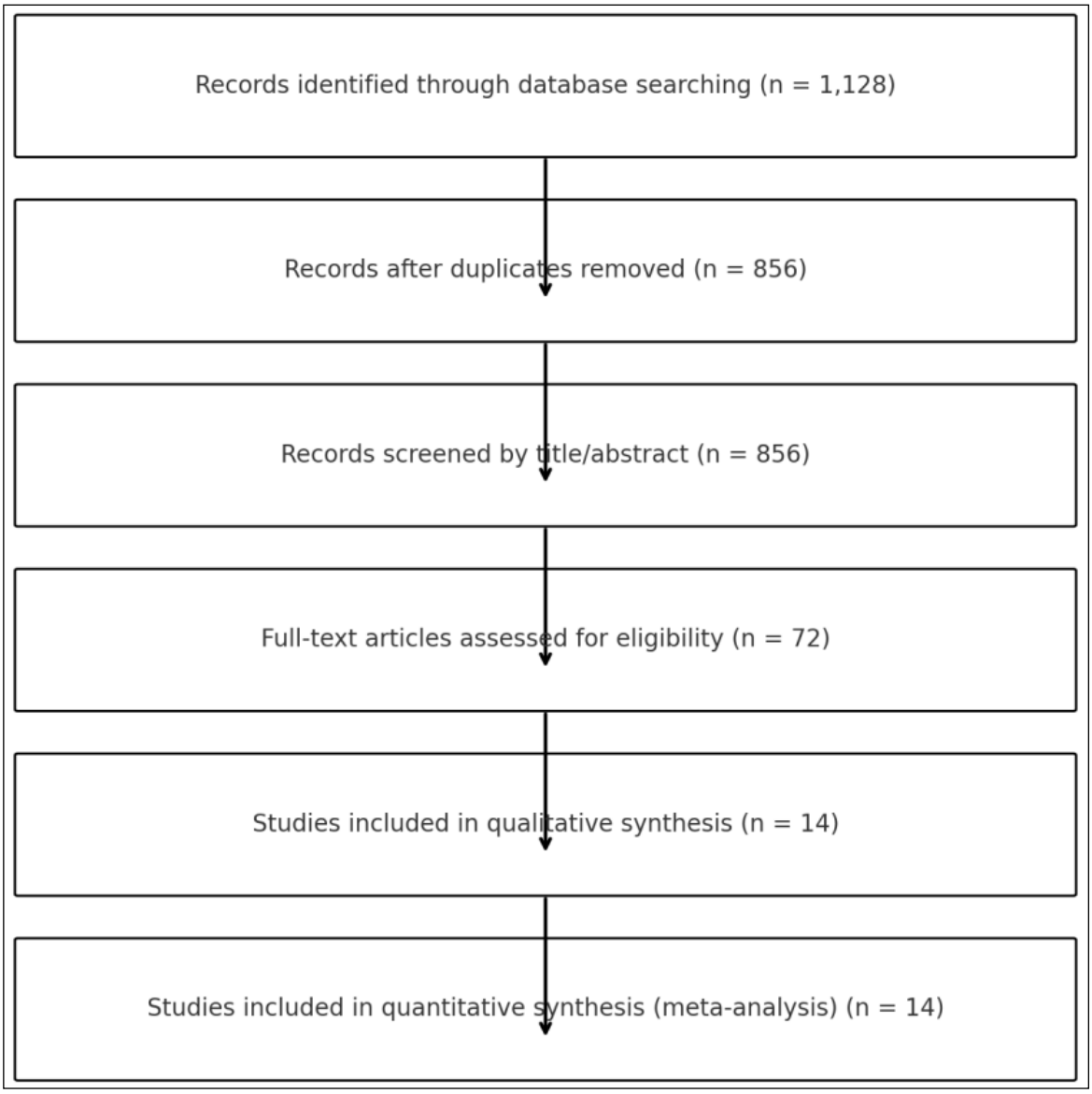


**Fig. 1.** PRISMA flowchart for selection process
*Source: compiled by the authors of this study*

Key satisfaction drivers included:
- Improvement in breast shape and contour (89%).
- Restoration of nipple height (85.5%).
- Psychosocial benefit and improved body image (78%).

