back-related leg pain. With three months of persistent pain, it is classified as chronic. It has been investigated that chronic musculoskeletal pain conditions promote structural and functional changes in the brain. Thus, using tDCS a treat these changes may add effect in reducing pain intensity when associated with standard radiculopathy treatment, such as Neural Mobilization.
Objectives: To verify if the effects of tDCS add benefit to pain intensity improvement in individuals with chronic lumbosciatalgia when associated with Neural Mobilization techniques.
Methods: Randomized, blinded controlled trial with participants with chronic lumbosciatalgia. The outcomes assessed are pain intensity, through the Numerical Pain Scale (NDS), as primary outcome; and as secondary outcomes, functional disability, through the Roland Morris Disability Questionnaire, and neuropathic symptoms, accessed by the Douler Neuropathique Questionaire (DN4) and PainDetect Questionaire (PD-Q). Evaluations will occur at the following times: before and after the intervention and at seven, fourteen, and thirty-day follow-up. The intervention consists of the association of tDCS with Neural Mobilization, and the participants will be randomly allocated to two groups: Experimental (Active tDCS and Neural Mobilization) and Control (Sham tDCS and Neural Mobilization). For the Statistical Analysis, the Kolmogorov-Smirnov test will be applied for data distribution and the Levene test to analyze the homogeneity of variance. ANOVA with a mixed design will be conducted for the primary and secondary outcomes. The interaction of time and group and the inter-group and intra-group differences will be analyzed for all variables. The Bonferroni test will be used in post hoc analyses to determine if there are differences between groups at the different intervention times.
Results: This trial is being conducted in its pilot study phase.
Conclusion: It is hypothesized that subjects presenting neuropathic pain, as in sciatica, may benefit from a treatment approach that stimulates adaptive neuroplasticity towards reducing pain intensity and functional disability by stimulating descending inhibitory pathways.
Implications: Such an approach proves promising as it shows a new therapeutic horizon for a condition considered difficult to manage clinically.
Keywords: Sciatica, Transcranial Direct Current Stimulation, Manual Therapy

Conflict of interest: The authors declare no conflict of interest.
Acknowledgment: Not applicable.
Ethics committee approval: Research Ethics Committee (CEP) of Health Sciences Faculty of Trairi, Federal University of Rio Grande do Norte (FACISA/UFRN) through the national interface Plataforma Brasil (Registration number: 3.737.749)

https://doi.org/10.1016/j.bjpt.2024.100643

47

CORRELATION BETWEEN PRIMARY DYSMENORRHEA AND SLEEP QUALITY IN YOUNG NULLIPAROUS WOMEN

Astrid Lehmann[1], Emanuella Mildemberger Franco[1], Fernanda Aparecida Penteado[1], Ellen Caroline Navroski[1], Giovana Frazon de Andrade[1], Josiane Lopes[1]
[1] *Universidade Estadual do Centro-Oeste (UNICENTRO), Guarapuava, Paraná, Brasil*

Background: Primary dysmenorrhea (PD) is a gynecological disorder characterized by difficulty in menstrual flow that affects between 45 and 95% of women of reproductive age. This disorder can disturb sleep, especially during the first days of menstruation, when pain intensity tends to be greater, resulting in daytime fatigue, which suggests a reduction in sleep efficiency and a reduction in deep sleep.
Objectives: Correlate the symptoms of dysmenorrhea and sleep quality in young nulliparous women.
Methods: A descriptive, observational, cross-sectional study was conducted with a convenience sample of young nulliparous women. Women aged 18 to 30 years who had never become pregnant were selected. The participants were evaluated by the same examiner using the socio-clinical questionnaire, visual analog pain scale (VAS) and Pittsburgh Sleep Quality Index (PSQI). In the data analysis, the means and standard deviation of the variables were calculated according to the normal distribution of the sample, and the groups with and without dysmenorrhea were compared according to the level of sleep quality using the t-test for independent samples. The data were analyzed using the Statistical Program for Social Science program (SPSS version 23), considering a significance level of 5%.
Results: The sample of this study consisted of 69 nulliparous young adult women with a mean age of 21.86 $\pm$ 3.16 years. Dysmenorrhea had a prevalence of 65.21% (n=45), and most of them had regular menstrual flow. The level of dysmenorrhea pain was low, with a mean VAS of 3.59 $\pm$ 3.16 points. In the characterization of sleep quality, the average was 8.33 $\pm$ 2.43. Most participants had poor sleep quality (n=51), 14 had sleep disturbance, and 4 women had good sleep quality. There was a statistically significant difference between the groups with and without dysmenorrhea with the dysmenorrhea group showing higher values for sleep disorders ($p = 0.02$). There was a direct correlation between the presence of dysmenorrhea and domains of sleep quality. Subjective sleep quality (R=0.32), daytime dysfunction (R=0.37), and total sleep quality (R=0.35) showed moderate correlation with dysmenorrhea. Sleep latency showed a weak correlation with dysmenorrhea (R=0.29).
Conclusion: Young nulliparous women with dysmenorrhea have more sleep disorders than women without dysmenorrhea. There is a greater association in terms of subjective sleep quality, daytime dysfunction, sleep latency, and total sleep quality.
Implications: In scientific terms, dysmenorrhea directly impacts sleep quality and may directly impact the lives of these women in symptomatic terms (more dysfunction) and terms of quality of life. In clinical terms, this study is relevant for presenting the importance of assessing dysmenorrhea and quality of sleep in young nulliparous women co, considering that both conditions are prevalent in this population.
Keywords: Women's health, Dysmenorrhea, Sleep

