

The Effects of Surgical Lipedema Therapy on Psychological Variables in Younger Patients between 18 and 35 Years

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Abstract

Lipedema is a chronic inflammatory fat distribution disorder that largely affects women. This article addresses the effects of surgical lipedema therapy to changes in the constructs of self-esteem, quality of life, body image, and the development of depressive symptoms. The thesis assumed improvement in the aforementioned variables after liposuction. Using a combination of evaluated questionnaires, a survey instrument was designed and completed by 48 (=N) female lipedema patients (18-35 years). The study showed highly significant results regarding a decrease in depressive symptoms, postoperatively. Statistically significant positive effects on quality of life and body image were also found. In addition, 97.9% of the patients interviewed stated that they had experienced a reduction in pain as a result of liposuction. In 95.8%, liposuction boosted in an improvement in mobility. In summary, the results show that liposuction not only provides physical relief, but also significantly reduces psychological stress and improves quality of life. The results support the assumption that liposuction is a recommendable means for the treatment of lipedema due to its multiple positive effects.

Keywords: Lipedema; Lipedema therapy; Liposuction; Body image; Quality of life.

Introduction

Lipedema is a severe chronic inflammatory fat distribution disorder that cannot be treated with exercise and a healthy diet. Lipedema is a subcutaneous fat proliferation [1], which occurs predominantly (in 98%) of cases in women [2]. The disease usually begins during puberty, after pregnancy or after menopause [3], i.e. as a result of hormonal changes. Affected individuals suffer from a symmetrical increase in fat predominantly in the lower and upper thighs, more rarely also in the hips, arms and buttocks [4]. The lifetime prevalence of lipedema is approximately 10% of the total female population [5].

What is the best treatment for lipedema?. How can lipedema be differentiated from other diseases in terms of differential diagnosis? These questions are a recurring concern in clinical practice [6].

Lipedema can lead to a body image that deviates significantly from the social norm and can cause high physical and

psychological distress [7]. In addition to the physical and mental distress, the diagnosis of lipedema may be overlooked altogether or misinterpreted as obesity [8]. Misinterpretations of this nature can lead to further mental instability, radical diets, or weight loss regimens [2]. In younger female patients, the repeated suggestion of weight loss can even result in anorexia [8] or the compulsion of peak performance in athletic areas [9]. Apart from pain and losses in quality of life and mental health, lipedema can also affect the leg axes, so that the additional fat volumes on the inner thighs lead to incorrect loading on the knee joints. The treatment method liposuction is the only method so far that can counteract all these serious consequences and prevent further complications [7,10]. Liposuction improves appearance and reduces edema and pain [11]. Besides liposuction as a surgical treatment method, there is also the option of conservative treatment through combined decongestive therapy, with the help of manual lymphatic drainage [12]. Pre-

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dominantly German health insurance is covering the conservative therapy approach, even though it can be assumed that the costs of a successful surgical lipedema therapy hardly differ from those of a long-term conservative therapy [13].

Method and sample

The conducted study deals with liposuction as a treatment method for lipedema and with the consequences of surgical lipedema treatment on mental health. The hypotheses address the question of the extent to which liposuction has a positive impact on the variables of self-esteem, quality of life, and body image. It was also investigated whether liposuction can contribute to the reduction of depressive symptoms.

To collect the data, several evaluated questionnaires, as well as self-created items were used. For this purpose, two components (self-acceptance and self-appreciation) of the German “Dresdner Körperbildfragebogen” [14], the Rosenberg’s Self-Esteem Scale as a revised German language version [15], the German version of the Satisfaction with Life Scale [16], and the German translation of the Patient Health Questionnaire by Löwe, [17], were used. The entire survey consisted of 89 items. Thereafter, a quantitative cross-sectional study was conducted retrospectively. The compiled questionnaire was sent by mail to 203 patients of the “Lipödemklinik an der Alster”, a lipedema clinic in Hamburg, Germany, the response rate was 46.5%. Hence, data from N=93 questionnaires were included in the analysis. In order to make further statistical comparisons, the sample was divided into two age groups. The patients in the younger partici-

pant group referred to in this article were between 18 and 35 years of age (M=27.10; n=48) at the time of the survey. The elderly patient collective group was N=43, with ages ranging from 36 to 66 years. In this article, only the younger patient collective is referred to. A prerequisite for participation in the survey was that the patients had undergone at least one previous surgical lipedema therapy (liposuction).

