

Supplementary Materials

Table S1. Lipedema Symptoms Scale (LS): Pain-Related Results.

Variable	Mean $\pm$ SD
Mean score across pain-related LS items	1.97 $\pm$ 0.54
Item 9. Leg pain	2.83 $\pm$ 1.36
Item 8. Thigh pain	2.19 $\pm$ 1.29
Item 10. Arm pain	1.68 $\pm$ 1.06
Item 17. Abdominal pain	1.61 $\pm$ 1.00
Item 14. Buttock pain	1.54 $\pm$ 0.98

Note. The pain-related LS score was calculated as the mean of items 8 (thigh pain), 9 (leg pain), 10 (arm pain), 14 (buttock pain), and 17 (abdominal pain). After rescaling the mean score from the original 1–5 response format to a 0–10 metric, the corresponding value was 4.93 ± 1.35 , which is comparable to the mean score obtained on the Visual Analogue Scale (VAS; 4.16 ± 2.80), indicating a mild-to-moderate level of perceived pain intensity in the study sample.

Table S2. Pharmacological Treatments. The most commonly reported pharmacological treatments in each study group are presented below.

Medication	Lipedema (%)	Controls (%)
Antidepressants	14.0	0.0
Thyroid medication	14.0	6.0
Anxiolytics	7.8	3.0

Note. Values represent the percentage of participants reporting current use of each medication. Participants could report more than one medication; therefore, percentages do not sum to 100%.

Table S3. Most Frequently Reported MUS Symptoms in the Lipedema Group.

Symptom	Participants (%)
Persistent fatigue	63
Anxiety	45
Mood disturbances	44
Cold hands and feet	44
Gastrointestinal disturbances	39
Frequent unjustified feelings of guilt	39
Appetite changes	37
Insomnia	35
Resting heart rate variations	35

Note. The table reports only the nine most frequently endorsed items from the 19-item MUS questionnaire. Percentages refer to the proportion of participants with lipedema endorsing each symptom.

Table S4. Cognitive Disfunctional Beliefs Questionnaire (Ad Hoc). Eight items assessing common dysfunctional cognitive beliefs. Each item was rated on an 8-point scale ranging from 0 to 7, with higher scores indicating greater endorsement of the belief. The questionnaire demonstrated good internal consistency (Cronbach's $\alpha = 0.85$).

Dysfunctional Cognitive Beliefs	Lipedema (n = 77) Mean $\pm$ SD	Controls (n = 32) Mean $\pm$ SD	<i>p</i>
1. Catastrophizing: <i>After a negative event, I expect catastrophic outcomes.</i>	2.7 $\pm$ 2.1	1.6 $\pm$ 1.8	0.015
2. Rigid Interpersonal Expectations: <i>People must behave in the right way.</i>	5.1 $\pm$ 1.9	3.8 $\pm$ 2.3	0.013
3. Dichotomous thinking: <i>I tend to see things as either good or bad.</i>	2.5 $\pm$ 2.3	1.7 $\pm$ 1.8	0.055
4. Fortune telling: <i>I think I know what will happen and act accordingly.</i>	3.2 $\pm$ 2.2	2.3 $\pm$ 1.9	0.058
5. Mind reading: <i>I believe I know what others are thinking.</i>	3.8 $\pm$ 2.3	3.3 $\pm$ 2.0	0.321
6. Overgeneralization: <i>I use absolute terms (e.g., always, never, everyone, no one).</i>	3.1 $\pm$ 2.3	1.9 $\pm$ 1.6	0.002
7. Negative bias: <i>I minimize the positive aspects of situations.</i>	3.0 $\pm$ 2.4	1.6 $\pm$ 1.8	0.002
8. Self-Blame Tendencies <i>I often think that everything is my fault.</i>	2.8 $\pm$ 2.5	1.4 $\pm$ 1.7	0.002

Note. This ad hoc measure has not undergone prior psychometric validation and was included for exploratory purposes. Items were developed by the authors based on cognitive distortions described in the cognitive-behavioral literature (Beck 1976).

Table S5. Correlations Among Clinical and Psychological Variables in Women with Lipedema (n = 77).

Variable	PHQ-9	EAT-26	Lifetime Mental Health Disorders
Age	0.020	-0.011	0.069
MUS total	0.734**	0.414**	0.572**
Pain intensity (VAS)	0.508**	0.333**	0.312**
Stressful life events	0.177	-0.087	0.335**
Childhood quality of life			
1-Emotional support from family	-0.178	-0.252*	-0.087
2- Happy childhood	-0.227*	-0.133	-0.105
3 -No serious family health-related events	-0.250*	-0.072	-0.173
4-Childhood free from major stressful events	-0.377**	-0.184	-0.064
Current body image			
1-Proud of my physical appearance	-0.507**	-0.474**	-0.280*
2-Positive thoughts about my body	-0.343**	-0.410**	-0.360**
3-Calm when my body is exposed	-0.455**	-0.442**	-0.342**
4-Positive emotions about my appearance	-0.329**	-0.377**	-0.277*
Stage of lipedema (Spearman's rho)	q 0.135	0.173	0.164
	p 0.242	0.132	0.154

Note. Pearson correlation coefficients are reported unless otherwise indicated. Lipedema stage was analyzed using Spearman's rank correlation because it is an ordinal variable. $p < .05^*$, $*p < .01$.

These analyses were exploratory and are presented in the Supplementary Materials to provide a complete overview of the observed associations.

Table S6. Correlations Between Pain Intensity (VAS) and Clinical and Psychological Variables in Women with Lipedema (n = 77).

