

# Clinical evaluation of the effect of using intermittent pneumatic compression (IPC) at home for women with lipedema.

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## Introduction

Lipedema is a painful abnormal adipose tissue disease that often causes heaviness, pain, easy bruising and reduced mobility. Daily self-care is recommended to reduce pain and prevent progression of lipedema. This regimen can be time consuming and may add to patient distress.

## Aim

The aim of this study was to evaluate the potential difference in ease of performing self-care and effect on symptoms, such as pain, with use of a 12-chamber calibrated gradient, programmable IPC device.

## Methods

66 women age 24-68 diagnosed with lipedema, referred to rehab center Sfären, participated between 2012 and 2019. All had undergone a trial of IPC with bilateral pants garment in clinic and thereafter used the device for 1.0–1.5

years at home. The Quebec User Evaluation of Satisfaction with Assistive Technology (Quest 2.0) was used for follow-up. Two study-specific questions with Visual Analog Scale (VAS) were asked on ease of performing self-care before and after IPC. VAS was also used to estimate symptoms. Estimation of VAS for pain was added after initiating the study and was performed for 45 of 66 women.



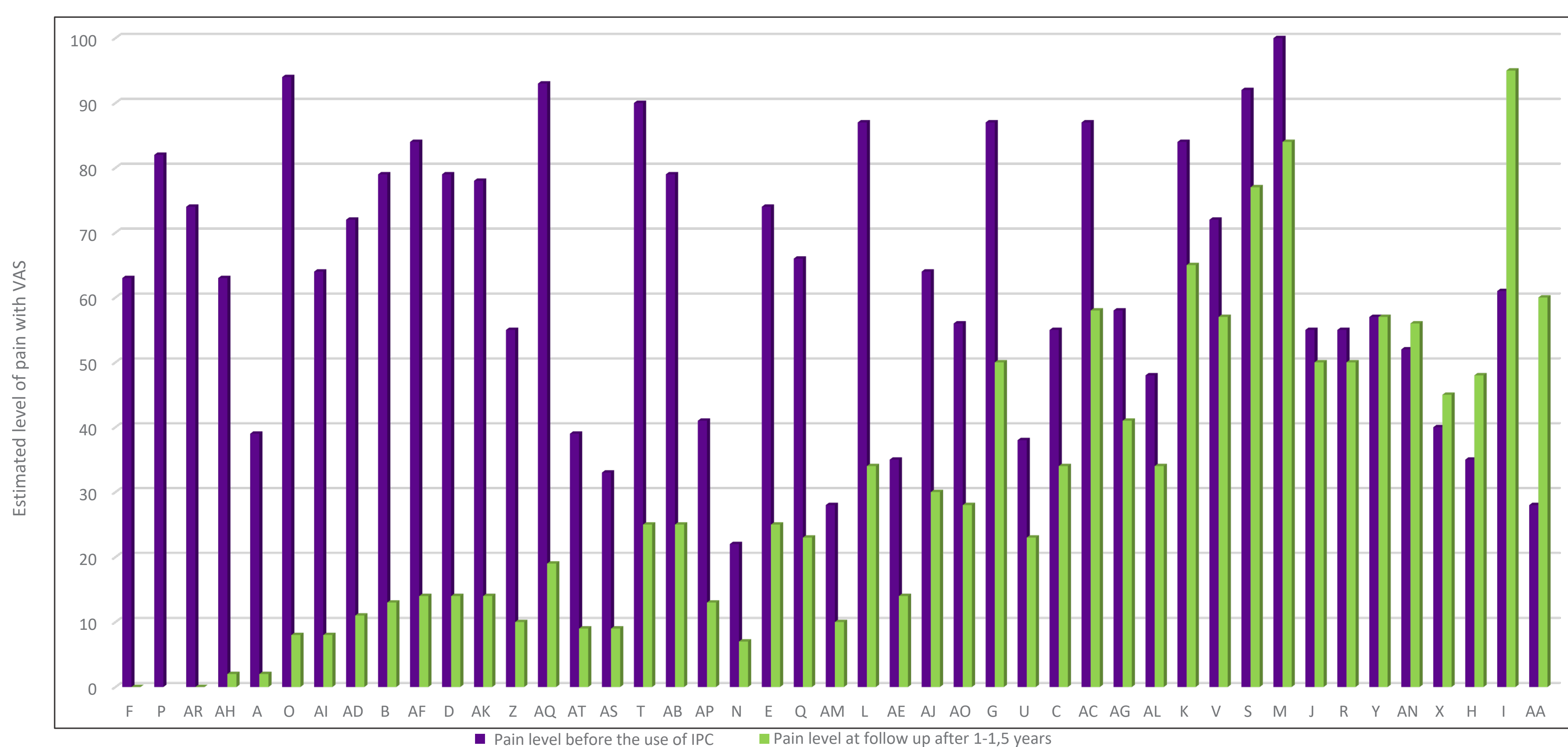
## Results – Effect on pain

At the 1 – 1.5 years follow-up, 87% (39 of 45) of study participants reported reduction in pain levels since initiating IPC use. 60% reported pain reduction of 50% or more, and 30% experienced pain reduction of 80% or more.

## Results – User satisfaction

97% (64 of 66) of the participants reported that it was easier to perform self-care with IPC compared to their previous therapy regimen. For 85% of the participants, the improvement in ease of self-care was over 50%.

The Quest 2.0 instrument includes a five-point scale, from 1: not satisfied at all to 5: very satisfied. Estimated satisfaction with IPC at follow-up after one year was  $m = 4.49$  for IPC system characteristics, 4.6 for service and 4.49 for total Quest 2.0. The three most important items identified were effectiveness, ease of use and follow-up.



Patient	Change in pain level in % at follow up
F	-100%
P	-100%
AR	-100%
AH	-97%
A	-95%
O	-91%
AI	-88%
AD	-85%
B	-84%
AF	-83%
D	-82%
AK	-82%
Z	-82%
AQ	-80%
AT	-77%
AS	-73%
T	-72%
AB	-68%
AP	-68%
N	-68%
E	-66%
Q	-65%
AM	-64%
L	-61%
AE	-60%
AJ	-53%
AO	-50%
G	-43%
U	-39%
C	-38%
AC	-33%
AG	-29%
AL	-29%
K	-23%
V	-21%
S	-16%
M	-16%
J	-9%
R	-9%
Y	0%
AN	8%
X	13%
H	37%
I	56%
AA	114%

## Discussion

The results of this survey show that a large proportion of patients with lipedema, who use IPC at home after undergoing a trial of IPC in clinic, obtain substantial and long-term pain relief. This gives them better control over symptoms and can lead to improved ability to work, to participate in daily activities and to social commitment. A reflection about the reason for the high score on follow-up in Quest 2.0 could be that lipedema patients often are responsible for their own treatment programs.

Follow-up provides an opportunity for patients to discuss their symptoms and might therefore be more important for this group than for others, who regularly meet other healthcare professionals.

## Conclusion

This IPC system, when applied in the home setting, reduced pain for women with lipedema and provided self-care with high levels of patient satisfaction and ease of use.

## References

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