Methods: 64 healthy older adults performed postural stability assessment in an upright position on a stabilographic platform (Force Platform, EMG Systems) and a performance-based balance assessment (Mini-BESTest). Analysis was performed using a within-subject 2 × 2 factorial design experiment, including visual condition (Eyes-Open or Eyes-Closed) and task condition (single- or dual-task). We performed two-way repeated measures analysis of variance (ANOVA) and correlation analysis to analyze the Center of Pressure (COP) variables and Mini-BESTest results.
Results: Postural control decreased when participants performed cognitive tasks or had their eyes closed. The interaction of task condition and visual condition were detected and showed that when older adults performed the cognitive task with eyes-closed, COP total displacement and anteroposterior (AP) velocity showed a higher postural sway.
Conclusion: Cognitive task performance reduces the upright postural control of older adults in a quiet standing position, and the interaction between cognitive demand and visual information performance influences postural balance in older adults. Additionally, the weak correlations between Mini-BESTest and COP suggest the need for complementary assessment to better screen older adults' populations in health services assistance.
Implications: The decrease in static balance due a cognitive task and the interaction between the cognitive task and the visual information indicate the need for preventive strategies in primary health care to maintain postural control, even in healthy older adults. The weak correlations between the clinical test used (Mini-BESTest) and the gold standard postural control assessment toll (force platform) indicate the need for complementary evaluation, but mainly, claim for the wide adoption of preventive strategies dedicated to balance.
Keywords: Postural Balance, Aging, Dual-task

Conflict of interest: The authors declare no conflict of interest.
Acknowledgment: Not applicable.
Ethics committee approval: Research Ethics Committee of the João de Barros Barreto University Hospital (n° 2,146,662).

https://doi.org/10.1016/j.bjpt.2024.100806

210

PSYCHOLOGICAL AND PAIN PROCESSING FACTORS IN PATELLOFEMORAL PAIN: SEX DIFFERENCES AND CORRELATION WITH CLINICAL OUTCOMES

Júlia de Cássia Pinto da Silva[1], Ana Flavia Balotari Botta[1], Ronaldo Valdir Briani[1], Liliam Barbuglio Del Priore[1], Fábio Mícolis de Azevedo[1]
[1] *Laboratory of Biomechanics and Motor Control (LABCOM), Physical Therapy Department, School of Science and Technology, São Paulo State University (UNESP), Presidente Prudente, São Paulo, Brazil*

Background: Patellofemoral pain (PFP) is a multifactorial condition involving psychological factors (e.g. kinesiophobia and catastrophism) and pain processing factors (eg, hyperalgesia), which seem to be increased in individuals with PFP. Studies suggest that these factors appear to differ between men and women in other populations. Considering that PFP is twice as prevalent in females as in males, it is possible that sex influences psychological and pain processing factors and their relationship with clinical outcomes (e.g. pain and function) in individuals with PFP.
Objectives: The aim of this study was to compare the levels of kinesiophobia, catastrophism and pain pressure threshold (PPTs) between men and women with and without PFP and to investigate whether these outcomes are correlated to pain, function, and quality of life (QoL) in men and women with PFP.
Methods: 65 women and 38 men with PFP, 30 women and 30 men without PFP aged 18-40 years were enrolled in this cross-sectional study. The levels of kinesiophobia, catastrophism, pain, function and QOL were assessed by the Tampa Scale of Kinesiophobia, Pain Catastrophizing Scale, Visual Analog Pain Scale, Anterior Knee Pain Scale and the Medical Outcome Short-Form 36, respectively. PPTs were obtained with a digital algometer on the contralateral shoulder and patella. Generalized linear models (GzLM) were used for comparison analyzes while Spearman's test was used for correlation analyses.
Results: Women and men with PFP had greater kinesiophobia (CI: 1.88, 10.33; 1.55, 10.37), catastrophism (CI: 4.90, 14.01; 8.63, 27.78) and smaller Patellar PPTs (CI: -1.71, -.36; -1.43, -.04) compared to asymptomatic controls. Women with PFP had lower shoulder PPTs than men with PFP (CI: -1.89, -.74), which was not observed for psychological factors. In women with PFP, kinesiophobia and catastrophism correlated with pain (rho= .44 to .53), function (rho= -.55 to -.58) and the physical component of QoL (rho= -.63 to -.65). For men with PFP, only catastrophizing correlated with pain (rho= .42) and function (rho= -.43). Patellar and shoulder PPTs had only weak correlations with pain, function and QoL.
Conclusion: Individuals with PFP showed alterations in psychological and pain processing factors when compared to asymptomatic controls, although the presentation of psychological factors did not differ between genders, only for PPTs. However, it is important to note that psychological factors correlated differently with clinical outcomes in men and women with PFP.
Implications: Interventions focused on psychological and pain processing factors are recommended for individuals with PFP. Our results corroborate with these recommendations. Furthermore, our results are the first to indicate that interventions focused on kinesiophobia may be especially important for women with PFP, since higher levels of kinesiophobia are not directly correlated to worse levels of pain and function in men with PFP. Future clinical studies are needed in this area.
Keywords: Pain, Kinesiophobia, Catastrophism

