



Improvement In Physical And Psychosocial Factors Through Compression Pump Use In Rural Patients With Symptomatic Lymphedema

Shivani Thakur, Britney Reyes, Kamalpreet Kaur, Marilyn Blancas, Kanchan Dhillon, Ahmadzakaria Arjmand, Jasmin Dominguez Cervantes, Ahmadzaki Arjmand, Saloni Bansal, Steven Gaytan, Hussein Maatouk, Omar Madriz, Ruqaiya Arjmand, Aashi Thakur, Srinidhi Viswanathan, Ahmed Zabiba

PURPOSE

- Analyzing the effectiveness of compression pumps in treating lymphedema symptoms and their physical, psychosocial, and functional concerns.

METHODS

- Patients in California's Central Valley at 6 surgical clinics with lymphedema were surveyed to access their mobility, physical, psychosocial, and functional concerns.
- Pre and Post surveys were completed via telephone by the research assistants.
- Physical, psychosocial, and functional concerns were investigated using Likert scale.
- BMI was collected through the Epic Charting System.
- Statistical analyses was performed using JASP Software (JASP Team, University of Amsterdam).
- The statistical tests conducted to find the statistical difference include paired difference t-tests, Analysis of Variance (ANOVA), Mann-Whitney U Test, and Wilcoxon Signed-Rank Test

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RESULTS

- 55 patients aged between 30-82 years with lymphedema completed the surveys- 30.9%males, 69.1% females, 69.1% Hispanics, 16.4% Caucasians, 43.64% had hypertension, and 49.0% had obesity.
- The BMI ranges from 23.61 to 58.53, and the average BMI for the participants was 37.9±9.34.
- Patients were diagnosed with lymphedema at an average age of 47 and had been utilizing the compression pump for 15 months.
- Improvement in their mobility was observed after the use of the compression pump ($\bar{x} = 2.05$, $d=1.4$ vs $\bar{x} = 2.85$, $d= 1.2$, $p<0.05$).
- Out of 55 patients, 31.25% observed a change in their weight after compression pump use.
- Patients had improved subjective feelings toward their physical, psychosocial, and functional concerns:
 - leg swelling ($\bar{x}=3.5$, $d=1.3$ vs $\bar{x}=2.3$, $d=1.2$, $p<0.05$)
 - leg pain ($\bar{x}=3.5$, $d=1.3$ vs $\bar{x}=2.1$, $d= 1.1$ $p<0.001$)
 - heaviness ($\bar{x}=3.6$, $d=1.2$ vs $\bar{x}=2.3$, $d=1.1$, $p<0.001$)
 - body image ($\bar{x}=3.0$, $d=1.6$ vs $\bar{x}=2.3$, $d=1.3$, $p<0.01$)
 - socializing ($\bar{x}=2.6$, $d=1.4$ vs $\bar{x}=1.9$, $d=1.3$ $p<0.001$)
 - mobility ($\bar{x}=3.1$ $d=1.6$ vs $\bar{x}=2.0$, $d=1.2$ $p<0.001$)
- Both the Hispanic and Caucasian groups showed an overall significant improvement in their physical, psychosocial, and functional symptoms after compression pump use ($p<0.05$).

CONCLUSION

Compression pumps were shown to significantly improve lymphedema symptoms and had improved subjective feelings toward their physical, psychosocial, functional concerns, and mobility.

