test was considered to 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.
Acknowledgment: Thanks to the coordination, team, and patients of the "Projeto de Extensão Coluna Saudável para a Melhor Idade" the Federal University of Minas Gerais. Funding: EE supported by (CAPES) Finance Code001. AFAG supported by (FAPEMIG). RLGMS supported by (PIBIC). LACF supported by (FAPEMIG). RZP is fellowship recipient from the CNPq.
Ethics committee approval: Universidade Federal de Minas Gerais (CAAE:34085520.3.0000.5149).

https://doi.org/10.1016/j.bjpt.2024.100710

114

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

Eleonora Esposito[1], Marcia Rodrigues Franco[1], Larissa Bragança Marques[1], Maria Carolina Viana Lemuchi[1], Robert Resende Nascimento[1], Rafael Zambelli Pinto[1]
[1] *Department of Physical Therapy, Universidade Federal de Minas Gerais (UFMG), Belo Horizonte, Minas Gerais, Brazil*

Background: As the population ages, the prevalence of chronic musculoskeletal conditions, such as low back pain (LBP), increases. Sarcopenia, defined an age related loss of skeletal muscle mass, is a prevalent condition in the older population 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 Healthcare 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.
Acknowledgment: Thanks to the coordination, team, and patients of the "Projeto de Extensão Coluna Saudável para a Melhor Idade" at the Federal University of Minas Gerais. Funding: EE, LBM are supported by (CAPES) Finance Code001. RRN is supported (PIBIC) - CNPq. MCVL is supported (FAPEMIG). RZP is fellowship recipient from the CNPq.
Ethics committee approval: Universidade Federal de Minas Gerais (CAAE:34085520.3.0000.5149).

https://doi.org/10.1016/j.bjpt.2024.100711

115

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

Eliane de Morais Machado[1], Natalia Duarte Pereira[1], Ana Flávia dos Santos[2], Bruna Calazans Luz[1], Luciana De Michelis Mendonça[3], Fábio Viadanna Serrão[1]
[1] *Physical Therapy Department, Universidade Federal de São Carlos (UFSCar), São Carlos, São Paulo, Brazil*
[2] *Centro Universitário (UMA), Pouso Alegre, Minas Gerais, Brasil*
[3] *Physical Therapy Department, Universidade Federal de Minas Gerais (UFMG), Belo Horizonte, Minas Gerais, Brazil*

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 analysisthe femur, tibia, and foot during g 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

and between females with and without PFP were investigated using independent T tests and Mann-Whitney tests ($\alpha<0.05$).
Results: In coordination patterns — male runners with PFP were significantly different to male runners without PFP for the following couplings: (1) femur internal/external rotation vs foot inversion/eversion (p=0.031), (2) femur adduction/abduction vs foot inversion/eversion (p=0.001) and (3) femur flexion/extension vs tibia flexion/extension (p=0.005). No differences were found for female runners.

In coordination variability — males with PFP had lower variability than those without PFP for the following couplings: (1) tibia internal/external rotation vs foot inversion/eversion ($p<0.001$), (2) femur internal/external rotation vs foot inversion/eversion (p=0.002), (3) femur adduction/abduction vs foot inversion/eversion (p=0.012) and (4) femur flexion/extension vs tibia flexion/extension ($p<0.001$). No such differences were found for female runners.
Conclusion: According to our findings, male runners with PFP had different coordination patterns and presented lower coordination variability than those without PFP. This is in agreement with the theory that less coordination variability is indicative of a pathological coordinate state with reduced ability to adapt, which could lead to repetitive stress in the knee joint over time. On the other hand, it appears that female runners with PFP do not have alterations in coordination patters or its variability when compared with females without PFP for the couplings analyzed.
Implications: The results of this study allow for a better understanding of the movement alterations that occur in runners with PFP. Future studies should investigate whether alterations in the couplings between lower limb segments are risk factors for the development of PFP in runners.
Keywords: Dynamic system, Patellofemoral pain, Sport

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

Acknowledgment: This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brasil (CAPES) - Finance Code 001.

Ethics committee approval: This study was approved by Universidade Federal de São Carlos's Ethics in Research Committee (No. 3.089.896).

https://doi.org/10.1016/j.bjpt.2024.100712

116

DYSMENORRHEA AND PELVIC FLOOR MUSCULAR DYSFUNCTIONS IN YOUNG NULIPARAUS WOMEN: IS THERE AN ASSOCIATION?

