Abstract

Background: Postural control deficits can impair functional performance in children with cerebral palsy (CP) in daily living activities.

Objective: To verify the relationship between standing static postural control and the functional ability level in children with CP.

Method: The postural control of 10 children with CP (gross motor function levels I and II) was evaluated during static standing on a force platform for 30 seconds. The analyzed variables were the anteroposterior (AP) and mediolateral (ML) displacement of the center of pressure (CoP) and the area and velocity of the CoP oscillation. The functional abilities were evaluated using the mean Pediatric Evaluation of Disability Inventory (PEDI) scores, which evaluated self-care, mobility and social function in the domains of functional abilities and caregiver assistance.

Results: Spearman’s correlation test found a relationship between postural control and functional abilities. The results showed a strong negative correlation between the variables of ML displacement of CoP, the area and velocity of the CoP oscillation and the PEDI scores in the self-care and caregiver assistance domains. Additionally, a moderate negative correlation was found between the area of the CoP oscillation and the mobility scores in the caregiver assistance domain. We used a significance level of 5% (p <0.05).

Conclusions: We observed that children with cerebral palsy with high CoP oscillation values had lower caregiver assistance scores for activities of daily living (ADL) and consequently higher levels of caregiver dependence. These results demonstrate the repercussions of impairments to the body structure and function in terms of the activity levels of children with CP such that postural control impairments in these children lead to higher requirements for caregiver assistance.

Keywords

Cerebral palsy; postural balance; children; functionality; PEDI; rehabilitation.