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Identification and management of psychosocial problems among toddlers by preventive child health care professionals

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Background: Objective of this study was to assess the degree to which preventive child health professionals (CHPs) identify and act upon psychosocial problems among young toddlers in the general population and to determine the concordance with parent-reported behavioural and emotional problems. Also, associations of psychosocial problems with socio-demographic factors, and (mental) health history of the toddlers were studied. **Methods:** CHPs examined a national sample of children aged 14 months and interviewed their parents during the routine health assessments. Identification of and action upon psychosocial problems by CHPs were registered. The Infant-Toddler Social and Emotional Assessment (ITSEA) was completed by the parents. Data were available on 701 Dutch 14-month-old toddlers. **Results:** In 7.6% of all toddlers, CHPs identified one or more psychosocial problems. Forty-seven percent of identified children were referred to another professional or received follow-up. Identification of psychosocial problems and subsequent action were 3–16 times more likely in children with clinical parent-reported problem behaviour according to the Dutch adapted version of the ITSEA. Also, past or current professional care for psychosocial problems was associated with the CHPs' identification or action. Associations with socio-demographic variables were weak. **Conclusion:** The CHPs frequently identify psychosocial problems in 14-month-old toddlers, but they miss many cases of parent-reported problems as measured by a clinical ITSEA score. This general population study shows substantial room for improvement in the early identification of psychosocial problems in young toddlers.

Keywords: community paediatrics, mental health, preventive medicine, psychosocial, toddlers.

Introduction

The importance of early identification of mental health problems and provision of intervention services for infants and toddlers with social–emotional and/or behavioural problems are increasingly recognized; both in the USA[1–3] and in Europe (e.g. the Netherlands[4–6]). An estimated 10–25% of all young children experience mild to serious social–emotional problems.[2,7,8]

Mental health problems in early childhood may play a key role in the longitudinal course of emotional and behavioural development. Moffitt and Caspi[9] demonstrated in a retrospective study that adolescents with psychosocial problems, already displayed such problems at the age of 2 or 3 years. Mesman and Koot[10] found that parent-reported internalizing and externalizing problems at preschool age were predictive of similar problems 8 years later. Lavigne *et al.*[11] found that more than half of children with psychiatric disorders at age 2 and 3 years continued to have a psychiatric disorder 3.5–4 years later. Alike, other studies have shown a considerable continuity of social–emotional and behavioural problems (from hereof referred to as 'psychosocial problems') in the preschool and kindergarten years into later childhood.[12–18] Moreover, it has become clear that psychosocial problems are increasingly difficult to change or correct at later age.[19] Fortunately, reviews have shown that early treatment can be effective in preventing more serious psychosocial problems at an older age.[20,21] To facilitate such effective early intervention, timely identification of psychosocial malfunctioning is needed.

In the Netherlands, child health professionals (CHPs; i.e. physicians and nurses) working in Preventive Child Healthcare offer routine well-child care, including the early detection of psychosocial problems, to the entire Dutch population. This entails at least 12 contacts (at home and at well-baby clinics) with CHPs in the first 2 years after birth. Therewith, Preventive Child Healthcare in the Netherlands reaches almost all children in the age of 0–4 years, including the children with serious psychosocial problems. Access is independent of insurance status, but the services do not provide treatment services, in contrast to the US system.

We previously reported on the degree to which Dutch CHPs identified and managed psychosocial problems in children aged 21 months to 4 years.[22] Although CHPs identified 9% as having psychosocial problems, just 29% of the children with serious problems as determined by a clinical Child Behavior Checklist (CBCL) total problems score (6% of the sample) were identified by CHPs. Alike, we reported on the degree to which Dutch CHPs identified psychosocial problems in children aged 5 through 15 years.[23] At this age, CHPs identified psychosocial problems in 25% of children. Only 57% of children with serious parent-reported problems according to the CBCL total problem score (8% of the sample) were also identified by the CHPs.[23]

Less is known about the identification of psychosocial problems by CHPs among younger children. The aim of the

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present study was (i) to assess the degree to which CHPs identify and manage psychosocial problems among 14-month-old toddlers in the general population in the Netherlands and (ii) to determine the concordance with parent-reported psychosocial problems, socio-demographic background and (mental) health history.

