Functional performance and association between gross motor function and manual skills in children with cerebral palsy from the Hogar Clínica San Juan de Dios, Lima-Peru

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ABSTRACT

Introduction: Children with cerebral palsy (CP) are a heterogeneous and difficult group to classify, therefore, we recommend using a functional approach based on the gross motor function and manual dexterity. We propose a transversal and descriptive study to 1) classify a population of children with CP and to determine the degree of association between Gross Motor Function Classification System (GMFCS) and Manual Ability Classification System (MACS) and 2) establish the relationship of GMFCS with age, gender, topographic distribution, predominant motor disorder and gross motor function.

Patients and Methods: We evaluated 122 children (1-12 years) according to GMFCS, in the subgroup (81/122) of children over 4 years, MACS was applied. The relationship between variables was evaluated using the association test $\chi^2$, and the association between GMFCS-MACS using Kappa statistics with $p < 0.05$.

Results: According to GMFCS, the level V predominates in the different groups: 44.4% in < 2 years, 34.8% in 2-4 years, and 40% in 6-12 years. 88.5% of the hemiplegic had level I or II and 75% of the quadriplegics had level IV or V ($p < 0.01$). In regards of manual dexterity, 38.3% had MACS I or II. In only 6.1% (5/81) we observed GMFCS and MACS level I. There is a relationship between the two systems, but the degree of agreement was low (weighted Kappa = 0.40).

Conclusion: The use of both systems helps to functionally characterize our patients and therefore to establish impact measures in the clinical practice, reinforcing the interventions to improve the activities and participation.

Key words: Cerebral palsy, MACS, GMFCS, 1-12 year children.