Quality of Life and Self-Esteem After Breast Asymmetry Surgery

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Background: Surgical correction of breast asymmetry involves not only an acceptable aesthetic result but also physical, social, and psychological consequences on the patient’s quality of life.

Objective: The authors evaluated the impact of breast asymmetry surgical treatment on self-esteem and health-related quality of life in a group of 35 patients.

Methods: Patients completed the Medical Outcomes Study 36-Item Short Form Health Survey (SF-36), a generic health evaluation tool that covers quality of life across 8 dimensions, and the Rosenberg Self-Esteem Scale, a specific tool for evaluating self-esteem. Both were applied before and at 3 and 6 months after surgery. Friedman two-way analysis of variance and the Tukey test were used to compare the differences between the scores and the different time periods.

Results: There was a progressive improvement in all dimensions of the SF-36 that was statistically significant for 4 dimensions and self-esteem. Statistically significant differences were found for “emotional role” and “self-esteem” at 3 months after surgery and for “pain,” “vitality,” and “mental health” at 6 months after surgery.

Conclusions: The results suggest that breast asymmetry surgical treatment provides an improvement in health-related quality of life and self-esteem. (Aesthetic Surg J 2007;27:616–621.)

Distortions of breast size and shape can have harmful physical and emotional effects for women.1 Few women have perfectly symmetrical breasts. However, severe developmental breast asymmetry, which differs from bilateral hypoplasia/hypertrophy and asymmetry caused by total or partial mastectomy, can be a severe social and aesthetic handicap.2 Plastic surgery of the breast focuses on an aesthetically acceptable final result and a complication-free postoperative period. However, such surgery also involves physical, social, and psychological consequences, usually summed up as “quality of life.”3

The use of an instrument to measure patient quality of life after breast surgery should illustrate as objectively as possible the impact of the operation and accurately reflect her opinion, with no influence from the clinical team. Although there is no consensus definition of quality of life, the term is generally considered to include several important domains: functional status, disease- and treatment-related symptoms, and psychological and social functioning.4 Each aspect of quality of life can have different qualitative and quantitative characteristics, as well as broadly variable effects when compared with different diseases. The aim of this study was to evaluate prospectively the quality of life in patients before and after undergoing surgery for significant breast asymmetry, with the Medical Outcomes Study 36-Item Short Form Health Survey (SF-36) questionnaire and the Rosenberg Self-Esteem Scale.

Patients and Methods

Thirty-five patients with breast asymmetry in which the difference between the suprasternal notch to the nipple on each side was ≥2 cm and the difference in the distance of the nipple to the mean anterior line or the midpoint of the inframammary crease was ≥1 cm were selected for evaluation in a prospective study before and after breast surgery. Participating patients ranged from 16 to 50 years old (mean, 24.4 years), with primary etiologic breast asymmetry and full development of secondary sexual characteristics, with menarche longer than 2 years. The study protocol was approved by the Ethical Committee, and all patients signed an informed consent form.

The patients were classified into 6 deformity types:5 8 patients with unilateral hypoplasia (22.9%), 5 with asymmetrical hypoplasia (14.3%), 5 with unilateral hyperplasia (14.3%), 11 with asymmetrical hyperplasia (31.4%), 2 with hyperplasia/hypoplasia (5.7%), and 4...
with hypoplasia with associated chest wall deformities (11.4%). Augmentation mammoplasty was performed in 13 patients (1 bilateral, 12 unilateral with two contralateral reduction mammoplasties) with silicone gel–filled implants ranging in size from 195 cc to 255 cc. Reduction mammoplasty was performed in 24 patients (11 bilateral, 13 unilateral, with five contralateral mastopexies). Thirteen patients experienced complications, including 3 hematomas, 2 cases of minor wound separation, one case of total areolar necrosis, two cases of hypertrophic scar, and 4 dog-ears.