Methods

Trained CHPs interviewed a national sample of parents of children aged 14 months, from October 2002 to June 2003. The design of the study was approved by the local Medical Ethical Committee. It was similar to previously performed studies on older children.[22,23]

Sample

The sample was obtained using a two-step procedure. First, a sample of Preventive Child Healthcare centres was recruited, after stratification by region. Second, each organization provided a random sample of about 100 children aged 14 months. From the 1012 eligible children, 92% ($n = 926$) participated. The main reason for non-response was refusal. When weighted by region to adjust for differences between the study population (overrepresentation of western provinces) and the Dutch population, the sample was representative for the Dutch population except for the four big cities, which were underrepresented. Sampling was organized similarly to that in previously reported studies on the Dutch Preventive Child Healthcare system.[22,23]

Loss of response in our sample of 926 respondents is primarily caused by the fact that, for this study, data entry was needed from both parents and CHPs. This sometimes lacked for either parent ($n = 110$; 11.9%) or CHP ($n = 45$; 4.9%). For the current analyses we used the data from children for which both parent and CHP completed a questionnaire: in total 701 children (83.3%). According to Cohen effect size w, differences between respondents and non-respondents were small for sex, age and family income (range of w, 0.00–0.19), but larger for ethnic background ($w = 1.51$, $P < 0.001$) and parental educational level ($w = 1.40$, $P < 0.001$). Separate analyses showed the latter two to be highly correlated. Another study in older children suggested that non-response was most likely due to difficulties of non-western-origin parents in filling out questionnaires.[24]

Procedure and measures

Data collection from parents

A questionnaire was mailed to parents, along with the standard invitation to the preventive health assessment to which all children in the Netherlands are invited regularly. The questionnaire was completed by the parents and returned to the researchers in a sealed envelope.

As part of the parent questionnaire, the 'Infant Toddler Social and Emotional Assessment' (ITSEA) was used to assess the parent's report on the child's psychosocial problems during the preceding 6 months.[25] The ITSEA is a questionnaire for parents with a 12- to 36-month-old child measuring their perceived psychosocial problems of the child. It consists of 166 items which measure 17 syndrome scales.[25] For this study parents filled out items on 10 syndrome scales (activity/impulsivity, aggression/defiance, depression/withdrawn, general anxiety, separation distress, inhibition to novelty, sleep, negative emotionality, eating and sensory sensitivity). These represent three broadband domains (internalizing, externalizing and dysregulation problems), consistent with CHP-identified problems. The sum of all separate syndrome scales constitutes the total problems score. See Appendix A1 in Supplementary data for examples of items that are defined as internalizing, externalizing and dysregulation problems.

The ITSEA was proven to be reliable in a previous research. It has demonstrated good internal consistency (alphas 0.63–0.87 for domains and scales in regard to internalizing and externalizing symptoms and dysregulation) and high test–retest reliability (r from 0.80 to 0.90 for domains and 0.69 to 0.85 for scales).[26] Little is known yet about the psychometric characteristics of the abbreviated Dutch version of the ITSEA as described above (from hereof referred to as 'ITSEA-NL'), used among 14-month-old toddlers. We therefore conducted confirmatory factor analyses in AMOS (http://www.spss.com/amos/) to explore the factor structure of the ITSEA-NL, preceding our further analyses. Results showed a good approximation of the assumed factor structure—root mean square error of approximation (RMSEA) values being 0.06, 0.07 and 0.08 for the internalizing, externalizing and dysregulation domains, respectively[27]—and acceptable internal consistencies (alphas 0.78, 0.77 and 0.81, respectively, and 0.86 for ITSEA-NL total problems).

We dichotomized the ITSEA-NL domain scores in our sample to a normal or a clinical range, using the 90th percentile as cutoff. This is consistent with the dichotomization of the ITSEA by Carter and Briggs-Gowan and Carter,[28] as well as of the CBCL by Achenbach regarding the elevated (clinical) problem level.[25,29] Cutoffs were defined by sex as recommended by the authors of the ITSEA.

