

Long-term Donor Site–related Quality of Life after Deep Inferior Epigastric Perforator Flap Breast Reconstruction

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Background: Current knowledge about patients' perceptions of the donor site following abdominal-based breast reconstruction and its effect on health-related quality of life (HRQoL) several years after breast reconstruction is limited. This study aimed to assess the long-term effects of deep inferior epigastric perforator (DIEP) flap breast reconstruction on HRQoL, specifically focusing on the abdomen and donor site aspects.

Methods: This retrospective cohort study compared 66 women who underwent DIEP breast reconstruction between 2000 and 2007 with a matched control cohort of 114 women who underwent therapeutic mastectomies without reconstruction in the year 2005. The DIEP cohort of patients completed the BREAST-Q Reconstruction module during an outpatient visit in 2015–2016. The control cohort completed the same questionnaire online in 2016.

Results: The follow-up time was at least 8 years (mean 11.4 ± 1.6 years) postreconstruction for the DIEP cohort and 10 years postmastectomy (mean 11.0 ± 0.3 years) for the control cohort. In the DIEP cohort, 93% reported no donor site pain, 89% had no difficulty sitting up, and 91% had no activity limitations 2 weeks before completing the survey. Patients undergoing DIEP were more satisfied with their abdominal appearance than the control group (adjusted OR, 5.7; 95% confidence interval 1.8–17.6).

Conclusions: A decade postoperatively, DIEP breast reconstruction yields high abdominal donor site satisfaction, with comparable abdominal physical well-being to nonreconstructed women. (*Plast Reconstr Surg Glob Open* 2024; 12:e6011; doi: 10.1097/GOX.0000000000006011; Published online 30 July 2024.)

INTRODUCTION

Advancements in abdominal-based flap breast reconstruction, aiming to minimize donor site morbidity, have shifted from pedicled flap techniques toward free flap and perforator-based breast reconstruction, using less-invasive surgical procedures such as the deep inferior epigastric perforator (DIEP) flap. Perforator-based procedures reduce muscle and fascia damage during surgery^{1–3}

and decrease postoperative morbidities at the donor site, including abdominal wall weakness, bulging, or hernia.^{4,5} However, despite these advancements, concerns remain regarding donor site sequelae and long-term outcomes for the abdomen after DIEP surgery.

With improved breast cancer survival,⁶ more women are living with the potential consequences of cancer treatment. Therefore, in addition to assessing short-term postoperative results, it is crucial to evaluate potential long-term complications. Previous research on donor site outcomes after DIEP reconstruction includes systematic reviews^{5,7} and studies on patient-reported outcomes with short follow-up times.⁸ The superiority of DIEP reconstruction over transverse rectus abdominal muscle reconstruction is widely accepted.^{9,10} Studies evaluating long-term outcomes after DIEP reconstruction have traditionally focused on

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outcomes and health-related quality of life (HRQoL) related to the reconstructed breasts.^{4,11} However, literature on patient perceptions of the abdominal donor site several years after surgery and its impact on HRQoL is lacking.^{12,13} In the present study, we aimed to evaluate the long-term donor site-related HRQoL in women undergoing DIEP breast reconstruction. The null hypothesis is that DIEP reconstruction has no negative effect on abdomen-related HRQoL a decade after the reconstruction.

MATERIALS AND METHODS

This nonrandomized cohort study included patients who underwent DIEP breast reconstructions at Uppsala University Hospital, Sweden, between 2000 and 2007. Given the large uptake area of the Uppsala healthcare region, only patients residing within a 150-km radius of the hospital were eligible for inclusion in this study. An invitation letter was sent to all eligible patients, and for those who agreed to participate, a study-related outpatient clinic visit was scheduled between 2015 and 2016. During the clinical visit, a nurse distributed the survey, which was completed by the patients.

Patients were recruited based on their willingness to participate in the study. The eligible patients were those who had undergone DIEP reconstruction in the early 2000s. During that period, the eligibility criteria for autologous breast reconstruction at Uppsala University Hospital included being a nonsmoker, having a body mass index (BMI) below 30 kg per m², and having no major comorbidities such as concurrent cancers (other than breast cancer) or major cardiovascular events. In patients with a history of breast cancer, delayed reconstruction was offered following adjuvant locoregional radiotherapy, previous failed implant-based reconstruction, or in cases where there was a strong desire for autologous reconstruction. Immediate autologous reconstruction was offered to patients undergoing risk-reducing mastectomies. Retrospective reviews of each patient's medical records were conducted to collect data on comorbidities and surgical complications. At the time of the study, patients were asked to complete the postoperative BREAST-Q Reconstruction module, version 1.0. This questionnaire addresses the physical impact of the reconstruction on the donor site and patients' satisfaction with their appearance.

