Keywords: Aged, Risk Factors, Maximum Respiratory Pressures

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EFFECTIVENESS OF AEROBIC EXERCISE ON THE FUNCTIONALITY AND QUALITY OF LIFE OF CHILDREN WITH CEREBRAL PALSY: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: The main alterations associated with cerebral palsy (CP) include impairments in body functions and structures, activity limitations and participation restrictions. Thus, the health of individuals with CP can be affected in all domains of the International Classification of Functioning, Disability and Health (ICF). Aerobic exercise showed beneficial results for this population. Most studies report its benefits on body structures and functions; however, the results regarding activity and participation are less explored. The literature does not have comprehensive systematic reviews addressing the benefits of aerobic exercise for individuals with CP in the three domains of the ICF.
Objective: To investigate the effectiveness of aerobic exercise on the functionality of children and adolescents with (CP). The effectiveness of aerobic exercise on quality of life (QoL) was verified secondarily.
Methods: A systematic review with meta-analysis was conducted, taking into account the recommendations of the Report Items Referenced for Systematic Reviews and Meta-analyses (PRISMA) statement. An extensive search for articles was carried out in the electronic databases PubMed, PEDro, Embase and CINAHL. This systematic review was registered in the PROSPERO International Prospective Registry (nr. CRD42021251361). The methodological quality and certainty of the evidence were assessed using the PEDro and GRADE scales (Evaluation Rating, Development and Evaluation of Recommendations). The effects of aerobic exercise were investigated with meta-analytical techniques.
Results: 15 randomized controlled clinical trials (RCTs) were included, with 414 participants. As for the methodological quality, a low risk of bias was revealed. Aerobic exercise was effective in improving aerobic capacity (standardized mean difference [SMD] = 0.81; 95% confidence interval [CI] = 0.16−1.47; $p < 0.002$; I2 = 68%), gross motor function (SMD = 0.70; 95% = CI 0.21−1.19; p = 0.005; I2 = 49%), mobility (SMD = 0.53; 95% CI = 0.05−1.05; p = 0.03; I2 = 27%), balance ($p < 0.05$), and participation (SMD = 0.74; 95% CI = 0.10−1.39; p = 0.02; I2 = 0%). Aerobic exercise did not prove to be more effective in terms of muscle strength, spasticity, gait parameters and QoL ($p > 0.05$). The certainty of evidence for most comparisons was moderate to low.
Conclusion: The results show that aerobic exercise improves aerobic capacity, gross motor function, mobility, balance, and participation, but it did not show significant effects on muscle strength, spasticity, gait parameters and quality of life. The certainty of the evidence was moderate to low. Given the small sample size, heterogeneity may be underestimated, leading to uncertainties regarding effect estimates. New RCTs involving larger samples are needed for definitive conclusions to be reached.
Implications: Clinicians should cautiously replicate this intervention, as new studies with larger sample sizes and quality must be conducted.
Keywords: Cerebral palsy, Aerobic exercise, Randomized controlled clinical trial

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THE EFFECTS OF RESISTANCE EXERCISE AND ELECTROSTIMULATION ON PELVIC FLOOR STRENGTHENING IN PATIENTS WITH PROSTATE CANCER

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Background: The literature on exercise linked to electrical stimulation of the upper pelvic floor muscles in the treatment of urinary incontinence after radical prostatectomy is scarce and reports different techniques for the treatment of urinary incontinence. In this context of care for cancer patients, functional exercises and electrostimulation can act as additional therapies. Studies show positive effects of functional pelvic floor training in patients with urinary incontinence after prostate surgery. In addition, as a second treatment option is electrostimulation that can be used together with functional training or separately (LATORRE, 2020). Electrostimulation facilitates the contraction of the periurethral striated muscles by inhibiting the detrusor muscle and activating the sphincter (KAKIHARA CT, 2007). The structure that maintains urinary continence is the external urinary sphincter, urinary incontinence is a consequence of sphincter injuries of the less favorable urethrovesical junction to maintain urinary continence, generating greater demand for the external urethral sphincter. To improve the effectiveness of the urethral sphincter, physical therapy treatment is recommended, which includes pelvic muscle training; functional electrostimulation together with indo-anal electrode; the two methods can be executed together or separately (KAKIHARA CT, 2007).
Objectives: To verify the effects of resistance exercise and electrical stimulation on clinical outcomes and quality of life of cancer patients undergoing prostatectomy.
Methods: The present study sought to analyze scientific articles based on a systematic literature review. The research focused on analyzing articles that addressed the terms involved in the construction of the study. They were consulted in the electronic databases SciElo, PubMed, Cochrane, Bvs for selection and review of articles originally published in English and Portuguese.
Results: Twenty published studies were summarized. Most studies demonstrate physiological and quality of life benefits. However, most of these studies have limitations because they are not randomized clinical trials or use small samples.

