



Aquatic physical therapy protocol with emphasis on balance and gross motor function in Children with Cerebral Palsy

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Abstract

Cerebral Palsy (CP) affects motor and sensory systems, posture and balance, which generate functional limitations. The objective of this study was to evaluate the effects of an aquatic physiotherapy protocol on balance and gross motor function of children with CP level III of Gross Motor Function Classification System. Individuals were randomly in a Control Group (CG) which performed aquatic conventional therapies, or in Intervention Group (IG) which performed a specific aquatic protocol. There were 16 individual sessions of aquatic physiotherapy, twice a week, for 35 minutes, and both groups did conventional physiotherapy out of water once a week. The groups were evaluated pre and post intervention with the following outcomes: Gait Visual Analogue Scale, Gross Motor function Measure (GMFM-88), Pediatric Balance Scale, Dynamic Gait Index (DGI), Timed Up and Go, 10-meter walk test (10MWT), Child Health Questionnaire (CHQPF-50). Significant improvement was found in total GMFM in the IG ($p=0.028$) post intervention, while in E dimension of GMFM both showed significant improvement, (IG $p=0.026$) and (CG $p=0.046$). In the 10MWT the IG decreased the course time, with significant value ($p=0.028$). Significant improvements in balance were observed in the IG ($p=0.041$) post intervention in DGI scale. In quality of life (CHQPF-50), in the domain Physical Function, (IG/CG) the intergroup analysis post intervention shown positive results ($p=0.054$), in domain Impact on Parents Time ($p=0.043$) both groups improved. Aquatic physiotherapy showed improvement in gross motor function, gait speed, balance and quality of life in children with CP.

Biography

Joyce Xavier Muzzi de Gouvea graduated in physiotherapy in 2005, in Brazil. She is Master in Neuroscience and Behavior, specialist in Physiotherapy applied to Neurology and Acupuncture. She is currently a physiotherapist at AACD - "Associação de Assistência à Criança Deficiente" (Association for Assistance to the Disabled Child), in the aquatic physiotherapy sector.

Publications

1. Balance Training in Virtual Reality Promotes Performance Improvement but Not Transfer to Postural Control in People with Chronic Stroke.
2. Balance Training In Virtual Reality In Patients With Chronic Sequels Of Stroke: Effects On ICF Domains, Preliminary Data.
3. Upper Limb Training Using Virtual Reality in Patients with Chronic Sequels of Stroke.
4. Lack To Transfer The Performance's Improvements Obtained In Virtual Reality Environment To Balance Control In Patients With Chronic Sequels Of Stroke.
5. Is it possible to transfer the gains obtained by videogames training to postural control in patients with chronic stroke?



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