

Physical Attractiveness and Self-Assessment Before and After Breast Augmentation

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Background: This study verifies selected opinions on breast cosmetic surgery in the population of Polish women.

Materials and Methods: A total of 78 women aged 20 to 48 years were surveyed between 2008 and 2010 before and after breast augmentation surgery using a questionnaire. The χ^2 and Wilcoxon signed rank tests were used for statistical analysis. Most were married and single women aged approximately 30 years and residents of large cities.

Results: The significance of professional success in the hierarchy of values and the level of self-assessment increased after surgery ($P = 0.0000$ and 0.0213 , respectively). The distribution of responses concerning the expectations of surgery and the evaluation of their fulfillment changed significantly ($P = 0.0031$). In general, the satisfaction with one's life after surgery also increased ($P = 0.0000$).

Conclusions: A well-thought-out decision on breast cosmetic surgery positively affects at least several spheres of psychosocial functioning and fulfills most women's expectations.

Key Words: physical attractiveness, self-assessment, breast cosmetic surgery, expectations, fulfillment

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Mass media and show business have contributed to the increased popularity of cosmetic surgery by spreading images (mainly) of women with perfect appearance and impeccable curves. The constant increase in the number of women deciding on breast augmentation is the best proof for this.¹ For instance, in 2002, in the United States, 237,000 women underwent such an operation,² whereas the same number in 2006 was 330,000. Together with the growing popularity of this way of improvement of one's own image, the interest in its demographic and psychological aspects has also increased. From various studies, it appears that the age of women (both European and American) undergoing breast augmentation surgery ranges from 18 to 68 years, averaging approximately 30 years. Most of these women are married. Single women account for approximately a quarter, and the remaining women are divorced, widowed, or separated.^{2–4} Moreover, the results of the studies allow us to conclude that the women who underwent breast augmentation surgery differ from those who did not do this. Women altering their breasts had lower body weight than those without implants, had more sexual partners, used more contraceptives, were younger at their first pregnancy, and had an abortion more frequently.^{5–8} They also got divorced, smoked cigarettes, and drank alcohol more often.^{9,10}

Women who decided on breast surgery were guided by various motives and had different expectations of the changes after surgery.

Most often, they expected improvement in the quality of life, rapid professional career, increased self-assessment and self-confidence, better relation with their partners, increased sexual satisfaction, establishing close contacts with men, social success, solving their internal conflicts, and changing incorrect body image.^{11–15} In other studies, problems with self-assessment and motivation for its improvement through breast augmentation appeared to be nonsignificant.¹⁶ Moreover, it has been found that an important role in making a decision on breast surgery is played by the knowledge of the risk and possible advantages associated with it¹⁷ and that patients declaring well-thought-out motives of their decision are more convinced of the success of a surgery than are those guided by external pressure.¹⁸ Nevertheless, the dominant view is that the breast cosmetic surgery is undergone by women dissatisfied with their appearance¹⁴ and convinced that this operation will facilitate the development of their marital and romantic relationships.¹⁹

Although the results of various studies suggest discrepancies between the expectations of patients and surgeons,^{17,20–23} most of women undergoing breast augmentation surgery are satisfied with its effect.^{1,16,17,24–26} In addition, during the first 2 years after surgery, most women find an improvement in their physical appearance.^{20,21,27}

Interesting and, at the same time, controversial results of West European and American studies became a basis for the verification of some opinions concerning the population of Polish women. We particularly aimed at verifying an effect of psychosocial factors that are rarely analyzed in detail. It was assumed that the women deciding on breast cosmetic surgery ascribe high value to this event. It was also assumed that undergoing such surgery would result in improved quality of life and would meet most expectations of its effects. The theoretical context of the research on the quality of life was an individualistic approach,²⁸ according to which a person carries out an inner “plan” during their life, which is positively modified by the factors such as persistence in pursuing a goal, professed values, talent, and so on. On the other hand, realization of a life plan can be hindered by, for example, diseases, defects, and negative emotions. The significance of these factors should be evaluated by a person who knows what is very important and what is unimportant for the quality of their life. These assumptions became the basis for the concept of this study, according to which the decision on breast surgery was regarded as a significant life event, whose effects influence the evaluation of the main determinants of the quality of life.

