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Survey of Breast Implant Patients: Characteristics, Depression Rate, and Quality of Life

Amin Kalaaji, MD, PhD; Cecilie Bergsmark Bjertness; Cathrine Nordahl; and Kjell Olafsen, MD

Abstract

Background: Quality of life (QOL) among breast augmentation patients is a growing research area, with newly worrisome data on psychological health in this group.

Objectives: The authors investigate characteristics of breast implant patients, including motivations for surgery, depression rate, effect of surgery on daily activity and work activity, and overall psychosocial and cosmetic changes through a self-reported survey.

Methods: Of 121 consecutive breast augmentation patients treated by the senior author (AK) between 2005 and 2008, a total of 93 patients were reachable via e-mail and were sent a 47-question survey, which they could return anonymously. Answers were processed by QuestBack mail system (QuestBack AS, Oslo, Norway) and sent to the authors as diagrams and figures, rather than as raw data.

Results: The response rate for this survey was 67%. Average follow-up was 2.8 years. For 65%, the motivation for surgery was cosmetic; 48% replied it was for emotional reasons (reduced self-esteem), 22% for intimate reasons, and 10% for physical reasons. Before the operation, 6% of respondents reported diagnosed depression. The postoperative changes were equal between improved and worsened depression. In 27%, the operation increased motivation for daily activities; 73% felt like a "whole" person, and 26% experienced improvement in social skills. In terms of the cosmetic result, 93% were satisfied or very satisfied. However, 27% indicated they were unsatisfied or very unsatisfied with skin sensation.

Conclusions: Although in some cases depression increased postoperatively, the depression rate in our study was still lower than the published range in the general population in Norway. Breast enlargement increased motivation to perform daily activities in our patients. The procedure improved QOL in both psychosocial and cosmetic aspects. However, the relatively high percentage of patients who experienced reduced breast skin sensitivity postoperatively can represent a challenge for the surgeon. Multicenter/clinic studies are necessary to form a better idea about the implications of the depression rate postoperatively.

Keywords

patient satisfaction, quality of life, breast augmentation, survey

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An increasing number of Norwegian women undergo breast enlargement surgery for cosmetic and reconstructive reasons.[1,2] Approximately 70 000 women in Norway have breast implants. (The total population in Norway is about 5 million.) Despite the high incidence of breast augmentation in Norway and the Western world, relatively few studies have been published concerning postoperative quality of life (QOL).[3-13] It seems to be a common view that women with breast implants have certain stereotypical traits: single, young, wants that are considered glamorous, and seeking very big breasts. This stereotypical patient comes from a specific social level and is not well educated. She is epitomized on the front pages of tabloid and popular style magazines, possibly a reflection of a society that focuses on physical appearance and voluptuous women. However, aesthetic surgeons subjectively know that this stereotype does not accurately represent the majority of our patients.

Therefore, we designed a study to investigate and describe via a written survey the type of women who choose to undergo breast enlargement, including their

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motivation(s). Questions concerning age, relationship status, children, education, and others were included on the survey; we anticipated that the results would help us provide information about whether a stereotypical patient truly exists in our population. Because recently published (and somewhat worrisome) data about this patient group have documented a high incidence of psychiatric diseases such as depression and a higher suicide rate,[14-16] we also included questions about depression. The survey also included queries about specific aspects of QOL in this group of patients. The effects of breast augmentation procedures on daily activities and participation in work activities have not been addressed in the literature to our knowledge, so these were included, together with an analysis of overall cosmetic and psychosocial changes.

METHODS

This study was conducted using the QuestBack mail system (QuestBack AS, Oslo, Norway), which guarantees anonymity for the participants. By registering e-mail addresses from our patients, we could send them the questionnaire by e-mail. Patients received a phone call from us some weeks in advance, giving them information about the study and informing them that an anonymous questionnaire about the results would be e-mailed to them and confirming the correct e-mail address. There were no discussions about the contents of the study during the phone conversations. However, if they requested the information, patients were informed of the aim of the study, which was to improve quality of our clinical work. Our aim in including phone calls as part of the survey protocol was to increase the response rate by encouraging the patients to check their e-mail and answer the questionnaire. Patient identity was blinded to the authors because the incoming answers were processed by the QuestBack system and sent as diagrams and figures. The authors had no influence on forming the results. We believe that this system ensured that the patients answered freely.