To provide a comparison group, a control cohort from the Swedish Breast Reconstruction Outcomes (SweBRO) study was used.¹⁴ The SweBRO study is a nationwide cross-sectional survey conducted in 2015, where 5853 women who had undergone mastectomy 5, 10, and 15 years prior were invited to participate, resulting in a response rate of 50%. From the SweBRO cohort, individual patient-level data from patients who had undergone therapeutic mastectomies without reconstruction in 2005 in the Uppsala region were selected to match the mean follow-up time and demographics of the DIEP cohort in the current study. Matching was based on the geographic region and the time between the index surgery (DIEP or mastectomy) and the completion of the survey. Invitees received a letter by post. This included study information and a link to a

Takeaways

Question: Does deep inferior epigastric perforator (DIEP) flap breast reconstruction have negative effects on abdomen-related HRQoL a decade after reconstruction?

Findings: This retrospective cohort study compared 66 patients undergoing DIEP breast reconstructions with a control cohort of 114 mastectomized women. Both groups completed the BREAST-Q Reconstruction module 10 years postmastectomy. The DIEP cohort was more likely to be very satisfied with their abdominal appearance than the control group (adjusted odds ratio, 5.7; 95% confidence interval 1.8–17.6).

Meaning: DIEP breast reconstruction is associated with high satisfaction of the abdominal donor site when assessed a decade postoperatively.

website with a personal code for accomplishing the survey online. Four weeks later, women who had not responded online received a second letter, which included paper questionnaires and a prepaid return envelope.¹⁴

In the current study, the comparison between the DIEP and control cohorts was based on the responses to the six items from the preoperative BREAST-Q Reconstruction module v. 1.0, which were also included in the postoperative version. The DIEP cohort completed the questionnaires on paper, whereas the control group had the option to answer on paper or online.

This study was approved by the Regional Research Ethics Committee Review Board in Uppsala (reference numbers 2014/354 and 2014/354/1). Written informed consent was obtained from all participants. The article was prepared following the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines.¹⁵

Statistical Analysis

In the analysis, the responses to the individual items on the questionnaire were presented as numbers and percentages for each response category. The items were then analyzed as dichotomous variables, by categorizing the frequency items as the “best” option versus others, or the two “worst” options versus others. Similarly, the satisfaction items were dichotomized into the “best” option versus others, or the “worst” option versus others. Logistic regression models were used to compare the dichotomous response variables between the DIEP and control cohorts. The control cohort was selected based on geographic region, time between the index procedures, and the availability of survey data. This control group had undergone their index procedures (mastectomies) in 2005. The responses were analyzed alongside medical record data on risk factors, complications, and clinical findings. The treatment group was included in the regression models as a categorical variable, whereas age and BMI at the time of the survey were included as continuous variables. Patients with missing data were excluded from the analysis. A post hoc analysis was also performed by creating an age-matched cohort (± 1 year), analyzed using conditional logistic regression.

All hypothesis tests were two-sided, with an alpha level of 5%. Statistical significance should be interpreted in the context of an observational study. All analyses were conducted using R version 4.2.2 (R Foundation for Statistical Computing, Vienna, Austria).

RESULTS

DIEP Cohort

Among the patients who underwent DIEP breast reconstruction during the study period, 75 were eligible for inclusion in the study. Seven patients did not attend the follow-up study visit, and two had incomplete questionnaires. As a result, a total of 66 patients were included in the DIEP cohort, resulting in a participation rate of 89% (Fig. 1). The follow-up study visits, during which the questionnaire was completed, took place at least 8 years after reconstruction (mean 11.4 ± 1.6 years, range, 8–16 years; Table 1).