**Assessment**

To evaluate health-related quality of life, patients were asked to complete the Brazilian version of the SF-36, a validated generic instrument that measures 8 aspects or dimensions of health status, including physical function, role limitations caused by physical problems, pain, health perception, vitality, social function, role limitations caused by emotional problems, and mental health. Each dimension was assessed by questions in the survey, and item responses were coded, summed, and transformed into scores ranging from 0 (worst possible health state measured) to 100 (best possible health state). The patients also completed the “Rosenberg Self-Esteem Scale,” a specific tool for evaluating quality of life, consisting of 10 questions on the single subject of self-esteem, within which scores ranged from 1 to 30, with 0 representing the highest state of self-esteem and 30 the worst. Both questionnaires were completed before and after surgery at 3 and 6 months follow-up.

**Statistical analysis**

The Friedman two-way analysis of variance was used to compare differences between the scores of the SF-36 and Rosenberg Self-Esteem Scale before and 3 and 6 months after surgery. This analysis was applied independently for each dimension of the SF-36. When the difference was significant, the Friedman 2-way analysis was complemented by the Tukey test, which compares all pairs of conditions or groups of the analysis of variance, determining which group (or groups) differ significantly from the others. The rejection level for the null hypothesis was fixed at 0.05 or 5% ($\alpha \leq 0.05$).

**Results**

Typical results of surgical treatment are shown in Figures 1 and 2. There was a progressive improvement in quality of life as measured in all dimensions of the SF-36, with statistically significant results for pain, vitality, emotional role, and mental health (Table 1). Figure 3 shows the mean scores of each dimension of the SF-36 before and at 3 and 6 months after surgery. The scores were significantly higher for emotional role 3 months after surgery and for pain, vitality, and mental health 6 months after surgery (Table 2). Improvement in self-esteem was also statistically significant before and 3 and 6 months after surgery (Tables 1 and 2).

![Figure 1. A, C, Preoperative views of a 26-year-old woman. B, D, Postoperative views 11 months after surgery to correct breast asymmetry.](https://academic.oup.com/asj/article-abstract/27/6/616/195685)
Discussion

This study used 2 validated instruments to assess quality of life, which provided an accurate reflection of patients’ views on the care they received independent of surgeon opinion. The selection of patients included only those with breast asymmetry with differences in linear measurements. The heterogeneity of these types required the use of many surgical techniques, depending on the patient’s wishes; it was impossible to use only a single technique. A progressive improvement in all dimensions of the SF-36 was observed that was statistically significant in 4 of the 8 dimensions assessed; similar results were observed in the Rosenberg Self-Esteem Scale. Despite the increase in scores, no significant changes in “physical functioning,” “physical role,” “health perception,” and “social functioning” were found.

Klassen et al, who studied patient quality of life before and after aesthetic surgery, observed that the group undergoing surgery for hypomastia showed...
“physical functioning” similar to the general population, but the group undergoing surgery for breast hypertrophy had significantly lower scores in this area. These findings were in accord with those of Freire et al., who observed statistically significant improvement in “physical functioning” in patients who underwent reduction mammoplasty. We observed that in patients with breast asymmetry, the “physical functioning” and “physical role” dimensions did not make their daily activities more difficult, similar to previous studies of patients after augmentation mammoplasty or rhytidoplasty, where the physical aspects were not significantly improved.

“Health perception” is related to “physical functioning” and “physical role” and therefore showed similar results, but we were surprised by the significantly high score in the “pain” domain after surgery, probably because the effect of surgery on posture hampers improvement of the osteoarticular equilibrium. “Vitality” is related to the physical and emotional aspects; however, in our study, this domain was more influenced by the emotional dimension, because the physical aspects were not statistically significant.

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As in previous reports, “emotional role” and “mental health” were significantly higher after reduction mammoplasty and breast reconstruction; however, in those patients with hypomastia, anxiety resulting from negative breast self-perception was not significant enough to impact their daily activities, so these aspects could not be significantly improved.