Of 121 potential candidates from a consecutive series of patients who underwent cosmetic breast implant augmentation at the senior author's (AK) clinic between 2005 and 2008, 93 were reachable via e-mail. The survey (Appendix, available online at www.aestheticsurgeryjournal.com/supplemental) consisted of 47 questions that were specifically grouped with the intent of seeking information about the following aspects: the breast implant patient herself, the postoperative depression incidence/change, changes in daily motivation and work activities, psychosocial changes, and cosmetic changes. (In our study, depression was self-reported but was defined as a diagnosis of depression from health personnel.) In addition, some general questions were included about motivations for the procedure, patient willingness to recommend similar surgery to a friend, and information related to the surgery itself. Answer options were divided into 3 options on a scale: grade 1, *very disappointed or disappointed;* grade 2, *no opinion/no change;* and grade 3, *satisfied or very satisfied.*

Table 1. Type of Work in Breast Augmentation Patient Population

	No. (%)
Physical work	17 (28)
Office work	13 (22)
Physical and office work	13 (22)
Work at home	5 (8)
Other	12 (20)

RESULTS

The response rate was 67%. Mean postoperative follow-up time for the respondents was 2.8 years. Respondents were distributed as follows in terms of age: 8 (13%) patients were 21 years or younger, 20 (33%) patients were between 22 and 29 years, 15 (25%) patients were between 30 and 37 years, and 18 (29%) patients were 38 or older. At the time of operation, 48 (79%) patients were in a romantic relationship and 13 (21%) patients had no relationship. Only 19 (31%) patients had no children at the time of operation, whereas 32 (53%) patients had 1 or 2 children and 10 (16%) had 3 children or more. Concerning education level, 38 (62%) patients had finished elementary or high school, whereas 23 (38%) studied at university or college. Patient income per year was $40 000 to $80 000 USD for 30 patients (49%), $81 000 to $120 000 USD for 9 patients (15%), and more than $120 000 USD for only 2 (3%). The job types of patients are shown in Table 1.

Motivation for surgery was as follows: 40 (65%) patients sought breast augmentation for cosmetic reasons, 29 (48%) indicated emotional reasons (reduced self-esteem), 13 (22%) indicated intimate reasons, and 6 (10%) specified physical reasons. Cosmetic motivation was mostly related to the appearance of the breasts themselves and the body image of patients stemming from their form and size. Motivation for intimate reasons was mostly related to the feeling patients had with their partner, their willingness to show their naked breasts, and the improvement surgery would (or did) have in their sexual life. Some patients gave more than 1 reason for undergoing surgery, which explains why respondent numbers exceed the total number of patients (Table 2). Only 3 (5%) patients gave an unspecific response ("other") as their reason for undergoing the operation. Preoperatively, 4 patients (6%) had been diagnosed with depression. The changes after the operation were equal between improved and worsened depression—1 patient each, with "no difference/not specified" as a response from the remaining 2 patients.

In 27% of patients, their motivation for daily activity had increased to better or much better postoperatively, and the actual daily activity increased to better or much better among 25%. However, improvements in motivation for work activity were reported by only 13% (Table 3). Sixty-nine percent felt that they had a better or much better life postoperatively.

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Table 2. Patients' Motivation for Seeking Surgery[a]

	No. (%)
Cosmetic reasons	40 (65)
Emotional reasons	29 (48)
Intimate reasons	13 (22)
Physical reasons	6 (10)
Other	2 (3)

[a]Some patients gave more than 1 reason for having surgery.