Ellen Caroline Navroski[1], Emanuella Mildemberger Franco[1], Fernanda Aparecida Penteado[1], Giovana Frazon de Andrade[1], Josiane Lopes[1]
[1] *Course of Physiotherapy, Universidade Estadual do Centro-Oeste (Unicentro), Guarapuva, Paraná, Brazil*

Background: The pelvic floor musculature (PFM) plays a role that influences bladder, intestinal and sexual functions and when this musculature is affected, it can develop several symptoms with high prevalence in the female population. For women of reproductive age, every month passed by menstrual periods could have dysmenorrhea, a source of chronic pelvic pain originating from a difficult menstrual flow. There are few data on the influence of dysmenorrhea on other PFM disorders.
Objective: To correlate dysmenorrhea with PFM disorders in young nulliparous women.
Methods: A descriptive, observational, cross-sectional study with a quantitative approach was carried out. Enrollment was optional, with women aged between 18 and 30 years old, nulliparous, who had never been pregnant, had already experienced their first sexual intercourse and who did not have their menstruation on the day of the assessment. The evaluation was carried out through the application of tests (socio-clinical, International Consultation on Incontinence Questionnaire-Short Form, Pelvic Floor Distress Inventory, Visual Analog Scale (VAS) and, later, through the physical examination of the strength of the PFM through the Perfect scheme. Data were analyzed according to the sample's normality distribution, comparing the groups with and without pelvic floor dysfunction according to the presence of dysmenorrhea using the t-test for independent samples. The Statistical Program for Social Science program (version 23) was used, considering a significance level of 5%.
Results: The sample was fixed by 45 women (median age 21 years). The prevalence of dysmenorrhea was 77.7% with pain intensity 5 (2 - 6.50) on the VAS scale. The main symptoms of premenstrual tension were those of an emotional nature, such as irritability (84.4%), anxiety (73.3%), desire to cry (71.1%) and sadness (71.1%). The sample showed muscle weakness with a median of 3 (2 — 3) in the Perfect scheme, and 24.4% of the sample reported some type of urinary incontinence, and 17.7% had constipation. The group with dysmenorrhea had worse vaginal (p=0.04) and intestinal (p=0.03) dysfunctions. There was interference between dysmenorrhea, vaginal (R=0.81) and intestinal (R=0.57) disorders.
Conclusion: Dysmenorrhea is prevalent in young nulliparous women with an association between vaginal and intestinal dysfunctions, this population presents pelvic floor muscle weakness and symptoms of premenstrual tension predominantly of an emotional nature.
Implications: In scientific terms, this study demonstrated that PFM dysfunctions are a reality among young nulliparous women and that women with dysmenorrhea every month may be more subject to vaginal and intestinal dysfunctions with possible chronic implications for their health. In clinical terms, it is important to consider the complaint of dysmenorrhea in the evaluation and to question and physically assess the bladder, vaginal, sexual, and intestinal functions that may be associated.
Keywords: Diaphragm of the Pelvis, Dysmenorrhea, Women's health

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

Acknowledgment: I would like to thank the research group for their assistance during the work and Prof. Dr. Josiane Lopes for her guidance.

Ethics committee approval: Research Ethics Committee of UNICENTRO, under 5,299,509.

https://doi.org/10.1016/j.bjpt.2024.100713

117

VIRTUAL REALITY TRAINING COMPARED TO STATIONARY CYCLING IN INDIVIDUALS WITH PARKINSON'S DISEASE: PROTOCOL OF A RANDOMIZED CLINICAL TRIAL

Maria Beatriz Barbosa da Silva[1], Ellen Cristine Ferreira da Silva[1], Bruna Thais Martins da Silva[1], André Fidelis[1], Josevan Cerqueira Leal[1], Felipe Augusto dos Santos Mendes[1]
[1] *Department of Physical Therapy, University of Brasília (UnB), Brasília, Distrito Federal, Brazil*

Background: Parkinson's disease (PD) is a chronic, progressive, and neurodegenerative disease, characterized as one of the most common neurological conditions and which shows signs of resting tremor and cognitive decline that impact on quality of life and the performance of daily activities. Furthermore, active stationary cycling