Conflict of interest: The authors declare no conflict of interest.
Acknowledgment: Thanks to the Laboratory of Biomechanics and Motor Control (LABCOM) and the Sao Paulo Research Foundation (FAPESP).
Ethics committee approval: School of Science and Technology, São Paulo State University (FCT/Unesp) in Presidente Prudente (approval number 4.649.629).

https://doi.org/10.1016/j.bjpt.2024.100807

211

ADAPT PROJECT - USABILITY OF THE ADAPTED MOTORIZED CAR FOR MOBILITY OF CHILDREN WITH CEREBRAL PALSY

Julia de Souza Castilho[1], Letícia Ribeiro Diogo[1], Beatriz Bicalho Saraiva[1], Lívia Ferreira Coutinho Alonso[1], Flávia de Souza Bastos[1], Paula Silva de Carvalho Chagas[1]
[1] *Departamento de Fisioterapia, Universidade Federal de Juiz de Fora (UFJF), Juiz de Fora, Minas Gerais, Brasil*

Background: Cerebral Palsy (CP) refers to a group of developmental disorders that affect movement and posture due to non-progressive impairment in the brain during childhood, causing children and adolescents with this condition to experience restrictions in participation and limitations in performing activities. Children classified in Levels IV and V, in the Gross Motor Function Classification System (GMFCS), have limited participation due to their dependence on mobility. This lack of mobility or locomotion in some way affects cognitive development, learning, independence, and autonomy. In

this sense, the ADAPT extension and research project was created, which aims to promote early, motorized, and low-cost mobility, and the participation of children with disabilities who don't walk or who use assistive devices for mobility.
Objectives: To evaluate the usability of motorized cars to be propelled by different types of adapted switches by the ADAPT project in children with CP classified as GMFCS IV or V.
Methods: Children with CP classified as GMFCS IV or V, enrolled in the ADAPT project and who received the adapted motorized car, participated in this study. They were evaluated before and after using the motorized car, through a screening form and the Assessment of Learning Powered mobility use (ALP – scoring between 1 and 7). The Quebec User Evaluation of Satisfaction with Assistive Technology (QUEST 2.0 – reference value between 0-5; scores higher than 4 indicate satisfaction with the assistive technology), was individually answered by parents or caregivers, by Google Forms, with the support of a researcher to clarify possible doubts.
Results: Four children with a diagnosis of CP, with a mean age of 5 years and classified by the GMFCS level IV or V, participated in this study. According to the ALP, all children were at level 1 (learner) at the beginning of the evaluation and after the intervention, they progressed to level 3 (novice). In QUEST 2.0, the total score of the questions obtained an average of 4.17 ($\pm$0.23), which means that families were between quite satisfied and completely satisfied with the adapted motorized car offered by the ADAPT project.
Conclusion: The usability of the motorized car adopted by the ADAPT project was proven, since all children improved in the use of the switches and their families were satisfied, resulting in a good evaluation of the service provided by the ADAPT project and the adapted motorized car after using it.
Implications: The idea of the ADAPT project to adapt and motorize non-electric cars allows more children to have access to this mobility, regardless of their economic condition, providing benefits to the population in general.
Keywords: Cerebral palsy, Mobility, Child

