

less in decision making, than peers without disabilities. Increased participation in activities is assumed to be beneficial physically, psychologically and socially for children with disabilities. A certain level of participation represents a prerequisite for learning, activity performance, development of friendship, and satisfaction in everyday life. This study investigates preferences, actual participation and enjoyment in physical out-of-school activities in children with physical disabilities. *Design:* This presentation is based on the baseline data of a longitudinal study with mixed methods design.

*Participants and setting:* Data are based on structured and qualitative interviews of 298 children, 45% girls, 6 to 17 years of age, attending a 3 weeks long intensive rehabilitation program at Beitostølen Healthsports Center (BHC) in Norway.

*Methods:* The Canadian Occupational Performance Measure (COPM), Children's Assessment of Participation and Enjoyment (CAPE) and Preferences for Activities of Children (PAC) scales were used for gathering data of relevance at the start of their rehabilitation stay. In addition qualitative interviews were performed with a strategic sample of ten children and their parents.

*Results:* The study reveals a relatively high level of participation in physical activity, but the children want to be even more active than they actually are. They have clear preferences for activities, they show ability to express good reasons for these preferences, and their joy of being active outweighs their effort. Children are most frequently active with family members, but would prefer to be more active with peers. There are more similarities than differences between boys and girls and between age-groups on the parameters investigated in this study. Knowledge gained through this study points out the importance of letting the children learn a few self-initiated activities well enough to be performed with peers.

*Conclusions:* This means that the rehabilitation field should focus on self-determination, competence, resources, preferences, and possibilities of participation with peers. By this, children will experience more meaningful participation.

## E8 Results of a 3-year prospective cohort study investigating the influence of home-based therapy on patients with cerebral palsy in GMFCS levels IV and V

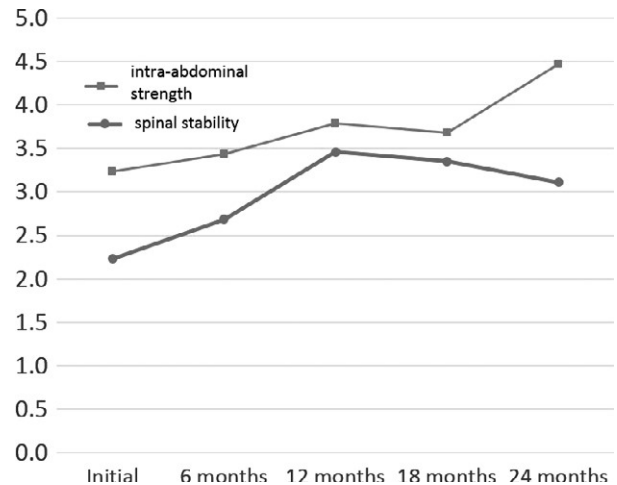
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*Background/Objectives:* Severely affected cerebral palsy (CP) patients (GMFCS 4 and 5) may struggle to respond to rehabilitative programs subsequent to infrequency and poor co-operation. This population may benefit from a high frequency home-based program. Thus, the feasibility of a high frequency home-based therapy tailored to GMFCS type 4 and 5 patients was explored.

*Design:* Studies of Therapy: Non randomized prospective cohort treatment study.

*Participants and setting:* To date, 367 American and South American cerebral palsy type 4 and 5 patients participated. Inclusion criteria was limited to patients over 5 years old, not



**Figure 1:** Measures of intra-abdominal strength and spinal stability over time.

having undergone surgery over the course of the study, and having at least a 3 year follow up. This left 100 patients haven taken part in the study.

*Methods:* At baseline and every 6 months, parents of CP patients were provided a 3 day lesson by experienced physical therapists teaching a safe and simple home-based manual therapy with focus to provide cyclic motion strain to the weaken midsection of their child. Stimulation guidelines (pressure magnitude and frequency) were instructed and monitored for consistency using a custom force gauge integrated into the therapy. Therapy was encouraged for at least 30 minutes 5 times a week. CPCHILD questionnaires were collected at baseline and bi-annually for 3 years by the physical therapists. Additionally, measures of intra-abdominal strength (force for 1 inch of abdominal compression), seated spinal stability (scored according to minimal support required for 10s of independent sitting), and the GMFCS classification were taken initially and bi-annually for 2 years. Study directives were approved by independent ethical committees. All follow up measures were blinded from preceding data. Non-parametric Wilcoxon tests were utilized to perform data analyses.

*Results:* Baseline CPCHILD scores agreed with published mean values per GMFCS class. To date, CPCHILD scores of GMFCS 4 patients improved consistently by 8% from 51.55 to 56.02 and GMFCS 5 improved by 14% from 48.74 to 55.54 after 36 months of home therapy ( $p < 0.05$ ). Measures of intra-abdominal strength improved from 3.23 to 4.46 lbs/inch of compression and seated spinal stability improved from 2.3 to 3.1 after 36 months ( $p < 0.05$ ). The improvements of intra-abdominal strength and seated spinal stability corresponded closely. The average GMFCS scores for type 5 improved to a score of 4 while types GMFCS 4 did not undergo any significant changes after 24 months.

*Conclusions:* Results suggest a high frequency home-based therapy for CP patients to be a feasible platform for the improved health and wellbeing of severely affected cerebral palsy patients GMFCS types 4 and 5. An independent multi-center study is now being piloted to further explore the benefits of home-based therapy for these patients.