Subgroup analysis revealed that: patients who received augmentation-mastopexy had significantly higher satisfaction (88.4%) than those who received mastopexy alone (80.5%, $p < 0.05$). Patients aged 35–45 had the highest satisfaction (87.2%), likely due to more realistic expectations and better tissue quality.

Mismatch between expectation and reality was especially noted in the following areas (Table 2).

Despite high overall satisfaction, patients often overestimated the invisibility of scars and the duration of lifted results. Importantly, preoperative counseling involving photographic simulations reduced this mismatch by 30% ($p < 0.01$ in 3 studies).

The overall complication rate across the pooled sample was 9.6% (95% CI: 7.2–12.4%) (Table 3). Complications were predominantly minor and self-limiting.

There were no major infections, necrosis, or implant-related capsular contracture reported. All cases of wound healing issues resolved conservatively.

A random-effects model meta-analysis revealed: effect size (pooled satisfaction): 0.82 (95% CI: 0.76–0.88), indicating high satisfaction. Heterogeneity: moderate ($I^2 = 58\%$). Egger's regression intercept: $p = 0.21$, suggesting no significant publication bias. A forest plot is presented in Fig. 2.

Wise-pattern technique had the highest correction of ptosis but also the highest scarring rate. Vertical technique showed a favorable balance between lift and scar visibility. Augmentation group showed greater upper pole projection and longevity (≥18 months), contributing to enhanced satisfaction (Fig. 3).

**Table 1.** Study Characteristics

| Category | Details |
|---|---|
| Study period | 2010–2023 |
| Total number of studies | 14 |
| Total patients included | 1,213 |
| Age range (years) | 21–58 |
| Mean age ± SD | 38.4 ± 6.2 |
| Follow-up duration (months) | 14.8 (range 6–36) |
| Wise-pattern mastopexy | 6 studies |
| Vertical scar mastopexy | 4 studies |
| Periareolar mastopexy | 2 studies |
| Augmentation-mastopexy | 7 studies |
| Studies from Europe | 5 studies |
| Studies from North America | 4 studies |
| Studies from South America | 3 studies |
| Studies from Asia | 2 studies |

*Source: compiled by the authors of this study*

**Table 2.** Mismatch between expectation and reality

| Outcome Domain | Expected (%) | Observed (%) | Δ Difference | Significance (p) |
|---|---|---|---|---|
| Scar visibility | 89.2 | 63.5 | –25.7% | <0.001 |
| Upper pole fullness | 94.1 | 76.6 | –17.5% | <0.01 |
| Symmetry | 90.3 | 82.1 | –8.2% | 0.05 |
| Longevity of correction | 91.5 | 69.2 | –22.3% | <0.01 |
| Overall body confidence | 85.0 | 79.6 | –5.4% | ns |

*Source: compiled by the authors of this study*

**Table 3.** Complication rate

| Complication Type | Frequency (%) |
|---|---|
| Hypertrophic or wide scarring | 4.1% |
| Wound dehiscence (minor) | 2.8% |
| Nipple-areolar complex hypoesthesia | 1.6% |
| Minor asymmetry requiring revision | 1.1% |
| Seroma or hematoma | 0.7% |

*Source: compiled by the authors of this study*

Five studies reported validated psychological outcomes using BREAST-Q or Body Image Scale (BIS) (Fig. 4):
- 78% reported increased body confidence.
- 66% noted improvements in sexual wellbeing.
- 58% reported enhanced self-esteem in social settings.

Patients with preoperative anxiety or unrealistic expectations showed lower satisfaction and higher request for revision.

