

Consultation for and identification of child and adolescent psychological problems in Dutch general practice

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Zwaanswijk M, Verhaak PFM, van der Ende J, Bensing JM and Verhulst FC. Consultation for and identification of child and adolescent psychological problems in Dutch general practice. *Family Practice* 2005; **22**: 498–506.

Background. Child and adolescent psychological problems are rarely brought to the attention of GPs. Children and adolescents with psychological problems who do visit their GP are seldom identified as such by GPs.

Objective. To investigate in a general population sample of 2,449 Dutch children and adolescents (4–17 years) GP consultation and GP diagnoses of child psychological problems, and the influence of child and family characteristics upon these variables.

Methods. The degree to which parent, teacher, and adolescent reports of the presence of child psychological problems are in concordance with GP diagnoses of these problems was determined. Logistic regression analyses were used to examine correlates of GP consultation and psychological diagnoses.

Results. Approximately 80% of children and adolescents with psychological problems had visited their GP within the preceding year. GP consultation was most strongly associated with child/adolescent chronic physical disorders. Concordance between GP psychological diagnoses and parent, teacher, and adolescent reports of psychological problems was limited. Children and adolescents with psychological problems according to parent or teacher report, children with school problems, young boys, adolescents with negative health perceptions, and adolescents from single parent families were more likely to be diagnosed with psychological problems by GPs.

Conclusion. Improving GPs' interview techniques, introducing standardised screening measures in general practice, increasing GPs' awareness of the possible presence of psychological problems in children consulting for physical problems, and strengthening collaboration between GPs and mental health professionals may increase GP identification of child psychological problems and enhance access to care for those in need.

Keywords. Child development, clinical diagnosis, consultation, mental health, public health.

Introduction

Although psychological problems are relatively common in children and adolescents, they are rarely brought to the attention of GPs. Ford *et al.*¹ found that merely 24% of children with ICD–10 diagnoses of psychiatric disorders² had been in contact with primary health care for these problems over an 18-month period.

Using a less restrictive measure of the presence of child psychological problems and considering GP consultation in general, Foets *et al.*³ found that 69% of children with a Child Behavior Checklist Total Problems score⁴ in the clinical range had been in contact with their GP in the preceding year. Rates of GP consultation did not differ significantly between children with and without scores in the clinical range.

In addition to the fact that not all children with psychological problems come into contact with their GP, a significant number of these children who do visit their GP are not identified as such by their physician.^{5,6} Dulcan *et al.*⁷ found that merely 17% of psychiatrically disordered children were identified as such by their primary care paediatrician. Although parents' specifically mentioning their child's problems to the paediatrician

Received 2 November 2004; Revised 28 January 2005;
Accepted 21 April 2005.

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increased identification, 67% of disordered children remained unidentified. The study by Dulcan *et al.* was conducted in the US health care system, in which GPs are not designated as gatekeepers to mental health care, as they are in The Netherlands and the UK. However, the authors acknowledged that primary care physicians performed this role increasingly often. A more recent British study showed that parents' explicit expression of concern about child mental health problems during consultation increased GPs' identification of both cases and non-cases.⁸

The limited identification of psychological problems by GPs is also found in adult populations.⁹ GPs' lack of skills, the limited duration of consultations, the co-occurrence of physical and psychological symptoms, patients presenting primarily with physical complaints instead of psychological ones, and patients' tendency to normalise symptoms, have been mentioned as possible reasons for low identification in adults.¹⁰⁻¹²

As most children attend their GP on a regular basis, GPs are strategically well placed to detect child mental health problems and to motivate their families to obtain care when needed. However, the Dutch GPs' formal role as gatekeeper is not always as pronounced as expected,¹³ and only a minority of children and adolescents with psychological problems enter specialist mental health care,¹⁴⁻¹⁷

which suggests that obstacles affecting children's progress on the pathway to care may exist in general practice.

So far, studies have mainly focused on factors associated with consultation for child psychological problems, whereas factors associated with GP identification of such problems have received little attention.¹⁸ The present study aims to investigate GP consultation and GP diagnoses of child psychological problems in a large general population sample. The degree to which parent, teacher, and adolescent reports of the presence of child psychological problems are in concordance with GP diagnoses of these problems is determined. Various child and family characteristics are investigated as correlates of GP consultation and GP psychological diagnoses.