Table 3. Changes Daily Activity, Work Activity, and Motivation

To What Degree Do You Feel That Operation Has Changed:	Lesser Degree, No. (%)	No Change, No. (%)	Greater Degree, No. (%)
Motivation for daily activity	1 (1.6)	44 (72.1)	16 (26.3)
Daily activity	1 (1.6)	45 (73.8)	15 (24.6)
Motivation in work activity	1 (1.6)	52 (85.2)	8 (13.2)
Effectiveness in work	1 (1.6)	54 (85.5)	6 (9.9)

Table 4. Psychosocial Changes After Breast Augmentation

To What Degree Do You Feel:	Lesser Degree, No. (%)	No Change, No. (%)	Greater Degree, No. (%)
That life has changed after breast enlargement	1 (1.6)	18 (29.5)	42 (68.9)
Like a "whole" person	1 (1.6)	15 (24.6)	45 (73.8)
Feminine	1 (1.6)	3 (5.0)	8 (93.4)
The operation affected your social skills	1 (1.6)	45 (73.8)	15 (24.6)

Table 5. Cosmetic Changes After Breast Augmentation

To What Degree Are You Satisfied With:	Unsatisfied, No. (%)	No Opinion, No. (%)	Satisfied, No. (%)
Breast volume after operation	10 (16.4)	2 (3.3)	49 (80.3)
Breast shape after operation	4 (6.6)	2 (3.3)	55 (90.1)
Sensation of the skin on the breasts after operation	16 (26.7)	9 (15.0)	35 (58.3)
Scars on the breasts after operation	9 (14.7)	9 (14.7)	43 (70.6)
Symmetry between the breasts after operation	8 (13.1)	2 (3.3)	51 (83.6)
Softness of the breasts after operation	2 (3.3)	5 (8.2)	54 (88.5)
The nipple and the area around it after operation	5 (8.4)	8 (13.6)	46 (78.0)
The cosmetic result as a whole	2 (3.3)	2 (3.3)	57 (93.4)
The breast enlargement as a whole	3 (4.9)	3 (4.9)	55 (90.2)

As many as 93% of patients felt more feminine after breast enlargement. Social skills were unchanged in most patients (74%), whereas shyness in intimate situations improved in 66%. Other aspects of psychosocial character are described in Table 4.

Considering the cosmetic result, 93% were satisfied or very satisfied. Ninety percent responded that they were satisfied with the shape of the breasts, and 71% were satisfied with the scars after surgery. Eighty-four percent found their breasts symmetric and 89% were pleased with the softness (Table 5). Even though many women were satisfied with the cosmetic result and the result as a whole, 27% indicated that they were unsatisfied or very unsatisfied with skin sensation. A large majority (90%) of patients reported that the postoperative results were as expected, better, or much better, and 80% would recommend the operation to a friend. With the enlargement as a whole, 91% were satisfied or very satisfied (Figure 1).

DISCUSSION

Outcome reports from surgical interventions are traditionally based on morbidity and mortality. However, other aspects are important to investigate.[17] Unfortunately, today, evaluations and reports based on surgeons' evaluation of the procedure dominate clinical research. Few studies have addressed patient perspective in this matter.[18-20] Rohrich et al[19] found that it was difficult to correlate subjective patient symptoms with postoperative improvement in QOL after explantation. Others[18,20] have suggested a model called the BREAST-Q that can be used to study the effects and effectiveness of breast surgery from a patient perspective. In this study, we focused on the patient's perspective and her subjective evaluation of the result more than on the surgeon's opinion/perspective. After all, the patient is the one who lives with the surgical result. The study was designed to eliminate bias through guaranteed anonymity for patients, absence of industry sponsorship for the study, and use of a balanced scale for answer alternatives (such as "dissatisfaction," "no effect/no judgment," and "satisfaction"), rather than offering leading questions or answer options.

