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

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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

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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