Methods

Participants

Our sample consisted of 2449 children and adolescents and their primary caregivers, of whom 1507 were children (4–11 years), and 942 were adolescents (12–17 years). Data were obtained from several databases. An overview of the numbers of respondents for each of these databases is presented in Figure 1. The main source of data was the Second Dutch National Survey of

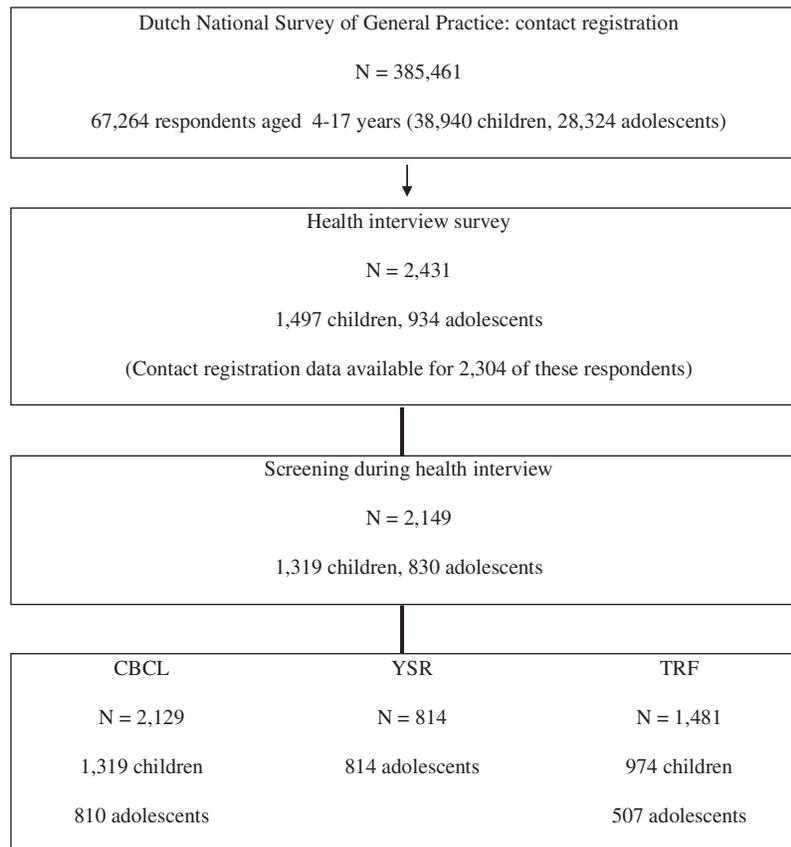


FIGURE 1. Numbers of respondents for each aspect of the study. Due to incomplete overlap between databases, the total sample on which analyses were performed included 2449 children and adolescents

General Practice, which examined morbidity and treatment in a representative sample of 104 general practices with 195 GPs and 385 461 listed patients (67 264 were 4–17 years of age).¹⁹ In this sample, GP consultation and psychological diagnoses were assessed by means of the contact registration, in which participating GPs electronically recorded each diagnosis made during patient contacts. Data collection took place during one calendar year, in the period between April 2000 and January 2002. Morbidity data of eight practices were excluded because of incomplete data collection.

A random sample of the practice population was asked to participate in a health interview survey (total response rate: 64.5%), which contained questions on sociodemographic characteristics, health care utilisation etc. Participants were comparable to the practice population with respect to gender, age, and place of residence.¹⁹ The interviews were carried out between December 2000 and December 2001, spread over a whole year to avoid seasonal patterns. For children aged 4–11 years, a proxy interview was administered to one of the parents, whereas adolescents (12–17 years) answered the questions themselves.

During the health interview, parents completed the Child Behavior Checklist (CBCL),⁴ and adolescents completed the Youth Self-Report (YSR)²⁰ to screen for the presence of psychological problems. Responses were received for a total number of 2149 children and adolescents. Respondents were asked permission to send the Teacher's Report Form (TRF)²¹ to the teacher who was the most familiar with the child's functioning. A total number of 1481 teachers responded (485 parents/adolescents or teachers refused to cooperate, 163 teachers did not respond, 18 children did not attend school, and 2 teachers could not be contacted due to incomplete school addresses). Children and adolescents with available and missing TRF data were comparable with respect to gender, CBCL and YSR Total Problems scores, and presence of school problems.

