



RESEARCH ARTICLE

## Child Development Evaluation Test analysis by field improves detection of developmental problems in children

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### Abstract

**Background:** The Child Development Evaluation (CDE) Test is a screening instrument for developmental problems. In the validation study, a sensitivity of 81% and a specificity of 61% were reported, considering a cut-off value for both a total development quotient (TDQ) of 90. Given that the TDQ is obtained by calculation of the five evaluated fields in the Battelle Development Inventory, 2nd edition (BDI-2), it may occur that a child is classified as a false positive (TDQ  $\geq 90$ ) and may have a developmental delay in at least one of the fields (true positive). The objective of this work was to evaluate if the properties of the CDE Test are different when analyzing each field for the probability of a developmental delay.

**Methods:** The information obtained for the study from the validation (Rizzoli-Córdoba, 2013) was analyzed. In the CDE Test, a true positive was considered when the result was yellow or red. A developmental delay was considered per domain with a scale score  $< 80$  in the BDI-2. The results were analyzed based on the correlation of what was evaluated between the CDE Test and the BDI-2.

**Results:** For 438 children of 1- to 60-months of age, sensitivity (S) and specificity (Sp) per field were as follows: a) Motor: S=84.3% and Sp=87%; b) Communication: S=79.5% and Sp=79.4%;

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$$P = \frac{(2np + \frac{z_{\alpha}^2}{2} - 1) \pm z_{\alpha/2} \sqrt{z_{\alpha/2}^2 - (2 + \frac{1}{n}) + 4p(nq + 1)}}{2(n + \frac{z_{\alpha}^2}{2})}$$