Conflict of interest: The authors declare no conflict of interest.
Acknowledgment: We would like to thank all the research participants and collaborators.
Funding: Fapemig and Pró-reitoria de extensão da UFJF
Ethics approval: Universidade Federal de Juiz de Fora. CAAE: 59915322.8.0000.5147

https://doi.org/10.1016/j.bjpt.2024.100808

212

OPINIONS OF BRAZILIAN SPORTS PHYSIOTHERAPISTS ON UPPER EXTREMITY PHYSICAL PERFORMANCE TESTS

Guilherme Dainezi Nagata[1], Júlia Gonzalez Fayão[1], Anamaria Siriani de Oliveira[1]
[1] *Medical School, University of Sao Paulo (USP), Ribeirão Preto, Sao Paulo, Brazil*

Background: The literature describes more than ten upper extremity physical performance tests that are characterized by being low-cost, quick, and easy to administer. However, there are discussions about the applicability of the tests in clinical practice due to their inability to reproduce the sports-specific movement and the lack of reference values.
Objectives: To evaluate the opinion of Brazilian sports physiotherapists regarding the frequency, timing, and difficulties in using upper extremity physical performance tests in clinical practice, as well as to investigate which of the tests available in the literature are being used more or less frequently.
Methods: The study design was cross-sectional. Physiotherapists working in the orthopedic or sports field were invited to fill out an online questionnaire. The frequency question was multiple choice, allowing participants to select one of five options ranging from never to always. The timing question was multiple choice, allowing participants to select all three options: assessment, rehabilitation, and return to sport. The question about difficulties was multiple choice, allowing participants to click on only one of the following options: "yes", "a little", or "no". The first two options directed the participant to an optional open question to report the difficulties. As for the question regarding which test, they use, the names and figures of each of the ten tests were presented, and the participants answered whether or not they used them. The present study included the participation of physiotherapists who treated at least 1% of athletes per month, but for this abstract, the responses of physiotherapists for whom athlete treatment represented 50% or more of the services rendered per month were analyzed descriptively.
Results: The answers of one hundred sports physiotherapists were analyzed, the majority of whom were male (67%), worked in the state of São Paulo (32%), and had an average age of 33 years with 8 years of experience in the physiotherapy area. The physiotherapists answered that they frequently use the tests (37%), mainly for assessment purposes (85%), and the majority reported not having difficulty applying the tests (57%). The physiotherapists who reported having difficulty pointed out the lack of reference values, adequate space, evaluation time, and knowledge about the tests as a challenge in clinical practice, as well as the inability to reproduce the sports-specific movement and the lack of adaptation to different body types. The most commonly used test was the "Closed Kinetic Chain Upper Extremity Stability Test" (CKCUEST) (86%), while the least used was the "Upper Body Push and Pull Strength Ratio" (23%).
Conclusion: In conclusion, physiotherapists whose treatment of athletes represented 50% or more of the treatments per month, despite reporting some difficulties, frequently use upper extremity physical performance tests, mainly the CKCUEST, to evaluate their athletes.
Implications: This abstract showed that physiotherapists who treat athletes are aware of and use upper extremity physical performance tests, but some encounter difficulties in implementing them in clinical practice. Therefore, further research in this area may provide reference values for the Brazilian population.
Keywords: Surveys and Questionnaires, Athletes, Physical Functional Performance

Conflict of interest: The authors declare no conflict of interest.
Acknowledgment: To the members of the Physio Shoulder Group USP/FMRP and São Paulo Research Foundation (FAPESP - Grant 2021/06246-8).
Ethics committee approval: Research Ethics Committee of the Clinical Hospital of the Medical School, University of Sao Paulo, Ribeirao Preto (48214121.2.0000.5440).

https://doi.org/10.1016/j.bjpt.2024.100809

213

PHYSIOLOGICAL EFFECTS RELATED TO THE USE OF HIGH-FLOW NASAL CANNULA IN PRETERM INFANTS: INTEGRATIVE REVIEW

João Gabriel Paes Gall Marques[1], Júlia Marcondes Silva Rovida[1], Thais Milena Marcondes Fernandes[1], Amanda Lucci Franco da Matta Campos[1]
[1] *Humanitas – Faculdade de Ciências Médicas de São José dos Campos, São José dos Campos, São Paulo, Brasil*

Background: The high-flow nasal cannula (HFNC) is a non-invasive ventilatory support that provides ventilation and oxygenation in an