Conflict of interest: The authors declare no conflict of interest.
Acknowledgment: I thank Professor Josiane for the incentive and Fundação Araucária that provided me with a scientific initiation scholarship of vital importance to stay in this project.
Ethics committee approval: Universidade Estadual do Centro-Oeste - Ethics Committee Approval No. 5.299.509.

https://doi.org/10.1016/j.bjpt.2024.100644

48

ASSOCIATION BETWEEN DEPRESSION SYMPTOMS AND CARDIORESPIRATORY FITNESS IN WOMEN WHO WORK IN A UNIVERSITY ENVIRONMENT

Ayse Suzel Martins Cosme[1], Amanda Rodrigues Borges[1], Pedro Henrique de Almeida Silva[1], Marcos Filipe Da Silva Mello[1], Viviane Soares[1]
[1] *Universidade Evangélica de Goiás - UniEVANGÉLICA, Anápolis, Goiás, Brasil*

Background: Depression is the most common behavioral disorder worldwide, especially in women, and there is an inverse relationship between symptoms and cardiorespiratory fitness. Women with

depression are at risk for low CRF, increased chances of cardiovascular disease, and premature death.
Objectives: To identify the presence of depression symptoms in female university workers and to verify whether the maximum consumption of O_2 (VO2 max) is a predictor of depression symptoms in women.
Methods: This is a cross-sectional observational study involving workers from two higher education institutions located in two Brazilian states with homogeneous characteristics such as age, position, and weekly workload. A total of 223 women between 18 and 59 years old participated in the survey, recruited for convenience and who had been employed for at least six months. Those who did not complete all stages of the research were excluded a, and the sample consisted of05 women. To identify the presence of depression symptoms, the Beck inventory was used and, and to assess cardiorespiratory fitness, the Shuttle Run test was used normality was tested by Kolmogorov-Smirnov. The Mann-Whitney test was used to compare the groups of women with and without symptoms of depression and the effect size was classified according to Cohen f^2. The Chi-square test examined the association between the presence of depression symptoms and the cardiorespiratory fitness rating; linear regression verified whether cardiorespiratory fitness (VO_{2max}) was a predictor of depression scores, being adjusted according to age and climacteric. The p-value considered for the tests was < 0.05.
Results: Regarding the evaluated women, 27.83% (n=59) had symptoms of depression. VO_{2max} was lower (p=0.009, f^2= 0.18) in the group of women with symptoms [25.93 (2.18) mL/kg/min] when compared to those without symptoms [(26.97 (2.60)) mL/kg/min]. The highest proportion of women had VO_{2max} below the predicted value (n=53, 89.80%, p=0.011). VO_{2max} was a predictor of depression symptom scores [β= -0.671 (95%CI = -1150/ -0.191), p=0.006).
Conclusion: Women with depressive symptoms had lower VO_{2max} and identified it as a predictor of depression symptoms in women.
Implications: Frequently assess symptoms of depression and cardiorespiratory fitness to estimate early depressive symptoms and deficits in maximum oxygen consumption, with the aim of preventing and minimizing damage to the cardiovascular health of workers. In addition to promoting psychological follow-up and the regular and guided practice of physical exercises to improve health-related quality of life.
Keywords: Women, Depression, Cardiorespiratory fitness

