

Outcome of an Interdisciplinary Chronic Pain Management Program in Patients with and without Fibromyalgia

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INTRODUCTION

- Fibromyalgia (FM) is a prevalent, difficult-to-treat chronic pain condition requiring multimodal management
- Interdisciplinary chronic pain management programs (CPMPs) use rehabilitation, psychological, and self-management strategies to improve pain and function.
- It is unclear whether FM patients experience similar improvements from CPMPs compared to patients with other chronic pain conditions
- **Objective**: To compare changes in pain and psychosocial outcomes following CPMP participation in patients with and without FM.

METHODS

- **Design:** Single-center retrospective observational study of 244 adults who completed the Nebraska Medicine CPMP from September 2020 - September 2025.
- **Participants:** 59 patients with primary diagnosis of fibromyalgia and 185 patients with other chronic pain diagnoses.
- **Intervention:** 3-4 weeks interdisciplinary chronic pain rehabilitation program incorporating physical therapy, psychological treatment, and pain self-management strategies.
- **Outcomes:** MPI Pain Severity, MPI Interference, VAS pain, BDI, and PAIRS, assessed before and after program participation.
- **Analysis:** Nonparametric tests compared baseline measures and pre-to-post changes within and between groups; a female-only subgroup analysis was performed.

KEY RESULTS

Table 1: Comparison of Pre- to Post-Treatment Changes Between Fibromyalgia and Non-Fibromyalgia Groups

	Group		
	Fibromyalgia (N=59)	Non-Fibromyalgia (N=185)	**P-value**
MPI-Pain			0.8802[1]
Median (IQR)	1.2 (0.3, 1.7)	1.0 (0.3, 2.0)	
MPI-Inter			0.6214[1]
Median (IQR)	0.9 (0.3, 1.5)	1.0 (0.4, 1.7)	
VAS Today			0.2342[1]
Median (IQR)	20.0 (6.0, 30.0)	14.0 (0.0, 31.5)	
BDI			0.0624[1]
Median (IQR)	10.0 (7.0, 17.0)	8.0 (3.0, 15.0)	
PAIRS			0.3182[1]
Median (IQR)	21.0 (12.0, 28.0)	18.0 (7.0, 28.0)	

[1]Wilcoxon rank sum p-value

Table 2: Pre- and Post-Treatment Outcome Measures in the Fibromyalgia Group

	Time			
	Pre (N=59)	Post (N=59)	Pre-Post (N=59)	**P-value[1]**
MPI-Pain				
Median (IQR)	4.3 (3.7, 5.0)	3.3 (2.3, 4.0)	1.2 (0.3, 1.7)	<.0001
MPI-Inter				
Median (IQR)	5.1 (4.4, 5.6)	4.1 (3.3, 4.8)	0.9 (0.3, 1.5)	<.0001
VAS today				
Median (IQR)	67.5 (57.0, 80.0)	44.0 (26.0, 64.0)	20.0 (6.0, 30.0)	<.0001
BDI				
Median (IQR)	28.0 (18.0, 33.0)	14.0 (7.0, 22.0)	10.0 (7.0, 17.0)	<.0001
PAIRS				
Median (IQR)	77.0 (68.0, 84.0)	57.0 (43.0, 66.0)	21.0 (12.0, 28.0)	<.0001

[1]Signed rank test p-value

Table 3: Pre- and Post-Treatment Outcome Measures in the Non-Fibromyalgia Group

	Time			
	Pre (N=185)	Post (N=185)	Pre-Post (N=185)	**P-value[1]**
MPI-Pain				
Median (IQR)	4.3 (3.7, 5.0)	3.0 (2.3, 4.0)	1.0 (0.3, 2.0)	<.0001
MPI-Inter				
Median (IQR)	4.6 (4.0, 5.2)	3.5 (2.4, 4.2)	1.0 (0.4, 1.7)	<.0001
VAS today				
Median (IQR)	68.0 (45.0, 84.0)	44.0 (23.0, 69.5)	14.0 (0.0, 31.5)	<.0001
BDI				
Median (IQR)	20.0 (14.0, 28.0)	9.0 (5.0, 16.0)	8.0 (3.0, 15.0)	<.0001
PAIRS				<.0001
Median (IQR)	72.0 (63.0, 79.0)	51.0 (42.0, 62.0)	18.0 (7.0, 28.0)	

[1]Signed rank test p-value

RESULTS

- FM patients had a greater pain interference, depression, and pain-impairment beliefs, reflected by higher MPI Interference, BDI, and PAIRS baseline scores.
- Both groups demonstrated significant pre- to post-CPMP improvement across all five outcome measures (all $p<0.001$).
- There was no significant difference in the magnitude of improvement between groups across any outcome measure (all $p>0.05$).
- Findings were unchanged in the female-only analysis.

DISCUSSION

- Patients with FM entered CPMP with greater psychosocial burden including higher depression, pain interference, and pain-impairment beliefs.
- Despite baseline differences, patients with FM demonstrated similar improvements across pain, function, and psychosocial measures compared with patients with other chronic pain conditions.
- Findings remained unchanged in the female-only analysis, suggesting that the difference in sex distribution did not account for the observed results.

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