Consequently, we decided to compare the statements of the same women at 2 moments of their life: (1) before breast augmentation surgery and (2) 1 year after it had been performed. The compared statements concerned, among others, the following issues: (1) the position of one's own appearance in a hierarchy of values, (2) evaluation of one's own physical attractiveness, (3) the level of self-assessment with regard to character traits, (4) expectations of surgery and their fulfillment (after surgery), and (5) the level of satisfaction with the quality of life.

PATIENTS AND METHODS

The studied group consisted of 78 women, aged 20 to 48 years, who underwent breast augmentation surgery at an individual medical

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TABLE 1. The Overall Structure of the Studied Population

Category	n	%
Age, y		
<25	13	16.67
25–35	55	70.51
>35	10	12.83
Marital status		
Single	26	33.33
Married	47	60.26
Divorced/Widowed	5	6.41
No. children		
None	23	29.49
One	28	35.9
More	27	34.61
Population*		
<10,000	19	24.36
10,000–50,000	12	15.38
>50,000	47	60.26

*Population of the town where the patients lived.

practice unit in the field of cosmetic surgery located in Szczecin, Poland. The overall structure of the studied population is presented in Table 1. Women learned about the place and possibility of cosmetic surgery most often from the Internet (53%), from a previously operated person (15%), or from local newspapers (12%).

To compare opinions and assessments expressed by the patients before and after surgery, 2 anonymous questionnaires differing mainly in grammar were prepared (Table 2). The questionnaires contained 9 descriptive semi-open-ended questions and 7 control questions (Lie scale) based on those found in standard psychological tests. They were readily filled in by the patients as they were waiting for the medical appointment before breast augmentation surgery and 1 year after it, before the follow-up visit. In the case of both surveys, results on the Lie scale showed the truthfulness of the surveyed women.

The study was conducted between 2008 and 2010. The results were verified statistically. For questions 1A and 1B, 2A and 2B, 4A and 4B, 5A, 7A, and 9A and 6B (Table 2), the χ^2 test with Yates' correction for continuity was used to analyze the differences in the distributions of answers before and after surgery. The test statistic χ_{adj}^2 was calculated according to the following formula²⁹:

$$\chi_{adj}^2 = \sum_{i=1}^r \sum_{j=1}^c \frac{(|O_{ij} - E_{ij}| - 0.5)^2}{E_{ij}},$$

where r is number of rows, c is number of columns in the contingency table, O_{ij} is the observed frequencies, and E_{ij} is expected frequencies.

For questions 3A and 3B, the results of self-assessment before and after surgery were analyzed. Respondents assessed themselves with a maximum of 5 adjectives belonging to 2 categories: positively and negatively describing one's own person. In the analysis of this question, the following was taken into account:

1. The difference in the number of positive and negative adjectives for a respondent before surgery and the same difference after surgery.
2. The number of positive adjectives before surgery and the same number after it.

TABLE 2. Description of the Questionnaire

Item No.	Question
1AB*	The most important events in my life (3)†: acquiring profession, marriage, child birth, death of a close person, change of a living place, first love, purchase of a flat, first job, decision on altering my breasts, leaving family house, other
2AB*	The most important values to me (2): money, health, professional success, happiness of a close person, love, my own appearance, successful family life, social success, other
3AB‡	The following adjectives describe me best (5): Intelligent, hard-working, beautiful, ugly, impatient, lost and confused, nervous, frank, witty, lonely, responsible, happy, active, calm, grumbling, nice, tidy, nasty, caring, lazy
4A*	How will the decision on surgery change my life (1)? • It will entirely change my life. • It will mainly change my sexual life. • It will change my self-image into positive. • It will not affect me at all. • It is insignificant because I have a high self-assessment anyway. • Other.
4B*	How has the decision on surgery changed my life (1)? • It has entirely changed my life. • It has mainly changed my sexual life. • It has changed my self-image into positive. • It has not affected me at all. • It has been insignificant because I have high self-assessment anyway. • I have stopped envying other women their appearance. • Finally, I undress on the beach without inhibitions. • I have become more attractive for my partner. • Other.