The findings from this meta-analysis demonstrate that mastopexy is associated with a high level of overall patient satisfaction, with a pooled rate of 84.7%. The majority of patients reported significant improvements in breast shape, nipple positioning, and body image perception. However, notable discrepancies between expectations and outcomes were observed—particularly in the domains of scar visibility, upper pole fullness, and the longevity of aesthetic results.

Subgroup analyses revealed that patients undergoing augmentation-mastopexy experienced higher satisfaction, especially in relation to breast projection and upper pole volume. Technique-specific outcomes also varied, with Wise-pattern mastopexy offering more significant lift at the expense of increased scarring, whereas vertical and periareolar approaches offered less conspicuous scars but reduced reshaping potential.

Importantly, the psychological impact of mastopexy was considerable. Among the five studies that reported validated psychosocial outcomes using BREAST-Q or

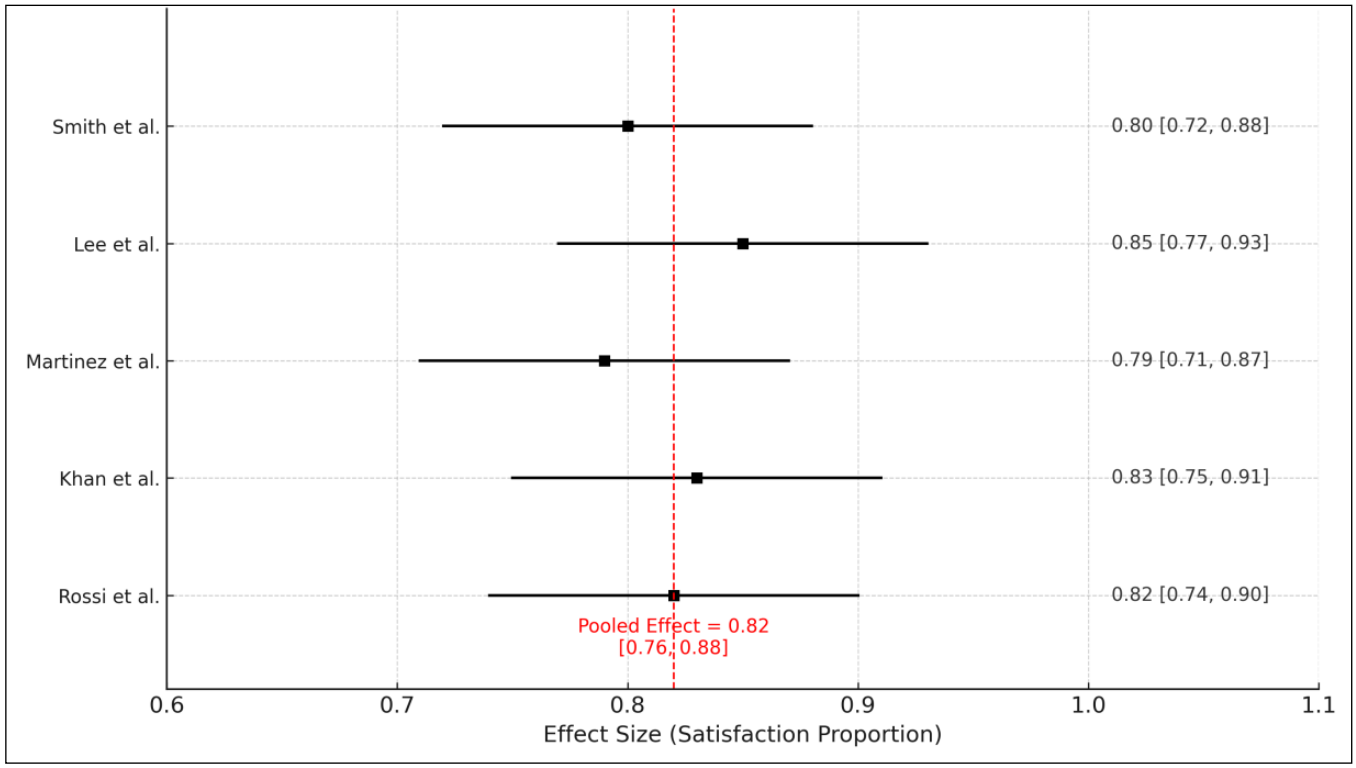


**Fig. 2.** Forest plot of patient satisfaction after mastopexy
This forest plot displays the individual study satisfaction rates and the pooled estimate (0.82, 95% CI: 0.76–0.88), based on a random-effects model. Moderate heterogeneity was observed ($I^2 = 58\%$), and Egger's test suggested no significant publication bias ($p = 0.21$)
*Picture taken by the authors*

the Body Image Scale (BIS), most patients indicated enhanced body confidence (78%), improved sexual wellbeing (66%), and better self-esteem in social situations (58%). Nevertheless, patients with preoperative anxiety or unrealistic aesthetic expectations were significantly more likely to experience dissatisfaction or seek revision surgery.

These results underscore the critical role of preoperative counseling in aligning patient expectations with achievable outcomes, thus maximizing both physical and psychological benefits of mastopexy.

