PROGRAM

The Final Oral Examination for the Degree of
Doctor of Philosophy

Title of Thesis

Response time and force modulation in children with intellectual developmental disorders

Research Scholar

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Day, Date, Time & Venue

Monday, 5th May 2017 at 10.30 am
Senate Hall, III Floor, manip.edu building, Manipal University, Manipal

Thesis Guide:

Dr. John Solomon M., Associate Professor, Department of Physiotherapy, SOAHS
Abstract:

Everyday activities require individuals to perform tasks quickly and efficiently. This ability could be altered in those with an underlying impairment more than those with adept functioning. To understand this influence better, we aimed at assessing the response time (RT) and response force (RF) of children with Down Syndrome (DS), intellectual developmental disorders (IDD) and those children who are typically developing (TDC). We developed a response analyzer to assess RT and RF across various task conditions in the form of five experiments. The response abilities of the DS and IDD group were comparable with each other but varied significantly from the TDC group across task constructs. Based on these findings we identified training methods and studied the influence of training on the response abilities of children with IDD. Participants were divided into three groups namely object control skills training, video game based training and no training group. Training was provided on a one to one basis three times a week for a period of four weeks and the pre-test, post-test and four-week follow-up tests were measured and analysed. From the study, it was observed that the object control skills training lead to faster RT and better ability to modulate the force with which the response was produced as compared to the video game training and the no training group. The study provides insight towards response abilities of children with IDD across task conditions and the scope for including training of response abilities as part of their intervention program.

Publications:


Conference Presentations:

Paper/platform presentations:

- Rao PT, Solomon JM. Response time of typically developing children during dual task paradigm at the 2nd Annual conference of Indian Federation of Neurorehabilitation, Mumbai, February 2014.
**Poster presentations:**


**Awards:**

- Gandhi Scholarship for *Vision for Neurorehabilitation in India*  
  *The 5th Annual Conference of Indian Federation of Neurorehabilitation*, Mumbai, April 2017.
- Early Career Bursary  
- Best paper award – Second position  
  *The 2nd Annual Conference of Indian Federation of Neurorehabilitation*, Mumbai, February 2014.
- Best paper award – First position  