A clinical decision framework for the identification of main problems and treatment goals for ambulant children with bilateral spastic cerebral palsy

Franki I, PT MSc1,2 De Cat J, PT MSc3,2 Deschepper E, PhD1 Molenaers G, MD PhD2,3 Desloovere K, PhD2,3 Vanderstraeten G, MD PhD1 Van den Broeck C, PT PhD1

1Ghent University, Ghent, Belgium 2Katholieke Universiteit Leuven, Leuven, Belgium 3University Hospital Leuven, Pellenberg, Belgium

OBJECTIVES
- To investigate how a clinical decision framework based on the international Classification of Functioning, Disability and Health (ICF) and the Hypothesis Oriented Algorithm for Clinicians can contribute to a reliable identification of main problems in ambulant children with cerebral palsy.
- To evaluate how the additional information of three-dimensional gait analysis (3DGA) can influence the reliability.

METHODOLOGY
- The clinical decision framework was developed and proposed to a group of 22 experienced pediatric physical therapists. (Fig 1).
- The therapists individually defined the main problems and treatment goals of 8 children. In 4 children, the results of three-dimensional gait analysis was included, in the 4 remaining children, the results were not provided.
- Results of the main problems were analysed using frequency analysis and by calculating the number of corresponding main problems.
- Results for the specific goals were evaluated using frequency analyses and by grouping the goals into subgroups of goals based on clinical examination, gait and gross motor function.

RESULTS
Main problems
- Muscle strength (18.56%), hypertonia (18.94%) and static alignment (13.83%) were most frequently identified as one of the main problems (Table 1).
- For the total group of children, the pair-wise agreement revealed frequencies of 74%, 32% and 3% for the identification of one, two or three corresponding problems. The proportion of no agreement (score 0) was higher when gait analysis was not provided. (22% versus 14%) (Fig.2).

Specific treatment goals
- Most of the treatment goals targeted strength (34%), followed by range of motion (15.2%) and GMFM–D (11.8%).
- In 29.7% of the cases, therapists could not prioritize and exceed 8 treatment goals.

CONCLUSIONS AND SIGNIFICANCE
- The results showed a moderate agreement for the selection of main problems.
- Providing 3DGA information positively influenced the agreement. Therapists were able to use the proposed model for a logic and structured clinical reasoning.
- Setting priorities in the definition of specific goals was revealed as a remaining difficulty.
- Further research is required to investigate the additional value of 3DGA and to improve priority setting.