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Ayman Hussein El Khatib

Beirut Arab University, Lebanon

Impact of backward treadmill training on balance in children with juvenile rheumatoid arthritis: A randomized controlled study

Background: Juvenile Rheumatoid Arthritis (JRA) is one of the most common chronic rheumatologic diseases in children under 16 years of age, causing repeated falls due to decrease in joint development and impairment of balance control.

Objective: To investigate the effect of additional backward walking training on postural control in children with polyarticular Juvenile Rheumatoid Arthritis (pJRA).

Materials & Methods: 30 children with pJRA (18 girls and 12 boys) were assigned randomly into two equal groups (control and study). Both group received selected physical therapy program for three months. Study group additionally received backward walking training which was provided 20 minutes/day and 3 days/week for 3 successive months. They were assessed and treated at the Faculty of Physical Therapy, Cairo University. Biodex Balance system was used to measure overall, anteroposterior and mediolateral stability indices and Berg's balance scale were used to assess balance performance before and after treatment.

Results: There was significant improvement in all measured variables of the control and study groups after treatment. However, significant improvement was marked in the study group when comparing the post-treatment mean values of this group with the control group.

Conclusion: Backward treadmill training can be used as an adjuvant therapeutic modality to improve balance in children with JRA.

Biography

Ayman Hussein El Khatib has obtained his PhD from Cairo University, Egypt. He is currently working as an Assistant Professor at the Physical Therapy Department, Faculty of Health Sciences, Beirut Arab University, Lebanon. He was part of the team who introduced the DPT program in Lebanon. He is also a Member of the Order of Physiotherapists in Lebanon (OPTL). He is interested in different research areas especially health promotion, medical education and pediatric physical therapy.

a.elkhatib@bau.edu.lb

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