

Three Questionnaires to Detect Psychosocial Problems in Toddlers: A Comparison of the BITSEA, ASQ:SE, and KIPPPPI

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The authors declare that they have no conflict of interest.

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ABSTRACT

OBJECTIVE: Validated questionnaires can improve the identification of psychosocial problems in community pediatric services. Our aim was to assess which of 3 short questionnaires—the Brief Infant-Toddler Social and Emotional Assessment (BITSEA), the Ages and Stages Questionnaires: Social-Emotional (ASQ:SE), and the KIPPPPI (Brief Instrument Psychological and Pedagogical Problem Inventory)—was most suitable as a routine screening tool for identification among toddlers.

METHODS: We included 2106 parents (response rate 81%) of children aged 6, 14, or 24 months at routine well-child visits in 18 services across the Netherlands. Child health care professionals interviewed and examined children and parents. Parents were randomized to complete either the BITSEA or the KIPPPPI; all filled out the ASQ:SE and the Child Behavior Checklist. For each questionnaire, we assessed the internal consistency, validity with Child Behavior Checklist–Total Problems Score (CBCL-TPS) as a criterion, and added value to identification compared to clinical assessment alone.

RESULTS: Cronbach's alphas of the total scales varied between 0.46 to 0.91. At the ages of 6 and 14 months, none of the instruments studied had adequate validity. At the age of 24 months, only the BITSEA discriminated sufficiently between children with and without problems (sensitivity = 0.84 at specificity = 0.90), but not the other 2 questionnaires (with sensitivity indices varying between 0.53 and 0.60 at similar specificity). The BITSEA at this age offered slightly higher added value to the identification of psychosocial problems by child health care professionals.

CONCLUSIONS: For toddlers aged 6 and 14 months, no questionnaire is sufficiently valid to support the identification of psychosocial problems. The BITSEA is the best short tool for the early detection of psychosocial problems in 2-year-old children.

KEYWORDS: psychosocial problems; screening tools

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WHAT'S NEW

We compared 3 short questionnaires aiming at psychosocial problems in toddlers. For children younger than 18 months, no questionnaire is sufficiently valid to support the identification of psychosocial problems. For 2-year-old children, the BITSEA is a valid tool.

TIMELY AND ACCURATE identification of young children with socioemotional and behavioral problems is critical.^{1,2} Children with psychosocial problems are likely to experience difficulties in various aspects of their daily functioning. Such problems may be severe and persist over time.³ Early detection and treatment can improve the prognosis for psychosocial problems in children.^{4,5}

Community pediatric services are important for the early identification of psychosocial problems in children because they offer routine health care services to the population as a whole. In the Netherlands, child health care professionals (CHPs) routinely offer preventive health care to all children aged 0 to 19, similar to well-child care in the United States. Research has showed that CHPs missed psychosocial problems in about half the children

with parent-reported problems on the Child Behavior Checklist (CBCL) when using a clinical assessment but also identified problems in children without such scores.⁶ Validated questionnaires can improve the identification of psychosocial problems by community pediatric services.^{7,8} To be suitable for this, such questionnaires have to be reliable and valid, but also short and easy to use. That implies that the CBCL, even though highly reliable and valid,^{9,10} is too long to be used as a routine screening tool. For school-age children, the Strength and Difficulties Questionnaire^{11,12} is an appropriate assessment. Evidence on screening instruments for preschool children is scarce.

In this study, we compared 3 short parent-report questionnaires aiming at psychosocial problems of preschool children: the Brief Infant-Toddler Social and Emotional Assessment (BITSEA), the Ages and Stages Questionnaires: Social-Emotional (ASQ:SE), and the KIPPPPI (Brief Instrument Psychological and Pedagogical Problem Inventory). The first 2 emerged from an extensive literature search for international studies that focus on screening instruments for psychosocial problems in 0- to 4-year-old children. The KIPPPPI was included because it is widely used in Dutch Preventive Child Healthcare (PCH) services.

The BITSEA provides a first indication of emotional-behavioral problems, developmental delay, and competences in children between 12 and 36 months old. The BITSEA is validated in the United States^{2,3,13} and has also been examined in Finland¹⁴ and Turkey.¹⁵ The psychometric properties of the ASQ:SE have been shown to be good in the United States.¹⁶ Sensitivity and specificity (with the CBCL–Total Problems Scale as a criterion) of a Korean translation of the ASQ:SE were moderate at the age of 18 and 24 months, but at the age of 6 and 12, months the sensitivity indices of the ASQ:SE were much lower. Evidence on the psychometric properties of the Dutch version of the ASQ:SE is lacking. The KIPPI is a Dutch questionnaire.^{17,18} This instrument is currently used in many Dutch community pediatric services, but no psychometric properties have been reported.

