Relationships between the Fibromyalgia Impact Questionnaire, pain severity, psychological profile and Muscle Strength in Female Patients with Fibromyalgia

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Objectives
The aim of this study was to compare various performances between women with fibromyalgia (FM) and healthy female controls and to assess the relationship between muscular function, pain intensity, disease severity and psychological profile in the fibromyalgia.

Methods
We included forty-six women divided into two groups: the first group included 21 fibromyalgia patients and the second group included 25 healthy controls. All subjects had an evaluation of the trunk and knee muscular strength in the dominant limb using an isokinetic dynamometer. This assessment involved a measurement of the maximal concentric isokinetic muscle strength of the knee flexors and extensors at both 60\(^{\circ}\)/s and 180\(^{\circ}\)/s angular velocity, and a measurement of the maximal concentric isokinetic muscle strength of the trunk flexors and extensors at 60 and 150 \(^{\circ}\)/s. Muscular resistance to fatigue is assessed when the subject has performed 30 chained concentric contractions of maximum intensity at an angular velocity of 180\(^{\circ}\)/s. The measured parameters were the peak of torque and the cumulative work. We evaluated the pain intensity both at rest and during exercise using visual analogical scale, the psychological profile via HAD scale, and the disease severity using the fibromyalgia impact questionnaire (FIQ).

Results
The strength and endurance of knee and trunk muscles were lower in fibromyalgia. The difference between these groups was significant (P < 0.05). The isokinetic trunk deficit predominated on the trunk extensors (P < 0.01). Mean decrease were 34.5\% (P < 0.05) for trunk flexors, 70\% (P < 0.05) for the trunk extensors, 20\% (P < 0.05) for the knee flexors and extensors, and 75\% (P < 0.001) for fatigue resistance. There were no significant correlations between isokinetic parameters, FIQ, pain intensity and psychological profile.

Discussion
Muscular strength and endurance were decreased in both knee and trunk muscles in fibromyalgia patients. The relationship between muscular strength, psychological profile and disease severity is weak. This implies that separate evaluations and treatments for every single co-morbidity are imposed.

Keywords
Fibromyalgia; Muscular strength; Isokinetic; Fatigue; Fibromyalgia impact questionnaire

Disclosure of interest
The authors have not supplied their declaration of conflict of interest.

Further reading

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