Instruments

Parent, adolescent, and teacher perceptions of the presence of child and adolescent psychological problems over six months preceding assessment were measured by validated Dutch translations of the CBCL, YSR, and TRF. These instruments consist of 120 problem items (YSR: 102), which yield Total Problems, Internalizing and Externalizing Problems, and eight syndrome scores. These scales are hierarchically ordered; the Internalizing Problems score consists of the sum of scores for the syndromes Anxious/Depressed, Somatic Complaints, and Withdrawn, whereas the Externalizing Problems scale comprises the syndromes Delinquent Behavior and Aggressive Behavior. The Total Problems score is computed by summing the Internalizing and Externalizing scores, and scores for the syndromes Social Problems, Thought Problems, and

Attention Problems. Scores on the CBCL, YSR, and TRF Total Problems, Internalizing, and Externalizing scales can be dichotomised into those in the clinical versus normal range of the distributions based on Dutch normative samples, using a *T* score >63 as cut-off point. The clinical cut-off point has been found to discriminate between children showing similarities with children who were and who were not referred to mental health care.^{4,20,21} Since children scoring just below the clinical cut-off point may also show problems that require special care, the instruments also include a deviant range, referring to both borderline and clinical scores, with a *T* score of 60 as cut-off point. Because analyses were performed mainly using the dichotomisation into deviant and normal groups, results refer to this dichotomisation, except when the clinical range is explicitly mentioned.

The health interview assessed child and family characteristics thought to be associated with GP consultation and GP psychological diagnoses (Table 1). During this interview, parents were asked to indicate the presence of child chronic physical disorders on a 19-item list, including problems such as migraine, asthma, and severe neck/shoulder ailments.²²

Parents' general impression of child health was assessed by means of a five-point self-report item, derived from the Short-Form 36 (SF-36).²³ General impression of adolescent health was assessed by adolescent self-report. Responses were dichotomised into good (scores 1–3) versus moderate/bad (scores 4–5).

The presence of parental mental health problems was measured by a validated Dutch translation of the 12-item version of the General Health Questionnaire (GHQ).²⁴ The GHQ has been widely used to measure general psychological distress, with a total score of 2 or more reflecting the presence of problems. This variable was assessed in parents of children aged 4–11 years only.

Parental education level was scored on an 11-point scale, with 11 being the highest level. The parent with the highest education level was used to trichotomise the sample in low (scores 1–3), moderate (scores 4–8), and high (scores 9–11) education level.

GP diagnoses of child and adolescent psychological problems were determined by codes from the International Classification of Primary Care (ICPC),²⁵ which were electronically recorded by GPs during patient contacts. In The Netherlands, the ICPC is the standard for coding morbidity in general practice. It is included in all electronic patient record based morbidity recording systems, and training to use the classification system is organised on a regular basis. To ensure accurate coding, GPs also received manuals and a list on which all ICPC-codes were briefly specified. Moreover, the electronic recording system enabled searching for ICPC-codes by means of keywords. The quality of coding was demonstrated by the high concordance (on average: 81%) between codes given to 30 fictitious patients by

TABLE 1 Characteristics of participating children (n = 1507) and adolescents (n = 942)

	Children		Adolescents	
	%	n	%	n
Child				
CBCL				
Internalizing	23.2	304 (1311)	15.1	122 (806)
Externalizing	18.8	246 (1311)	16.9	136 (805)
Total Problems	20.4	268 (1311)	14.3	115 (806)
TRF				
Internalizing	16.1	157 (974)	16.2	82 (507)
Externalizing	19.7	192 (974)	15.8	80 (507)
Total Problems	17.2	168 (974)	14.8	75 (507)
YSR				
Internalizing	–	–	10.1	82 (808)
Externalizing	–	–	9.3	75 (808)
Total Problems	–	–	7.9	64 (808)
Male gender	52.0	783 (1507)	47.6	448 (942)
Chronic physical disorders	28.5	427 (1497)	33.8	316 (934)
School problems	23.0	343 (1491)	–	–
Moderate/bad general health impression	4.6	68 (1493)	5.1	48 (933)
Family				
Parental mental health problems	25.1	375 (1496)	–	–
Education level				
Low	14.1	211 (1495)	19.2	177 (922)
Moderate	48.7	728 (1495)	47.1	434 (922)
High	37.2	556 (1495)	33.7	311 (922)
Constellation				
Two parent	91.9	1322 (1438)	89.4	813 (909)
Single parent	8.1	116 (1438)	10.6	96 (909)
Insurance				
Public	56.4	820 (1454)	51.5	470 (912)
Private	43.6	634 (1454)	48.5	442 (912)

CBCL = Child Behavior Checklist; TRF = Teacher's Report Form; YSR = Youth Self-Report.