The improvement observed in “social functioning” in patients who underwent surgery for breast hypertrophy and hypomastia was not found to a significant extent in patients who underwent surgery for breast asymmetry. This may be because the asymmetry often appears in adolescence during breast development, and initial defensive reactions also begin at this age, as a result of comparison with other women, especially in body-exhibiting situations (beach, swimming pool, dressing room, revealing clothes, or in private). Rather than being expressed in a more reserved social life, these feelings could be reflected simply in a more selective choice of social activities. Such restrictions would no longer be necessary after surgery, with consequent improvement in interpersonal relationships. However, patients may not feel the need to change their previously defined pattern, or, alternatively, perhaps the postoperative time was not long enough to demonstrate changes in social activities that would be reflected in statistical differences in “mental health” and “emotional role.”

The SF-36 has various advantages but does not address other components of quality of life, such as sexual function, body image, and self-esteem, which are relevant for patients undergoing breast surgery. Therefore it

| Table 1. Mean (SD) SF-36* and Rosenberg Self-Esteem Scale† before and 3 and 6 months after surgery in 35 patients (Friedman two-way analysis of variance) |
|---|---|---|---|---|
| **SF-36** | Preoperative (SD) | At 3 months (SD) | At 6 months (SD) | P value |
| Physical functioning | 89.8 (15.8) | 95.4 (7.0) | 95.3 (8.7) | .518 |
| Physical role | 86.4 (24.5) | 87.1 (23.8) | 89.3 (22.1) | .789 |
| Pain | 77.2 (23.8) | 79.6 (19.4) | 88.1 (18.2) | .022‡ |
| Health perception | 84.4 (13.6) | 87.4 (13.1) | 86.5 (15.3) | .125 |
| Vitality | 73.0 (22.7) | 80.8 (13.9) | 81.0 (17.3) | .042‡ |
| Social functioning | 83.9 (22.2) | 86.4 (20.6) | 89.3 (20.0) | .127 |
| Emotional role | 77.0 (31.2) | 92.3 (16.4) | 93.3 (15.8) | .005‡ |
| Mental health | 72.2 (22.5) | 78.9 (14.3) | 80.9 (18.8) | .044‡ |
| **Rosenberg Self-Esteem Scale** | | | | |
| Self-esteem | 9.8 (5.0) | 5.7 (4.8) | 4.2 (4.1) | <.001* |

SD, Standard deviation.

*Scored at a scale of 1-100, with 1 representing the lowest rating and 100 the highest.

†Scored on a scale of 1-30, with 0 representing the highest state of self esteem and 30 the worst.

‡Statistically significant result (P < .05).
was necessary to use a questionnaire that specifically addressed one of these components, self-esteem. The improvement in self-esteem 3 months after surgery was important in that it showed the direct effect of breast surgery in these patients.

**Table 2. Statistically significant aspects of SF-36 and self-esteem comparison before and 3 and 6 months after surgery (Tukey test)**

<table>
<thead>
<tr>
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<th>Before and 3 months after surgery</th>
<th>Before and 6 months after surgery</th>
<th>Multiple comparisons test</th>
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<tr>
<td>Pain</td>
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<tr>
<td>Vitality</td>
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<td>6 months &gt; preoperative</td>
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<td>Emotional role</td>
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<td>0.003*</td>
<td>3 and 6 months &gt; preoperative</td>
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<tr>
<td>Mental health</td>
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<td>6 months &gt; preoperative</td>
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<td>Rosenberg Self-Esteem Scale</td>
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<tr>
<td>Self-esteem</td>
<td>0.020*</td>
<td>0.005*</td>
<td>3 and 6 months &gt; preoperative</td>
</tr>
</tbody>
</table>

*Statistically significant result (*P* < .05).

**Conclusion**

Our results lead us to conclude that patients with breast asymmetry are different from patients with hypertrophy or hypomastia and that surgical treatment does, in fact, improve their quality of life.
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References

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