

**Background:** Labor provides several responses that result in the expulsion of the fetus and placenta. The role of the physiotherapist aims to rescue autonomy in the delivery process, providing comfort and self-confidence.

**Objectives:** To describe the evolution of physiotherapeutic care over 8 years in a maternity hospital with usual risk, as well as to identify the general obstetric characteristics of the women assisted in these years.

**Methods:** Descriptive study, consulting the database of maternity hospital with usual risk in Marília-SP, from January 2011 to December 2018. The data collected were physiotherapy care; resources used; way of delivery; labor induction; duration of labor; interventions during vaginal delivery. The analysis was descriptive, using mean, absolute and relative frequency.

**Results:** 9893 medical records of women hospitalized during the collection period were analyzed, totaling the number of research participants. The average number of physical therapy care per year was 4784. In 2011, a total of 5095 sessions were made, in 2012, 5451, in 2013, 4000, in 2014, 5555, in 2015, 5567, in 2016, 4362, in 2017, 4362, and in 2018, 3874 physiotherapeutic consultations. Of the resources used during physiotherapeutic care, those most frequently used were a shower, being used in 3296 (68.9%) cases, walking in 3157 (66%), therapeutic ball 3123 (65.3%) and breathing exercises 2521 (52.7%). Between 2011 and 2014, the most used resources were, on average: shower bath (77.6%), walking (69.4%), therapeutic ball (68.1%) and breathing exercises (21.8 %). Between 2015 and 2018, on average, they were: breathing exercises (87.3%), walking (64.2%), therapeutic ball (62.7%) and showering (58.6%). As for the total number of medical records evaluated, in relation to obstetric characteristics, it was observed that 6232 (63%) evolved to vaginal deliveries and 3660 (37%) evolved to cesarean deliveries. Regarding induction, 6430 (65%) received medication. The duration of labor prevailed from 1h to 6h in 64% of the total. Episiotomy was performed in 2866 (46%) of the vaginal deliveries, 1433 (23%) of the deliveries were without any intervention, and grade I lacerations accounted for 1308 (21%).

**Conclusion:** Physiotherapeutic care was not performed in most parturients, considering the average number of visits over the years. There was a variation in the number of physical therapy visits between years, with a gradual decrease from 2016 to 2018. The most used resources were showering, walking, therapeutic ball and breathing exercises, and over the years, there was a reversal in the frequency of use of these resources.

**Implications:** This descriptive study brought an exploratory overview of the physiotherapy service in a public maternity hospital at usual risk, demonstrating the number of consultations over the years and the most used practices. Complementary, in-depth, and analytical studies are suggested, so that more specific aspects can be verified, meeting the strengthening of physiotherapeutic practices in hospital obstetrics, as well as raising awareness of the importance of the physical therapist being inserted in the labor process in a way systematic.

**Keywords:** Physiotherapy, Maternity, Labor

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**Ethics committee approval:** Research Ethics Committee of the Faculty of Philosophy and Science (FFC) UNESP Campus Marília (Process Number: 1898/2010).

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## FACTORS ASSOCIATED WITH RESPIRATORY MUSCLE STRENGTH AMONG COMMUNITY-DWELLING OLDER ADULTS IN THE AMAZON REGION: A CROSS-SECTIONAL STUDY

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**Background:** The increase in life expectancy has exposed the population to greater intrinsic and extrinsic factors that affect the whole organism and that can influence the respiratory function of the elderly, which is already suffering from aging-related alterations. Changes such as replacement of muscle fibers by fat and increased rib cage rigidity affect the function of respiratory muscles, leading to strength deficit, represented by decreased values of maximal inspiratory pressure (MIP) and maximal expiratory pressure (MEP), which may reflect in dyspnea and fatigue.

**Objective:** To analyze the factors associated (sociodemographic characteristics, lifestyle habits, and health conditions) with respiratory muscle strength (RMS) among community-dwelling older adults.

**Methods:** Cross-sectional, population-based study conducted among community-dwelling elderly residents in the urban area in the municipality of Macapá-AP. The associated factors evaluated were sociodemographic characteristics (structured questionnaire with information about sex, age, education, individual income and housing), lifestyle habits (self-report of smoking; and level of physical activity - through the International Physical Activity Questionnaire-IPAQ) and health conditions (body mass index; self-report of hospital admissions and falls in the last 12 months; associated diseases; medication use; self-perception of health; depressive symptoms - measured by the Geriatric Depression Scale; functional capacity - using the Katz Scale and the Lawton and Brody instrument; and physical performance through the Short Physical Performance Battery). The MIP and MEP were evaluated by means of manovacuometry. Factors associated with RMS were identified by means of multivariable analysis in the multiple linear regression model, considering a significance level of 5%.

**Results:** A total of 383 elderly people with a mean age of 70.01 (SD±7.3) years participated in the study, 251 being female (65.5%) and 132 male (34.5%). The adjusted linear regression model analysis pointed out that being female and having advanced age were associated with lower values of both MIP ( $\beta = -0.330$ ;  $p = <0.001$  and  $\beta = -0.150$ ;  $p = 0.003$ , respectively) and MEP ( $\beta = -0.410$ ;  $p = <0.001$  and  $\beta = -0.190$ ;  $p = <0.001$ , respectively). Elderly insufficiently active ( $\beta = -0.120$ ;  $p = 0.008$ ), with lower BMI values ( $\beta = 0.140$ ;  $p = 0.002$ ) and worse physical performance ( $\beta = 0.120$ ;  $p = 0.020$ ) showed association with lower MIP values and those less independent were associated with lower MEP values ( $\beta = -0.130$ ;  $p = 0.005$ ).

**Conclusion:** Older age and being female, insufficiently active, poorer physical performance, having a lower BMI value, and being less independent were factors associated with RMS in community-dwelling elderly.

**Implications:** The identification of factors that are associated with RMS in the elderly population enables health professionals to promote actions to change lifestyle habits, such as physical exercise, as well as to improve health conditions during the aging process, because our results demonstrated that these factors could bring impairment to respiratory function in community-dwelling elderly.

**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;  $p < 0.002$ ;  $I^2 = 68\%$ ), gross motor function (SMD = 0.70; 95% CI = 0.21–1.19;  $p = 0.005$ ;  $I^2 = 49\%$ ), mobility (SMD = 0.53; 95% CI = 0.05–1.05;  $p = 0.03$ ;  $I^2 = 27\%$ ), balance ( $p < 0.05$ ), and participation (SMD = 0.74; 95% CI = 0.10–1.39;  $p = 0.02$ ;  $I^2 = 0\%$ ). 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 urethrovaginal 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.