FIBROMIALGIA:

CLASSIFICAZIONE ED EPIDEMIOLOGIA DELLA SINDROME

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MALATTIA DOLORE E RETE TERRITORIALE

OSPEDALE NIGUARDA

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- **FM**
- **fibromyalgia syndrome (FMS)**
- **fibrositis and fibromyositis terms no longer used as fibromyalgia does not appear to be an inflammatory process**
- **nonarticular rheumatism**
- **psychogenic rheumatism**

FIBROMYALGIA

chronic functional illness marked by widespread musculoskeletal pain

often associated with other symptoms such as

fatigue

sleep difficulties

cognitive dysfunction

depressed mood or depressive episodes

Clauw DJ Am J Med 2009; 122 (12 Suppl):S3-S13

Goldenberg DL Am J Med 2009 ; 122 (12 Suppl): S14-S21

American College of Rheumatology 1990 criteria for the classification of fibromyalgia*

1. History of widespread pain

   Definition: Pain is considered widespread when all of the following are present: pain in the left side of the body, pain in the right side of the body, pain above the waist, and pain below the waist. In addition, axial skeletal pain (cervical spine or anterior chest or thoracic spine or low back) must be present. In this definition, shoulder and buttock pain is considered as pain for each involved side. "Low back" pain is considered lower segment pain.

2. Pain in ≥11 of 18 tender point sites on digital palpation

   Definition: Pain, on digital palpation, must be present in at least 11 of the following 18 tender point sites:

Occiput:	Bilateral, at the suboccipital muscle insertions
Lower cervical:	Bilateral, at the anterior aspects of the intertransverse spaces at C5–C7
Trapezius:	Bilateral, at the midpoint of the upper border
Supraspinatus:	Bilateral, at the origins, above the scapula spine near the medial border
Second rib:	Bilateral, at the second costochondral junctions, just lateral to the junctions on the upper surfaces
Lateral epicondyle:	Bilateral, 2 cm distal to the epicondyle
Gluteal:	Bilateral, in the upper outer quadrants of the buttocks in the anterior fold of the muscle
Greater trochanter:	Bilateral, posterior to the trochanteric prominence
Knee:	Bilateral, at the medial fat pad proximal to the joint line

   Digital palpation should be performed with an approximate force of 4 kg. For a tender point to be considered "positive," the subject must state that the palpation was painful. "Tender" is not to be considered "painful."

* For classification purposes, a patient will be said to have fibromyalgia if both criteria are satisfied. Widespread pain must have been present for at least 3 months. The presence of a second clinical disorder does not exclude the diagnosis of fibromyalgia. Reformatted from ref. 6.

Wolfe F et al. The American College of Rheumatology 1990 criteria for the classification of fibromyalgia: report of the Multicenter Criteria Committee. Arthritis Rheum 1990;33:160–72.

comprising 1) a history
of chronic widespread pain (pain present for at least 3
months and affecting the left and right sides of the body,
above and below the waist, and in the axial skeleton)
plus 2) pain on digital palpation in 11 of 18 specific
sites

chronic widespread pain: definition

Widespread pain is identified when all of the following are present: pain on the left side of the body, pain on the right side of the body, pain above the waist, and pain below the waist. In addition, axial skeletal pain (cervical spine or anterior chest or thoracic spine or low back) has to be present.

Wolfe W et al. The American College of Rheumatology 1990 criteria for the classification of fibromyalgia—report of the Multicenter Criteria Committee. Arthritis Rheum 1990;3:160–7

But there were several definitions for CWP

Prevalence of chronic widespread pain according to different criteria.

Variable	Total N = 6409 (%)
Two or more quadrants* and axial skeletal pain†	584 (9.1)
Three or more quadrants and axial pain	534 (8.3)
Four quadrants and axial pain	312 (4.9)

* Presence of pain in 2 or more quadrants where the quadrants are both upper and lower and bilateral. Pain must have been present for at least 6 months.
† Axial skeletal pain: pain in cervical spine or anterior chest or thoracic spine or low back.

