

# Impact of breast augmentation on female sexuality

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## SUMMARY

**INTRODUCTION:** The breasts are symbols of femininity, sexuality, and maternity. Breast augmentation is among the most sought-after procedures for women and has a positive impact on quality of life. Sexuality is one of the items that contribute to increased quality of life. Surgical outcomes can be evaluated from the patients' perspective using developed and validated questionnaires. For the assessment of sexuality, the most commonly used instruments are the Female Sexual Quotient and the Female Sexual Function Index, which estimate several domains of sexuality and can be used to evaluate the impact of surgery on it.

**OBJECTIVE:** The objective of this study was to evaluate the impact of breast augmentation on female sexuality.

**METHODS:** We selected 87 patients from the Plastic Surgery Outpatient Clinic of Hospital São Paulo (Federal University of São Paulo) who wished to undergo breast augmentation. The patients were classified into two groups: the Female Sexual Quotient questionnaire was applied to one group, and the Female Sexual Function Index questionnaire was applied to the other group to evaluate sexuality preoperatively as well as at 2 and 4 months postoperatively.

**RESULTS:** In both groups, there was a significant increase in the total score of the Female Sexual Quotient and Female Sexual Function Index questionnaires, and an individual increase in each domain assessed, with a significant increase in the domains of orgasm and sexual satisfaction, as well as foreplay and arousal, indicating an improvement in the patients' sexuality postoperatively.

**CONCLUSION:** Breast augmentation has a positive impact on female sexuality; furthermore, the Female Sexual Quotient and Female Sexual Function Index are sensitive in detecting this impact.

**KEYWORDS:** Mammoplasty. Self concept. Sexuality. Surveys and questionnaires. Quality of life.

## INTRODUCTION

The breasts are an important symbol of femininity, sexuality, and maternity in women<sup>1-4</sup>. Breast distortions, changes in breast shape, variations in breast size, as well as breast surgery can have a great impact on women's quality of life<sup>5</sup>.

Quality of life is related to several areas of personal life, including sexuality. Discontentment in relation to body contour may lead to sexual dysfunction and impair quality of life<sup>6-9</sup>.

According to the International Society of Aesthetic Plastic Surgery, breast augmentation is the most commonly performed plastic surgery worldwide<sup>10</sup>. One of the most appropriate and valued ways to evaluate the results of plastic surgery is through a questionnaire answered by the patients, in which the impact of surgery on their daily activities, quality of life, satisfaction, and physical and sexual well-being, among others, is evaluated<sup>11</sup>.

The Female Sexual Quotient (QS-F) is a questionnaire that was developed in Brazil to evaluate the overall quality of

a woman's sexual performance and satisfaction. The assessment consists of 10 questions with answers ranging from 0 (never) to 5 (always) about the phases of the sexual response cycle and the following domains: sexual desire and interest, foreplay, personal arousal and attunement with partner, comfort, orgasm, and satisfaction. This method was developed for the Brazilian population and can be used to measure the change in women's sexuality after a surgical procedure<sup>12</sup>.

The Female Sexual Function Index (FSFI) is a tool developed to evaluate women's sexual function with 19 questions on the domains of desire, arousal, lubrication, pain, orgasm, and satisfaction. The questionnaire can be used to assess changes in quality of life with regard to sexuality<sup>13</sup>.

## OBJECTIVE

The purpose of this study was to evaluate the impact of breast augmentation on female sexuality.

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## METHODS

This is a clinical, secondary, interventional, longitudinal, prospective, and analytical study conducted at a single center. The study was conducted in accordance with the Declaration of Helsinki and approved by the Research Ethics Committee of the Federal University of São Paulo (UNIFESP).

We selected 87 patients from the Plastic Surgery Outpatient Clinic of Hospital São Paulo of UNIFESP, who had hypomas-tia and desired breast augmentation.

The inclusion criteria were as follows: women between 18 and 55 years of age; a minimum educational level of 5th grade of elementary school; and women with small breast size according to the Sacchini index (Sacchini < 9.0 cm)<sup>14</sup>.

The noninclusion criteria were pregnancy, delivery, or lactation within less than 1 year, systemic diseases or chronic use of medication, smoking, or chest deformities, and a previous breast surgery.

The exclusion criteria were pregnancy, failure to fill out the questionnaires properly, withdrawal from the ongoing study, presence of a complication that required a new surgical intervention, or nonattendance at postoperative follow-up visits.

The patients were classified into two groups, according to the sexuality questionnaire applied: patients in the first group (QS-F) were assessed using the QS-F questionnaire before and after surgery, while those in the other group (FSFI) were assessed using the FSFI questionnaire.