(Continued on next page)

TABLE 2. (Continued)

Item No.	Question
5A*	<ul style="list-style-type: none"> • I just try not to think about it. • I ask somebody's advice on what to do. • I fall asleep and believe that the problem will disappear when I wake up. • I confide in somebody but do not expect any advice. • I try to solve the problem by myself as quickly as possible. • I usually sit and worry myself. • I eat more than usually—I just “overeat” my trouble. • I stop eating then. • I smoke more than usual. • When I worry I believe in the effectiveness of alcohol. • How do I deal with difficult situations (2)? • Other.
5B, 8A‡	Current satisfaction with my life (0–10)§
6A	<p>I have learnt about the place and possibility of surgery from (1):</p> <ul style="list-style-type: none"> • the poster at the doctor's surgery. • “Info-Tip” journal published in Germany. • the leaflet at the restaurant in Poland. • the previously operated person. • “The Polish Courier” newspaper published in Germany. • the gynecologist. • the hair-dresser, who heard about such a possibility. • the Internet. • Other.
6B, 9A*	<p>Assessment of my appearance (1):</p> <ul style="list-style-type: none"> • Very attractive, without any fault. • Rather attractive, certainly I favorably stand out from the crowd. • Rather average, not different from others. • I still have a lot of objections to my appearance. • I am not attractive. • I am going to undergo another cosmetic surgery. • Other.
7A*	<p>The reason for deciding on cosmetic surgery (2):</p> <ul style="list-style-type: none"> • It is a matter of my physical and mental state. I do not feel good with my breasts. • I am ashamed of my breasts. I have a problem with undressing on the beach. • I am ashamed of my breasts. I have difficulties in undressing in my partner's presence. • My breasts are my inveterate complex. I want to get rid of it. • I am doing it out of envy. I cannot look at women with perfect breasts. • It is not only a matter of breasts. My appearance is important to me. • My present breasts are too small. I have always wanted to have large breasts. • I just feel like improving my appearance. • I am doing it for my partner, who wants me to have proper breasts. • Small breasts make my sexual life difficult. • I have made a decision on breast augmentation together with my partner. • Other.

* χ^2 test with Yates' correction for continuity used for analysis.

‡Number of possible answers.

‡Wilcoxon matched-pairs signed rank test used for analysis.

§10-point scale (0, completely dissatisfied; 10, completely satisfied).

A, question asked before surgery; B, question asked after surgery.

3. The number of negative adjectives before surgery and the same number after it.

The Wilcoxon matched-pairs signed rank test was then applied according to the following formulae:

$$U = \frac{T - E(T)}{D(T)}, \text{ where: } E(T) = \frac{1}{4}n(n+1),$$

$$D(T) = \sqrt{\frac{1}{24}n(n+1)(2n+1)}, T = \min(T^+, T^-),$$

T^+ and T^- are the rank sums of the differences between the measurements before and after surgery.

Self-assessment was also analyzed on a rank scale, where 1 denoted high self-assessment, when a respondent indicated only positive adjectives; 2 denoted average self-assessment, when a respondent indicated 1 negative adjective; and 3 denoted low self-assessment, when a respondent indicated at least 2 negative adjectives.

For questions 8A and 5B, the Wilcoxon matched-pairs signed rank test was also used for the analysis of the satisfaction with one's life (the answers were expressed on a rank scale from 0 to 10).

The answers for all the aforementioned questions were analyzed in terms of age, marital status, fertility, and the population of the town where the respondents lived.

The structure of the Lie scale was based on a similar principle as the structure of such scales in questionnaires and psychological tests, that is, on self-description concerning common social behavior (eg, I sometimes boast, I sometimes put off things I should do today until tomorrow). If a respondent provides statistically more answers contradicting the occurrence of such behavior in her case, then there is a suspicion that these answers can be distorted, which is associated with a tendency to distort the answers to other questions as well (Table 3).