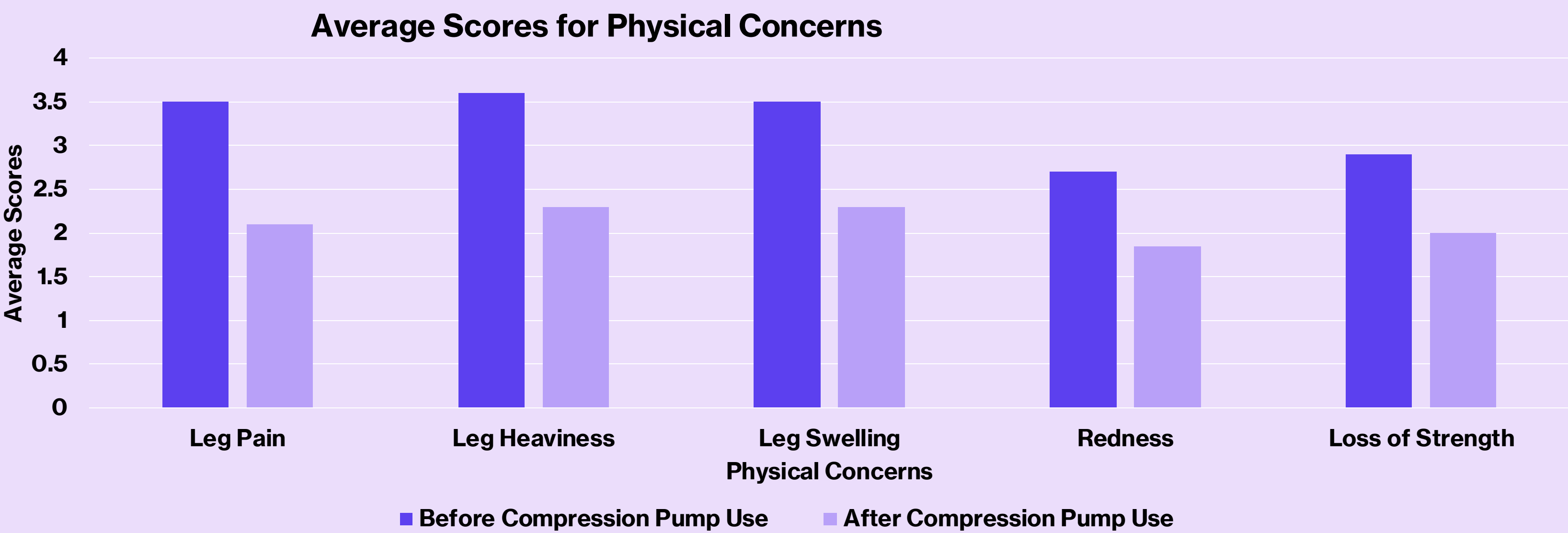


Fig. 1: Average scores for Physical concerns before and after the use of the compression pump