Data collection from CHPs

Data from CHPs were collected as part of the routine preventive health assessments to which all Dutch children are invited regularly. These assessments include a physical examination and further assessment on child health and development in dialogue with one or both parent(s) in presence of the child. Data collection occurred in a similar way as in previously reported studies on the Dutch Preventive Child Healthcare system.[22,23] CHPs were not shown the results of the parent questionnaire. After each child's physical examination, the CHP obtained socio-demographic and mental health history information following a standardized interview with the parents. After each assessment, the CHP filled out the following question: 'Does the child have a psychosocial problem, at this moment?' (yes or no) and scored the type of the identified problem(s) on a pre-coded list. Categories were internalizing, externalizing and other dysfunction problems. If a problem was identified, the CHP was asked to rate the severity of the current problem (mild, moderate or severe) and to indicate how the problem was managed (advice or reassurance, follow-up, referral or consultation with others). As part of the research protocol, CHPs received directions on how to code severity of the problem. Moreover, they received half-a-day training on the protocol including the rating of case-vignettes regarding the coding of problems and their severity.

The 'socio-demographic variables' assessed were sex, ethnicity, family composition, parental age at birth, number of siblings living in the family, income, educational level and employment status of the parent(s), duration of pregnancy, type of delivery (normal or instrumental/breech delivery) and parity. Ethnicity was based on the native country of both biological parents. One of the parents had to be born outside a country member of the Organisation for Economic Co-operation and Development (OECD) to qualify as having a non-OECD (or 'non-western') origin. In addition, Turkey was

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regarded as non-western in this study, because of the Dutch history of labour immigration from Turkey.

Very few children lived in one-parent families, with income below the poverty line and parents employed <16 h per week (table 3). These low prevalence rates may cause instability in the multivariate logistic model (see Analyses section). Because associations between these variables were statistically significant (χ^2-tests, $P < 0.0001$), a composite variable (i.e. 'deprived households') was constructed with a score of 1 in case of a positive score on one or more of these variables. Accordingly, a composite variable (i.e. 'negative pregnancy outcome') was constructed based on the interrelated variables (χ^2, $P < 0.0001$)—pregnancy duration <37 weeks and birth weight <2500 g. These two composite variables were used in the multivariate logistic regression analyses.

Data on 'health history' expressed whether past consultation of professionals had taken place for child psychosocial problems (lifetime prevalence). In addition, parent report of chronic illnesses or handicaps of the child, and life events in the previous year (such as hospitalization, death of a family member, unemployment) were assessed in a standardized way, similar to data collection in previously reported studies on the Dutch Preventive Child Healthcare system.[22,23]

Analyses

First, we examined the prevalence of psychosocial problems identified by CHPs, and consequent management strategies used by CHPs. Second, we assessed which child and family factors (ITSEA-NL problems, socio-demographic variables and health history variables) were related to the identification of psychosocial problems by CHPs (yes or no), by means of univariate and multivariate logistic regression analyses. In this second step, we included the ITSEA-NL in two ways, leading to two different models. The first model contained the dichotomized total problems score, which comprises all ITSEA-NL items. The second model contained the dichotomized problems scores for the internalizing, externalizing and dysregulation domains. Though both models comprise all ITSEA-NL items, a child may have a score in the clinical range for one of the domains but not for total problems; the reverse may also hold. In addition, both models contained the socio-demographic and (mental) health history variables. All independent child variables were dichotomized.

Data in this sample were gathered at CHP level. Because CHP characteristics may affect findings for all children assessed by that CHP, we assessed the degree to which results could be affected by clustering within CHPs. Small intraclass correlations (all correlations <0.001) existed of CHP problem identification and action scores indicating that CHP-characteristics had limited impact on problem identification and action scores. Therefore, analyses were conducted without a CHP-level cluster term.

Prevalence estimates presented in the text are weighted by region to adjust for differences between the study population and the Dutch population (excluding the four big cities). Odds ratios (ORs) and 95% confidence intervals (CIs) were calculated on the basis of unweighted data.

Results

Problem identification and management strategies

In 7.6% of all toddlers, CHPs identified one or more psychosocial problems. In 63% of these cases the severity of problems was rated as mild, in 24% as moderate and 11% as severe. CHPs identified problems in the following areas (multiple answers possible): internalizing problems for 25% (1.9% of total sample), externalizing problems for 22% (1.7% of total sample) and other dysfunction problems, such as sleep problems, excessive crying, eating problems or hypersensitivity, in 76% of identified children (5.8% of total sample).

