

# Impact of body fatness on core symptoms of fibromyalgia in people aged 50+

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## Background

- Comorbidity of chronic pain and obesity increases the severity of each condition, further impacting the physical, social, and psychological well-being of the person (1-2).
- Little is understood about the impact of excessive body fatness on symptoms of fibromyalgia.

## Objective

- To determine the association of body mass index (BMI) and waist circumference (WC) on core symptoms of fibromyalgia (FM)—pain, fatigue, non-restorative sleep, and morning stiffness—among people aged 50 years and older.

## Methods

- Sample: 70 men and women with FM
- Measurement of body fatness was determined by physical measures of WC and BMI.
- Core symptoms of FM—pain, fatigue, non-restorative sleep, and morning stiffness—were measured on numeric rating scales of 0 to 10.

## Results

- Five males (mean age 53.8 ±2.2) and 65 females (mean age 60.0 ±7.8)
- A significant positive relationship between BMI and pain was determined,  $r=.24$ ,  $p=.04$ ,  $R^2=.0576$ .
- Waist circumference had positive, yet nonsignificant, relationships with each of the core symptoms, and BMI yielded similar results with the three remaining symptoms.
- Each of the core symptoms had strong positive intercorrelations, such that increased reports in one symptom was associated with increased reports of the other symptoms.

Table 1. Measurement of body fatness and core symptoms of FM

Variables	FM (n = 70) M (SD)
BMI (calculated from height and weight)	28.88 (7.26)
Waist circumference (inches)	39.67 (6.14)
Pain	6.41 (2.34)
Fatigue	6.56 (2.36)
Non-restorative Sleep	6.61 (2.84)
Morning Stiffness	6.84 (2.57)



Table 2. Means, standard deviations, and Pearson correlations between measurement of body fatness and core symptoms of FM core symptom severity and measures of body fatness

<b>Variables</b>	(1)	(2)	(3)	(4)	(5)	(6)
<b>Symptom Severity</b>						
(1) Pain	-					
(2) Fatigue	0.39**					
(3) Non-restorative Sleep	0.43**	0.49**				
(4) Stiffness	0.46**	0.35**	0.27*			
<b>Body Fatness</b>						
(5) Waist Circumference (inches)	0.18	0.13	0.12	0.12		
(6) Body Mass Index	0.24*	0.10	0.14	0.14	0.86**	-

NOTE: n = 70 in all correlations; \*p < 0.05; \*\*p < 0.01

### Conclusions

- These findings indicate that persons with fibromyalgia (FM) that are also overweight or obese may experience increased pain intensity associated with FM. Further study is warranted.
- The increase in pain may further impact the intensity of other FM symptoms.
- Implementation of weight management and exercise programs may assist in diminishing overall intensity of core FM symptoms and assist in improvements of overall quality of life.

### References

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2. McCarthy LH, Bigal ME, Katz M, Derby C, Lipton RB. Chronic pain and obesity in elderly people: Results from the Einstein Aging Study. *J Am Geriatrics Soc*. 2009;57:115-119.

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