analyzes were performed using the R Core Team software, considering an $\alpha \leq 0.05$.

Results: Absenteeism were associated with a stressful environment ($r^2 = 0.953$, p-value = 0.000), time taken for breaks ($r^2 = 0.866$, p-value = 0.000), working hours longer than 6h/day ($r^2 = 0.627$, p-value = 0.007) and more than one employment relationship ($r^2 = 0.948$, p-value = 0.000). Similarly, work accidents had a statistically significant association with the stressful environment ($r^2 = 0.928$, p-value = 0.000), time of breaks ($r^2 = 0.846$, p-value = 0.000), working hours greater than 6h/day ($r^2 = 0.606$, p-value = 0.009) and more than one employment relationship ($r^2 = 0.939$, p-value = 0.000). On the other hand, there was no statistically significant correlation between repetitive movements and absenteeism ($r^2 = -0.051$, p-value = 0.846) or work accidents ($r^2 = -0.153$, p-value = 0.558), demonstrating that, despite the studied population being workers with musculoskeletal disorders, repetitive movements did not influence cases of absenteeism and work accidents. Furthermore, absenteeism and work accidents were significantly associated ($r^2 = 0.981$, p-value = 0.000) showing that these workers may be more susceptible to this type of injury.

Conclusion: Stressful environments, working hours longer than 6h/day, time for breaks and more than one employment relationship had a greater impact on absenteeism and accidents at work in cases of muscle, synovial and tendon disorders reported in Brazil compared to the variable "repetitive movements".

Implications: This study provides insight for future investigations. In contrast to expectations, the stressful environment was the variable best correlated with absenteeism and work accidents in Brazilian workers with musculoskeletal disorders. Therefore, it is pertinent to continue this investigation to understand how the stressful environment, and other variables analyzed, had repercussions on absenteeism and accidents of workers diagnosed with musculoskeletal disorders related to work.

Keywords: Cumulative trauma disorders, Occupational risks, Occupational accidents

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

Acknowledgment: Not applicable.

Ethics committee approval: Not reported.

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EFFECT OF MUSCLE STRENGTHENING AND AEROBIC EXERCISE ON PAIN, MUSCLE STRENGTH AND PHYSICAL PERFORMANCE OF INDIVIDUALS WITH KNEE OSTEOARTHRITIS

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Background: For the treatment of individuals with knee osteoarthritis (KOA), the American College of Rheumatology recommends conservative modalities and, among them, are muscle strengthening (MS) and aerobic exercise (AE), the latter usually associated with MS, which makes it difficult to know what the effective contribution of AE is to this population. In addition, psychological factors are also important to be considered for KOA and how much they influence physical performance and symptom improvement is still uncertain.

Objectives: To evaluate and compare MS and AE protocols on intensity and pain awareness, muscle strength, self-reported and objective physical performance in individuals with KOA, considering the influence of age, BMI and psychological factors.

Methods: Ninety-eight individuals (mean $\pm$ SD = 63.2 $\pm$ 8.4 years, 72 women) with KOA participated in the study. Three protocols were performed over an 8-week period, 3 times a week. 1) MS protocol: It consisted of strengthening the hip abductor muscles, quadriceps and tibialis anterior, through 4 sets of 6 repetitions; 2) AE Protocol: It consisted of 40 minutes of ergometric bicycle, in which the individual should maintain the range of 50-70% of the maximum heart rate; 3) Control Protocol (CT): It consisted of education through a booklet and 60-minute lectures on the characteristics of KOA and execution of part of the physiotherapeutic protocol to be carried out at home. The main assessment measures were Numerical Pain Scale (NPS), Pressure Pain Threshold (PPT), Beck Depression Inventory (BDI), Pain Catastrophizing Scale (PCS), Western Ontario and McMaster Universities Osteoarthritis Questionnaire (WOMAC), Isometric Muscle Strength and Gait Speed.

Results: The MS and AE protocols produced a positive short-term effect on pain intensity and sensitization, muscle strength, self-reported and objective physical performance, even when considering the influence of age, BMI and psychological factors. However, the MS protocol proved to be more effective than the AE and CT protocol for pain intensity, in addition to increasing tibialis anterior (TA), quadriceps (QD) and hip abductor (ABD) muscle strength. Peripheral and central sensitization decreased after MS, AE and CT protocols, however, there was no significant difference between groups. Likewise, self-reported physical performance increased after MS, AE and CT interventions, however, there was no significant difference between groups. As for the objective physical performance variables, both the MS group and the AE group increased the comfortable speed (CS), slow speed (SS) and fast speed (FS) compared to the CT group.

Conclusion: MS is the most effective protocol to improve the symptoms of individuals with KOA when compared to AE and CT, even when considering the influence of age, BMI and psychological factors.

Implications: This study reveals that muscle strengthening was more effective when compared to aerobic exercise in improving the symptoms of knee osteoarthritis.

Keywords: Knee osteoarthritis, Muscle strengthening, Aerobic exercise

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

Ethics committee approval: Federal University of Uberlandia — Protocol: 2.096.045.