The baseline characteristics of the DIEP cohort are presented in Table 1. The mean BMI at the time of reconstruction was 25.7 kg per m^2 . Five DIEP reconstructions were performed immediately, and six patients underwent bilateral reconstructions. Before their breast reconstructions,

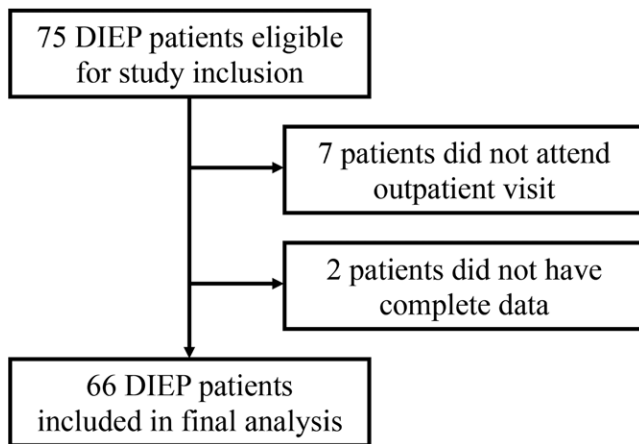


Fig. 1. A flowchart describing the inclusion and exclusion of patients in the DIEP cohort

Table 1. Baseline Characteristics of the Cohort of Patients Who Underwent DIEP Flap Breast Reconstruction

	DIEP Cohort (n = 66)
Age at the time of DIEP surgery, y	
N	63
Mean (SD)	51.3 (8.5)
BMI at the time of DIEP surgery, kg/m^2	
N	63
Mean (SD)	25.7 (4.0)
DIEP laterality, n (%)	
Unilateral	59 (89)
Bilateral	6 (9)
Missing data	2 (3)

41 patients (62%) had received radiotherapy, and 30 (45%), chemotherapy. The mean length of hospital stay was 7.0 ± 1.5 days (range, 4–14 days). Among the patients, 21 (32%) experienced early donor site complications within 90 days; the majority were documented as minor and did not require surgical intervention. Specifically, 13 patients (20%) had wound dehiscence, with two (3%) requiring revision under local anesthesia. Ten patients (15%) were treated with oral (n = 9) or intravenous (n = 1) antibiotics for clinically suspected infection. Additionally, seven patients (11%) developed seromas, of which two (3%) were drained bedside; two (3%) had postoperative hematomas (resolved conservatively), and one (2%) experienced blood leakage from the donor site.

Following the DIEP, 63 patients (95%) underwent a secondary procedure, which was defined as any secondary corrections performed after the initial reconstruction, including nipple reconstructions. Excluding nipple reconstructions, 54 patients (82%) had a secondary procedure. Only one patient experienced fat necrosis and required flap debridement, but there were no instances of flap failures. The most common secondary procedures performed were liposuction (n = 28, 42%), of which 20 patients (30%) underwent liposuction of the reconstructed breast; four (6%) underwent liposuction only of the abdomen, and four (6%) underwent liposuction of the breast and abdomen. Hence, eight patients (12%) underwent liposuction of the abdomen. Other common secondary procedures were scar revision at the donor site (n = 15, 23%) or breast (n = 6, 9%), contralateral breast reduction (n = 7, 11%), and mastopexy (n = 4, 6%).

The reported symptoms and satisfaction outcomes of the DIEP cohort are presented in Table 2 and Table 3, respectively. At the time of the survey, the mean age and BMI of the cohort were 62.9 years and 26.3 kg per m^2 , respectively. In the DIEP cohort 93% (55 of 59) reported no pain at the donor site, and 83% (49 of 59) experienced no numbness of the abdomen. In the 2 weeks before filling-out the survey, 89% (59 of 66) and 91% (60 of 66) of patients reported “never occurred” for “difficulties sitting up,” and “difficulties performing activities.” At least some abdominal bulging was reported in 29% (20 of 66) of the patients. Nine patients (13.6%), reported “a little of the time,” and nine patients reported “some of the time.” One person (1.5%) reported bulging “all of the time.” The patients were also asked if they had experienced lower back pain after the reconstructive surgery, and 56% (37 of 66) responded “none of the time.”

Satisfaction with appearance of the abdomen among the DIEP cohort was reported as “very satisfied” in 27% (18 of 66) and “somewhat satisfied” in 55% (36 of 66) of the patients. The total percentage of patients who reported being either “very satisfied” or “somewhat satisfied” with the appearance of the scars at the abdominal donor site was 74% (49 of 66). When asked to compare the appearance of their abdomen at the time of surveys with the appearance before surgery, 31% (20 of 65) reported being “very satisfied,” and 49% (32 of 65) were “somewhat satisfied.”