The prevalence of CWP varies widely depending on the definition used to identify this symptom complex. The prevalence of FMS Using CWP as a diagnostic criterion also has wide variation

Butler S et al. Chronic widespread pain—the need for a standard definition. Pain 2016; 157: 541-3

Chronic primary pain is pain in 1 or more anatomic regions that persists or recurs for longer than 3 months and is associated with significant emotional distress or significant functional disability (interference with activities of daily life and participation in social roles) and that cannot be better explained by another chronic pain condition.

Treede RD. A classification of chronic pain for ICD-11. PAIN 2015;156:103–7.

American College of Rheumatology 2010 preliminary diagnostic criteria for fibromyalgia*

A patient satisfies the diagnostic criteria for fibromyalgia if the following 3 conditions are met:

1. A Widespread Pain Index (WPI) of ≥7 and a Symptom Severity (SS) Scale score of ≥5, or a WPI between 3–6 and an SS scale score of ≥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

Ascertainment

WPI: Note the number of areas in which the patient has had pain over the previous week. In how many areas has the patient had pain? Score will be between 0 and 19.†

Shoulder girdle (left and right)	Jaw (left and right)
Upper arm (left and right)	Chest
Lower arm (left and right)	Abdomen
Hip (buttock, trochanter) (left and right)	Upper back
Upper leg (left and right)	Lower back
Lower leg (left and right)	Neck

SS: For each of the symptoms of fatigue, waking unrefreshed, and cognitive symptoms, indicate the level of severity over the previous week, using the following scale:

0 = no problem
1 = slight or mild problems, generally mild or intermittent
2 = moderate, considerable problems, often present and/or at a moderate level
3 = severe: pervasive, continuous, life-disturbing problems

Considering somatic symptoms in general, indicate whether the patient has the following:‡

0 = no symptoms
1 = few symptoms
2 = a moderate number of symptoms
3 = a great deal of symptoms

The SS scale score is the sum of the severity of the 3 symptoms (fatigue, waking unrefreshed, and cognitive symptoms) plus the extent (severity) of somatic symptoms in general. The final score is between 0 and 12.

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* Reformatted from ref. 7.
† Areas indicated as left and right should be scored separately.
‡ Somatic symptoms that might be considered are as follows: muscle pain, irritable bowel syndrome, fatigue/tiredness, thinking or remembering problems, muscle weakness, headache, pain/cramps in the abdomen, numbness/tingling, dizziness, insomnia, depression, constipation, pain in the upper abdomen, nausea, nervousness, chest pain, blurred vision, fever, diarrhea, dry mouth, itching, wheezing, Raynaud's phenomenon, hives/welts, ringing in the ears, vomiting, heartburn, oral ulcers, loss of/change in taste, seizures, dry eyes, shortness of breath, loss of appetite, rash, sun sensitivity, difficulties with hearing, easy bruising, hair loss, frequent urination, painful urination, and bladder spasms.

Wolfe F et al. The American College of Rheumatology preliminary diagnostic criteria for fibromyalgia and measurement of symptom severity. Arthritis Care Res (Hoboken) 2010;62:600–10.

which differed from the 1990 criteria in 2 main respects:
1) the 2010 criteria operationalized the measurement of chronic widespread pain,
2) more fundamentally—they did away with the requirement for a tender point examination in favor of an assessment of fatigue, waking unrefreshed, cognitive symptoms, and somatic symptoms in general.

a patient would be classified as having fibromyalgia if a clinician determined that they had

1) high levels of pain plus moderate levels of symptoms

or moderate levels of pain plus high levels of symptoms,

2) symptoms present at a similar level for 3 months,

3) no disorder that would otherwise explain the pain

Modification of the American College of Rheumatology 2010 preliminary diagnostic criteria for fibromyalgia＊

Criteria

A patient satisfies the modified 2010 fibromyalgia diagnostic criteria if the following 3 conditions are met:

1. A Widespread Pain Index (WPI) of ≥7 and a Symptom Severity (SS) Scale score of ≥5, or a WPI between 3–6 and an SS Scale score of ≥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 sufficiently explain the pain