RESULTS

The Most Important Event in One's Life

The studied persons could select a maximum of 3 items from the list or write in their own one. The respondents most frequently considered the birth of a child as the most significant event in their life for each of the 4 distinguished dependent variables (age, marital status, fertility, and the population of the town where the respondents lived) both before and after cosmetic surgery. Acquiring profession and leaving family house were next also before and after surgery in all categories of dependent variables. The distributions of answers

in individual categories were similar before surgery ($P = 0.9179$) and after it ($P = 0.9317$). In addition, the analysis of such distributions depending on the category did not show any significant differences before and after surgery for age ($P = 0.8218$), marital status ($P = 0.0911$), fertility ($P = 0.0969$), and population ($P = 0.6367$).

The Position of Physical Appearance in the Hierarchy of Values

The studied persons could choose 2 values from the suggested list or write in their own ones, which was done by none of them. Both the women before surgery (40%) and after it (41%) regarded health as the highest value. Successful family life was second (26% and 23%, respectively). As for the remaining values, the clearest differences concerned 2 of them, that is, professional success (increase from 3.05% of answers before surgery to 21% 1 year after it) and love (decrease from 18% to 5.4% of answers after surgery). Of the assessed values, one's own appearance was at the far, penultimate position (Fig. 1). The differences between both distributions of results were statistically significant ($P = 0.0002$). The changes within the system of values concerned mainly women aged 25 to 35 years, single and married, having 1 or more children, and living in a large city.

The Level of Self-Assessment

To make self-assessment, the patients could select from the list of adjectives a maximum of 5 items describing them most accurately. The comparison of the total number of positive and negative answers showed that, after surgery, the number of indications on positive traits increased significantly ($P = 0.0213$), whereas the differences in the number of negative answers appeared to be statistically nonsignificant ($P = 0.5839$). The analysis of self-assessment in terms of a number of positive adjectives compared with negative ones (the difference between pluses and minuses) revealed more positive answers; however, this difference was also statistically nonsignificant ($P = 0.0739$). The comparison of the proportions of the selected positive and negative traits allowed us to determine 3 levels of self-assessment (low, average, and high). Most women after surgery were characterized by high self-assessment (65%), although before surgery, most of the patients (51%) also belonged to this category. Thirty-two percent of women after surgery and 42% before it had an average self-assessment, whereas the respective values for the low self-assessment were 2.6% and 6.4% (Fig. 2). These differences were statistically significant ($P = 0.0089$). The analysis of distributions of answers in individual categories (age, marital status, fertility, and the population of the town where the respondents lived) did not show any significant differences ($P = 0.9453$ to $P = 0.5312$).

The Expectations of Surgery and the Evaluation of Their Fulfillment

The surveyed women could select a maximum of 2 answers, out of 11 suggested ones, or express their own opinion, which was done by 15 persons who indicated more detailed aspects of their self-image and physical appearance (19%). Before surgery, the women first of all expected that the breast augmentation would change their self-image into positive (60%), which was fulfilled for exactly one third of them (33%; Fig. 3). A very important effect of breast surgery, that is, the influence on the entire life, was indicated by 10% of women before surgery and 13% after it. The same persons (12%) expected and experienced the change in the quality of sexual life resulting from breast surgery. It is worth emphasizing that the women after surgery discovered new aspects associated with the change because 23% of them finally stopped envying other women for their appearance and 10% currently undress on the beach without inhibitions. As a formality, it should be noted that 5.2% of persons after surgery found that this event had not especially affected themselves

TABLE 3. Description of the Questionnaire (Lie Scale)

Item No.	Question
1	Something has troubled me for a long time, as if something bad was going to happen (1).*
2	I sometimes boast (1).
3	In my opinion, you cannot trust even the loved ones, because I have been often disappointed in them (1).
4	I sometimes put off things I should do today until tomorrow (1).
5	I often worry about some trifles that generally should not bother me (1).
6	I sometimes lie (1).
7	I prefer keeping away from others because many people wish me ill (1).

