

Clinical complexity of 5-year-old children not included in regular early school



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Introduction

Attending kindergarten promotes social and cognitive skills of children with cerebral palsy (CP), which benefits community participation. The Portuguese National Surveillance of Cerebral Palsy Registry database is used to explore the association between the clinical complexity of CP and non-inclusion in regular early school (RES) of 5-years-old children.

Patient and methods

Study design: Cross-sectional study based on active national surveillance. **Target population:** Children with CP at 5 years of age. **Sample:** Children residing in Portugal between 2005 and 2015 were selected from the Portuguese National Surveillance of Cerebral Palsy Registry (PNS CPR) (n=1102).

Measurements: Definitions, classifications and instruments common for the Surveillance of Cerebral Palsy in Europe [1] were used, in addition to the PNS CPR 5 levels classifications of severity of epilepsy and of pre-school inclusion. Children attending institutions for children with disabilities and being at home were considered not included in the pre-school system. Clinical complexity of CP was measured on 0 to 4 scale based on presence of four indicators: GMFCS (levels III-V); cognition (IQ<50); active epilepsy (at least annual seizures under medication) and severe visual deficit (SCPE).

Statistical analysis: Chi-square tests and logistic regression models were used to assess association between complexity indicators and non-inclusion in RES. Adjusted odds ratios (OR) and 95% confidence intervals were estimated.

Results

Of 1102 children, 204 (18.5%) were not included in RES at the age of 5 years. The number of clinical complexity indicators was significantly associated with the increased proportion of non-inclusion in RES: 3.3% presenting zero indicators, 10.4% one; 22.9% two; 35.8% three and 46.7% of children presenting all four indicators.

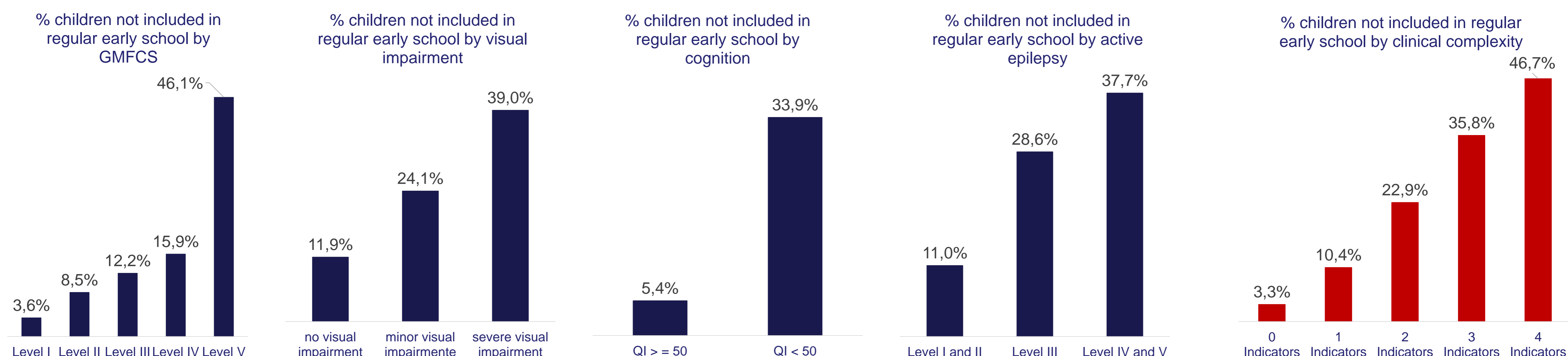


Figure 1. Rate of non-inclusion in regular early school (5-years-old) by GMFCS; visual impairment; cognition; active epilepsy; clinical complexity.

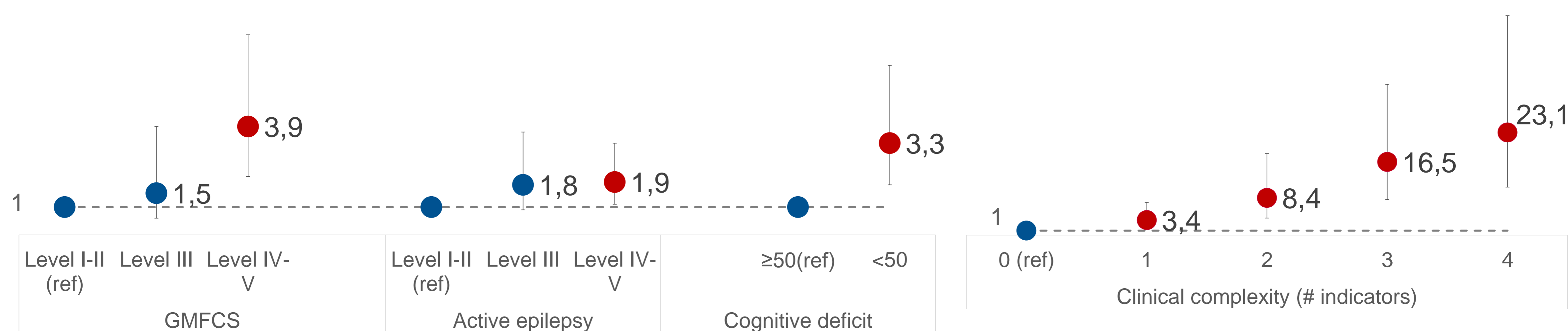


Figure 2. Possibility of non-inclusion in regular early school (5-years-old) by GMFCS, Active epilepsy, Cognitive deficit (aOR by logistic regression) and level of clinical complexity of cerebral palsy.

The highest possibility of non-inclusion at RES at 5 years of age was observed for: a) children with worse global motor function (GMFCS IV-V; OR=3.9; 95% CI: 2.1 to 7.2; p<0.001); b) children with cognitive deficit (<50; OR=3.3; 95% CI: 1.8 to 6.1; p<0.001); and c) active epilepsy (level IV-V, OR=1.9; 95% CI: 1.1 to 3.3; p=0.014). After adjustment, no statistically significant associations was verified between not inclusion at RS and severe visual deficit.

Conclusion

In Portugal, clinical complexity indicators of CP are significantly associated with non-inclusion at the pre-school level. Adequate access to accurate information on functional competences and morbidity of each child might improve the inclusion experience and accomplish their development potential, as well as provide customized family support and adaptive and alternative resources for these processes.

References <http://www.scpnetwork.eu/>

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