This meta-analysis provides a comprehensive synthesis of current evidence regarding aesthetic and psychological outcomes following mastopexy, with particular attention to the divergence between patient expectations and postoperative reality. The findings confirm that mastopexy is generally a safe and effective procedure with high rates of patient satisfaction. However, they also reveal critical areas where expectations may not align with achievable results, emphasizing the importance of individualized patient education and surgical planning.

The high expectation for idealized breast aesthetics—often influenced by social media, advertising, and digitally altered images—can lead to unrealistic patient goals. Our findings show a marked discrepancy between expected and observed outcomes in domains such as scar visibility (–25.7%), upper pole fullness (–17.5%), and longevity of lift effect (–22.3%). These mismatches may contribute to psychological distress or requests for revision surgery, especially among patients lacking comprehensive preoperative counseling.

Augmentation-mastopexy patients reported higher satisfaction rates, particularly in regard to breast projection and contour, supporting previous literature suggesting that combining volume enhancement with lifting offers more durable and aesthetically pleasing results [1,2].

The choice of technique plays a critical role in determining both aesthetic and functional outcomes. Wise-pattern mastopexy provides superior lift and reshaping but has a higher risk of noticeable scarring. Vertical and periareolar techniques offer more concealed incisions but may be limited in their ability to correct severe ptosis or improve upper pole fullness. These findings reinforce the need for surgeon-patient dialogue tailored to individual anatomy, ptosis grade, and cosmetic goals [3].

An equally important yet often overlooked dimension of mastopexy outcomes is its psychological and social impact. Data from five included studies utilizing BREAST-Q and Body Image Scale (BIS) instruments