The aim of this study was to compare the psychometric properties (internal consistency and validity) and the added value of these questionnaires—that is, whether they add to the identification of psychosocial problems based on only clinical judgment among 6- to 24-month-old children. All questionnaires were validated using the CBCL as a criterion for psychosocial problems in children. The CBCL is actually not an objective measure for psychosocial problems, but right now, it has the best properties.

METHODS

SAMPLE AND PROCEDURE

The sample was obtained in a 2-stage procedure. In the first step, all community pediatric services in the Netherlands were asked to participate in the study. Eighteen services (33% of the 55 services in the Netherlands), located throughout the country, agreed to participate. In the second step, each service was asked to provide a random sample of children aged 6, 14, and 24 months who were invited for the well-child examinations that are routinely provided to all children. A total of 3386 parents were asked to participate in this study; 10.1% ($n = 342$) refused to participate. In addition, 9.0% ($n = 292$) did not provide complete data, resulting in a study sample of 2752 parents (81%). Because we needed a follow-up measurement to assess the CBCL at the age of 18 months in the 6- and 14-month-old children, we lost another 19% of the parents ($n = 646$). Complete data were collected for 2106 parents and their children. The sample was representative for the entire Dutch population, except that children of immigrant origin and children from 1-parent families were underrepresented in our sample. Nonresponse was higher for these groups: 26% of the nonrespondents were from immigrant origin (compared to 14.3% in our sample) and 4.2% of the nonrespondents were in a 1-parent family (compared to 1.9% in our sample).

PROCEDURE AND MEASUREMENTS

The data were collected during the routine well-child examinations between August 2008 and June 2011. Following procedures commonly used in Dutch PCH, the ASQ:SE and either the BITSEA or the KIPPI were mailed to parents along with the standard invitation for the

well-child visit and filled in at home. For the purposes of this study, the CBCL/1.5-5 was also included. The completed questionnaires were returned to the CHP in a sealed envelope and forwarded to the research institute without being opened, so the CHPs were not informed about the results of the screeners. The CHP then took a routine history and physically assessed each child before answering the following questions: “Does the child have a psychosocial problem at this moment?” (yes or no) and “Does the child currently receive treatment for psychosocial problems?” The CHP also provided data about child age and gender, ethnic background, family composition, parental employment and educational level, number of siblings, and maternal and paternal age. The parental educational level was the highest level of education completed successfully by a parent. Family composition focused on the number of parents in the family (2 parents or 1 parent). The CHPs recorded these background characteristics during the assessment.

The CBCL (1.5-5) Total Problems Score (TPS) was used as criterion for the occurrence of psychosocial problems. The CBCL assesses parental reports about children’s behavioral and emotional problems in the preceding 2 months. Its reliability and validity have been found to be sound, including in the Netherlands.^{8–10} The CBCL comprises 99 problem items that are used to compute Total, Internalizing, and Externalizing problem scores. Children were allocated to a normal range or an elevated or clinical range using the 90th percentile cutoff point. Because the CBCL aims to assess children older than 18 months, parents of the children in the youngest age groups (6 and 14 months) were asked to complete the CBCL when their children were older: at 18 months for 6-month-old babies, and at 2 years for 14-month-old toddlers.

The BITSEA consists of a selection of 42 items from the 166 items of the ITSEA. All items are rated on a 3-point scale (0 = not true/rare, 1 = almost true/sometimes, 2 = completely true/often), leading to 2 scales: a Problems Scale (31 items) and a Competence Scale (11 items).¹³ We used a Dutch translation of the BITSEA, developed by a Dutch research group at the University of Nijmegen.¹⁹

The ASQ:SE was developed in the United States as a complement to the Ages and Stages Questionnaires (ASQ), a general developmental screening tool for children.^{17,18} The ASQ:SE addresses the social and emotional behavior of children from ages 3 to 66 months. We used the versions for children of 6 months (22 items), 12 months (25 items), and 24 months (29 items).¹⁷ Each item has to be scored on a 3-point scale (0 = never or rarely, 5 = sometimes, 10 = most of the time). An additional 5 points are given for items where parents indicate that the behavior is of concern to them. Scores for each item are then combined into a total score. No official Dutch versions of the ASQ:SE forms were available. Therefore, these questionnaires were translated following a procedure advised by Guillemin²⁰ using 3 native-language translators and independent back-translators. The final version of the translation was reached through a consensus discussion involving an expert panel. Efforts were made to keep the exact meaning of the original items.

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