Table 2. Distribution of the Responses of the Cohort of Patients Who Underwent DIEP Breast Reconstruction to Questions about Donor Site Symptoms in the BREAST-Q Reconstruction Module

		(Total, n = 66)
Experiencing the following in the abdomen area, in the past two weeks:	Response alternative	n (%)
Difficulty sitting up	None of the time	59 (89)
	A little of the time	2 (3)
	Some of the time	3 (5)
	Most of the time	2 (3)
	All of the time	0 (0)
Difficulty performing activities	None of the time	60 (91)
	A little of the time	3 (5)
	Some of the time	2 (3)
	Most of the time	1 (2)
	All of the time	0 (0)
Discomfort	None of the time	46 (70)
	A little of the time	11 (17)
	Some of the time	9 (14)
	Most of the time	0 (0)
	All of the time	0 (0)
Bloating	None of the time	40 (61)
	A little of the time	14 (21)
	Some of the time	11 (17)
	Most of the time	1 (2)
	All of the time	0 (0)
Bulging	None of the time	47 (71)
	A little of the time	9 (14)
	Some of the time	9 (14)
	Most of the time	0 (0)
	All of the time	1 (2)
Tightness	None of the time	43 (65)
	A little of the time	11 (17)
	Some of the time	10 (15)
	Most of the time	2 (3)
	All of the time	0 (0)
Pulling	None of the time	48 (73)
	A little of the time	11 (17)
	Some of the time	5 (8)
	Most of the time	2 (3)
	All of the time	0 (0)
Back pain	None of the time	37 (56)
	A little of the time	14 (21)
	Some of the time	13 (20)
	Most of the time	2 (3)
	All of the time	0 (0)

Note: The values in the table are presented as n (%). The questions refer to the area from which tissue was removed (the donor site). The questions correspond to items 7a–7h in the BREAST-Q Reconstruction module (postoperative) version 1.0.

Control Cohort

A total of 114 women were selected from the SweBRO study, and the mean time between mastectomy and the survey was 11.0 years (Table 4). At the time of the survey, the mean age and self-reported BMI of the control group were 71.3 years and 27.1 kg per m², respectively.

Supplemental Digital Content 1 shows the comparison of donor site symptoms and satisfaction between the DIEP and control groups. (See table, Supplemental Digital Content 1, which displays the comparison of the responses to the BREAST-Q Reconstruction questionnaire of the cohort who underwent DIEP breast reconstruction with those of the control cohort who underwent mastectomy without reconstruction, <http://links.lww.com/PRSGO/D379>.)

Women in the DIEP cohort were more likely to report being “very satisfied” with their abdominal appearance than women in the control cohort (adjusted OR, 5.7; 95% confidence interval 1.8–17.6). However, no other differences between the DIEP and control cohorts remained statistically significant after adjusting for age and BMI (Supplemental Digital Content 1, <http://links.lww.com/PRSGO/D379>). The results of the analysis that matched on age instead of adjusting for it were consistent with the main results. (See table, Supplemental Digital Content 2, which displays the characteristics of the cohort who underwent DIEP breast reconstruction and the age-matched control cohort who underwent mastectomy without reconstruction, <http://links.lww.com/PRSGO/D380>.) (See table, Supplemental Digital

Table 3. Distribution of the Responses of the Cohort of Patients Who Underwent DIEP Breast Reconstruction to Questions about Their Satisfaction with the Donor Site in the BREAST-Q Reconstruction Module

		(Total, <i>n</i> = 66)
Satisfaction with the following, in the past 2 weeks:	Response alternative	<i>n</i> (%)
Abdomen appearance	Very dissatisfied	2 (3)
	Somewhat dissatisfied	10 (15)
	Somewhat satisfied	36 (55)
	Very satisfied	18 (27)
Belly button position	Very dissatisfied	0 (0)
	Somewhat dissatisfied	6 (9)
	Somewhat satisfied	35 (53)
	Very satisfied	25 (38)
How scars look	Very dissatisfied	5 (8)
	Somewhat dissatisfied	12 (18)
	Somewhat satisfied	26 (39)
	Very satisfied	23 (35)
How abdomen feels	Very dissatisfied	3 (5)
	Somewhat dissatisfied	9 (14)
	Somewhat satisfied	30 (46)
	Very satisfied	23 (35)
How abdomen looks	Very dissatisfied	2 (3)
	Somewhat dissatisfied	11 (17)
	Somewhat satisfied	32 (49)
	Very satisfied	20 (31)

Note: The values in the table are presented as *n* (%). The questions correspond to items 8a–8c and 9a–9b in the BREAST-Q Reconstruction Module (postoperative), version 1.0.