Results

The descriptive statistics show that most of the female respondents (80%) were employed at the time of the survey. When asked about the time of onset, 75% of the respondents answered with an onset during puberty. This suggests, as already mentioned above, a hormonal change as a trigger for the lipedema. A clear majority (97.9%) of patients reported less pain as a result of liposuction. In 95.8%, liposuction resulted in improved mobility.

Table 1 shows to what extent the values of the scales changed from the pre- to the postoperative time point. Regarding the two body image scales, the following results were recorded: No significant results were recorded regarding the self-acceptance scale, $t(4) = -.722, p = .474$. However, the self-appreciation scale showed a highly significant difference from preoperative to postoperative scores, $t(4) = -8.21, p < .001$. The results demonstrate a highly significant change in the Satisfaction with Life Scale scores from pre- to postoperative, $t(4) = 7.37, p < .001$. The results also showed a highly statistically significant change in the depression questionnaire scores from preoperative to postoperative, $t(4) = 8.593, p < .001$ (Table 1).

Table 1: Results of comparison between patients’ pre- and post-operative data (paired samples, t-test).

		M _{Diff}	SD _{Diff}	SE	lower value	upper value	T	df	Sig. (2-sided)
Pair 1	self-acceptance post self-acceptance pre	-.277	2.627	.383	-1.048	.495	-.722	46	.474
Pair 2	self-appreciation post self-appreciation pre	-5.191	4.332	.632	-6.463	-3.920	-8.216	46	.000***
Pair 3	self-esteem post self-esteem pre	.239	2.078	.306	-.378	.856	.780	45	.439
Pair 4	quality of life post quality of life pre	6.872	6.385	.931	4.998	8.747	7.379	46	.000***
Pair 5	depression post depression pre	-6.936	5.534	.8072	-8.561	-5.311	-8.593	46	.000***

* $p < .05$; ** $p < .01$; *** $p < .001$.

Note: Values are rounded to three decimal places; 95% confidence interval of the difference upper and lower value; M: mean_{Diff}; SD: Standard Deviation_{Diff}; SE: Standard Error of the mean; df: number of degrees of freedom, Sig: Significance.

Discussion and conclusion

The calculations provide statistically highly significant results regarding the scales quality of life, body image (self-appreciation) and depressive symptoms. This shows that the variables mentioned were significantly changed by liposuction in a positive way.

The present study has some limitations. Since only two scales of the body image questionnaire were queried, it is unclear to what extent the construct body image could be adequately analyzed. Furthermore, a longitudinal study with two survey time points could provide more reliable results and offer clues to causality in the future. A larger sample could also lead to more meaningful and significant results in additional areas.

In addition to the strong reduction of physical pain (including its elimination), the present study shows that liposuction has not only a physical but also a psychological relieving effect. Furthermore, the expressive effects of lipedema on the human psyche were presented and examined. This study provided evidence of the seriousness of the condition and the significant extent of lipedema. Affected women suffer from much more than just “thick legs” and have the right to appropriate and cost-effective treatment. Moreover, the aspect of treating the accompanying psychological symptoms, such as depressive symptoms, should not be ignored. Affected persons also deserve appropriate therapeutic treatment with regard to their mental health. Therefore, in the mind of the authors, this survey is a step in the right direction. Nevertheless, many research questions are still open and a number of further studies are needed. Therapeutic

measures also need to be further developed. Nevertheless, this study clearly shows the predominance of early surgical lipoedema therapy over conservative treatment.

Studies that further investigate the causal reasons of lipoedema could help optimize therapies and lead to targeted treatment of lipoedema that is both psychological and physical.

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