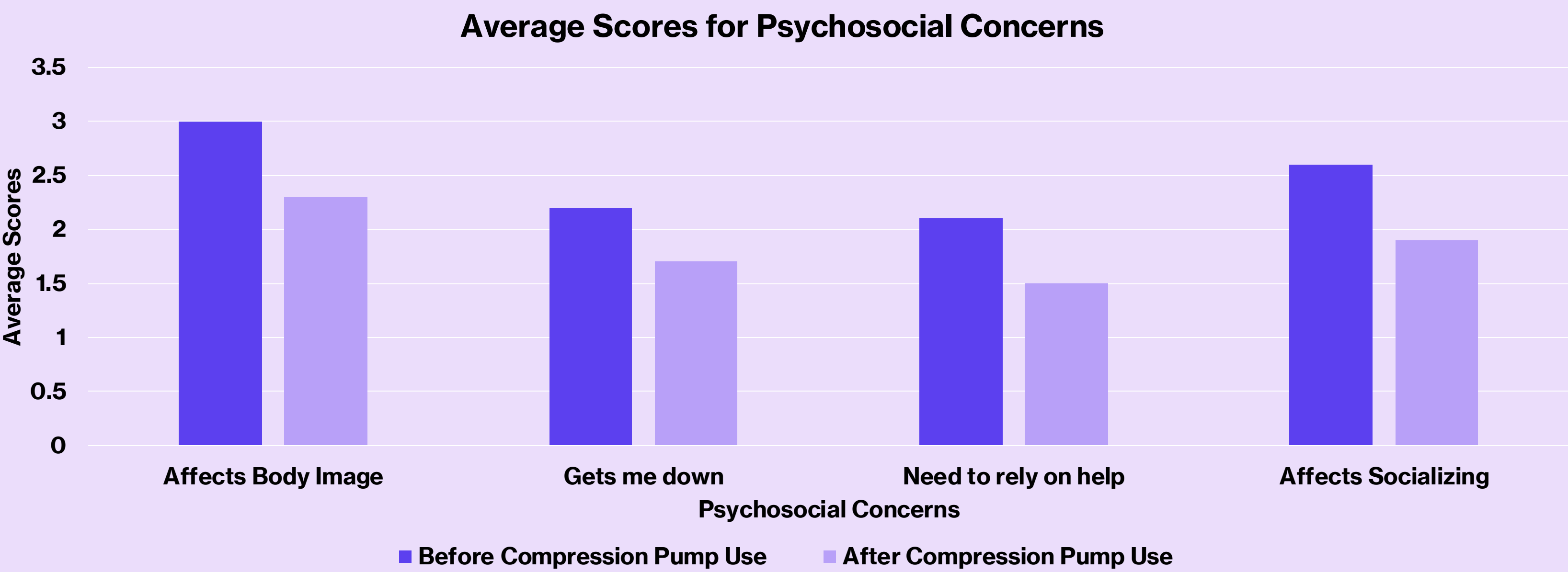


Fig. 2: Average scores for Psychosocial concerns before and after the use of the compression pump

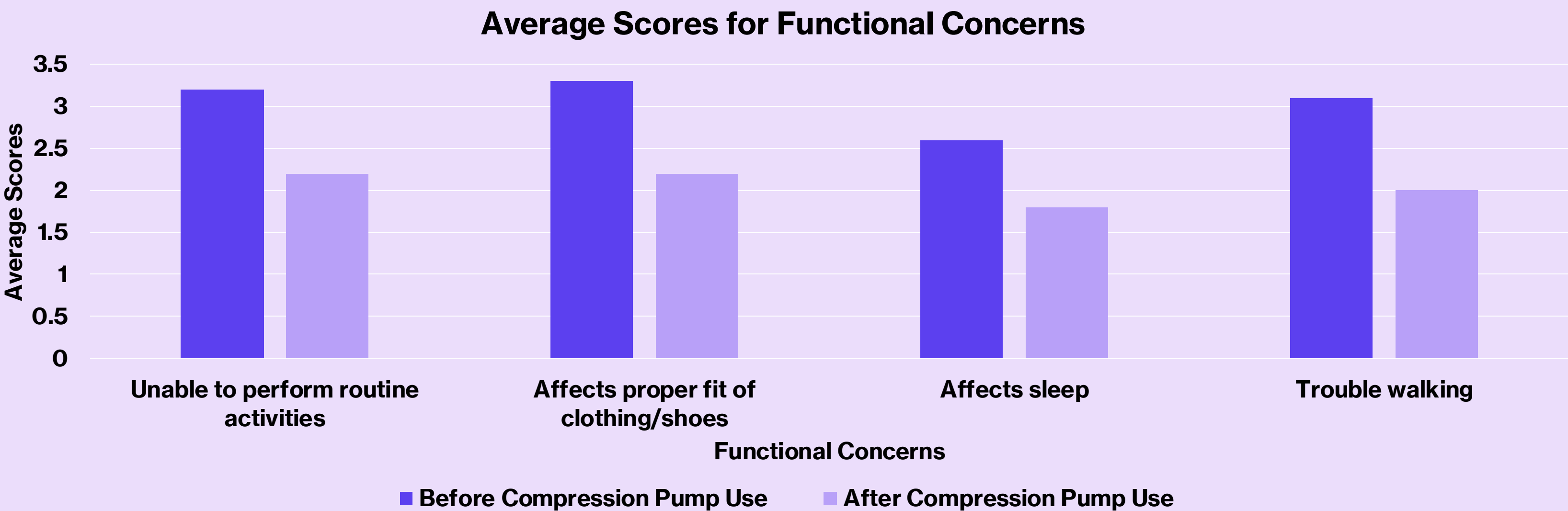


Fig. 3: Average scores for Functional concerns before and after the use of the compression pump