EFFECTS OF WATER-BASED AND LAND-BASED FITNESS WORKOUT PROGRAM IN CHILDREN WITH CEREBRAL PALSY: A RANDOMISED CONTROLLED STUDY

Sibel Yenİlay, Hifzı Özcan Special Education and Rehabilitation Center, Cerebral Palsy Turkey, Turkey
Turgay Altunalan, Hifzı Özcan Special Education and Rehabilitation Center, Cerebral Palsy Turkey, Turkey
Tuba Derya Doğan, Hifzı Özcan Special Education and Rehabilitation Center, Cerebral Palsy Turkey, Turkey
Hande Akçakaya, Hifzı Özcan Special Education and Rehabilitation Center, Cerebral Palsy Turkey, Turkey

1 Introduction

Cerebral Palsy (CP) is a postural and movement disorder caused by a non-progressive damage to developing central nervous system. The motor problems adversely affects the individuals psychologically and reduce their participation to life. The aim of our study is to investigate effects of water and land based fitness workout program on gross motor functions, muscle strength, spasticity, endurance and daily life activities in children with CP.

2 Patients and Methods

Twenty children with CP categorized GMFCS I, II, and III between 7-14 ages were randomly assigned to fitness workout in poll (n=11) and land (n=9) group. Children who have regular sports activity within 6 months were excluded. Land and water fitness groups were had equivalent workout two times a week for 12 weeks. Primary outcome was motor skills on GMFM D, and E part. Secondary outcomes were six minute walking test, modified Ashworth scale, manuel muscle strength test, and Weefim. Assessor was blind to group allocation.

3 Results

Both groups have statistically improve GMFM E. Only water group showed improvement GMFM D scores. The water group has statistically significant improve strength of hip abduction (p = 0.007), extension (p = 0.027) and also land group knee flexor (p= 0.028) muscles. The mean of endurance and daily life activities were improved in both groups, but not statistically significant.

4 Discussion

The positive effects of sports at children with CP in daily life activities were shown. Water based workout program have extra positive effects on standing, walking, and strength of hip muscles.