Ascertainment

WPI: Note the number of areas in which the patient has had pain over the previous week. In how many areas has the patient had pain? Score will be between 0 and 19.†

Shoulder girdle (left and right)	Jaw (left and right)
Upper arm (left and right)	Chest
Lower arm (left and right)	Abdomen
Hip (buttock, trochanter) (left and right)	Upper back
Upper leg (left and right)	Lower back
Lower leg (left and right)	Neck

SS: For each of the symptoms of fatigue, waking unrefreshed, and cognitive symptoms, indicate the level of severity over the previous week, using the following scale:

0 = no problem
1 = slight or mild problems; generally mild or intermittent
2 = moderate; considerable problems; often present and/or at a moderate level
3 = severe: pervasive, continuous, life-disturbing problems

The SS Scale score is the sum of the severity of the 3 symptoms above plus the sum of the number of the following symptoms occurring during the previous 6 months: headaches, pain or cramps in the lower abdomen, and depression (0–3). The final score is between 0 and 12.

＊ Reformatted, with permission, from ref. 8.
† Areas indicated as left and right should be scored separately.

Wolfe F et al. Fibromyalgia criteria and severity scales for clinical and epidemiological studies: a modification of the ACR preliminary diagnostic criteria for fibromyalgia. J Rheumatol 2011;38: 1113–22.

a modified version of the 2010 criteria that relied on
1) self-reported pain
2) a simplified self-reported version of somatic symptoms

EPIDEMIOLOGY

- **In 26 studies worldwide Global mean prevalence 2.7% (ranging from 0.4% in Greece to 9.3% in Tunisia)**

- **The mean rate: 3.1% in the Americas, 2.5% in Europe, 1.7% in Asia**

Queiroz LP Curr Pain Headache Rep 2013; 17:356

- **Approximately 2% of the general population in the United States suffers from fibromyalgia**

- **Similar prevalence rates have been reported in Canada (3.3%), Brazil (2.5%)**
- **and Western European countries, including**

Germany (3.2%), Spain (2.4%), Italy (2.2%), Sweden (2.5%), France (1.4%), Denmark (<1%) and Portugal (3.6%)

In Turkey 8.8%

In Africa (Tunisia) 9.3%

Queiroz LP Curr Pain Headache Rep 2013; 17:356

- *Who is most affected:*
- more common in females:

4.1% in women, 1.4% in men – F/M= 3:1

- ages 20-60 years, especially middle age

Queiroz LP Curr Pain Headache Rep 2013; 17:356

- The prevalence of fibromyalgia according to the ACR modified 2010 criteria was assessed in a large population survey in Germany.

- Fifty-two of 2,445 participants were found to have fibromyalgia, yielding a prevalence of 2.1%.

Wolfe F et al. Fibromyalgia prevalence, somatic symptom reporting, and the dimensionality of polysymptomatic distress: results from a survey of the general population. Arthritis Care Res (Hoboken) 2013;65:777–85.

The Prevalence of Fibromyalgia in the General Population

A Comparison of the American College of Rheumatology 1990, 2010, and Modified 2010 Classification Criteria

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Objective. The American College of Rheumatology (ACR) 1990 fibromyalgia classification criteria are based on the presence of widespread pain and tenderness. In 2010, new criteria were proposed that focused more on multiple symptoms, and these criteria were later modified to require only self report of symptoms. The current study aimed to determine the population prevalence of fibromyalgia and to compare differences in prevalence using the alternative criteria.

Methods. A cross-sectional survey was conducted. Questionnaires, including items on pain, symptoms, and rheumatologic diagnoses, were mailed to 4,600 adults in northeast Scotland. Participants who had chronic widespread pain or those who met the modified 2010 criteria, plus a subsample of other participants, were invited to attend a research clinic. Attendees completed an additional questionnaire and underwent a rheumatologic examination, and their signs and symptoms were classified according to the ACR 1990, 2010, and modified 2010 criteria. The prevalence of fibromyalgia according to each set of criteria was calculated, weighting back to the target population by age, sex, and area of residence.

