

The Effect of Aquatic Therapy on the Improvement of Functional Balance and Walking Ability in Cerebral Palsy (CP)

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Background

In cerebral palsy (CP), exercise can increase functional strength. Fitness programs should focus on preserving the joint integrity and functional mobility, in addition training of motor control with skill and flexibility to try and prevent soft tissue adaptations.

Purpose

This research was designed to determine the effect of an aquatic program, including trunk rotation (Halliwick) and gait training in water on functional balance and walking ability in CP.

Results

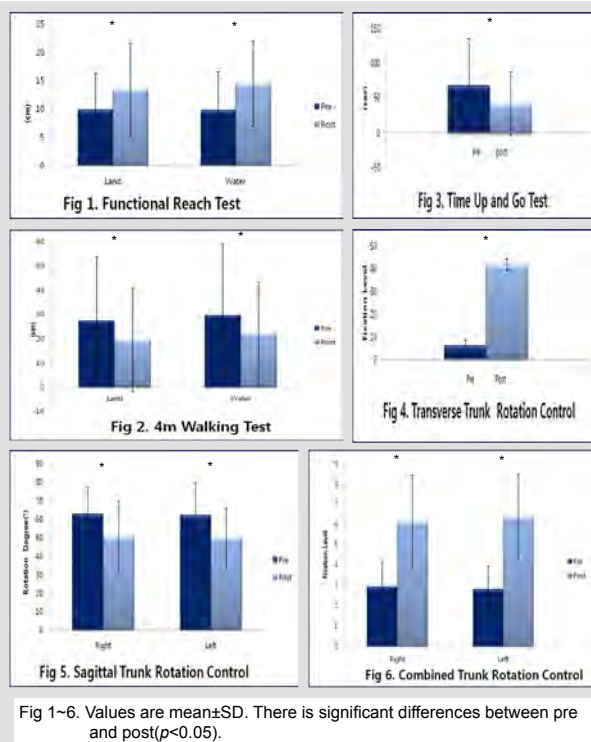
Significant improvements were seen in FRT (water<.005, land<.007)(Fig 1.), 4m walking test (water<.007, land<.043)(Fig 2.), TUG (land<.038)(Fig 3.), the level of rotation control (Transversal rotation control<.003, (Fig 4.) Sagittal rotation control right side<.008, Sagittal rotation control left side<.009(Fig 5.), Combined rotation control right side<., Combined rotation control left side<.000002(Fig 6.)). Trends toward decreasing breath time were also observed.

Conclusion

Halliwick rotation control and a gait training program are promising interventions that may improve functional balance and walking ability in water and on land for this population. There is a need to determine the efficacy of Halliwick and gait training improving the daily activity and compare the functional movement in water and on land.

Methods

Eight participants aged 6 to 18 years participated in an aquatic exercise program for 35 minutes, one time per week for a period of 15 weeks. Participants were assessed pre and post intervention. The aquatic program consisted of warm-up, Halliwick trunk rotation and gait training, followed by a cool-down phase. Measurements were the functional reach test (FRT), 4m walking test in water and on dry land, time up and go test on dry land, the level of trunk rotation control in water and the time of blowing bubbles through the mouth or nose in water.



References

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