

normalized by the activation peak. After verifying the normality of the data, the One-way Anova test was applied and a significance level of $\alpha < 0.05$ was adopted.

Results: There was no statistically significant difference for GM muscle activation during the proposed exercises ($\alpha = 0.715$).

Conclusion: It is possible to conclude that the proposed exercises with an emphasis on the muscle activation of the GM both in the Pilates method and in the conventional exercise protocol, present the same magnitude of muscle recruitment.

Implications: The Pilates method has occupied a prominent place in the prevention and rehabilitation of musculoskeletal disorders of the lumbar spine and other lower limb joints. The squat exercise is also present in clinical practice in conventional rehabilitation protocols, and it was possible to conclude that it has the same muscle activation as the gluteus maximus muscle. Therefore, both methods can be applied as a way of activating and strengthening this musculature with the objective of lumbopelvic stabilization, mainly during functional activities.

Keywords: Electromyography, Exercise Therapy, Muscle Contraction

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

Acknowledgment: Not applicable.

Ethics committee approval: Study approved by the Research Ethics Committee of the Faculty of Philosophy and Sciences – Sao Paulo State University, under protocol n° 5.859.083.

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EFFECTS OF STRENGTH TRAINING WITH BLOOD FLOW RESTRICTION AND ELECTROSTIMULATION ON MUSCLE STRENGTH AND ACTIVITY – STUDY PROTOCOL

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Background: Increasing muscle strength may allow an athlete to improve their performance while reducing the risk of injury. Blood Flow Restriction (BFR) has emerged as an alternative for increasing muscle strength because it can promote physiological changes and hypertrophy with a lower degree of mechanical overload. When combined with Neuromuscular Electrostimulation (NME) it offers the possibility of hypertrophy with greater activation of motor units, potentially increasing the effects of BFR.

Objectives: To evaluate the effects of strength training with BFR combined with NME of the quadriceps muscle in physically active individuals on parameters of strength and muscle activation.

Methods: This protocol is a randomized clinical trial with a blinded evaluator for groups and statistical analysis. Eligibility criteria will be age between 18 and 35 years old; both sexes and physically active according to the International Physical Activity Questionnaire. The following criteria are not considered appropriate: Body Mass Index over 30; use of stimulants in the 24 hours before the examinations; risk factors for thromboembolism and hypertension. Anthropometric data will be collected, followed by blood pressure measurement and kirtometers. Subjects will be randomly divided into three groups: Blood Flow Restriction Group (BFRG), Blood Flow Restriction and Electrostimulation Group (BFREG) and Conventional Exercise Group (CEG). A Vascular Doppler will be used to measure Total Occlusion Pressure (TOP). Maximum Repetition Test (1RM) unilateral will be used to determine the load during exercise, with adjustment in four weeks. An isokinetic dynamometer in

concentric/eccentric mode at two angular speeds will be used to assess muscle strength: 60°/s and 180°/s, and isometric strength by the 30s test at 30° and 60°. Surface Electromyography (EMG) will be used to record the electrical activity of the quadriceps muscles. The intervention protocol consists of four sets of 30, 15, 15, 15 repetitions in the chair for extension, with one minute rest between sets, a load of 30% 1RM and 50% of POT, with adjustment of 5% each week up 80% of POT. The BFREG follows the same methodology, with an asymmetric biphasic current, frequency of 50Hz and a pulse duration of 400us. In the CEG the exercise will be performed without intervention in three sets of ten repetitions at 70% of 1RM. The training lasts eight weeks and takes place twice a week, with re-evaluation at the end of the training. The distribution of normality will be analysed by the Shapiro-Wilk test. To analyse the effect of group and the interventions, ANOVA for repeated measures and Bonferroni post test will be performed. The significant level adopted will be 5%.

Conclusion: It is reasonable to assume that BFR and the intervention associated with electrostimulation are superior to conventional training in terms of strength and muscle recruitment parameters.

Implications: Because BFR requires a reduced load and it has been hypothesised that its effects are similar to those of conventional training, BFR offers mechanical and physiological benefits. Reduced loading may produce the same results in terms of hypertrophy and increased muscle strength in individuals without joint overload and prolonged loading.

Keywords: Muscle Strength, Electromyography, Blood Flow Restriction Exercise

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

Acknowledgment: Not applicable.

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EFFECTS OF TWO TELEREHABILITATION PROGRAMS FOR PEOPLE WITH KNEE OSTEOARTHRITIS: PRELIMINARY RESULTS OF A RANDOMIZED CLINICAL TRIAL

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Background: Physical exercise is among the main indications for non-surgical treatment for knee osteoarthritis (OA), however, people with the problem tend to reduce the practice of physical exercise over time, which is a great challenge for professionals who accompany them. An alternative for the maintenance and continuity of supervised physical exercise is to offer it remotely, using telecommunication technological resources for rehabilitation.

Objectives: To evaluate the effects of two telerehabilitation programs on pain, quality of life, functionality and adherence to exercises in people with knee OA.