Results. Of 1,604 questionnaire participants, 269 were invited to attend the research clinic, and 104 (39%) attended; 32 of these subjects (31%) met ≥1 set of fibromyalgia criteria. The prevalence of fibromyalgia according to the 1990, 2010, and modified 2010 criteria was 1.7% (95% confidence interval [95% CI] 0.7–2.8), 1.2% (95% CI 0.3–2.1), and 5.4% (95% CI 4.7–6.1), respectively. The ratio of females to males was 13.7:1, 4.8:1, and 2.3:1 of those meeting the respective criteria sets.

Conclusion. Fibromyalgia prevalence varies with the different sets of classification criteria applied. In particular, prevalence is higher and a greater proportion of men are identified with the modified 2010 criteria as compared to the criteria sets requiring clinician input. This has important implications for the use of the new criteria, both in research and in clinical practice.

Prevalence of fibromyalgia, according to the ACR criteria set used*

ACR criteria set	Prevalence (95% CI)	Female-to-male ratio	% with rheumatologic diagnoses†
1990 criteria	1.7 (0.7–2.8)	13.7	55
2010 criteria	1.2 (0.3–2.1)	4.8	28
Modified 2010 criteria	5.4 (4.7–6.1)	2.3	45

* ACR = American College of Rheumatology; 95% CI = 95% confidence interval.
† Proportion of respondents who had a positive response to the question "Have you ever been told by a healthcare provider that you have any of the following diseases: osteoarthritis, rheumatoid arthritis, osteoporosis, lupus, scleroderma, ankylosing spondylitis, gout, or fibromyalgia?"

- Of 4,600 questionnaires distributed to adults, in Northeast Scotland
- 1,604 (36.3%) of the remaining 4,417 eligible invitees returned a completed questionnaire.
- The median age of the respondents was 55 years (interquartile range [IQR] 44–65 years),
- 55% were female,
- Of the questionnaire respondents, 269 were invited
- to attend the research clinic for a clinical examination;
- 104 of them (39%) attended, and 32 of those (31%) were found to meet at least 1 set of criteria for fibromyalgia: 11 participants met the ACR 1990 criteria, 7 met the ACR 2010 criteria, and 27 met the ACR modified 2010 criteria.

Compared to the ACR 1990 criteria, which was used as the gold standard, the ACR 2010 criteria had a sensitivity of 55% and a specificity of 99%; in contrast, these valuesfor the modified 2010 criteria were 64% and 78%, respectively.

Conclusion. Fibromyalgia prevalence varies with the different sets of classification criteria applied. In particular, prevalence is higher and a greater proportion of men are identified with the modified 2010 criteria as compared to the criteria sets requiring clinician input.

ORIGINAL RESEARCH

Identifying the symptom and functional domains in patients with fibromyalgia: results of a cross-sectional Internet-based survey in Italy

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Objective: The aims of this cross-sectional study were to investigate the usefulness of using an Internet survey of patients with fibromyalgia in order to obtain information concerning symptoms and functionality and identify clusters of clinical features that can distinguish patient subsets.

Methods: An Internet website has been used to collect data. Fibromyalgia Impact Questionnaire Revised version, self-administered Fibromyalgia Activity Score, and Self-Administered Pain Scale were used as questionnaires. Hierarchical agglomerative clustering was applied to the data obtained in order to identify symptoms and functional-based subgroups.

Results: Three hundred and fifty-three patients completed the study (85.3% women). The highest scored items were those related to sleep quality, fatigue/energy, pain, stiffness, degree of tenderness, balance problems, and environmental sensitivity. A high proportion of patients reported pain in the neck (81.4%), upper back (70.1%), and lower back (83.2%). A three-cluster solution best fitted the data. The variables were significantly different ($P<0.0001$) among the three clusters: cluster 1 (117 patients) reflected the lowest average scores across all symptoms, cluster 3 (116 patients) the highest scores, and cluster 2 (120 patients) captured moderate symptom levels, with low depression and anxiety.

Conclusion: Three subgroups of fibromyalgia samples in a large cohort of patients have been identified by using an Internet survey. This approach could provide rationale to support the study of individualized clinical evaluation and may be used to identify optimal treatment strategies.