Variable	Pearson's <i>r</i>
MUS total	.467**
PSS total	.430**
WHO-5 total	-.427**
SWLS total	-.397**
AAQ-II total	.370**
Stressful life events	.273*
Childhood quality of life	
1-Emotional support from family	-.031
2-Happy childhood	-.037
3-No serious family health-related events	-.069
4-Childhood free from major stressful events	-.396**
Current body image	
1-Proud of my physical appearance	-.288*
2-Positive thoughts about my body	-.228*
3-Calm when my body is exposed	-.192
4-Positive emotions about my appearance	-.197

Note. VAS = Visual Analogue Scale for pain intensity (0 = no pain; 10 = worst imaginable pain). Pearson correlation coefficients are reported. $p < .05$; * $p < .01$.

Table S7. Assessed Comorbidities.

No.	Comorbidity
1	Obesity
2	Hypothyroidism
3	Chronic venous insufficiency
4	Chronic joint pain
5	Hypertension
6	Polycystic ovary syndrome (PCOS)
7	History of cancer (past or current)
8	Diabetes mellitus
9	Arthritis
10	Mental health disorders
11	Fibromyalgia
12	Endometriosis
13	Other medical conditions

Note. Self-reported physician-diagnosed comorbidities assessed in the study questionnaire. Participants were asked to indicate the presence or absence of each condition.

Table S8. Lipedema Symptoms Scale (LS) (ad hoc).

No.	Item
1	Pain sensitivity
2	Easy bruising
3	Swelling in affected areas
4	Feeling of heaviness in the limbs
5	Skin tenderness
6	Fatigue in the lower limbs
7	Cold skin sensation
8	Hip pain
9	Thigh pain
10	Knee pain
11	Skin tightness
12	Reduced mobility
13	Burning sensation
14	Pain on pressure
15	Difficulty walking
16	Edema severity
17	Pain at rest

Note. Participants rated each item on a 5-point Likert scale ranging from 1 (no problem) to 5 (extremely severe). The total score was calculated as the sum of all items, with higher scores indicating greater symptom severity. As this scale was developed specifically for the present study, no prior psychometric validation is available; therefore, it was used for exploratory purposes.

Table S9. Symptom Severity (SS) scale.

Item	Symptom
1	Legs disproportionately larger than the upper body
2	Swelling of the affected areas
3	Loose connective tissue around the knee joints
4	Cellulite
5	Pain sensitivity
6	Pain
7	Easy or spontaneous bruising
8	Arms disproportionately larger than expected for body size*
9	Presence of varicose veins

Note. Each item was rated on a 5-point Likert scale ranging from 0 (no problem) to 4 (extremely severe). The scale assessed symptoms experienced during the previous 28 days. The mean item score was calculated to provide an overall index of symptom severity.

Table S10. Current Body Image Scale (Ad Hoc). Four items assessing current body image. Each item was rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

No.	Item
1	I am proud of my physical appearance.
2	I often have positive thoughts about my body.
3	I calmly approach situations in which my body is exposed.
4	I often experience positive emotions about my physical appearance.

Note. This ad hoc measure has not undergone prior psychometric validation and was included for exploratory purposes.

Table S11. Body Image Across the Lifetime (Ad Hoc). Eleven items assessing lifetime experiences related to body image. Participants were instructed to select all responses that applied.

No.	Item
1	I was bullied or teased because of my physical appearance.
2	I felt discomfort regarding my physical appearance.
3	I avoided situations to prevent others from seeing my body.
4	I experienced discrimination because of my physical appearance.
5	I experienced negative emotions about my physical appearance.
6	I repeatedly checked my weight.
7	I avoided checking my weight.
8	I avoided looking at myself in the mirror.
9	I repeatedly checked my body shape.
10	I tried to hide my body.
11	None of the above.

Note: This ad hoc measure has not undergone prior psychometric validation and was included for exploratory purposes.

Table S12. Stressful Life Events (Ad Hoc). Ten items assessing lifetime exposure to stressful life events. Participants were instructed to indicate all events that had occurred during their lifetime.

No.	Event
1	Significant bereavement
2	Serious illness
3	Parents' divorce during childhood
4	Divorce or separation
5	Significant financial difficulties
6	Serious illness of a close family member
7	Job loss
8	Substance dependence
9	Physical, emotional, or sexual abuse
10	Maltreatment

Note. This ad hoc measure has not undergone prior psychometric validation and was included for exploratory purposes.

Table S13. Childhood Quality of Life (Ad Hoc). Four items assessing perceived quality of life during childhood. Each item was rated on a 5-point Likert scale ranging from 1 (*completely disagree*) to 5 (*completely agree*).

No.	Item
1	I had emotional support from my family.
2	I had a happy childhood.
3	My childhood was free of major stressful events.
4	There were no serious health-related events in my family.

Note. This ad hoc measure has not undergone prior psychometric validation and was included for exploratory purposes.

Table S14. Lifetime Mental Health Disorders (Ad Hoc).

Lifetime Mental Health Disorder	Information Collected
Depression	Presence, age period(s) of occurrence, and whether professional support was required
Anxiety	Presence, age period(s) of occurrence, and whether professional support was required
Panic disorder	Presence, age period(s) of occurrence, and whether professional support was required
Post-traumatic stress disorder	Presence, age period(s) of occurrence, and whether professional support was required
Other psychological disorders	Presence, age period(s) of occurrence, and whether professional support was required
Eating disorders	Presence, age period(s) of occurrence, and whether professional support was required
Social anxiety	Presence, age period(s) of occurrence, and whether professional support was required

Note. This ad hoc measure has not undergone prior psychometric validation and was included for exploratory purposes.