Biofeedback Treatment and Cerebral Palsy

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Introduction/Background

- What is Cerebral Palsy? (1)
- Spasticity (2)
- Damage to the cerebrum portion of the brain (3)

http://www.buzzle.com/articles/treatment-for-cerebral-palsy.html
PICO Question

• Is gait training with biofeedback more effective on improving functional ambulation than gait training without biofeedback in children with cerebral palsy?

Methods

<table>
<thead>
<tr>
<th>Databases</th>
<th>Searched Terms</th>
<th>Results</th>
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</thead>
</table>
| Google Scholar, CINHAL, EBSCOhost, ProQuest | biofeedback, cerebral palsy, dorsiflexion, range of motion, gait training | Google Scholar: 250  
                      |                                                                                | CINHAL: 2            
                      |                                                                                | EBSCOhost: 2         
                      |                                                                                | ProQuest: 2          |
I took out the ending statement about range of motion. You are looking at ambulation -- if improved range is one of the ways this is measured, you can say that later.
Research Synthesized

- 5 articles in total selected for review and 3 are used to support our question.
- Single case design (2), randomized control trial, before/after study repeated measures, two period cross over followed by before/after study.
- Elimination process

Results

- Toner LV, Cook K, Elder GC.
  - AROM of DF increased significantly post biofeedback
  - PROM unchanged in both groups
- Dursun E, Dursun N, Alican D.
  - Biofeedback showed significant improvement during treatment
  - Day 10 and 1 month: superior improvement with biofeedback
- Elbaum I., Rossi M.
  - Significant range of motion improvement in very beginning and end of eight week treatment; Experimental (P=0.012), Control (P=0.035)
  - Significant range of motion improvement between four weeks and end of treatment; Experimental (P=0.024), Control (P=0.018)
Discussion

- Effectiveness of biofeedback
- Inconclusive
- Limitations of studies


Areas for Future Research

http://www.projectappleseed.org/sitemap.html
References


References of Introduction


Questions

http://onmentoring.blogspot.com/2012/04/5-questions-to-ask-new-mentees.html