The relationship between parent-reported PEDI-CAT mobility and gross motor function

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Background and Purpose

- Cerebral palsy (CP) is the leading cause of motor impairment in childhood, impacting movement and posture
- The 88- and 66-item Gross Motor Function Measure (GMFM) are used to measure the level of gross motor function and help determine the Gross Motor Function Classification System (GMFCS) levels of children with CP
- These assessments can take 45-60 minutes to administer, limiting testing in certain situations
- The purpose of this study is to determine the relationships between the GMFM and GMFCS level and the mobility domain of the PEDI-CAT (PEDI-mob) in order to determine if parent report on this tool may be used to develop an accurate estimate of gross motor function

Study Participants

- 57 participants with CP
- Age range 2 years, 1 month to 8 years, 10 months
- All GMFCS levels were represented (level I n=20, level II n=6, level III n=6, level IV n=15, level V n=10)
- Varying types and distributions of CP were represented

Methods

- The GMFM-88 and PEDI-CAT were completed with each participant
- Experimenters received training in the GMFM-88 and intra- and inter-rater reliability was >95%
- Primary caregivers completed the PEDI-CAT
- Statistics were calculated using Pearson’s correlation coefficient and Spearman’s rank-order coefficient

Results

- Statistically significant large correlations were found between PEDI-mob scores and GMFM-66 scores
  * p < 0.001, r = 0.894
- Statistically significant large correlations were found between Spearman’s rank correlation were found between PEDI-mob scores and GMFCS levels
  * p < 0.001, ρ = -0.915
- Age and SES were not found to correlate significantly with PEDI-mob or GMFM-66 scores

Conclusion and Significance

- The large and statically significant correlations indicate a strong relationship between the PEDI-mob and the GMFM-66 and the PEDI-mob and GMFCS levels
- It is likely that parents are accurate in the report of their child’s mobility and functional skills
- It is possible that parent report on the PEDI-mob could be used as an adjunct to the GMFM to estimate gross motor function and GMFCS level
- The PEDI-mob can be completed in 10-30 questions answered in as few as 4 minutes making it useful if there are limitations that make it more difficult to accurately assess gross motor skills using a more extensive measure
  - Limitations could include the participant’s fatigability, medical complexity or fragility, or transportation difficulties
- PEDI-mob scores could possibly help predict or estimate GMFCS level for children with CP as young as 10 months

Future Directions

- Using this information, future studies could create predictability tables to estimate a child’s GMFM-66 score based on parent report on the PEDI-mob
- GMFM-66 estimates could then be used to help physical therapists and parents understand the child’s overall gross motor function, thus, allowing a plan of care to be created using a short parent questionnaire rather than a longer, physically demanding, assessment tool

Contact Information

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