Tabloid and popular style magazines often depict breast augmentation patients as stereotypically single, young, and glamorous (or seeking glamour). They portray them as desiring very big breasts and having little education. This idea is strengthened by television shows and video programming, including some plastic surgery channels. However, we believe this stereotypical view is changing and becoming closer to the picture of a "normal," average woman. This could be explained by greater acceptance of

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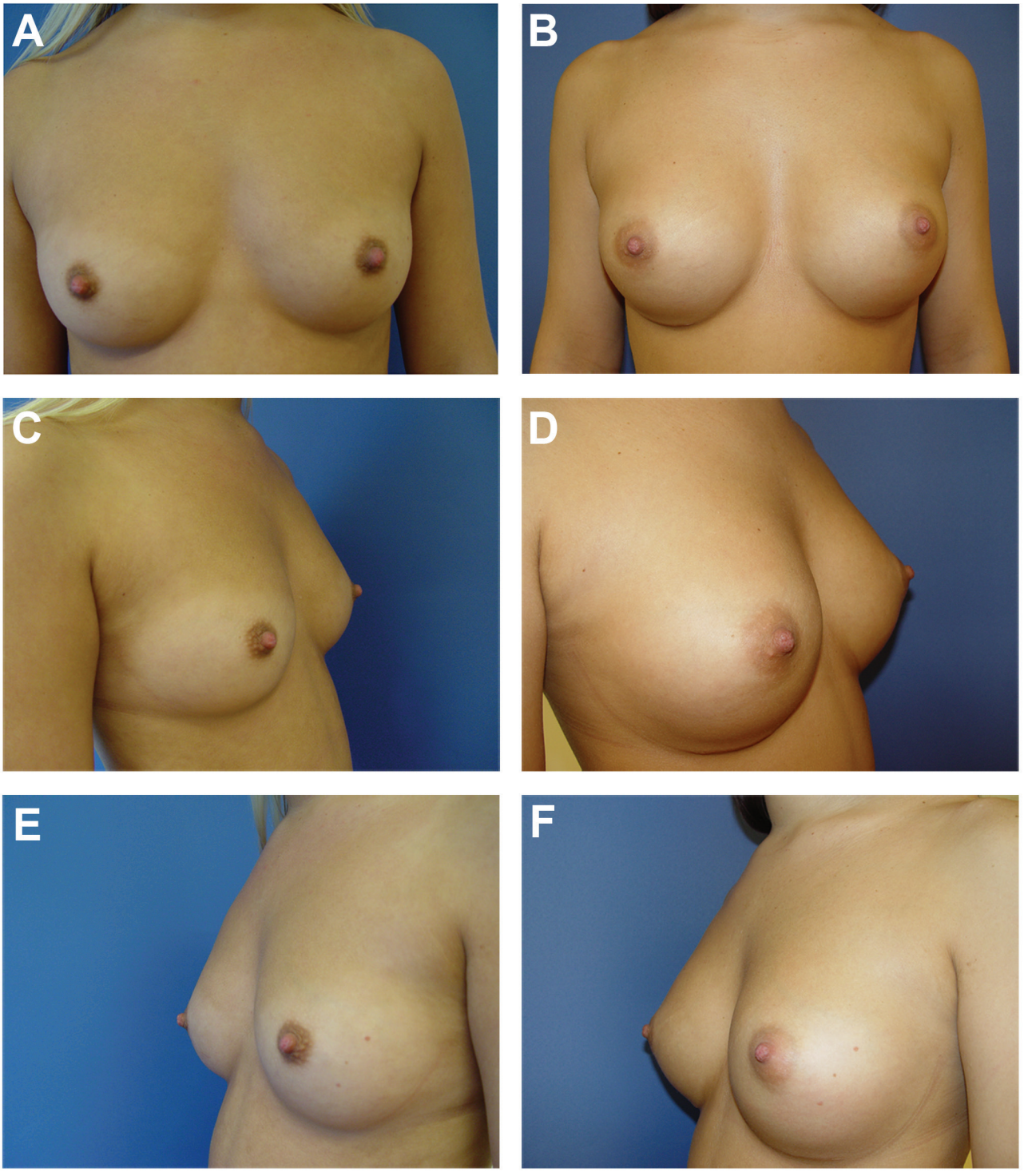