*For questions 1 to 7, the answers are the same (yes, no, or difficult to say).

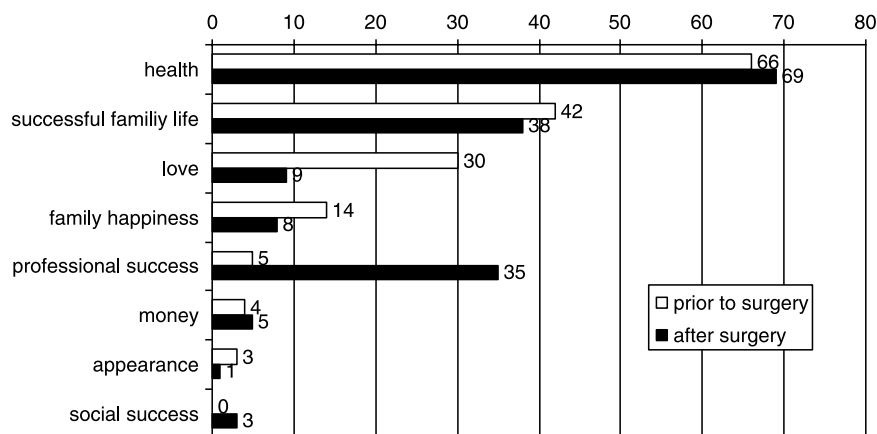


FIGURE 1. The hierarchy of values (before and after surgery).

or their life. Mainly because of the indicated new aspects of the surgery, the differences between the expectations of the surgery and the evaluation of their fulfillment were statistically significant ($P = 0.0463$).

The Way of Dealing With Difficult Situations

The patients could choose a maximum of 2 items or write in their own ones. They mostly dealt with difficult situations trying to solve the problem by themselves as quickly as possible. This trend was especially clear in the age group of 25 to 35 years (31.9%), although many respondents in this group also asked somebody's advice (27.5%). In the remaining age groups, the answers to this question were more diverse. Singles more often asked somebody's advice rather than tried to solve the problem by themselves (38.5%), but in other groups, most answers indicated self-reliance in solving problems. The analysis of results including fertility revealed a larger number of respondents trying to solve difficult situations by themselves rather than asking somebody's advice. A similar trend was observed for women from large towns.

The Motives Behind the Decision on Surgery

The surveyed women could choose a maximum of 2 answers of 11 ones or write their own response. The analysis of this question showed that the respondents most often (39%) indicated their state of mind as a reason for undergoing breast augmentation surgery. Other less frequent reasons were the intention of losing one's inhibitions and dissatisfaction with too small breasts (15%) and being ashamed of one's own breasts (11%). The distribution of answers differed significantly ($P = 0.0028$).

Satisfaction With One's Life

The studied persons assessed the level of satisfaction with the quality of life on a 10-point scale. A mean assessment of this psychological measure made by the women before surgery was 7.55, and after surgery, it was 8.3. The highest increase in the satisfaction was recorded among single women (by 0.92 scores), women aged 25 to 35 (by 0.84 scores), residents of large cities (by 0.83 scores), and those having 2 or more children (by 0.81 scores). The differences were statistically significant ($P = 0.0001$).

Evaluation of Physical Attractiveness

The studied persons could judge their attractiveness on a 5-point descriptive scale or give their own assessment, which was done by 9 of them. Usually, women assessed themselves as rather attractive, favorably standing out from the crowd (Fig. 4). Such an assessment more often concerned women after surgery (60%) than

before (51%). Moreover, 9% of women after surgery regarded themselves as very attractive, whereas none of them had done so before operation. One year after surgery, fewer women judged their attractiveness as average (22%) compared with the assessments given before surgery (32%). In addition, fewer women (3.9%) assessed their appearance as negative after surgery as compared with the results obtained before it (10%). These differences were statistically significant ($P = 0.0310$).

