studies in this area in Brazil. In this way, the data are relevant for researchers to carry out future studies and analyze risk factors associated with their practice, through descriptive data on bodybuilding. And the data is relevant for clinicians to take into account in their rehabilitation plans.

Keywords: Resistance training, Bodybuilding, Injuries

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CHARACTERIZATION AND THERAPEUTIC APPROACHES TO URINATION DYSFUNCTIONS IN INDIVIDUALS WITH CEREBRAL PALSY

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Background: Individuals with cerebral palsy may be affected by motor, sensory, behavioral and/or autonomic dysfunctions. Among the autonomic dysfunctions, those that affect the urinary tract are very prevalent, with emphasis on the neurogenic bladder. Neurogenic bladder reflects findings of loss of inhibition of detrusor hyperactivity, generating voiding dysfunctions. Such dysfunctions are very frequent; however, their characteristics and approaches have been little systematized in the literature.

Objectives: To present the evidence from the literature that characterize voiding dysfunctions associated with cerebral palsy and the therapeutic approach.

Methods: A systematic review was performed following PRISMA recommendations with the research question structured according to population, intervention, control, and outcome. Two reviewers independently performed searches using the descriptors cerebral palsy' and 'neurogenic urinary bladder' in Portuguese, Spanish and English in Bireme (Lilacs, Medline, Scielo), Cinahl, Cochrane, Pubmed and Web databases of Science, no filters. Only published studies were included that included a sample of individuals diagnosed with cerebral palsy, with data on functional characteristics of the urinary tract and/or treatment. Studies that presented individuals with cerebral palsy and other associated diagnoses and studies with the design of reviews, letters or in the protocol phase were excluded.

Results: 1314 studies were found and 14 were selected (7 cross-sectional studies and 7 cohort studies). The total sample consisted of 1121 individuals with a mean age of 13.12 ± 8.91 years. The classification showed spastic quadriplegia (n=213), spastic diplegia (n=163), spastic hemiplegia (n=86) and 4 studies did not include classifications. The studies showed as main urinary tract symptoms urge incontinence (64.28%), daytime urinary incontinence (57.14%), stress urinary incontinence (35.71%), enuresis (35.71%), infection urinary tract (28.57%). There was also evidence of a reduction in urinary frequency, voiding fullness, voiding effort, voiding unpredictability, reduction of tension and force of voiding jet, inconstant jet. The therapeutic approach was always linked to the use of medication.

Conclusion: Voiding disorders in individuals with cerebral palsy are characterized by the association of symptoms related to failures in filling and/or emptying the bladder and have been therapeutically addressed only from a symptomatic point of view.

Implications: From a scientific point of view, considering the frequency of urinary dysfunctions, this review presents the urgent need to carry out studies with good methodological parameters that involve evaluation and, above all, other forms of treatment, such as, for example, pelvic physiotherapy. From a clinical point of view, this study directs the evaluative practice to conditions of hyperactivity of the detrusor musculature.

Keywords: Cerebral palsy, Neurogenic urinary bladder, Urinary incontinence

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RHEUMATOID ARTHRITIS: ASSESSMENT OF CARDIOPULMONARY FITNESS USING NEW SAMPLING TECHNOLOGY

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Background: Although maximum oxygen consumption (VO2peak) is one of the most important measurements in clinical practice, the high cost, time consumption and complications associated with the test have led to the search for simpler devices and the development of equations for estimating of cardiopulmonary fitness (eACP). Since the lungs are one of the sites most affected by rheumatoid arthritis (RA).

Objective: to create a predictive equation for VO2peak obtained by simple sampling technology in women with RA-associated interstitial lung disease (RA-ILD) considering the variables related to pulmonary involvement.

Methods: This cross-sectional study evaluated 47 women with RA-IPD. The participants were submitted to the following evaluations: dosage of autoantibodies; chest computed tomography (CT); assessment of disease activity through the Clinical Disease Activity Index (CDAI); measurement of physical function through the Health Assessment Questionnaire disability index (HAQ-DI); lung function tests including spirometry, carbon monoxide diffusing capacity (DLco) measurement, single-breath nitrogen washout test (N2SBW), impulse oscillometry (IOS) and cardiopulmonary exercise testing (CPET) using the FitMateTM®.

Results: VO2peak was significantly correlated with age (r=-0.550, p<0.0001), rheumatoid factor (r=-0.443, p=0.002), anti-cyclic citrullinated peptide antibodies (anti-CCP, r=-0.410 , p=0.004), CDAI (r=-0.462, p=0.001), HAD-DI (r=-0.486, p=0.0005), forced vital capacity (r=0.491, p=0.0004), DLco (r=0.621, p<0.0001), phase III slope of the N2SBW test (r=-0.647, p<0.0001), resonance frequency (Fres, r=-0.717, p<0.0001), respiratory system reactance (r=-0.535, p = 0.0001) , and inhomogeneity of respiratory system resistance between 4-20 Hz (r=-0.631, p<0.0001). On CT scan, patients with extensive ILD had significantly lower VO2peak than patients with limited ILD (p<0.0001). In the multivariate regression analysis, Fres, DLco and age explained 61% of the VO2peak variability.