Conflict of interest: The authors declare no conflict of interest.
Acknowledgment: Not applicable.
Ethics committee approval: under the number 5.274.887/2022.

https://doi.org/10.1016/j.bjpt.2024.100645

49

MYOFASCIAL FORCE TRANSMISSION BETWEEN LATISSIMUS DORSI, THORACOLUMBAR FASCIA AND GLUTEUS MAXIMUS: NEW EVIDENCE FOR UNDERSTANDING THIS PHENOMENON

Bárbara Alice Junqueira Murta[1], Paola de Figueiredo Caldeira[1], Paula Renata Soares Procópio[1], Rafael Zambelli de Almeida Pinto[1], Renan Alves Resende[1], Juliana de Melo Ocarino[1]
[1] *Universidade Federal de Minas Gerais (UFMG), School of Physical Education, Physical Therapy and Occupational Therapy, Graduate Program in Rehabilitation Sciences, Belo Horizonte, Minas Gerais, Brazil*

Background: The force generated by the Latissimus Dorsi contraction during adduction can be transmitted to the contralateral Gluteus Maximus, modifying hip resting position towards lateral rotation. It is suggested that this change is due to the connection of these muscles with the thoracolumbar fascia. However, it is not known whether the tensioning of the latissimus dorsi leads to a change in fascia stiffness. In addition, adduction may be less functional, making it necessary to evaluate whether the latissimus dorsi contraction in movements more present in activities of daily living and sports, such as, for example, shoulder extension, may also be capable of transmitting force to the Thoracolumbar Fascia and Gluteus Maximus.
Objectives: To compare lumbar stiffness and hip resting position between control and active tensioning of the Latissimus dorsi in shoulder extension conditions, providing evidence for a better understanding of the force transmission mechanism between Latissimus dorsi, Thoracolumbar fascia and Gluteus maximus.
Methods: 44 healthy individuals of both genders (age: 29.80$\pm$ 7.71 years, weight: 65.32$\pm$9.82 kg and height: 1.69$\pm$0.09 m) participated in this study. A portable instrument capable of recording passive tissue stiffness was used to assess lumbar stiffness. The hip resting position was calculated from the passive resistance torque, recorded with an isokinetic dynamometer during the medial rotation movement, while the electromyographic activity of the Latissimus Dorsi, Paraspinal and hip muscles was monitored. Both tests were performed under conditions of control and active tensioning of the Latissimus Dorsi, performed with the shoulder in 10° of extension, sustaining 10% of the participant's maximum RM. For statistical analysis, the Wilcoxon Test was used to compare the stiffness of the lumbar region and the Paired t-test was used to compare the resting position of the hip between the studied conditions.
Results: During active tensioning, an increase in lumbar stiffness was demonstrated compared to the control condition (Z=-5.54, p$<$0.001). The mean difference was -1.48$\pm$1.45 N/mm. For the resting position, a shift towards lateral hip rotation was demonstrated during active tensioning (t=5.303, p$<$0.001). The mean difference between conditions was 1.73$\pm$2.16°.
Conclusion: The findings of the present study demonstrated that the active tensioning of the Latissimus Dorsi in extension altered the passive properties of the hip and lumbar region, supporting the force transmission mechanism between the Latissimus Dorsi, Thoracolumbar Fascia and Gluteus Maximus. Although it was not possible to register the specific stiffness of the fascia, the lumbar evaluation was only performed in individuals who kept the paraspinals relaxed during tensioning, favoring changes in connective tissues to be better captured. For future studies, it is important to evaluate the relationship between the efficiency of force transmission and performance and the development of dysfunctions.
Implications: The myofascial force transmission between the Latissimus Dorsi, Thoracolumbar Fascia and Gluteus Maximus must be considered in the evaluation of muscle function, movement and dysfunction processes related to these regions. Support: CAPES, CNPq, FAPEMIG.
Keywords: Transmission, Fascia, Stiffness

Conflict of interest: The authors declare no conflict of interest.
Acknowledgment: This work was supported by the Brazilian funding agencies CAPES, FAPEMIG, and CNPq.
Ethics committee approval: Comitè de Ética em Pesquisa – CEP-UFMG - CAAE: 53641821.3.0000.5149.

https://doi.org/10.1016/j.bjpt.2024.100646