DISCUSSION

The present study was aimed at verifying the results obtained for other populations on the population of Polish women and makes a contribution to few works on the psychosocial factors concerning women deciding on breast plastic surgery for other reasons than reconstruction after mastectomy. The results obtained from 78 patients surveyed before breast cosmetic surgery and 1 year after it show an important role of such medical operations for the psychosocial functioning of women. The studied persons were 20 to 48 years old, so the upper limit of their age differed from that recorded in West European and American studies.²⁻⁴ However, a mean age of approximately 30 years and most of the married women make these demographic indicators similar. Moreover, it is worth noticing that the residents of large cities and women having 1 or more children undergo surgery more frequently.

The decision on breast surgery was made by women for whom external appearance was not any special value compared with health,

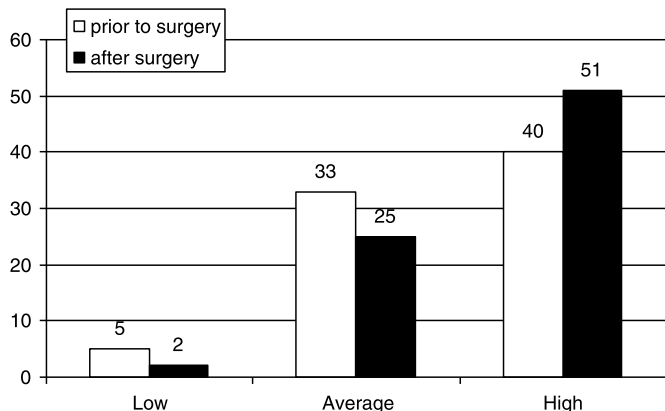


FIGURE 2. The level of self-assessment (before and after surgery).

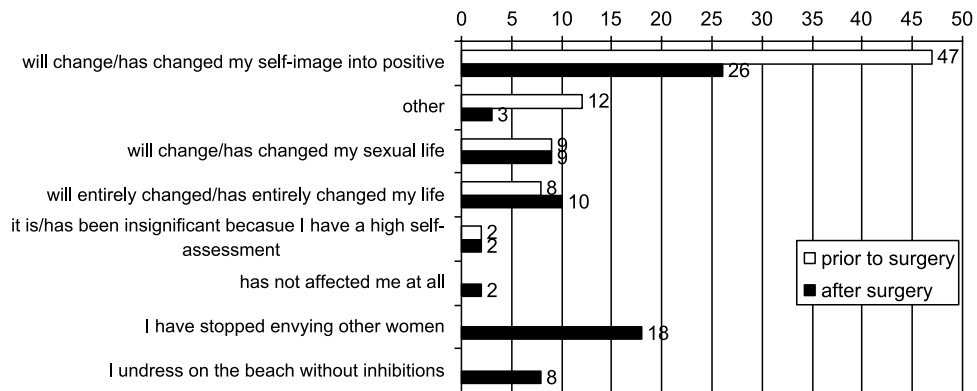


FIGURE 3. The expectations of surgery and the evaluation of their fulfillment (before and after surgery).

successful family life, professional career, and so on. Such a decision belonged to women who judged their appearance before surgery as rather attractive (51%) or average (32%) and unattractive (10%). None of them considered themselves as a very attractive person. The compared reports lack exactly such data, but it is known that most of the women undergoing breast cosmetic surgery were not satisfied with their appearance.^{11–15} Therefore, it can be supposed that the surveyed Poles assessed their appearance somewhat higher than did women from other countries. Moreover, 1 year after surgery, assessments of one’s own physical appearance clearly increased because 9% of women assessed themselves as very attractive, almost perfect. As if it were not enough, more women than before considered their appearance as so attractive that it allows them to stand out from the crowd (60%). At the same time, significantly fewer average and negative assessments were recorded.