In 91% of the identified toddlers, the CHPs reported to do something in response to identified problems (multiple answers possible): advice or reassurance (76%); follow-up (28%); referral to another professional (27%) and consultation with others (5%). Follow-up and referral were jointly denoted as further 'action' (47% of identified cases), the outcome in further analyses.

Child factors related to problem identification and action by CHPs

Table 1 presents identification and action by CHPs in relation to ITSEA-NL total problems. The CHPs identified psychosocial problems in 26.9% of the children with clinical ITSEA-NL total problems. Percentages were 24.0, 17.3 and 25.8, respectively, for children with clinical ITSEA-NL internalizing, externalizing and dysregulation problem scores. In contrast, CHPs identified psychosocial problems in 5–6% of the children with an ITSEA-NL total, internalizing, externalizing or dysregulation problem scores in the normal range. Accordingly, action by CHPs (i.e. action implying follow-up) was more likely to be taken in children with clinical ITSEA-NL problem scores than in children scoring in the normal range. Actions by CHPs were taken in 19.2% of all children with an ITSEA-NL total problems score in the clinical range (compare 13.9, 11.8 and 17.7 in children with clinical internalizing, externalizing and dysregulation problems, respectively).

No psychosocial problems were identified by CHPs in 73.1% of children with clinical ITSEA-NL total problems. Of these, 30% of children had clinical problems on the ITSEA-NL depression/withdrawn subscale; 30.7% on general anxiety; 45.0% on separation distress; 21.5% on inhibition to novelty; 20.9% on activity/impulsivity; 38.0% on aggression/defiance; 33.2% on sleep problems; 54.0% on negative emotionality; 24.8% on eating problems and 65.2% on sensory sensitivity.

Table 2 presents the association of ITSEA-NL problem scores with the identification and consequent action by CHPs. Clinical ITSEA-NL problem scores were statistically significantly associated with identification and action by CHPs; identification and action were, respectively, 7 and 16 times more likely in case of an elevated ITSEA-NL total problems scores. Looking at ITSEA-NL problem domains, ORs were higher for elevated internalizing and dysregulation scores than for elevated externalizing scores.

Concerning the socio-demographic variables, table 3 shows that ethnicity and parental education were statistically significantly associated with identified psychosocial problems by CHPs; CHPs identified psychosocial problems relatively more frequently in non-western children, and relatively less frequently in children with parents of medium or high educational level. Action upon identification by CHPs was 4 times more likely among children living in families with an income below the poverty line. No other socio-demographic variables showed a statistically significant association with identification or action by CHPs. Moreover, identification or action by CHPs was 4.2–4.6 times more likely in case of children that received past or current professional care for psychosocial problems. Life events during the past year and parent-reported illnesses or handicaps had no relation with either identification or action.

Finally, table 4 presents the association of the clinical range ITSEA-NL domains, and socio-demographic and health

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Table 1 Identification of psychosocial problems by CHPs and management strategies used, in relation to the ITSEA-NL Total Problems domain (weighted sample $n = 700$)

	n (%)	ITSEA-NL Total Problems score		*P*[b]
		Normal ($n = 622$) *n* (%)	Clinical ($n = 78$) *n* (%)	
Identification of psychosocial problems	53 (8)	32 (5)	21 (27)	<0.0001
Management strategies[a]				
No action	652 (93)	594 (96)	58 (74)	<0.0001
Advice or reassurance	40 (6)	23 (4)	17 (22)	<0.0001
Follow-up parents/child	15 (2)	4 (1)	11 (14)	<0.0001
Consultation of others	3 (0)	3 (1)	0 (0)	0.54
Referral to others	14 (2)	6 (1)	8 (10)	<0.0001
Any action that implies follow-up (follow-up, consultation others and/or referral)	25 (4)	10 (2)	15 (19)	<0.0001

a: More than one management strategy per child could be indicated
b: Significance of Chi-square tests

Table 2 Results derived from univariate logistic regression analyses of ITSEA-NL problems increasing the probability of identification of psychosocial problems and consequent action undertaken by CHPs[a]