Keywords: fibromyalgia, Internet, FIQR, FAS, cluster analysis, SAPS, pain

Fibromyalgia criteria—2016 revision

Criteria

A patient satisfies modified 2016 fibromyalgia criteria if the following 3 conditions are met:

(1) Widespread pain index (WPI) ≥ 7 and symptom severity scale (SSS) score ≥ 5 OR WPI of 4–6 and SSS score ≥ 9.
(2) Generalized pain, defined as pain in at least 4 of 5 regions, must be present. Jaw, chest, and abdominal pain are not included in generalized pain definition.
(3) Symptoms have been generally present for at least 3 months.
(4) A diagnosis of fibromyalgia is valid irrespective of other diagnoses. A diagnosis of fibromyalgia does not exclude the presence of other clinically important illnesses.

Ascertainment

(1) **WPI**: note the number of areas in which the patient has had pain over the last week. In how many areas has the patient had pain? Score will be between 0 and 19

Left upper region (Region 1)	*Right upper region (Region 2)*	*Axial region (Region 5)*
Jaw, left[a]	Jaw, right[a]	Neck
Shoulder girdle, left	Shoulder girdle, right	Upper back
Upper arm, left	Upper arm, right	Lower back
Lower arm, left	Lower arm, right	Chest[a]
		Abdomen[a]

Left lower region (region 3)	*Right lower region (Region 4)*
Hip (buttock, trochanter), left	Hip (buttock, trochanter), right
Upper leg, left	Upper leg, right
Lower leg, left	Lower leg, right

(2) **Symptom severity scale (SSS) score**

Fatigue
Waking unrefreshed
Cognitive symptoms

For the 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 and/or at a moderate level
 3 = Severe: pervasive, continuous, life-disturbing problems

The symptom severity scale (SSS) score: is the sum of the severity scores of the 3 symptoms (fatigue, waking unrefreshed, and cognitive symptoms) (0–9) plus the sum (0–3) of the number of the following symptoms the patient has been bothered by that occurred during the previous 6 months:

(1) Headaches (0–1)
(2) Pain or cramps in lower abdomen (0–1)
(3) And depression (0–1)

The final symptom severity score is between 0 and 12
The fibromyalgia severity (FS) scale is the sum of the WPI and SSS

The FS scale is also known as the polysymptomatic distress (PSD) scale.
 [a] Not included in generalized pain definition.

F.Wolfe et al. 2016 revisions to the 2010/2011 Fibromyalgia diagnostic criteria. Seminars in Arth andRheum 2016;46:319–29

2016 Changes to modified ACR fibromyalgia diagnostic criteria

This revision makes the following changes to the fibromyalgia criteria shown in Table 3.

(1) Changes criterion 1 to "widespread pain index (WPI) ≥ 7 and symptom severity scale (SSS) score ≥ 5 OR WPI 4–6 and SSS score ≥ 9" (WPI minimum must be ≥ 4 instead of previous ≥ 3).

(2) Adds a generalized pain criterion (criterion 2), and one that is different from the 1990 widespread pain definition. The definition is: "Generalized pain is defined as pain in at least 4 of 5 regions. In this definition, jaw, chest, and abdominal pain are not evaluated as part of the generalized pain definition."

(3) Standardizes and makes 2010 and 2011 criterion (criterion 3) wording the same: "Symptoms have been generally present for at least 3 months."

(4) Removes the exclusion that regarding disorders that could (sufficiently) explain the pain (criterion 4) and adds the following text: "A diagnosis of fibromyalgia is valid irrespective of other diagnoses. A diagnosis of fibromyalgia does not exclude the presence of other clinically important illnesses."

(5) Adds the fibromyalgia symptom (FS) scale as a full component of the fibromyalgia criteria.

(6) Creates one set of criteria instead of having separate physician and patient criteria by replacing the physician estimate of somatic symptom burden with ascertainment of the presence of headaches, pain or cramps in lower abdomen, and depression during the previous 6 months.

