

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 (VO_{2max}) 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, and the sample consisted of 105 women. To identify the presence of depression symptoms, the Beck inventory was used 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 [$\beta=-0.671$ (95%CI = -1.150/ -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>

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

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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 ± 7.71 years, weight: 65.32 ± 9.82 kg and height: 1.69 ± 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 ± 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 $1.73 \pm 2.16^\circ$.

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: Comitê de Ética em Pesquisa – CEP-UFMG - CAAE: 53641821.3.0000.5149.

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