

Hippotherapy in Adult Patients with Chronic Brain Disorders: A Pilot Study.

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Purpose:

The purpose of this study is to examine the effectiveness of hippotherapy with improving motor skills of adult brain disorder patients?

Design/Materials:

This pilot study was a pretest-posttest design to determine the effects of hippotherapy on balance ability, gait function, emotions, and ADL performance in adults with brain disorders. There were 8 subjects chosen for this study, average age was 42.2 years old. Those included in the study were adults with chronic brain disorders, whose time after onset was at least six months and had trouble with balance and gait speed. Exclusion criteria were those with declined cognitive function who might have the disability to perform tasks requested during the hippotherapy session, those with orthopedic problems or seizure disorders, and those whose weight exceeded 75g (load carrying capacity of the horse). Hippotherapy sessions were conducted in an outdoor arena by a physical therapist. Subjects participated in 16 therapy sessions, twice a week for 8 weeks with each session lasting 30-minutes. All subjects had been doing balance and gait training in an outpatient physical treatment 2-3 times per week before the study and this was continued during the experiment. A set of assessments were conducted before the hippotherapy treatment in order to compare changes in their conditions resulting from treatments other than hippotherapy and those resulting from hippotherapy. These assessments were given to subjects 8 weeks before hippotherapy and then immediately before therapy. In addition, these assessments were given to the subjects two times following the 8 weeks of hippotherapy. The first battery of assessments was given immediately after the therapy and then again 8 weeks after the end of therapy. Assessments included the Korean Berg Balance Scale (K-BBS), the Tinetti Performance-Oriented Mobility Assessment (POMA), 10 Meter Walking Test (10 mWT), Functional Ambulatory Category (FAC), the Korean Beck Depression Inventory (K-BDI), the Hamilton Depression Rating Scale (Ham-D) and modified Barthel Index (K-MBI).

Results:

Subjects did not show any significant difference in emotions or ADL performance at each time of assessment. In regards to balance ability and gait function, subjects showed no significant differences in scores between the Pre-therapy 1 and Pre-therapy 2. For balance ability, statistically significant positive changes were found between Pre-therapy 2 and Post-therapy 1 ($p < 0.05$) and no significant differences were recorded between Post-therapy 1 and Post-therapy 2. For gait speed, statistically significant improvements were found between Pre-therapy 2 and Post-therapy 1 ($p < 0.05$) and no significant differences were shown between Post-therapy 1 and Post-therapy 2.

Conclusion:

The results suggest that hippotherapy is effective in improving balance ability and gait speed of adult patients with chronic brain disorders and the effects last at least 8 weeks. This study concluded that hippotherapy has the potential of being a complementary treatment that can be provided in addition to traditional exercise therapy.

Strengths:

The strengths of this study include the use of objective measuring tools and this study was one of the first to measure the effects of hippotherapy on adults with chronic brain disorders.

Limitations:

Limitations of this pilot study include small sample size, the variety of diseases, and the total amount of other treatments was not controlled for.

Future Research:

Future research needs to be done to assess other factors related to gait ability such as motor skill, sensory function, and cognitive function. In addition, future studies are necessary to assess the emotional effects of hippotherapy on adults in this population since the results were not decisive enough to lead to a conclusion. Furthermore, studies need to control the total amount of additional treatments subjects are receiving other than hippotherapy.

Practical Applications:

Hippotherapy can be utilized as an effective therapy for adult patients with brain disorders as well as child patients. In addition, hippotherapy has a lasting effect for at least 8 weeks after therapy has ended.