Conclusion: This initial evidence involving a small sample size suggests that properly applied, designed, and supervised resistance exercise may be safe and well tolerated by patients with prostate cancer and may lead to improvements in physical function, physical activity levels, and weight gain. muscle mass. Future trials involving larger samples are needed to expand on these preliminary findings.
Implications: Future trials involving larger samples are needed to expand on these preliminary findings. Knowing that the planned exercise has benefits in the quality of life of these patients.
Keywords: Resistance exercise, Cancer, Electrostimulation

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IDENTIFICATION OF DEMOGRAPHIC, CLINICAL AND PSYCHOLOGICAL PREDICTORS IN RELATION TO KINESIOPHOBIA OF PATIENTS IN THE POST-OPERATIVE MUSCULOSKELETAL TRAUMA

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Background: Musculoskeletal injuries affect a large part of the population and result from numerous causes. These individuals may develop kinesiophobia, leading to avoidance of body movements and physical activities because of pain, believing that this behavior can prevent the worsening of their condition or cause a new problem. Kinesiophobia can have a significant impact on an individual's quality of life, both physical and mental health.
Objectives: Investigate the demographic, clinical and psychological predictors of kinesiophobia in patients after musculoskeletal trauma to the upper and lower limbs.
Methods: The study carried out with individuals after immediate musculoskeletal traumatic injuries in the Orthopedics and Traumatology Ward of HC/UFTM. We collect demographic data such as: age, gender, dominance and profession; clinical data, such as: pain intensity, pain categorization, type of surgical treatment, cause of injury, side of injury and body segment; and psychological data, such as: depression, anxiety, pain catastrophizing and kinesiophobia. Variables associated with kinesiophobia were analyzed using a multivariate linear regression model.
Results: 88 individuals were included, 73.9% male and 26.1% female. The multivariate linear regression model that showed statistical significance with the highest R2 value (R2 = 0.383; adjusted R2 0.312) considering kinesiophobia as a dependent variable included nine independent variables: surgical treatment, affected side, dominance, anxiety and depression, affected segment, gender, pain intensity, cause of injury and pain catastrophizing. In this model, the predictive variables that showed statistical significance were: anxiety and depression (p = 0.255; β = 0.050), female gender (p = -0.191; β = 0.048) and pain catastrophizing (p = 0.350; β = 0.010).
Conclusion: Among the studied predictors, we believe that female gender, pain catastrophizing and higher levels of anxiety and depression are important predictors of kinesiophobia in patients after musculoskeletal trauma in the upper and lower limbs.
Implications: We believe that health professionals who deal with musculoskeletal trauma patients are aware of the variables that can predict kinesiophobia, as well as use these assessment tools to help patients with their fear and movement avoidance behaviors.
Keywords: Predictors, Kinesiophobia, Musculoskeletal trauma

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CORRELATION BETWEEN SENSORY AND MUSCULAR FUNCTIONS OF THE PELVIC FLOOR AND URINARY INCONTINENCE IN YOUNG NULIPAROUS WOMEN

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Background: The functionality of the pelvic floor musculature (PFM) assists in the support of pelvic organs as well as provides urinary, fecal continence and sexual functions within normal limits. For the PFM to be considered functional, it is necessary that strength, resistance, relaxation capacity, superficial sensitivity, tonus, and proprioception are present in a harmonious way. Changes in one or more of these components can trigger, for example, urinary incontinence (UI).
Objectives: To Identify the sensory and muscle functions of the pelvic floor and UI and their correlations in young nulliparous women.
Methods: A descriptive, observational, and cross-sectional study was carried out. The sampling process was of the convenience type, with women aged between 18 and 30 years old, nulliparous, who had never been pregnant and who were not menstruating on the day of the assessment selected. The evaluation was carried out through the application of questionnaires (socio-clinical questionnaire, International Consultation on Incontinence Questionnaire-Short Form) and, later, by physical examination evaluating the superficial sensitivity, the tonus of the perineal body, tonus of the external anal sphincter and strength of MAP through the Perfect scheme. Data were analyzed using the Statistical Program for Social Sciences (version 23) considering a significance level of 5%.
Results: The sample consisted of 45 women with a mean age of 22.18 $\pm$ 3.15 years. The prevalence of UI was 31.11%, with the majority referring a feeling of incomplete emptying and 17.77% referring a situation of urinary urgency. The entire sample showed normal sensitivity. Changes in perineal body and external anal sphincter tone were observed in 26.6% and 15.5%, respectively. The group with UI showed more muscle weakness (p=0.04) and less ability to repeat PFM contractions (p=0.02). There was a correlation between PFM functions and the presence of UI in the components of muscle strength (R=-0.78), maintenance of muscle contraction capacity (R=-0.60), repetition potential (R=-0.65) and presence of contraction of the lower abdominal muscles (R=0.55).
Conclusion: UI is directly related to muscle weakness, difficulty maintaining the contraction, lack of ability to repeat PFM