Clinical range ITSEA-NL domains[b]	Children *n* (%)	OR (95% CI)	
		Identification	Action
Total problems	72 (10.3)	6.88 (3.71–12.77)	15.99 (6.47–39.50)
Internalizing	89 (12.7)	5.41 (2.84–10.30)	8.29 (3.44–19.97)
Externalizing	91 (13.0)	2.90 (1.50–5.62)	4.22 (1.72–10.37)
Dysregulation	81 (11.6)	5.80 (3.15–10.68)	13.68 (5.56–33.67)

a: Unweighted sample ($n = 701$); the number of children with a clinical ITSEA-NL score slightly differs from table 1 due to the weighting in that table
b: Cutoff at the 90th percentile

Table 3 Results derived from univariate logistic regression analyses of socio-demographic and (mental) health history variables increasing the probability of identification of psychosocial problems and consequent action undertaken by CHPs[a]

Variable[b]	Children *n* (%)	OR (95% CI)	
		Identification	Action
Socio-demographic			
Female	340 (48.5)	0.61 (0.34–1.10)	0.88 (0.38–2.07)
Non-western	54 (7.7)	2.43 (1.08–5.48)	1.94 (0.55–6.76)
One-parent family	14 (2.0)	0.98 (0.13–7.61)	2.43 (0.30–19.44)
No siblings	324 (46.2)	0.87 (0.49–1.55)	1.17 (0.50–2.73)
Income below poverty line	29 (4.1)	2.11 (0.70–6.33)	4.02 (1.11–14.58)
Medium or high parental educational level	594 (86.2)	0.49 (0.25–0.97)	0.71 (0.24–2.15)
Parents employed <16 h/week	13 (2.0)	2.24 (0.48–10.39)	2.40 (0.30–19.30)
Pregnancy duration <37 week	51 (7.8)	1.10 (0.38–3.21)	1.25 (0.28–5.53)
Instrumental delivery (instrumental/breech)	147 (21.0)	1.32 (0.68–2.54)	0.17 (0.02–1.30)
Birth weight <2500 g	50 (7.5)	1.14 (0.39–3.31)	0.00 (0.00–)
(Mental) health history			
Past or current professional care for psychosocial problems	38 (5.4)	4.58 (2.04–10.32)	4.22 (1.35–13.14)
Subjected to life event(s) (past year)	263 (37.5)	1.08 (0.60–1.94)	1.40 (0.60–3.29)
Parent report of chronic illness or handicap	70 (10.0)	1.75 (0.79–3.89)	2.78 (0.99–7.77)

a: Unweighted sample ($n = 701$)
b: Reference categories are male; western; two-parent family; one or more siblings; income above poverty line; low parental educational level; at least one parent working >16 h a week; ≥37 weeks; normal delivery; ≥2500 g; no previous or current professional care; no events; no illness or handicap

history variables with problem identification and action by CHPs after adjustment for the effect of all other variables. Children were 6 times more likely to be identified by CHPs in case of clinical ITSEA-NL total problems. In addition, identification was 3.2–3.9 times more likely to occur in cases of clinical ITSEA-NL internalizing or dysregulation, or in case of past or current professional care for psychosocial problems. No other associations showed a statistically significant association with identification after this adjustment (Nagelkerke R^2 Model I = 0.16; Model II = 0.18). Action upon identification by CHPs was 3.4–14.4 times more likely in children with clinical scores in the ITSEA-NL total, internalizing or dysregulation problems domain (Nagelkerke R^2 Model I = 0.28; Model II = 0.31). Action by CHPs was independent of socio-demographic and health history variables, except for a trend found for type of delivery. Instrumental or breech delivery tended to be associated with less action by CHPs in response to the identification of psychosocial problems at the age of 14 months—Model I: OR = 0.11 (95% CI = 0.01–0.96), $P = 0.046$; Model II: OR = 0.13 (95% CI = 0.02–1.15), $P = 0.067$.