Figures for CBCL, TRF, and YSR reflect children and adolescents scoring in the deviant range.

In parentheses are the numbers of respondents for whom data were available.

participating GPs and a panel of four GPs with specific expertise in using ICPC.²⁶

Only ICPC-codes referring to psychological problems (P-codes) and social problems (Z-codes) were selected as relevant for our study. In our analyses, a dichotomous variable was used, indicating whether or not a child had received such a code.

Statistical analyses

Since child and family variables were derived from different sources depending on the age range of the participant (parent report for children aged 4–11 years; adolescent self-report for respondents aged 12–17 years),

analyses were performed for children and adolescents separately. To clarify this distinction, children aged 4–11 years will be referred to in our results as 'young children' as opposed to 'adolescents'.

Concordance between parent, teacher, and adolescent reports of psychological problems and GP psychological diagnoses was assessed by determining percentages of respondents scoring in the deviant range on CBCL, TRF, and YSR Total Problems scales, who also received a GP diagnosis of psychological problems. To investigate whether severity of child problems affected GP identification, concordance with GP psychological diagnoses was also assessed for children and adolescents scoring in the clinical range on CBCL, TRF, and YSR Total Problems scales.

To determine the association of child and family characteristics with GP consultation and GP psychological diagnoses, logistic regression analyses were performed. Since multilevel analyses testing the effect of clustering within general practices did not show significant effects of clusters, traditional simple logistic regression analyses were performed for each association separately. Subsequently, stepwise multiple logistic regression analyses were performed to determine the unique contribution of each of the child and family variables to an increase in the likelihood of GP consultation and GP psychological diagnoses over and above the effect of all other variables. The hierarchical relationship of the CBCL, TRF, and YSR scales (see Instruments) made it necessary to perform regression analyses on two different sets of variables: (1) including the Total Problems scores, (2) including Externalizing and Internalizing scores.

Results

Overall, 73.9% of young children, and 76.2% of adolescents had been in contact with their GP during the year of assessment. Of those who had visited their GP, 7.1% of young children and 6.7% of adolescents received a psychological diagnosis. The most frequently occurring diagnoses for young children were: specific learning problems/delay in development (P24; 18.9% of all child P- and Z-diagnoses), enuresis (P12; 16.2%), overactive/hyperkinetic child (P21; 14.9%). Adolescents were most frequently diagnosed with: enuresis (P12; 15.2% of all adolescent P- and Z-diagnoses), relationship problems with parent/other family member (Z20; 13.0%), feeling anxious/nervous/ tense (P01; 8.7%).

Frequencies of children and adolescents scoring in the deviant range of the CBCL, TRF, and YSR problems scales are presented in Table 1. Agreement between parent, teacher, and adolescent reports of the presence of problems was limited; approximately one third of children and adolescents with deviant CBCL Total Problems scores also had TRF or YSR Total Problems scores in the deviant range, whereas 13.7% of adolescents

TABLE 2 Additional problems of children and adolescents scoring in the deviant versus normal range of the CBCL, TRF, and YSR Total Problems scales

	Child					Adolescent				
	CBCL					CBCL				
	Deviant		Normal		χ^2	Deviant		Normal		χ^2
	%	<i>n</i>	%	<i>n</i>		%	<i>n</i>	%	<i>n</i>	
Chronic physical	41.6	111 (267)	24.5	253 (1034)	30.8**	51.8	59 (114)	30.4	208 (684)	20.0**
School problems	45.3	120 (265)	17.2	178 (1032)	93.6**					
Moderate/bad health impression	10.9	29 (266)	2.5	26 (1032)	36.6**	7.0	8 (114)	4.1	28 (683)	1.9 [ns]
Parental mental health problems	47.0	125 (266)	19.8	205 (1034)	82.4**					

