

test was considered to be able to detect changes in older adults who underwent an 8-week intervention program. The RMDQ was more responsive than any of the functional capacity tests.

**Keywords:** Chronic low back pain, Functional capacity, Disability

**Conflict of interest:** The authors declare no conflict of interest.

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114

## PROBABLE SARCOPENIA, PAIN, AND DISABILITY IN OLDER ADULTS WITH CHRONIC LOW BACK PAIN

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**Background:** As the population ages, the prevalence of chronic musculoskeletal conditions, such as low back pain (LBP), increases. Sarcopenia, defined as an age-related loss of skeletal muscle mass, is a prevalent condition in the older population that contributes significantly to functional decline, disability, frailty, and falls. The coexistence of both conditions may negatively impact the functional decline of the older adults, which may require a specific therapeutic approach to deal with both conditions. However, the first step is to investigate the prevalence of probable sarcopenia among older adults with chronic LBP and whether older adults with both conditions are more clinically disabled than older adults with chronic LBP without probable sarcopenia.

**Objectives:** The aims of this study were to determine the prevalence of probable sarcopenia among older adults with chronic LBP seeking physical therapy care in a primary care setting and to investigate whether older adults with chronic LBP and probable sarcopenia present with higher pain and disability than those with chronic LBP and no probable sarcopenia.

**Methods:** This is a cross-sectional study design. We recruited older adults (age  $\geq 60$ ) living in Belo Horizonte, Brazil, reporting LBP for more than 3 months, seeking physical therapy care in a basic health unit (i.e. primary care setting) from the Brazilian National Health-care System. Data collected included age, sex, pain intensity (0-10 scale), disability (i.e., Roland Morris disability questionnaire) and probable sarcopenia (i.e. algorithm from the European Working Group on Sarcopenia in Older People – EWGSOP2). To compare pain and disability levels in older adults with chronic LBP with and without probable sarcopenia, we calculate the mean difference (MD) and its confidence interval (CI).

**Results:** A total of 156 participants (73% women), mean age of  $69.5 \pm 6.2$  years, mean pain intensity of  $7.1 \pm 2.3$  points, and mean disability of  $12.7 \pm 5.5$  points. The prevalence of probable sarcopenia was 31.40%. Patients with chronic LBP and probable sarcopenia reported higher mean pain intensity (MD=1.63; 95%CI: 0.89, 2.37) and disability (MD=5.38; 95%CI: 3.69, 7.07) than those with no probable sarcopenia.

**Conclusion:** Nearly a third of older adults with chronic LBP seeking physical therapy care were classified as having probable sarcopenia.

These patients reported higher pain and disability than patients with chronic LBP with no probable sarcopenia.

**Implications:** In clinical practice, an approach to screening cases in older adults with chronic LBP and probable sarcopenia may help to identify more severe and disabling cases of low back pain. Future studies should investigate the prognostic value of sarcopenia in older adults with LBP. It may be possible that future therapeutic approaches should be developed and tested to treat older adults with both conditions.

**Keywords:** Chronic low back pain, Probable sarcopenia, Older adults

**Conflict of interest:** The authors no conflict of interest.

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115

## LOWER LIMB COORDINATION AND COORDINATION VARIABILITY IN MALE AND FEMALE RUNNERS WITH AND WITHOUT PATELLOFEMORAL PAIN

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**Background:** According to the dynamic system theories, the motions of the lower limb are coupled, and it is likely that these motions may be uncoupled/less well coordinated in the presence of patellofemoral pain (PFP). Literature also suggests that there may be differences between males and females with and without PFP. However, evidence to support this hypothesis in runners is contradictory.

**Objectives:** To investigate differences between lower limb coordination and coordination variability between male runners with and without PFP and between female runners with and without PFP.

**Methods:** A cross-sectional study involving 83 runners. The female group was composed by 40 runners, 20 with PFP (mean age 27.5 years, running average of 20.1 km/week, mean duration of pain 14.6 months) and 20 without PFP (27.2 years, running average of 28.5 km/week). The male group was composed of 43 runners, 22 with PFP (28.4 years, running average of 22.5 km/week, mean duration of pain 14.4 months) and 21 without PFP (28.5 years, running average of 39.8 km/week). A 3-dimensional kinematics analysis of the femur, tibia, and foot during a treadmill running was recorded. Vector Coding technique was used to analyze coordination and coordination variability for the femur-tibia-foot segments couplings. The couplings variables of interest were: (I) tibia internal/external rotation vs foot inversion/eversion, (II) femur internal/external rotation vs foot inversion/eversion, (III) femur adduction/abduction vs foot inversion/eversion, (IV) femur flexion/extension vs tibia flexion/extension, (V) femur adduction/abduction vs tibia adduction/abduction. Differences between males with and without PFP