Furthermore, the decision on surgery was made by women assessing their character traits usually highly (51%) or moderately (42%) and rarely negatively (6.4%), which is in accordance with few studies.¹⁶ However, most works in this field focused rather on the assessment of psychological status of women deciding on breast cosmetic surgery,^{14,16,30–35} so it is difficult to compare these data with the assessment of character traits. Nevertheless, it should be noted that one year after surgery, the self-assessment of the surveyed women increased significantly because as much as 65% assessed their appearance highly, 32% moderately, and only 2.6% low. This result shows a positive effect of breast surgery on the level of self-assessment.^{20,21,27}

When deciding on cosmetic surgery, most of the women (60%) expected mainly an alteration of self-image into positive. The patients also expected that the planned surgery would increase their

satisfaction from sexual relations (12%) or even would change their whole life for the better (10%). Only 2.6% of women expected nothing special as a result of breast augmentation. The aforementioned expectations were fulfilled almost completely because one third of the women surveyed 1 year after surgery claimed that their self-image had really changed into positive. All patients who had expected an improvement in their sexual life after surgery stated that this was true. The women assuming the fundamental change in their life due to the breast cosmetic surgery obtained this possibility even in excess (13%).^{1,17,25,26} What is very interesting is that some women expecting positive changes in their self-image admitted that their fulfillment consisted also in the fact that they finally stopped envying other women their appearance (23%) and that they could undress on the beach without inhibitions (10%). In fact, only 5.2% of women (including 2.6% of those expecting nothing special) regarded the fact of undergoing surgery as insignificant. Therefore, the preoperative expectations were not fulfilled only in the case of 2.6% of women, which may lead to the state of dejection, depression, or even suicidal thoughts and tendencies.^{8,33,36–39}

A very important indicator of the fulfillment of preoperative expectations is a clear increase in the level of satisfaction from the quality of life (from a mean of 7.55 before surgery to 8.3 after it).^{1,16,17,24–26}

The aforementioned findings lead us to the general conclusion that the well-thought-out decision on undergoing breast cosmetic surgery positively affects at least several spheres of psychosocial functioning and fulfils most women’s expectations. Consequently, the sense of professional competence and physical attractiveness is greater, and the self-assessment and satisfaction from the quality of life increase.

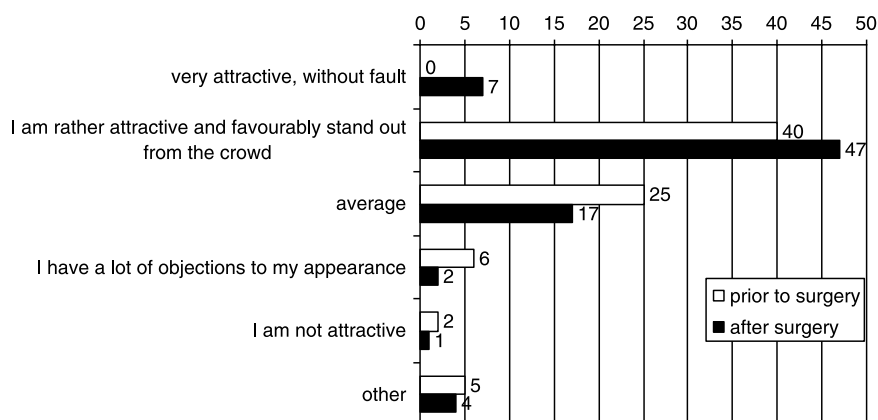


FIGURE 4. Evaluation of one’s own physical attractiveness (before and after surgery).

CONCLUSIONS

1. The mean age of women who decided on breast cosmetic surgery is approximately 30 years. Most were married and single women, residents of large cities, and having 1 or more children.
2. The decision on breast augmentation is made by women who consider health, successful family life, and love as the most important values. They usually assess their appearance as rather or moderately attractive. Most of them have high self-assessment, are rather satisfied with the quality of their life, and after surgery, expect the change in their self-image into positive, increased sexual satisfaction and positive modification of their whole life.
3. Breast cosmetic surgery positively affected surveyed women since 1 year after it had been performed; the most important values included professional successes, after love. The assessment of one's own physical attractiveness, self-assessment, and the level of satisfaction from the quality of life increased, and most expectations of the surgery were fulfilled.

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