Neck pain -NP- or Mechanical Low Back pain -LBP-). Nevertheless, there is not enough evidence regarding if ROM and MMPs are different in both types of spine pain.

Objectives: To identify differences between axSpA patients and NP or LBP subjects, in cervical and lumbar ROMs and MMPs at rest.

Methods: Subjects with axSpA and with NP or LBP composed the Inflammatory pain Group (IG) and the Mechanical pain Group (MG), respectively. For the analysis of the spinal mobility, two Inertial Measurement Units (IMU) were used. For both spinal regions (cervical and lumbar - Figure 1A,B) 3 repetitions of flexion-extension, lateral-flexion, and rotation were executed separately[1].

A record of the MMPs using a hand myotonometer was made in both lumbar (muscular belly of the erector spinal – Figure 1D) and cervical (the semispinalis capitis muscles at C4 - Figure 1C) spine in prone position with both arms along the body. The MMPs recorded in this study included: frequency (tone), stiffness, decrement (elasticity), relaxation and creep (viscosity). The order of assessments (right/left) was randomized. Since no side-to-side differences in either group were observed, the mean of both sides was considered. Student-t tests were used to compare the groups, and Cohen-d effect size index was estimated as a measure of the size of difference. P<0.05 was considered statistically significant.

Results: 61 subjects in IG (42% women, age 41±12 years, BMI 25±3) and 66 in MG (51% women, age 38±13 years, BMI 25±3) participated in this study. No significant differences were identified in sociodemographic data between both groups. Table 1 shows ROM and MMPs between groups. All lumbar ROMs were significantly lower in the IG, with the different between means achieving the minimum clinical important difference (>8°) for flexion-extension and lateroflexion. On the contrary, the cervical ROMs were not different between groups, and showed the highest variability, probably related to compensatory mechanisms due to lumbar ROMs restrictions. The IG showed greater lumbar stiffness than the MG with a large effect size (d=0.94). No other difference in MMPs was identified in this region (p>0.05). Regarding the cervical region, all MMPs showed differences between groups. Thus, tone, stiffness and elasticity were higher in the IG, while relaxation and viscosity were lower. In all cases, except for decrement, the effect size was from moderate to large (0.6<d<0.8).

Consideration: AxSpA patients present lower lumbar ROMs than NP and LBP subjects. Further, posterior cervical MMPs of axSpA are more rigid and less viscoelastic than those of NP and LBP subjects. ROMs and MMPs show a different behavior pattern in cervical and lumbar regions when spinal pain from different origin is assessed.

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A CHANGE IN A REHABILITATION MODEL INCREASES WORK CAPACITY AT 36 MONTHS IN LOW BACK PAIN

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Background: In chronic low back pain, the most expensive patients are those with long-standing sick-leave of more than 6 months. Several studies have shown the importance of rehabilitation models working with kinesiophobia (fear of movement). One possibility of treating chronic low back pain is a multidisciplinary rehabilitation program.

Objectives: The aim of this study was to analyze the impact of a change in a rehabilitation program for chronic lumbar pain by introducing a progressive exposure procedure to decrease apprehension associated with low back pain. We studied its impact on work capacity after 3 years, compared to our classic rehabilitation program.

Methods: We have compared the results of 1004 of our patients that have accomplished a multi-disciplinary program and that have followed been over 12 months. They were divided in two groups: one before the implantation of PHODA (PHOtotoxic of Daily Activity: photos showing activities) associated with occupational training and work exposure. Then a second one including 200 patients that followed the new program. The program contained physical treatment, occupational tasks developed on the basis of the apprehension following a cognitive-compensatory approach.

We have analyzed the evolution of apprehension according to different questionnaires (FABQ, Tampa scale (TSK) and FACT (evaluating the subjective work capacity)), the PHODA results and the official work capacity at beginning of the program and after 36 months.

Results: We saw a clear increase in the global work capacity at 12 months after completing the program: passing from 40 to 79% (p<0.01) in the old program comparing to the new one with an increase of 86% (p<0.01). These results were confirmed at 36 months, with stabilized results. In parallel there was an increase in the subjective sensation of physical capacity (Fact), but less in the new program. This increase was correlated with a decrease in fear-avoidance according to the Fabq, and in the TSK.

Conclusion: In chronic low back, a multidisciplinary rehabilitation program, gives a global work capacity of 79%. This capacity could be increased on focalising on patient’s apprehensions with gradual exposure according to the fear-avoidance model developed by Waddell and explored by Vlayen. The correlation were confirmed on the psychological part, with less apprehension and less anxiety.

Finally, the SF 36 showed an increase in body confidence as an important factor in these functional restoration programs.

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