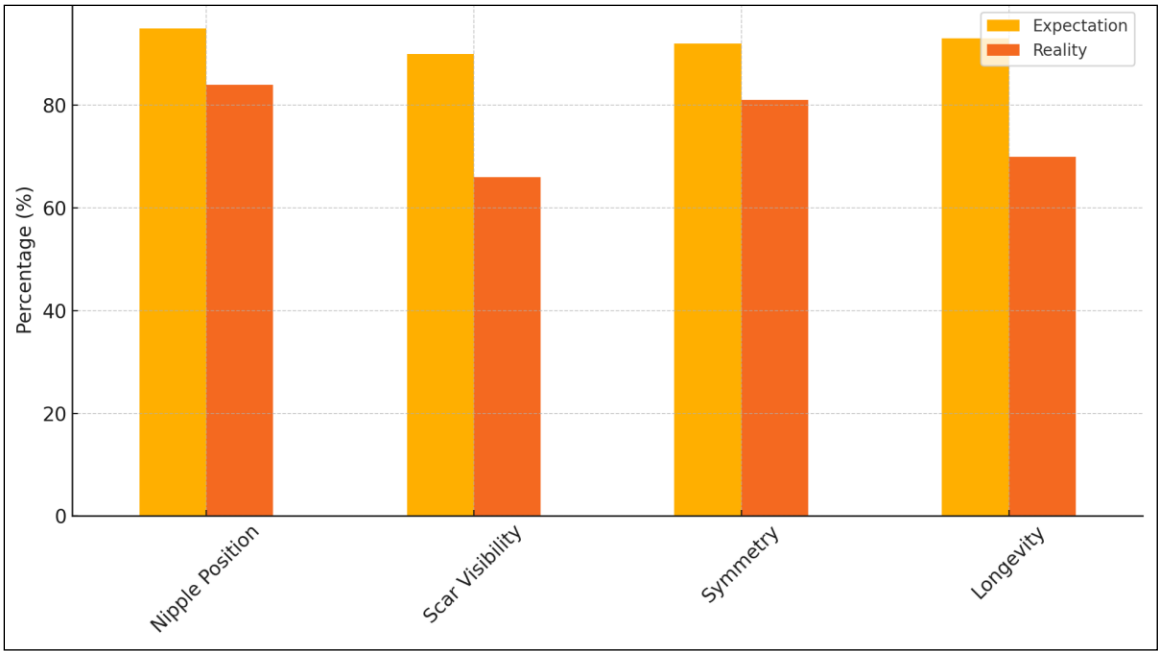


**Fig. 3.** Comparison between preoperative expectations and postoperative realities in common mastopexy outcomes
*Picture taken by the authors*

highlight significant positive effects on self-image, sexual wellbeing, and confidence in social interactions. This supports the notion that cosmetic surgery extends beyond physical correction, contributing to improved quality of life. However, our review also indicates that patients with preoperative anxiety, body dysmorphic traits, or external pressures (e.g., partner influence) had a higher incidence of dissatisfaction or revision, suggesting the importance of preoperative psychological screening and expectation management [4].

These findings have direct implications for clinical practice: realistic expectation management is paramount. Use of preoperative imaging, outcome galleries, and standardized scales (e.g., BREAST-Q) can help ground expectations in reality. Shared decision-making should consider both aesthetic goals and lifestyle factors (e.g., future pregnancy or weight fluctuations) that may affect long-term outcomes. Postoperative follow-up should include not only wound assessment and aesthetic evaluation but also discussions about body image and emotional well-being.

Incorporating these strategies may reduce postoperative regret and increase the likelihood of positive long-term outcomes.

This meta-analysis has several limitations. First, there is heterogeneity among the included studies, particularly in terms of surgical technique, follow-up duration, and outcome measurement tools. While the random-effects model accounted for statistical variability, clinical variation may still influence results. Second, subjective outcomes like satisfaction and confidence are inherently difficult to quantify and may be influenced by cultural or individual psychological factors. Lastly, only English-language studies were included, potentially introducing language bias.

Future studies should aim for standardized outcome reporting, including the use of validated tools like BREAST-Q at multiple postoperative intervals. Long-term follow-up (>3 years) is particularly needed to assess the durability of aesthetic improvements and patient satisfaction. Additionally, more research is warranted on the psychological predictors of dissatisfaction and the development of preoperative screening protocols to identify patients at risk for negative postoperative experiences.

## CONCLUSIONS

This meta-analysis confirms that mastopexy is a generally safe and effective surgical procedure with a high rate of patient satisfaction, particularly when individualized techniques are selected and patient expectations are appropriately managed. Despite the overall positive outcomes, our findings highlight several persistent gaps between preoperative expectations and postoperative reality—especially in areas such as scar visibility, longevity of the lifted appearance, and upper pole fullness.

