Apr 1st, 10:00 AM - 12:00 PM

Impact of Conductive Education on Individuals with Stroke Syndrome

Roberta K. O'Shea
Governors State University

Follow this and additional works at: https://opus.govst.edu/research_day

https://opus.govst.edu/research_day/2016/Poster_Sessions/1

This Event is brought to you for free and open access by the University Events, Conferences, and Workshops at OPUS Open Portal to University Scholarship. It has been accepted for inclusion in GSU Research Day by an authorized administrator of OPUS Open Portal to University Scholarship. For more information, please contact opus@govst.edu.
CONDUCTIVE EDUCATION FOR INDIVIDUALS WITH CHRONIC STROKE: A PILOT STUDY

Pre-test

Collectively the group decided to focus their efforts more on upper-extremity return to function. This resulted in the majority of the sessions focused on improving strength and agility of the upper-extremity with less focus on balance and ambulation. Participants showed a more dramatic improvement in fine motor skills than gross motor skills.

Subjects and Methods

All research protocol were with the approval of the GSU IRB. Study Design performed:
- Pre-test/Post-test analysis of functional outcome measures and neural structural changes

Subjects:
- Four adult subjects, >3 year status post-stroke, with chronic hemiparesis/seizable
- No subjects had aphasia or were currently in PT or OT
- CT, MRI, Lesion: pre/post levels (n = 294), subtotal subcortical (n = 24)

Intervention:
- Translationary Conductive Education Program
- 10-week, 2-hour CE program sessions led by a DPT and a certified CE Teacher.
- Each session incorporated the pedagogy of CE specifically including sitting, standing, and walking programs into all sessions.
- In total, the subjects participated in 1200 hours of group intervention. Sessions were videotaped for qualitative analysis.

Outcome measures:
- Quantitative pre-test and post-test measures included:
  - Functional outcomes: Barthel, Timed up and go (TUG), 10 meter walk test, Stroke Impact Scale (SIS)
  - MRI/DTI imaging focused on cortical structure, myelination, and oxygen uptake.

RESULTS

Participants demonstrated individualized increases in any matter: motor, cognitive, and functional improvements after the 10-week Conductive Education Program.

Connectivity Changes

MRI-derived single-shaving neural pathways

Functional Changes

Stroke Impact Scale (SIS, 0-100)

Motor area: Motorically Important Difference (MCID)

CLINICAL RELEVANCE

In the US, Conductive Education is not readily used in Stroke rehabilitation. The positive findings lend credence to using CE with patients with motor impairments following stroke.

This study demonstrated that individuals with chronic impairments from stroke can show improvement with focused group intervention using CE pedagogy. These improvements helped the clients improve function as well as decrease social isolation. Gains in independence, self-confidence and community participation emerges.

Additionally, we observe brain changes post intervention, further supporting the notion that CE is a viable method of intervention for stroke.

CONCLUSIONS

- The positive findings from our study support the CEH study findings. Additionally, our imaging results supported our subjects’ functional improvements. The subjects reported improved quality of life and function around their home and community. For some patients with chronic stroke, a 10-week Conductive Education intervention may provide them with peer support and improved functionality.
- All patients entered the program with a goal of improving hand function. This goal was achieved after the 10-week program, as participants increased awareness of their part form, better gait parameters were demonstrated (possibly contributing to slower TUG and 10 MWT times). This indicates a shift in focus from speed to form and gait pattern after the study.
- This study did support the Cannon Hill study findings of improved hand function and social participation on the SIS and the trend towards improvement on the Barthel.

REFERENCES AND ACKNOWLEDGEMENTS

1. Partridge et al. Clinical Rehabilitation 2013;24:3-22
2. O'Shea et al. Neurorehabilitation and Neural Repair 2013;27:10-18
6. SIS Social
7. SIS Communication
8. SIS ADL/ADL

MCID = 0.14sec substantial decrease

MCID = 2.9sec decr