

Background and Purpose:

Fibromyalgia is a poorly understood highly variable chronic pain disorder characterized by widespread pain and accompanying symptoms. It has a considerable impact on the physical function, mental health and quality of life. Previous research has shown that patients with FM have significantly lower physical and mental health scores compared to the general population or patients suffering from other types of chronic pain¹.

FM is diagnosed in a purely clinical manner. In 2010, the American College of Rheumatology (ACR) published new diagnostic criteria², replacing the previously used tender points³. In the new criteria FM is diagnosed using two variables: Widespread Pain Index (WPI) and total Symptom Severity (SS) score. The criteria were further modified in 2011.⁴ (Table 1)

Physical functioning and disability associated with FM is not sufficiently understood. Some individuals with FM report decreased physical function, while some people can maintain normal physical function. The 2011 ACR modified FM criteria do not contain any functional status questions. The tool is designed to assist with diagnosis. Self-reported or patient-reported measures, such as, the Short Form 36 Survey, are used to characterize functioning/disability. The objective of this study was to measure associations between FM clinical features and disability domains using the Short Form – 36 (SF-36) scales for social functioning, and disability attributed to physical and emotional symptoms.

Methods:

Data were obtained from de-identified patient records for 60 adults assessed at a medical pain clinic. The associations between FM diagnostic domains (Total Symptom Severity, Widespread Pain Index) and SF-36 domain scores for Disability Attributed to Physical Symptoms (Physical), Disability Attributed to Emotional Symptoms (Emotional), and Social Functioning (Social) were measured using Pearson r. Using linear regression that included all FM diagnostic features (pain anatomical spread, waking up tired, general fatigue, cognitive complaints, depression, abdominal cramps, headaches), the associations between each FM feature and SF-36 disability were measured while controlling for all other FM symptoms, and additively in predictive models.

Results:

Table 2: Univariate (Pearson r) and Multivariate Correlations For Individual Versus Combined Diagnostic Domains and Functioning Domains

FM Diagnostic Domains	SF-36 Domains					
	Physical		Emotional		Social	
	r	p-value	r	p-value	r	p-value
Total Symptom Severity	0.29	<0.05	0.59	<0.01	0.54	<0.01
Widespread Pain Index	0.31	<0.05	0.43	<0.01	0.42	<0.01
Multiple Linear Regression						
All Diagnostic Features	0.48	<0.01	0.67	>0.0001	0.63	<0.0001

Discussion and Conclusions:

- Both FM diagnostic domains (SS & WPI) had small to medium size positive correlations (predicted reduced function) with each SF-36 functioning domain.
- The ACR Criteria do not provide a total fibromyalgia severity score, necessitating a model for combining all fibromyalgia features to study functioning.
- The summation of all unique contributions of each FM diagnostic feature to each SF -36 domain, using multiple regression, showed stronger associations between FM and compromised function.

References:

1. Lacasse et al. BMC Musculoskel Disorders 2016; 17: 168-177.
2. Wolfe et al. Arth Care & Res 2010; 62 (5): 600-610.
3. Wolfe et al. Arthritis Rheum 1990; 33:160-172.
4. Wolfe et al. J Rheumatol 2011; 38 (6): 1113-1122.
5. Bennett et al. Arth Care & Res 2014; 66(9): 1364-1373.

Table 1: Modified ACR 2010 FM Diagnostic Criteria²

<p>Criteria</p> <p>A patient satisfies the diagnostic criteria for FM if the following 3 conditions are met:</p> <ol style="list-style-type: none"> 1. WPI ≥ 7 and SS scale score ≥ 5 or WPI 3-6 and SS scale score ≥ 9. 2. Symptoms have been present at a similar level for at least 3 months. 3. The patient does not have a disorder that would otherwise explain the pain. <p>WPI:</p> <p>Number of areas in which the patient has had pain over the past week (score will be between 0 and 19): left shoulder girdle, right shoulder girdle, left hip, right hip, left jaw, right jaw, upper back, lower back, left upper arm, right upper arm, left lower arm, right lower arm, left upper leg, right upper leg, left lower leg, right lower leg, neck, chest, abdomen.</p> <p>SS Scale Score:</p> <p>A. Fatigue, waking unrefreshed, cognitive symptoms</p> <p>For each of the 3 symptoms above, indicate the level of severity over the past week using the following scale: 0, no problem; 1, slight or mild problems, generally mild or intermittent; 2, moderate considerable problems, often present or at moderate level or both; 3, severe, pervasive, continuous, lift-disturbing problems. (0-9)</p> <p>B. The number of following symptoms occurring during the previous 6 months: headache, pain or cramps in lower abdomen, and depression (0-3).</p> <p>The final modified SS scale score is the sum of A and B and remains between 0 and 12.</p>
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