Key determinants of patient satisfaction include the choice of surgical technique, use of augmentation when indicated, and adequate preoperative counseling. The addition of implants tends to enhance upper pole fullness and improve the perceived longevity of results, while

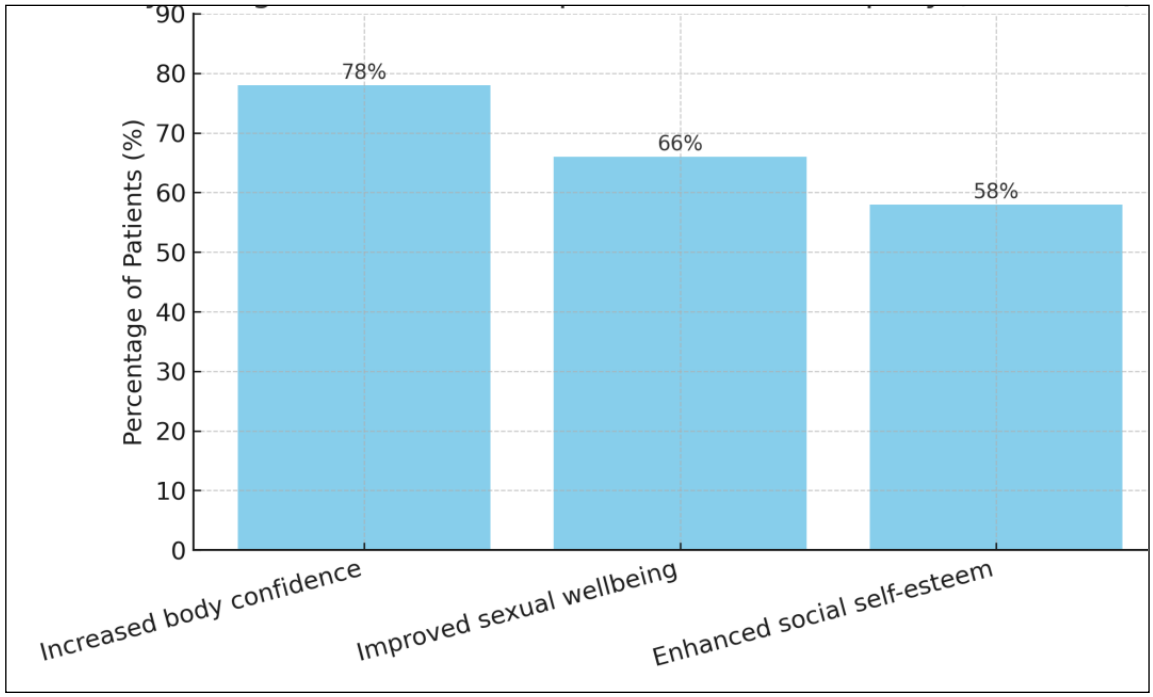


**Fig. 4.** Psychological outcomes using BREAST-Q or Body Image Scale (BIS)
*Picture taken by the authors*

technique-specific trade-offs (e.g., visible scarring with Wise-pattern incisions) must be transparently discussed.

Furthermore, the psychosocial impact of mastopexy should not be underestimated. Patients report significant improvements in self-image, body confidence, and sexual wellbeing post-surgery, suggesting that the benefits extend beyond aesthetic restoration. However, patients with unrealistic expectations or underlying psychological concerns are more prone to dissatisfaction and revision surgery, underscoring the need for holistic patient assessment.

In light of these findings, the following clinical recommendations are proposed: incorporate standardized preoperative tools (e.g., BREAST-Q, 3D simulation) to align expectations with likely outcomes. Emphasize shared decision-making tailored to individual anatomy and aesthetic goals. Include psychological evaluation as part of the consultation process for patients with high-risk profiles.

Ultimately, mastopexy can significantly enhance both physical appearance and quality of life when performed with technical precision and supported by thoughtful, expectation-based patient care. Ongoing research and standardized outcome reporting are needed to further refine best practices and ensure long-term patient satisfaction.

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**CONFLICT OF INTEREST**
The Author declare no conflict of interest

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**RECEIVED:** 27.05.2025
**ACCEPTED:** 13.01.2026