Forms and pain maps to aid in ascertainment are available at (https://medicine.umich.edu/sites/default/files/content/downloads/MBM%20w%20SSI%202016.pdf) (Michigan Pain Map) and (https://www.arthritis-research.org/sites/default/files/editor/FM%20Diagnostic%20Criteria%20Survey%20Questionnaire%20%282013%29.pdf) National Data Bank for Rheumatic Diseases (NDB) fibromyalgia diagnosis form.

The fibromyalgia symptom (FS) scale is also known as the polysymptomatic distress (PSD) scale.

These criteria can continue to serve as diagnostic criteria when used in the clinic, but also as classification criteria when used for research

The requirement for generalized pain (pain in 4 of 5 regions) to insure that regional pain syndromes are not captured by the criteria

The return to original 1990 recommendation that "fibromyalgia remains a valid construct irrespective of other diagnoses"

- **Associated conditions:**
- **associated symptoms and presentations**
  - **noncardiac chest pain**
  - **heartburn**
  - **palpitations**
  - irritable bowel syndrome (IBS)
    dysmenorrhea
    - interstitial cystitis-Painful bladder syndrome
    - endometriosis
    - **vulvar vestibulitis**
    - vulvodynia
  - chronic prostatitis

- **psychiatric disorders**
  - **anxiety disorder, such as** generalized anxiety disorder
  - **mood disorder, such as** depression
  - posttraumatic stress disorder (PTSD) **may be common in fibromyalgia patients**
    - **questionnaire study of 77 fibromyalgia patients**
    - **57% had PTSD symptoms**
    - **prevalence of PTSD higher than general population but no control group studied**

Semin Arthritis Rheum 2002;32(1):38 Clauw DJ Am J Med 2009; 122 (12 Suppl):S3-S13
Goldenberg DL Am J Med 2009 ; 122 (12 Suppl): S14-S21

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Seminars in Arthritis and Rheumatism

Frequency of concomitant fibromyalgia in rheumatic diseases: Monocentric study of 691 patients[☆]

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ARTICLE INFO

ABSTRACT

Objective: Fibromyalgia (FM) is a confounding factor for diagnosing and assessing rheumatic disease activity. This study sought to assess the extent of this syndrome in rheumatism patients at a French rheumatology department.

Method: This monocentric epidemiological study enrolled all patients consulting due to rheumatoid arthritis (RA), spondyloarthritis (SpA), or connective tissue disease (CTD). FM diagnosis was confirmed or excluded according to the rheumatologist opinion and the 1990 American College of Rheumatology (ACR) criteria.

Results: We enrolled 691 patients, including 451 women (65.3%), with a mean age of 55.8 years (18–93). Of the enrolled patients, 325 presented with RA, 298 SpA [59 psoriatic arthritis (PsA), 137 ankylosing spondylitis (AS), 64 non-radiographic SpA (nr-SpA), and 38 peripheral SpA], and 71 CTD. The rheumatologist established FM diagnosis in 97 patients (14%), while 55 (8%) fulfilled the 1990 ACR criteria. The frequency of FM was lower in RA patients (4.9% by 1990 ACR criteria; 7.7% by expert opinion) compared to SpA (11.1% by 1990 ACR, $p < 0.05$; 17.5% by expert opinion, $p < 0.003$) and CTD (11.3% by 1990 ACR, non-significant; 28.2% by expert opinion, $p < 0.001$). In the SpA subgroups, FM was more common in the nr-SpA than in PsA or AS (23.9%, 9.6%, and 6.4%, by 1990 ACR, $p = 0.001$; 37.3%, 13.5%, and 7.2%, by expert opinion, $p < 0.001$).

Conclusion: FM-like symptoms are commonly associated with rheumatic diseases. The frequency of FM is particularly high in non-radiographic axial SpA, thus raising questions about the specificity of the Assessment of SpondyloArthritis International Society (ASAS) classification criteria.

FM is diagnosed

- In rheumatoid arthritis (6.6–22.4% of patients) , with an incidence of 7%, maximal in the first year following RA diagnosis
- in ankylosing spondylitis (4–15% of patients)
- in systemic lupus erythematosus (SLE) (6.2–24% of patients)
- in Sjögren's syndrome (12–30%)

Demographic and clinical characteristics of the population.

