

An efficient and valid test for the identification of children with emotional and behavioral problems

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Background: Community pediatric services typically use short questionnaires to identify children with emotional and behavioral problems (EBP). The psychometric properties of such questionnaires are mostly not sufficient for an accurate distinction between children with and without problems. We aimed to assess whether a short Computerized Adaptive Test (CAT) can overcome the weaknesses of short written questionnaires to identify children with EBP.

Method: We used a dataset obtained from parents of Dutch children aged 7 to 12 years invited for a routine health examination by Preventive Child Healthcare with 205 items on behavioral and emotional problems (n = 2,041, response 84%). In a random subsample (n=1,650) we determined which items met the requirements of an Item Response Theory (IRT) model to a sufficient degree. We used those items to calculate the item parameters necessary for a CAT and defined a cut-off point to identify EBP, for the resulting latent score. We determined the validity and efficiency of this CAT using simulation techniques in the remaining subsample (n=391). A clinical score on the Child Behavior Checklist was used as criterion.

Results: The median number of items needed to identify EBP was 14. Sensitivity and specificity of general EBP with CBCL as a criterion were 0.75 and 0.92, respectively. High sensitivity and specificity indices were found for the subscale internalizing problems both 0.92 for externalizing problems 0.96 and 0.91, and for hyperactivity 0.88 and 0.90 respectively.

Conclusion: An IRT-based CAT is a very promising tool to screen for EBP in children, as it can lead to an efficient, yet high-quality identification. A pilot study will be conducted to use the CAT as a standard instrument in routine health examinations by Preventive Child Healthcare and an extension of the CAT is developed to identify EBP in children aged 2 to 4 years old.

Statement: An IRT-based Computerized Adaptive test procedure is an efficient and valid tool for the identification of emotional and behavioral problems among children

S11 - Session 11 - Child development

O55

Early identification of developmental language delay: Feasibility of a parent questionnaire for early identification of developmental language delay

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Background and aims

Developmental Language Delay (DLD) is the most prevalent developmental disorder amongst young children: 5-10% of all children aged 1-7 suffer from DLD. However, DLD is often detected late and therefore children are referred late for intervention, despite the fact that there is evidence that early intervention is effective for these children. This study aims to evaluate the feasibility of the parent questionnaire General Language Screen (GLS) compared with usual care in daily practice within the Youth Health Care Center.

Methods

In total, 100 3-year old children and their parents participated: 20 with severe language delay, 40 with borderline language delay and 40 with age-adequate language at the age of two. Parents completed the 12 item-GLS, the Youth Health Care Physician conducted the usual care. Diagnostic tests were done by Speech Language Therapists, and served as gold standard. Sensitivity, specificity, positive predictive value and negative predictive value were calculated for both the GLS and the usual care.

Results

Preliminary results with 68 children showed that sensitivity and specificity of the GLS and the usual care are in general the same. Sensitivity is low and does not exceed 40% for both language production and language comprehension. Specificity is high for language production (95%), and a bit lower for language comprehension (90%).

Conclusion

The GLS does not seem to differentiate better than the usual care. Especially sensitivity is low in both screening methods. However, in this preliminary sample, children with severe language delay at the age of two are underrepresented, with 8 children. Children are still included in the study and sensitivity and specificity may change when 20 children with severe language delay are included. These final results will be presented at the conference. Nevertheless, the percentage of children identified with both GLS and usual care is low. A possible reason for the relatively low sensitivity might be that it is difficult for parents to fill in detailed questions about the language of their child, especially questions concerning comprehension.

Statement

The General Language Screen does not seem sensitive enough to detect language delay at the age of three.

S12 - Session 12 - Professional collaboration and quality of care

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Inspection of Youth Health Care organizations in the context of the local social domain.

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