The surgeries were performed in the surgical center of Hospital São Paulo by the breast reconstruction group with the placement of subglandular silicone implants.

All patients received a first-generation cephalosporin as prophylactic antibiotic therapy during the induction of anesthesia; antisepsis was observed with the use of alcohol solution and placement of sterile drape. An incision measuring approximately 4 cm in the mammary fold and dissection of the skin, subcutaneous cellular tissue, and mammary gland were performed. A cavity was made, and the round, textured silicone gel implant was placed in the pre-pectoral position, followed by plane closure and dressing placement.

The patients completed the questionnaire during the preoperative visit and in the postoperative period at their 2- and 4-month follow-up visits. The QS-F was developed and validated in the Brazilian population and is composed of 10 questions on approximately 5 domains of female sexual function (desire and interest, foreplay, arousal and tuning, comfort, and orgasm and satisfaction) with a score ranging from 0 (never) to 5 (always) per question. The higher the score, the higher the sexual performance/satisfaction<sup>12</sup>.

In the other group, the Brazilian version of the FSFI questionnaire was used; this version comprises 19 questions that evaluate the sexual function in the last 4 weeks in the following six domains of female sexuality: desire, arousal, lubrication, orgasm, satisfaction, and discomfort/pain. Each question is assigned a score from 0 to 5, with 0 indicating that the item was not experienced by the patient, 1 almost never or never, and 5 almost always or always. The higher the final score, the better the sexual function<sup>13</sup>.

## RESULTS

In the QS-F group, 45 patients completed the study and 2 patients were excluded, while 40 patients in the FSFI group completed the study. Both groups had a mean age of between 25 and 26 years and a mean body mass index of 21.4 kg/m<sup>2</sup>.

Figures 1 and 2 illustrate the mean total scores of the QS-F and FSFI questionnaires, respectively, preoperatively as well as at 2 and 4 months postoperatively.

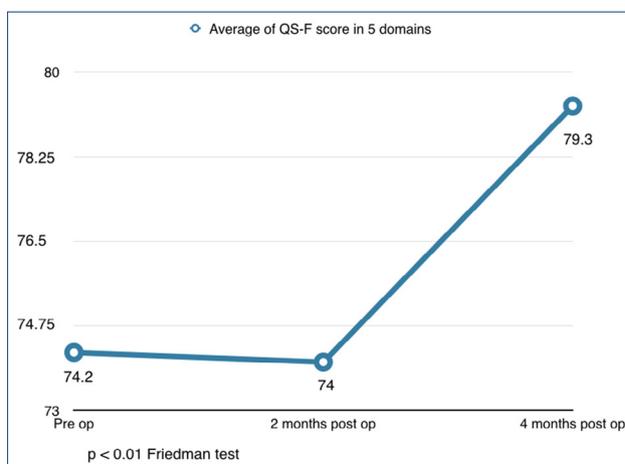


Figure 1. Average of Female Sexual Quotient total score, by time.

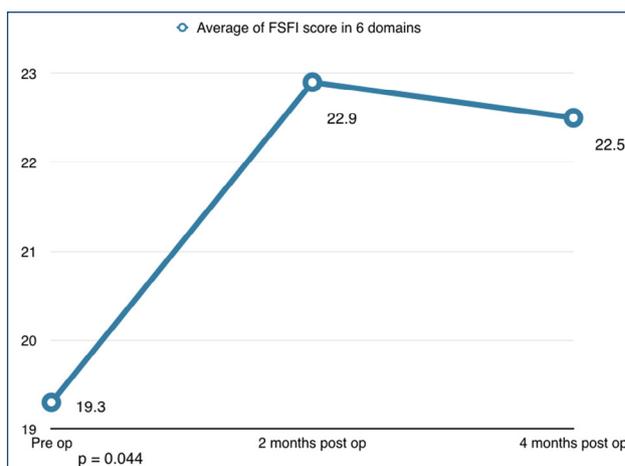


Figure 2. Average of Female Sexual Function Index total score, by time.

Figure 3 shows the correlation of the domains evaluated separately in each questionnaire and indicates whether there was a significant increase 4 months after surgery. The only domain that presented significant improvement in isolation in both groups was the domain of arousal and harmony with the partner.

In the QS-F group, the mean score in the arousal and harmony with the partner domain was 8.2 preoperatively, increased to 8.3 at 2 months postoperatively, and 8.9 at 4 months postoperatively. In the FSFI group, the mean score in the arousal domain was 2.8 preoperatively, increased to 3.6 at 2 months postoperatively, and 3.6 at 4 months postoperatively.