Table 4. Characteristics of the Cohort Who Underwent DIEP Breast Reconstruction and the Control Cohort Who Underwent Mastectomy without Reconstruction

	DIEP Cohort (<i>n</i> = 56)*	Control Cohort (<i>n</i> = 114)
Time from index date to the survey, y†		
<i>n</i>	50	114
Mean (SD)	11.4 (1.6)	11.0 (0.3)
Age at the time of the survey, y		
<i>n</i>	52	114
Mean (SD)	63.0 (9.1)	71.3 (10.0)
BMI at the time of the survey, kg/m ²		
<i>n</i>	50	112
Mean (SD)	26.2 (4.5)	27.1 (6.3)

*Only 56 of the 66 patients in the DIEP cohort were included in the original matching, due to availability of DIEP date and age, BMI, or laterality.

†The index date was defined as the DIEP date for women who underwent DIEP, and the mastectomy date for women who did not undergo reconstruction.

Content 3, which displays the comparison of the responses to the BREAST-Q Reconstruction questionnaire of the cohort who underwent DIEP breast reconstruction with those of the age-matched control cohort who underwent mastectomy without reconstruction, <http://links.lww.com/PRSGO/D381>.) (See table, **Supplemental Digital Content 4**, which displays the nonresponder analysis of the cohort of patients who underwent a DIEP breast reconstruction and the cohort of patients who were included in controlled comparisons, <http://links.lww.com/PRSGO/D382>.) (See table, **Supplemental Digital Content 5**, which displays the distribution by complication and liposuction statuses of the responses of the cohort of patients who underwent DIEP breast reconstruction to questions about donor site symptoms in the BREAST-Q Reconstruction module, <http://links.lww.com/PRSGO/D383>.) (See table, **Supplemental Digital Content 6**, which displays the distribution by complication and liposuction

statuses of the responses of the cohort of patients who underwent DIEP breast reconstruction to questions about their satisfaction with the donor site in the BREAST-Q Reconstruction module, <http://links.lww.com/PRSGO/D384>.)

DISCUSSION

In the current study, women who underwent DIEP flap breast reconstruction reported high levels of satisfaction with the abdomen more than 8 years after the breast reconstruction. These findings remained significant when comparing patients undergoing DIEP to women undergoing mastectomy without breast reconstruction after a similar length of time from the mastectomy. Specifically, the DIEP group reported higher satisfaction with their abdominal appearance compared with the control cohort.

The surgical technicalities and perioperative management of DIEP breast reconstructions have substantially improved since the time period in which the DIEP cohort of the current study underwent the procedure (2000–2007). Some of the techniques used to reduce donor site morbidity include the use of tension sutures,¹⁶ optimization of the umbilicus,¹⁷ suturing of the rectus diastasis, closed-incision negative pressure therapy,^{18,19} and harvesting a medial perforator when possible to avoid abdominal bulging.²⁰ Also, reducing the operating time is beneficial, as longer operating times have been associated with abdominal bulging and complications in general.²¹ All of these refinements aim to reduce donor site complications and morbidity and improve long-term outcomes for patients undergoing DIEP in the future. In this study, most women underwent a unilateral DIEP. However, bilateral DIEP may have a higher risk of bulging due to more extensive surgery and the harvesting of two or more perforators.²²

The BREAST-Q is a patient-reported outcome instrument that has demonstrated content validity and psychometric properties.²³ In a comparison of abdominal flaps, it was found that the superficial inferior epigastric artery (SIEA) flap cohort had higher physical well-being scores than the DIEP reconstruction cohort at 1 year but not at 2 years postreconstruction.¹⁰ As SIEA dissection does not involve fascia incisions or intramuscular dissection, this finding is expected. However, in the current study, which only included patients undergoing DIEP flap reconstruction, similarly high levels of abdomen-related HRQoL as in the SIEA cohort were reported over an even longer period.

Previous studies have indeed investigated long-term donor site-related HRQoL. Nelson et al conducted a study using the BREAST-Q to assess a cohort of 51 patients who underwent autologous breast reconstructions. They found high levels of abdominal strength and physical well-being scores after a similar follow-up period as the current study (mean follow-up: 8.2 years; range, 6–10 years).²⁴ However, in this study, only 13 patients underwent DIEP reconstruction, whereas the remaining had undergone transverse rectus abdominus myocutaneous flap reconstructions.