Figure 1. (A, C, E) This 22-year-old woman presented with mammary hypoplasia. (B, D, F) Three years after subglandular placement of 240-gram silicone gel round implants.

aesthetic procedures in general, and breast augmentation specifically, among all sorts of women in various countries and cultures. Technical improvements and continual evolution from cosmetic surgeons have also likely contributed to this, along with increasing savviness and competence among patients considering cosmetic surgery procedures. However, our study did show that only a small percentage of women had finished a higher level of education. This

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could partly be explained by the high number of patients who were in their early 20s at the time of surgery. Several may have been studying at university or college but had not finished at the time they completed their questionnaire.

Although some patients reported an increase in postoperative depression, the depression rate in our study was lower than the given range in a general population in Norway, which ranges from 7% to 17%.[21-25] Our statistics are in contrast to recent alarming data about the rate of psychological disorders in this group of patients.[14,16,26-29] Our respondents were equally distributed among rural and urban areas, so our lower rate could be explained by a balanced set of social, educational, and health backgrounds, but we cannot conclude with certainty that our sample represents a whole population or explains the difference in depression rates from our study versus others.

In our study, breast enlargement increased motivation to perform daily activities and, to lesser a degree, work activity. We think that the general improvement in QOL contributes to this, as physical and psychological limitations were improved. Although some studies have not shown improvement in health-related QOL,[30] we found that 69% of women believed their life was better after surgery, in both cosmetic and social aspects.[31] The procedure provided amelioration of feelings of wholeness and self-esteem, as well as being comfortable in intimate situations. According to Didie and Sarwer,[32] breast augmentation patients seem to undergo the surgery for their well-being and are focused on becoming more feminine. In this way, with regard to surgical motivation, our results were in line with the reports of other investigators.[33-35] However, some of our patients had more than 1 motivation for the procedure.

The question of reduced breast skin sensitivity was approached on a general level in the survey; the questions were not specific for an area or duration because we did not expect a large percentage of patients to be affected. However, we think the loss of sensibility is related to the submammary scar area, in the lower pole of the breast. A similar study is planned for patients who have undergone augmentation-mastopexy, and questions about the characteristics of the area of reduced sensibility will be expanded upon. The study will also include a larger sample in the cosmetic breast augmentation group, with longer follow-up.

The patient group in this study was taken from 1 clinic, which therefore includes a select group of women who were considered acceptable candidates for surgery and agreed to the clinic policy of not placing extremely large implants. Patients with certain psychological characteristics that could have affected the outcome of the study were therefore naturally excluded. Furthermore, the study included only those patients who had e-mail and could answer a questionnaire sent through that method, thereby excluding a small group of patients, which could have also affected the final picture.

The data on patients' psychological health were obviously gleaned solely from postoperative patient reports; no psychometric measures were included, which was a shortcoming of the study. Furthermore, the use of a nonvalidated survey, rather than valid and reliable psychometric measures previously documented in the literature, was a shortcoming in our research. Ideally, there should have been a standardized evaluation of patients' pre- and postoperative mental health, to help us gain a better understanding of the relationship between breast augmentation and depression. Additional studies, preferably multiclinic/center studies, are also needed to increase patient population to form a better picture of the QOL outcomes.

CONCLUSIONS

In our study—which included patients from a variety of ages, backgrounds, socioeconomic status categories, and education levels—breast augmentation was associated with an increased quality of life, including motivation to perform daily activities and overall satisfaction/self-perception. However, an important challenge for the surgeon is the relatively high percentage of patients who were dissatisfied with postoperative skin sensitivity on the breasts. Multicenter studies with standardized questions concerning mental health are needed to better specify the depression rate and its postoperative implications on a larger scale.

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