



Interrater reliability study of cerebral palsy diagnosis, neurological subtype, and gross motor function.

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Background

The diagnosis of cerebral palsy (CP) is based on a clinical description. The diagnosis is not based on the result of a biological test or on imaging findings. Consequently, the diagnosis can be subject to some degree of variability. This means that two paediatricians may disagree on a diagnosis of CP for the same child. To monitor the rate of CP over time or to compare the rate across different areas, it is important to be sure that paediatricians or professionals working in CP registers agree on the classification of children with CP. The fact that two professionals agree on a diagnosis or classification is called reliability.

What was the aim?

The inclusion of children in the CP registers is the result of a succession of procedures beginning with paediatricians examining the child and ending with database managers in registries. To estimate the reliability of the classification of children with CP, we conducted two different studies. First, we focused on reliability between paediatricians, based on their observations of children. Second, we focused on reliability between professionals when abstracting data from medical records.

How was the work carried out?

Two studies were conducted. In study 1, 12 paediatricians from 11 countries viewed video sequences of 12 children with or without CP. In study 2, 19 professionals from eight countries participated in an online exercise. They had to classify the same children but based on written descriptions. All participants had to evaluate whether the child had CP, the neurological subtype (Surveillance of Cerebral Palsy in Europe classification system), and gross motor function level (Gross Motor Function Classification System [GMFCS]).

What were the findings?

All the paediatricians in study 1 agreed in their assessment of whether or not a child had CP. Professionals reading written descriptions agreed on diagnosis for 9 out of 12 children. For the neurological subtypes, full agreement was observed for eight children in study 1 and five children in study 2. Little disagreement was observed between bilateral and unilateral spasticity subtypes (in three children). Most of the disagreements were observed between bilateral spasticity and dyskinetic subtypes. There was good reliability for GMFCS classification.

What does this tell us?

The use of classification systems, such as that presented in the SCPE Reference and Training Manual, provides a systematic approach to the clinical description of children with CP. Reliability was higher than in previous studies, probably because of the training of professionals in the use of the SCPE classification system. Reliability tended to be higher for clinicians seeing videos. It also appeared that it was sometimes difficult to differentiate between bilateral spastic CP and dyskinetic CP, especially when extracting data from medical records. So, ideally, the clinician seeing and examining the child should (1) make the decision about CP classification, then (2) write it in clear text in the medical records, in particular, which is the predominant type for a child with a mixed form of CP. To improve written communication with families and for those abstracting data for CP registers, clinicians should avoid ambiguous or unreliable clinical descriptions.

Further work

It is important to regularly study the reliability of the classification system. We also have to study the reliability of the classification of fine motor function.

Paper The full results of this study can be found in *Developmental Medicine Child Neurology* 2012;54:815-821.

Pubmed abstract The summary of this study can be found in Pubmed, a database of citations from biomedical journals. <http://www.ncbi.nlm.nih.gov/pubmed/22809361>

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