Lofstrand et al¹³ conducted a study comparing the donor site outcomes of patients undergoing DIEP reconstructions to those undergoing latissimus dorsi (LD) reconstructions. They used the BREAST-Q Reconstruction module and included 135 patients with LD and 118 patients with DIEP reconstructions, with a follow-up period of 7 years postoperatively. They found that patients undergoing DIEP reconstruction reported fewer physical issues, such as tightness and pulling at the donor site, but experienced greater dissatisfaction with the aesthetics of the donor site compared with patients undergoing LD reconstruction. Notably, the prevalence of abdominal tightness, pulling, and bulging was higher in the study by Lofstrand et al compared with the present study. Both studies compared the outcomes of DIEP reconstructions to other autologous reconstruction techniques and yielded mixed results in terms of donor site outcome

comparisons. However, no previous study comparing patients undergoing DIEP reconstructions to patients with mastectomy alone has been identified.¹³

Limitations

One limitation of this study is the small sample size, which hinders subgroup analysis and may have been influenced by complications, such as hematoma or infections, as well as variations in BMI among participants. Although the recruiting center is a high-volume microsurgical unit, the long travel distances required outside of routine care restricted the number of eligible patients for this long-term follow-up study on DIEP reconstructions. Despite this limitation, the participation rate was high, reaching close to 90% for patients living within a reasonable travel distance at follow-ups of 8–11 years. This high participation rate, along with the focus on long-term patient-reported donor site morbidity and HRQoL and the inclusion of a control group of patients undergoing breast cancer mastectomy without reconstruction, adds novelty to this study. Our findings provide valuable insights into patients' long-term perceptions of the abdomen after DIEP breast reconstructions. The control group for this study was selected from SweBRO participants, based on follow-up time and treatment region, as long-term postmastectomy data was available for the cohort from the SweBRO study, but no matching was done for other variables due to unavailability of data. This study was not a controlled prospective study, and there were differences in age at the time of the survey between the groups. The mean age was 62.9 years in the DIEP cohort and 71.3 years in the control cohort. These age differences, along with other potential confounders, could influence the results, as higher age may impact abdominal appearance and expectations, and may have a negative impact on HRQoL.²⁵ However, the findings remained consistent in an analysis where age was used as the matching variable. The comparative analyses only accounted for age and BMI, using self-reported BMI from the SweBRO study. Furthermore, different expectations regarding appearance may mean that older women are less likely to opt for reconstructive surgery.²⁶ Although the DIEP cohort may represent a group with better socioeconomic conditions, it should be noted that breast reconstructions in Sweden are fully financed by the national healthcare system, without any private expenses.

From a technical standpoint, it would have been useful to know whether a lateral row pedicle or medial row was used when evaluating long-term donor site morbidity, because the use of a lateral row pedicle poses a higher risk of bulging than the medial row. Similarly, information on preoperative rectus diastasis and previous abdominal surgery in the both groups would have been valuable, as it may increase the risk of bulging.²⁰ However, none of these data were available for the current patient cohort.

In the current study, 21% (14 of 66), 20% (11 of 66), and 3% (two of 66) of the participants reported experiencing lower back pain “a little of the time,” “some of

the time,” and “all of the time,” respectively. Notably, lower back pain is recognized as one of the major disabling health conditions among adults older than 60 years.²⁷ Furthermore, it is most prevalent among women aged 40–80 years.²⁸ The findings of the current study suggest a similar prevalence of lower back pain as in the general population, rather than indicating an increased risk of lower back pain associated with previous surgery. However, further studies are warranted to provide a comprehensive understanding of the potential relationship between autologous breast reconstruction and long-term back pain.

There was a minor difference in BMI between the two groups. However, due to the retrospective nature of the sampling, data on other potential confounding factors were not available for both groups, limiting the ability to further adjust the comparisons. It is also possible that the selected control group included patients with factors that would render them ineligible for DIEP breast reconstructions, such as smoking or major comorbidities. Although these limitations are acknowledged, the current study yields encouraging results. In the long-term perspective, the outcomes and morbidity in the DIEP cohort were not worse than those in the control group of women who underwent mastectomies for breast cancer without breast reconstruction.

CONCLUSIONS

Long-term abdomen-related HRQoL after breast reconstruction with the DIEP flap shows high rates of satisfaction and functionality. Compared with women who underwent a therapeutic mastectomy with no reconstruction, those who underwent DIEP surgery were on average approximately 8 years younger and more likely to express satisfaction with the appearance of their abdomen.

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DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

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