

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 patterns 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 NULLIPARAUS WOMEN: IS THERE AN ASSOCIATION?

Ellen Caroline Navroski¹, Emanuella Mildemberger Franco¹,
Fernanda Aparecida Penteado¹, Giovana Frazon de Andrade¹,
Josiane Lopes¹

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 Silva¹, Ellen Cristine Ferreira da Silva¹,
Bruna Thais Martins da Silva¹, André Fidelis¹,
Josevan Cerqueira Leal¹, Felipe Augusto dos Santos Mendes¹

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