Methods: This is a randomized, single-blind clinical trial, with pre- and post-intervention assessments and two groups: synchronous (GS), who performed an exercise program via video call through the WhatsApp messaging application; and asynchronous (GA), who

performed the same exercise program with the aid of a booklet with the details of the exercises. The exercise program was to be performed 3 times/week in 45-minute sessions for 6 weeks. Participants in both groups underwent an initial assessment and after the 6 weeks of intervention, with physical performance assessment tests (40-meter Fast Walk Test (T-C40m); 30-second Sitting and Standing Test (T-SL30s) and 9-step Going Up and Down Stairs Test (T-Stairs) and completion of questionnaires (Western Ontario and McMaster Universities Osteoarthritis Index- WOMAC; the World Health Organization Quality of Life -WHOQOL-bref and the TAMPA Scale for kinesiophobia - ETC). They also responded to the Exercise Adherence Rating Scale (EARS) only at reassessment.

Results: 9 participants were evaluated so far (90% female), 5 from the GS and 4 from the AG, with a mean age of 58.4 years, BMI of 30.34kg/m². There was no interaction between time and groups in relation to all outcomes evaluated in this study. Significant improvement was observed after 6 weeks in relation to ETC and the domain stiffness and total WOMAC score when comparing the pre and post intervention assessments of both groups together (GS+GA). Regarding the EARS, the GS presented an average of 22.4 (3.6) and the GA, 20.3 (3.3) of 24 possible points in section B, and 32.0 (1.0) and 30.5 (6.3), respectively, out of 36 possible points in section C, indicating good acceptance of both programs.

Conclusion: From our preliminary results, we observed that both telerehabilitation programs are feasible and well accepted by participants. However, it has not yet been possible to make consistent conclusions regarding the synchronous and asynchronous modality regarding pain, quality of life and functionality.

Implications: Telerehabilitation in synchronous and asynchronous modalities can be used as a treatment option to enable continuity of treatment and maintenance of benefits in people with knee OA.

Keywords: Virtual Rehabilitation, Remote Patient Control, Physiotherapy

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

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Ethics committee approval: The study was approved by the Ethics Committee for Research on Human Beings of the UFMS under number 5.833.392.

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ASSOCIATION BETWEEN SEXUAL FUNCTION AND SOCIODEMOGRAPHIC AND HEALTH FACTORS IN BRAZILIAN WOMEN: A CROSS-CROSS STUDY

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Background: The female sexual response is composed of physical and psychological factors, which when altered affect sexual function and can result in female sexual dysfunction (FSD). Despite advances in the literature regarding the FSD, understanding of the influence of sociodemographic and health factors, such as age, marital life, number of pregnancies, use of contraceptive methods, physical activity, urinary incontinence and menopause are still limited.

Objectives: To verify the association between female sexual function and sociodemographic and health factors in Brazilian women.

Methods: This is a cross-sectional study, with Brazilian women aged ≥ 18 years, who had sexual intercourse in the last 4 weeks, literate and with internet access, recruited from the dissemination of the research on social networks. Data were collected via Google Forms carried out between October 2021 and August 2022, and contained sociodemographic, health and screening questions. of DSF through the Female Sexual Function Index (FSFI) questionnaire, which has six domains (desire, arousal, lubrication, orgasm, satisfaction, and pain). Each domain has its own score, and when added together, they determine the final score, where values ≤ 26.55 represent worse sexual function and risk of having some type of FSD. To measure associations, binomial logistic regression analysis was performed by FSFI domains. DSF screening was the dependent variable, while age, marital status, number of pregnancies, use of contraceptive methods, practice of physical activity (PA), urinary incontinence (UI) and post-menopause were the independent variables. The SPSS program (version 22.0) was used, adopting a significance level of 5%.

Results: A total of 621 women participated, of which 197 (30.5 years ± 9.3) were at risk for DSF based on the FSFI. As for the associations, the desire domain was associated with the variables UI and menopause (OR=1.61, CI 1.09–2.38, $p=0.02$); difficulty in the excitation and lubrication domains were inversely associated with the practice of PA (OR=0.53, CI 0.35–0.80, $p<0.1$; OR=0.62 CI 0.41–0.95, $p=0.03$, respectively); difficulty in the satisfaction domain was directly associated with UI (OR=2.08, CI 1.30–3.32, $p<0.01$) and difficulty in the pain domain was inversely associated with the practice of PA (OR=0.59, CI 0.38–0.91, $p=0.02$) and directly associated with the presence of UI (OR=2.16, CI 1.32–3.53, $p=0.01$); difficulty in the orgasm domain was not associated with any of the variables.

Conclusion: The findings of this study indicate that women who do not practice PA had greater impairment in the domains of arousal and lubrication. For the domains of desire, satisfaction and pain, UI was the main factor associated with FSD.

Implications: By presenting the factors that are significantly associated with FSD, it is possible that in clinical practice and research these data are objects of investigation by health professionals aiming at the prevention of FSD.

Keywords: Women's Health, Prevalence, Sexuality

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

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VALIDITY OF THE 2-MINUTE WALK TEST TO ASSESS EXERCISE CAPACITY IN INDIVIDUALS WITH PARKINSON DISEASE

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Background: Individuals with Parkinson's Disease (PD) commonly have reduced exercise capacity, which impacts autonomy and quality of life. The 6-minute walk test (6MWT) has adequate measurement properties to assess exercise capacity in this population. However, these individuals have a reduced fatigue threshold, which may make it difficult to apply prolonged exercise tests. Two-minute