Age, years ± standard deviation	55.8 ± 15.5
(min–max)	(18–93)
Gender	
Female, N (%)	451 (65.3)
Duration of disease, years	
Median (IQR)	11 (5–20)
(min–max)	(0–58)
Rheumatoid arthritis, N	325
Gender	
Female, N (%)	236 (72.8)
Rheumatoid factor, N (%)	216 (66.7)
Anti-CCP, N (%)	222 (68.5)
Spondyloarthritis, N	298
Gender	
Female, N (%)	152 (51.0)
Psoriatic arthritis, N (%)	59 (19.8)
AS (New York criteria), N (%)	137 (45.9)
SpA, non-radiographic (axial ASAS), N (%)	64 (21.5)
MRI arm	35 (54.7)
Clinical arm	29 (45.3)
SpA, peripheral (peripheral ASAS), N (%)	38 (12.8)
Connective tissue disease (CTD), N	71[a]
Gender	
Female, N (%)	65 (91.6)
Systemic lupus erythematosus (SLE)	28 (39.4)
Sjögren's syndrome (SS)	27 (38.0)
Scleroderma (Scl)	14 (19.7)
Myositis	6 (8.45)

ASAS, Assessment of SpondyloArthritis International Society; AS, ankylosing spondylitis; CTD, connective tissue disease; SLE, systemic lupus erythematosus; SS, Sjögren's syndrome; Scl, scleroderma; SpA, spondyloarthritis; MRI, magnetic resonance imaging.

[a] Four patients had two CTD associated (2 SLE + SS, 1 SS + Scl, 1 SLE + myositis).

Frequency of fibromyalgia according to 1990 ACR criteria and physician opinion.

	ACR 1990 criteria	Physician's diagnosis
Rheumatoid arthritis (%)	4.9[a]	7.7[b]
Spondyloarthritis (%)	11.1	17.5
Nr-axial SpA	23.9	37.3
Psoriatic arthritis	9.6	13.5
Ankylosing spondylitis	6.4	7.2
Peripheral SpA	5.3	28.9
Connective tissue diseases (%)	11.3	28.2
All rheumatic diseases (%) (95% CI)	8.0 (6.1–10.2)	14.0 (11.5–16.8)

In clinical practice

FM is a confounding factor in rheumatic disease cases in terms of both diagnosis and disease activity assessment.

Firstly, distinguishing FM from rheumatic disease can be challenging, particularly in non-radiographic axial spondyloarthritis (nr-axial SpA), due to the widespread, primarily axial pain, fatigue, and sleep disorders that are common clinical features of both conditions, as well as the enthesitis sites potentially overlapping with FM tender points.

Secondly, concomitant FM disrupts disease activity and functional impairment assessment of RA and spondyloarthritis (SpA). It leads to overestimations in the 28-joint Disease Activity Score, as well as the BASFI and BASDAI indices, and causes non-justified therapeutic intensification with more frequent use of biological therapy.

CONCLUSIONS 1

FM is:

- **More prevalent in women**

- **In patients over 50 years**

- **In subjets with low education level, with low socioeconomic status, living in rural areas and possibly in obese women**

- **Comorbid with many diseases, usually called "functional" disorders, such as chronic fatigue syndrome, irritable bowel syndrome, depression, anxiety, panic attacks, post-traumatic stress disorder**

- **Associated with headache, including episodic and chronic migraine and chronic tension type headache**

Queiroz LP Curr Pain Headache Rep 2013; 17:356

CONCLUSIONS 2

Fibromyalgia occurs frequently among persons with musculoskeletal disorders and may be seen with almost any other medical condition,as well as in persons with psychological disorders. If such patients have symptoms consistent with fibromyalgia and satisfy fibromyalgia criteria, they may be diagnosed as having fibromyalgia using fibromyalgia criteria: the current criteria definition of fibromyalgia does not exclude patients with coexistent conditions.