



# Prevalence of pain in multiple sclerosis: a multicenter italian study

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# CLASSIFICATION

Pain syndromes can be classified as  
nociceptive somatic/visceral  
neuropathic and  
psycogenic pain.

# NOCICEPTIVE PAIN

- appropriate physiological response experienced when nociceptor sensory unit is activated to transmit afferent impulses to conscious level.
- Capacity to experience pain has a protective role: warns of tissue damage and elicits coordinated reflexes and behavioural responses

# NEUROPATHIC PAIN

- persistent pain syndrome offers no biological advantage; causes suffering and distress.
- typically initiated by primary lesion or dysfunction in peripheral or central nervous system; known as neuropathic pain.

# SYMPTOMS FREQUENCY

- Trigeminal Neuralgia: 36 (2%)
- Lhermitte sign: 152 (9%)
- Disesthetic pain: 303 (18.1%)
- Back pain 274 (16.4%)
- Painful tonic spasms: 184 (11%)

# The prevalence of pain in multiple sclerosis

## A multicenter cross-sectional study

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**Abstract**—In a multicenter cross-sectional study, the authors assessed pain in patients with multiple sclerosis (MS) using a symptom-oriented approach. Out of 2,077 questionnaires, we used 1,672 for data analysis. Pain and frequencies included trigeminal neuralgia 2%, Lhermitte's sign 9%, dysesthetic pain 18.1%, back pain 16.4%, and painful tonic spasms 11%. Comparison between different groups showed significant differences for age, Expanded Disability Status Scale, disease duration, and disease course, but not for sex. This study underlines the relevance of pain in the clinical history of MS.

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- Patients with at least 1 symptom:  
717 (42.8%)
- Patients in-therapy for neuropathic pain:  
157 (9.4%)

- Clinical hallmarks: burning, dysesthetic, piercing pain, painful responses to non-painful stimuli (allodynia)
- Somatic
- Visceral
- Psychogenic



# AIM

- The aim of the study is to assess the presence of pain in Multiple Sclerosis patients, in a multicentre cross-sectional study and its relationship with pain scales, depression and quality of life

- Data was collected in a multi-centre, cross-sectional study involving 6 italian MS centres using a face-to-face structured questionnaire compiled by a neurologist.
- 200 patients /centres with a diagnosis of MS or CIS over a period of 6 months were interviewed.
- The only exclusion criterion was a relapse in the last month before the beginning of the study.

- The questionnaire included demographic and clinical data
- Expanded Disability Status Scale (EDSS)
- DN4
- Beck Scale
- QoL36
- Disease modifying treatment
- Pain-medications
- presence of neuropathic pain
- Noceoptive pain

**SCLEROSI MULTIPLA**

Codice paziente: \_\_\_\_ - \_\_\_\_

Data \_\_\_\_ - \_\_\_\_ - \_\_\_\_

**DATI ANAGRAFICI**

Cognome \_\_\_\_\_

Nome \_\_\_\_\_

Sesso M ☐ F ☐

Data di nascita \_\_\_\_/\_\_\_\_/\_\_\_\_

Il paziente è in grado di comprendere e aderire al protocollo dello studio sì ☐ no ☐Il paziente ha fornito il consenso informato sì ☐ no ☐ se sì, data del consenso \_\_\_\_/\_\_\_\_/\_\_\_\_

Livello di istruzione:

- ☐ Diploma di laurea
- ☐ Diploma di scuola media superiore
- ☐ Diploma di scuola media inferiore
- ☐ Diploma di scuola elementare
- ☐ Nessun titolo di studio

**CARATTERISTICHE SM**

Età alla diagnosi: \_\_\_\_

Forma di SM:

- ☐ CIS
- ☐ RR
- ☐ PP
- ☐ SP

Anni dalla diagnosi: \_\_\_\_

Anni dall'esordio del primo sintomo: \_\_\_\_

Punteggio EDSS: \_\_\_\_ data valutazione \_\_\_\_/\_\_\_\_/\_\_\_\_

Attuale terapia modificante il decorso di malattia:

- ☐ IFN assunto dal: \_\_\_\_/\_\_\_\_ MM/AAAA
- ☐ Copolimero assunto dal: \_\_\_\_/\_\_\_\_ MM/AAAA
- ☐ Metotrexate assunto dal: \_\_\_\_/\_\_\_\_ MM/AAAA
- ☐ Natalizumab assunto dal: \_\_\_\_/\_\_\_\_ MM/AAAA
- ☐ Altro, specificare: \_\_\_\_\_ assunto dal: \_\_\_\_/\_\_\_\_ MM/AAAA