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Table 4 Results derived from multiple logistic regression analyses on the associations of ITSEA-NL domain scores, and socio-demographic and (mental) health history variables, with the identification of psychosocial problems and consequent action undertaken by CHPs after adjustment for the effect of all other variables[a,b]

Variable	OR (95% CI)	
	Identification	Action
Clinical Range ITSEA-NL domains[c]		
Total problems	5.78 (2.89–11.55)	14.42 (5.29–39.30)
Internalizing	3.16 (1.50–6.66)	3.44 (1.16–10.26)
Externalizing	1.53 (0.71–3.31)	1.73 (0.56–5.36)
Dysregulation	3.25 (1.58–6.70)	8.32 (2.90–23.85)
Socio-demographic		
Female	0.68 (0.36–1.28)	1.00 (0.38–2.65)
Non-western	1.18 (0.44–3.17)	0.54 (0.11–2.68)
No siblings	0.74 (0.38–1.41)	1.28 (0.47–3.44)
Deprived households: One-parent family Income below poverty line Parents employed <16 h/week	1.45 (0.41–5.11)	3.27 (0.66–16.28)
Medium or high parental educational level	0.61 (0.28–1.33)	0.96 (0.25–3.64)
Negative pregnancy outcome: Pregnancy duration <37 week Birth weight <2500 g	0.96 (0.37–2.53)	0.64 (0.11–3.69)
Instrumental delivery (instrumental/breech)	1.19 (0.56–2.52)	0.11 (0.01–0.96)
(Mental) health history		
Past or current professional care for psychosocial problems	3.93 (1.59–9.70)	3.56 (0.89–14.24)
Subjected to life event(s) (past year)	0.88 (0.46–1.68)	0.92 (0.33–2.56)
Parent report of chronic illness or handicap	1.31 (0.53–3.27)	2.56 (0.73–8.97)

a: Unweighted sample ($n = 701$)
b: Results regarding ITSEA-NL domains refer to two different models that all comprise the same socio-demographic variables and (mental) health history variables but different sets of ITSEA-NL variables: one set contains only the total problems domain, and one only the internalizing, externalizing and dysregulation domains. The ORs for the socio-demographic and (mental) health history variables are presented as found in the first model (i.e. with adjustment for the total problems scale)
c: Cutoff at the 90th percentile

Discussion

The results of this study show that physicians and nurses working in Preventive Child Healthcare identified psychosocial problems in 7.6% of the general population of children aged 14 months and mostly rated these cases as mild or moderate. The CHPs undertook actions in most of the identified cases of psychosocial problems, mainly by giving advice to parents but relatively frequently also by follow-up or referring them. Forty-seven percent of the CHP-identified children received follow-up or were referred to another professional for further diagnosis and treatment. Rates of CHP identification of problems (7.6%) in the present study are reasonably congruent with those in preschool children (aged 21 months to 4 years; 9%),[22] but much lower than in school-aged children (ages 4–16 years; 25%).[23]

Although, both identification and action by CHPs in the current sample were more likely in children with parent-reported problems on the ITSEA, the CHPs identified no psychosocial problems in most children (73–83%) with serious problems as determined by clinical ITSEA-NL problem scores. Alike, no action by CHPs was undertaken in up to 88% of all children with problems in the clinical range. These findings resemble the results of our previous studies[22,23] that CHPs failed to identify a large amount (43–71%) of children with clinical parent-reported problems. Thus, accuracy of CHP identification does not vary by child age.

Age-specific problems: predominance by dysfunction problems

Among CHP-identified problems, 'other dysfunction problems' had the largest share. This may be explained in two ways. First, CHPs may in particular capture these problems because these are relatively easy to detect. Second, it may reflect the predominance of this type of problems in early life. The latter explanation is supported by the fact that among older children (aged 3 years and 5–6 years)[30] the prevalence rate of CHP-identified dysfunction problems is indeed much lower.

Based on our results one might speculate that CHPs primarily identify transient age-specific problems that are inherent to a particular developmental stage. However, Briggs-Gowan *et al.*[31] have shown that infant–toddler psychosocial problems as measured by the ITSEA are often persistent, with about half of those problems continuing 1 year later. In case of problems on multiple ITSEA domains, this was even the case for 75% of the children concerned.[31] *Post hoc* analyses revealed that in our sample 53% of the children with clinical ITSEA total problems had problems in multiple domains of the ITSEA-NL. The association between CHP- and parent-reported problems as found in this study necessitates watchfulness for those children with co-occurring problems—reflecting serious problems—and in need of referral or further diagnostic evaluation.