## DISCUSSION

The breast is part of the female body and is closely related to self-image and contentment with oneself. Breast changes and deformities can cause physical and psychological disorders in women<sup>2</sup>. A breast surgery that proposes to change its shape and size can lead to improvements in several pillars of quality of life<sup>15</sup>. Self-confidence and personal satisfaction with one's own body affect how an individual relates to himself or herself, including his or her sexuality, which is related to sexual attraction and responsiveness<sup>16-18</sup>.

To understand the changes breast augmentation causes in women's sexuality, two questionnaires validated as evaluation instruments, the FSFI and the QS-F, were applied preoperatively as well as at 2 and 4 months postoperatively.

In the group in which the QS-F questionnaire was applied, the mean score of the questionnaire covering the five domains in the preoperative period was 74.2, which decreased to 74 at 2 months postoperatively and increased to 79.3 at 4 months postoperatively. A slight reduction in the score was observed

at 2 months postoperatively, which can be attributed to the recent postoperative period in which there is still pain and discomfort in the breasts and guidance to restrict sexual activity. However, a subsequent significant increase was seen 4 months postoperatively ( $p < 0.01$ ), demonstrating improvement in the sexuality of these patients.

In the group in which the FSFI was applied, the average score of the questionnaire covering the six domains preoperatively was 19.3, which increased to 22.9 at 2 months postoperatively, and was 22.5 at 4 months postoperatively, which indicated an improvement in the sexuality of these patients ( $p = 0.044$ ).

Sahebalzamani et al., developed a questionnaire on sexuality for both women and their partners, involving several items about the couple's sexual life with the objective of evaluating a change in sexual satisfaction of the woman and her partner after breast augmentation. Similar to the present study, the questionnaires were applied before the surgery and 2 months postoperatively.

A significant increase in sexual satisfaction was found in women who underwent breast augmentation, corroborating the results of this study; however, no significant change in their partners was observed<sup>19</sup>. Coriddi et al., also demonstrated an improvement in sexual well-being after breast augmentation using BREAST-Q as an assessment tool<sup>20</sup>.

Both questionnaires address the same aspects of female sexuality; however, the QS-F organizes these aspects into five different domains, while the FSFI uses six different domains. There is some divergence in the nomenclature of the domains in each questionnaire; however, a comparison of both reveals that the domains are equivalent, as can be seen in Figure 3.

The QS-F group showed an increase both at 2 months postoperatively and a further increase in the patients' average score at 4 months postoperatively in all domains assessed. However, the increase was significant in the domains of arousal and attunement with one's partner, foreplay, and orgasm. Furthermore, although the FSFI group showed a higher score at 4 months than at the initial assessment in all domains, only the domain of desire and arousal had a significant increase.

The domain of desire and arousal is closely related to the psychological part of a woman, how she feels about herself, and her self-confidence in relation to her partner. A probable explanation for this significant increase in both groups is that patients who seek breast augmentation are somehow dissatisfied with their body image, which negatively affects their self-esteem, impacting their sexual desire and arousal. After breast augmentation, women have greater satisfaction with their body image, which leads to greater sexual desire and arousal<sup>16</sup>.

QS-F	FSFI
<b>Sexual desire and interest:</b> increase $p = 0.204$	<b>Desire:</b> increase $p = 0.014$
<b>Foreplay:</b> increase $p < 0.01$	<b>Arousal:</b> increase $p = 0.184$
<b>Personal arousal and attunement with partner:</b> increase $p < 0.01$	<b>Lubrication:</b> increase $p = 0.017$
<b>Comfort:</b> increase $p = 0.997$	<b>Pain:</b> increase and after decrease $p = 0.637$
<b>Orgasm and Satisfaction:</b> increase $p < 0.01$	<b>Satisfaction:</b> increase $p = 0.016$ <b>Orgasm:</b> increase $p = 0.081$

**Figure 3.** Comparison of results in each domain in both groups. Average of Female Sexual Function Index total score, by time.

In both groups, the domains of comfort, pain, orgasm, and satisfaction did not show a significant increase.

Although the questionnaires were developed in different countries—QS-F in Brazil and FSFI in the United States—both were sensitive in assessing sexual function with similar results in comparable groups and demonstrated improved sexuality after breast augmentation.

## CONCLUSION

Breast augmentation has a positive impact on the sexual function of women with hypomastia. The QS-F and the FSFI

questionnaires were sensitive tools for detecting this change in sexual function.

## AUTHORS' CONTRIBUTIONS

**PAMPG:** Conceptualization, Investigation, Methodology, Project administration, Writing – original draft. **EMKA:** Conceptualization, Investigation, Methodology, Project administration, Writing – original draft. **MLM:** Conceptualization, Investigation, Methodology, Project administration, Writing – original draft. **MSN:** Supervision, Writing – review & editing. **LMF:** Supervision, Writing – review & editing

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