**MALATTIE CONCOMITANTI:**

Ipertensione Si No

Dislipidemia Si No

Neoplasie Si No

Se sì, specificare: \_\_\_\_\_

Tireopatie Si No

Disturbi del ritmo cardiaco Si No

Se sì, specificare: \_\_\_\_\_

Cardiopatía ischemica Si No

Altre cardiopatie Si No

Se sì, specificare: \_\_\_\_\_

Altro Si No

Se sì, specificare: \_\_\_\_\_

## CARATTERISTICHE DEL DOLORE

Il paziente riferisce la presenza di dolore cronico (= almeno la metà dei giorni) nell'ultimo mese?

Si No

Se sì, somministrare il DN4

Se DN4 < 4, se dolore senza distribuzione neuroanatomica congrua, specificare diagnosi:

- |  |    |    |
|--|----|----|
| - Dolore muscolo scheletrico (low back pain, crampi, artrite, tendinite, etc.) | Si | No |
| - Eemicrania con aura  | Si | No |
| - Eemicrania senza aura  | Si | No |
| - Cefalea muscolo tensiva  | Si | No |
| - Spasmi tonici in flessione   | Si | No |
| - Altre forme di cefalea   | Si | No |
| - La cefalea è secondaria a trattamento con INF                                | Si | No |
| - Dolore post traumatico specificare: _____                                    |    |    |
| - Altro, specificare _____   |    |    |

Se DN4 ≥ 4, specificare diagnosi:

Dolore neuropatico spontaneo continuo (dolore urente coinvolgente gli arti) Si No

Dolore spontaneo parossistico Si No

Se sì, specificare:

- |  |    |    |
|--|----|----|
| - Nevralgia trigeminale                            | Si | No |
| - Segno di Lhermitte                               | Si | No |
| - Dolore simil-tabetico a distribuzione metamERICA | Si | No |
| - Altre nevralgie craniche                         | Si | No |

Dolore associato a neurite ottica Si No

Durata dei disturbi sensitivi (in mesi) \_\_\_\_\_

## ATTUALE TERAPIA DEL DOLORE:

- ☐ Pregabalin
- ☐ Gabapentin
- ☐ Duloxetina
- ☐ Antidepressivi triciclici
- ☐ Oppioidi
- ☐ SSRI
- ☐ Carbamazepina
- ☐ Oxcarbazepina
- ☐ Lamotrigina
- ☐ Altro, specificare \_\_\_\_\_

Somministrare: NPSI (DN4 ≥ 4), BDI, SF36

### DN4 Questionnaire

Please complete this questionnaire by ticking one answer for each item in the 4 questions below:

#### INTERVIEW OF THE PATIENT

Question 1: Does the pain have one or more of the following characteristics?

- 1 - Burning
- 2 - Painful cold
- 3 - Electric Shocks

yes	no
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Question 2: Is the pain associated with one or more of the following symptoms in the same area?

- 4 - Tingling
- 5 - Pins and Needles
- 6 - Numbness
- 7 - Itching

yes	no
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

#### EXAMINATION OF THE PATIENT

Question 3: Is the pain located in an area where the physical examination may reveal one or more of the following characteristics?

- 8 - Hypoesthesia to touch
- 9 - Hypoesthesia to prick

yes	no
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Question 4: In the painful area, can the pain be caused or increased by:

- 10 - Brushing

yes	no
<input type="checkbox"/>	<input type="checkbox"/>

# RESULTS

- 1253 subjects interviewed
- 835 female (66,6%) and 418 male (33,4 %)
- mean age was 33,9 years
- mean disease duration 8 years
- 916 (73,1%) subjects had relapsing remitting disease course, 248 (19,8%) were secondary progressive, 55 (4,4%) were primary progressive and 30 (2,4%) were CIS.
- Mean EDSS score was 2
- 779 in-therapy with DMD

# RESULTS

- 458 pz reported Pain YES (36.6%)
- DN4 < 4 : 284 pz
- DN4 > 4 : 173
- TN ; 14 pz (1.1%) **4 pz DN4 < 4**
- 81 pz in-therapy with AED
- <1 % in-therapy with opioid



# CONCLUSION

- One of the largest multicenter study on pain in MS
- The first evaluation using DN4
- We can not confirm the high prevalence of pain in MS

Neuropathic pain special  
interest group of the  
Italian Neurological Society