Concordance of CHP-identified with parent-reported problems

Our results show that CHP identification of psychosocial problems and subsequent action are more likely in children with serious parent-reported total, internalizing, externalizing or dysregulation problems (i.e. clinical range >90th percentile) on the ITSEA-NL. Furthermore, the current study shows that CHP identification and subsequent action relate to previous or current professional care for psychosocial problems. Associations of identification or action with the children's socio-demographic background were limited to increased identification in children with a non-western ethnicity, decreased identification in children with parents of medium or high educational level and increased action among children living in low-income families. This corresponds to previous findings at preschool and school age that hardly any socio-demographic variables contributed to CHP problem identification (or action).[22,23] For those ages we found associations of identification and referral by CHPs with age (3.5–4 years), family composition (one-parent families), parental education (low educational level) and not using day care; and with age (4–11 years) and high urbanization, respectively. Thus, in all age groups mostly parent-reported psychosocial problems, and variables related to mental health and previous or current treatment guide CHP identification and subsequent action.

Strengths and limitations

Strengths of our study concern its community-based sample and its high response rate. However, methodological factors may partially explain why CHPs did not identify all children

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with parent-reported problems on the ITSEA-NL and vice versa. First, the lack of associations with socio-demographic variables may be partly due to the fact that the sample was quite homogeneous. However, this was only true for some of the socio-demographic variables studied and mostly reflects the composition of the Dutch population.

Second, our non-response analysis showed that non-western families and families with low parental education might have been underrepresented in our sample. At the same time, our results showed that CHPs identified psychosocial problems relatively more frequently in non-western children, and in children with parents of low educational level. CHP identification may thus have been higher in the original sample. On the other hand, previous research among school-aged children has shown that although CHPs identified more problems among economic immigrant children, CHP identification of psychosocial problems was poorly associated with parent report regarding economic immigrant children,[32] and this is likely to hold for children of low-educated parents as well. We may thus still have overestimated the quality of early identification, because of the underrepresentation of these groups in our sample.

Third, the ITSEA-NL only provides parent information, whereas CHP identification is also based on the child and on information from colleagues observing the same child. In this study, CHP identification of psychosocial problems may additionally have been influenced by parent completion of the ITSEA. That is, parents might have raised more concerns than otherwise, therewith impacting on problem identification by CHPs. On the other hand, disagreement between various informants on psychosocial problems has been extensively documented.[33] For example, Achenbach and colleagues[34] reported low correlations between CBCL problem scales derived from different informants, their maximum being 0.22.

Finally, the ITSEA-NL may not have been the optimal operationalization of parent-reported psychosocial problems. Although the ITSEA is validated (in the USA) to assess psychosocial problems of children from 11 months of age,[25] the ITSEA has not yet been validated in the Netherlands. Accordingly, no Dutch norm scores are available. However, results of our confirmatory factor analyses in this community-based sample constitute first support for the usage of the ITSEA-NL in Dutch 14-month-old toddlers.

Conclusion

In sum, our results show that CHPs frequently identify psychosocial problems in young toddlers, but miss many cases of serious parent-reported problems. Our results need confirmation in other community-based studies of young toddlers, including the use of other criteria for child mental health, in addition to the ITSEA-NL.

A next step should be the evaluation of various methods to improve early detection and effective early treatment and referral in this age group.[35–37] For example, the parent form of the Dutch version of the Strengths and Difficulties Questionnaire (SDQ; www.sdqinfo.com)[38] was recently validated as a questionnaire to improve the early identification of school-aged children (7–12 years old) with psychosocial dysfunction in community-based settings.[39] Consequently, the SDQ was nationally implemented to support identification of psychosocial problems in the Dutch Preventive Child Healthcare system in this age group.[40] For the younger age-group, there are currently no validated instruments for supporting CHPs in the identification of psychosocial problems available. Several instruments, such as the Brief Infant Toddler Social and Emotional Assessment,[41] and the Ages and Stages Questionnaire for Social and Emotional Development,[42] are now being studied in a representative sample of toddlers in the Netherlands.

Our study emphasizes substantial room for improvement in early identification of psychosocial problems in young toddlers.

Supplementary Data

Supplementary data are available at EURPUB online.

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Key points

- Results indicate that CHPs frequently identify psychosocial problems in 14-month-old toddlers, but they miss many cases of parent-reported problems as measured by a clinical ITSEA score.
- This general population study shows substantial room for improvement in the early identification of psychosocial problems in young toddlers.
- A next step should be the evaluation of various methods to improve the early detection and effective early treatment and referral in toddlerhood.

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