Conclusion: As assessed by CPET, women with RA-ILD show reduced ACP, which can be explained at least in part by the presence of small

airway disease, deterioration of pulmonary gas exchange, and advanced age.

Implications: These associations of pulmonary variables with CPET may be clinically important and support the use of the eACP equation to improve patient outcomes.

Keywords: Cardiopulmonary exercise test, Rheumatoid arthritis, Lung function

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EARLY DETECTION OF NEUROMOTOR DELAYS AND IMPAIRMENTS IN INFANTS AT BIOLOGICAL RISK: PREVIOUS RESULTS

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Background: A risk factor is described as a condition related to a possible negative or unfavorable outcome, which may be environmental, physical, or biological. Prematurity, a biological risk factor, is the major cause of neonatal mortality, associated with neurological sequelae, and has occurred in 1 out of 10 live births in São Carlos in 2019. Thus, access to scales with high sensitivity and predictability is pivotal to early detection (in the first four months of age) of delays or neuromotor impairments. A systematic review showed the predictive value of the General Movement Assessment (GMA) and Hammersmith Infant Neurological Examination (HINE) instruments associated with magnetic resonance imaging for early detection up to five months of age.

Objectives: To early detect motor impairments and delays during the first four months of life in infants with biological risk.

Methods: It is an observational, cross-sectional, and case-control study. Five infants from the biological risk group and five healthy full-term infants from the control group were assessed. Parents and legal guardians had to assign the informed and the image consent form. The identification form was used to characterize the personal and environmental factors. GMA and HINE instruments were performed to evaluate the neuromotor development. The data collection occurred in the home environment or at the Movement Analyses Research Lab (NENEM/UFSCar).

Results: The infants from the control group presented a mean chronological age of two months and 12 days, and the infants from the biological risk group presented a mean corrected age of one month and two days. The majority of the sample was from the female sex (90%), born at eutocyte birth (80%), with adequate weight for the gestational age at birth (90%), born from multiparous mothers (100%), and with gestational difficulties (60%). The most frequent sociodemographic characteristics were single parents (60%), both with complete high school education (80% for mothers and 70% for fathers), the mother's mean age of 30.3 years and the father's 27.2 years. Regarding the GMA results, all infants from the biological risk group were evaluated during the writhing movements period, in which 80% scored as moderately abnormal and 20% as definitely abnormal; only 20% of infants from the control group presented abnormal general movements. At HINE evaluation, 60% of the infants from the risk group presented resistance to shoulder passive movement and absence of alternate kicks in vertical suspension; 60% were unable to follow an object with their eyes; 80% had no auditory response; 100% had persistently fisted hands and 100% presented good suction. The tremors and cramped synchronized movements presence were observed in 60% of the infants from the biological risk group during the assessment throughout both instruments.

Conclusion: Infants from the biological risk group presented signs of neuromotor deficits at two months of chronological age.

Implications: Performing early detection before four months old might allow more efficient physiotherapeutic intervention.

Keywords: Early detection, Infants, Preterm

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AN INTERVENTION PROGRAM WITH INTERACTIVE MEDIA FOR EARLY CHILDREN: A FEASIBILITY STUDY

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Background: the insertion of digital media devices has been increasingly prevalent in children's daily lives. The literature lacks evidence about the repercussion of media on children's development, therefore, further studies are needed to monitor the use and effect of these media.

Objective: to verify the viability of an intervention program based on active interactive media for children aged between 24 and 36 months.

Methods: Feasibility study in which 32 children enrolled in the nursery II of the educational institution, aged 24 to 36 months, and their parents/guardians, were invited to participate this study. Children were randomized into two groups: 1) GMIA: children used media actively (games) and GMIP: children used media passively (viewing content). Both groups participated in the intervention for 30 minutes, twice a week, for 4 weeks. Measures: Primary outcome: feasibility of the study regarding the criteria related to the intervention program with interactive media. Secondary outcome: adherence, acceptability, structure, and adequacy of the program to the school environment; degree of satisfaction and acceptability of messages and links and preliminary child development outcomes. Before and after 4 weeks of intervention, the children were assessed for child development, receptive vocabulary, and analysis of the Daily Record Chart on the use of interactive media at home.

Results: Of the 32 eligible children, 22 children participated in the intervention, with an average of 17 children per meeting. As for acceptability, all parents (n= 32) signed the informed consent form,