	TRF					TRF				
	Deviant		Normal		χ^2	Deviant		Normal		χ^2
	%	<i>n</i>	%	<i>n</i>		%	<i>n</i>	%	<i>n</i>	
	Chronic physical disorders	33.5	56 (167)	25.0	201 (804)	5.2*	44.6	33 (74)	30.3	130 (429)
School problems	47.3	79 (167)	17.2	138 (801)	71.9**					
Moderate/bad health impression	9.0	15 (167)	2.1	17 (801)	20.3**	6.8	5 (74)	4.0	17 (429)	1.2 [ns]
Parental mental health problems	31.7	53 (167)	23.0	185 (804)	5.7*					

	Adolescent				
	YSR				
	Deviant		Normal		χ^2
	%	<i>n</i>	%	<i>n</i>	
Chronic physical disorders	54.7	35 (64)	31.7	233 (736)	14.0**
Moderate/bad health impression	15.6	10 (64)	4.1	30 (735)	16.5**

CBCL = Child Behavior Checklist; TRF = Teacher's Report Form; YSR = Youth Self-Report.

Child school problems and parental mental health problems were not assessed in adolescents. In parentheses are the numbers of respondents for whom data were available.

* $P < 0.05$; ** $P < 0.01$; [ns] = non-significant.

scored in the deviant range on both YSR and TRF Total Problems.

Children and adolescents with psychological problems in the deviant range suffered significantly more frequently from additional difficulties such as chronic physical disorders, moderate/bad general health, school problems, and the presence of a parent with mental health problems (Table 2).

Of children and adolescents scoring in the deviant range of the CBCL Total Problems scale, 80.1% and

86.0% had been in contact with their GP, respectively. Consultation rates were comparable for children and adolescents rated as deviant by their teacher (79.1% and 86.1%) and by adolescent self-report (86.9%).

Concordance between parent, teacher, and adolescent reports of the presence of child psychological problems and GP psychological diagnoses was limited, both when Total Problems scores in the deviant range as when scores in the clinical range were taken into account (Table 3). Percentages of children and adolescents who scored in the

TABLE 3 Percentages of concordance between CBCL, TRF, and YSR Total Problems and GP psychological diagnoses

	Child				Adolescent					
	Deviant		Normal		Deviant			Normal		
	CBCL	TRF	CBCL	TRF	CBCL	TRF	YSR	CBCL	TRF	YSR
GP psychological diagnosis	12.8	14.5	5.0	4.0	14.4	11.9	23.1	4.6	5.8	5.1
	Clinical		Normal		Clinical			Normal		
	CBCL	TRF	CBCL	TRF	CBCL	TRF	YSR	CBCL	TRF	YSR
	GP psychological diagnosis	15.2	19.5	5.4	4.2	14.9	14.3	25.0	5.1	6.0

normal range of the CBCL, TRF, and YSR Total Problems scales, and who were also diagnosed with GP psychological problems are also reported in Table 3.

Children with deviant CBCL or TRF Total Problems scores who did not receive a GP psychological diagnosis, were mainly diagnosed with warts (S03; 6.1% of all child ICPC codes excluding P- and Z-codes), upper respiratory tract infection (R74; 5.1%), and cough (R05; 4.9%). The most frequently occurring diagnoses for adolescents with unidentified psychological problems were upper respiratory tract infection (R74; 4.2% of all adolescent ICPC codes excluding P- and Z-codes); hayfever/allergic rhinitis (R97; 3.0%), and family planning/oral contraceptive (W11; 3.0%).

Logistic regression analyses

Results of simple logistic regression analyses are listed in Table 4. Only significant odds ratios are reported. Results of multiple logistic regression analyses are shown in Table 5 for the two sets of variables separately. Only variables that were entered and not removed in the stepwise regression procedure are reported.

Discussion

Of our sample of Dutch children and adolescents with psychological problems, approximately 80% had been in contact with their GP during the year of assessment. This figure is higher than the 69% reported in a previous Dutch study.³ However, the latter figure was based on parent reports of GP contacts rather than contact registration data. Although the previous study³ also used contact registration data, consultation rates cannot be compared due to differences in lengths of registration periods (3 months for the previous versus 1 year for the present study).

Children and adolescents appeared to visit their GP mainly because of physical disorders, as individuals with these disorders were more likely to have consulted their GP. The presence of psychological problems also increased the chance of young children consulting their GP,^{7,8} but this effect was not found for adolescents.²⁷

Although the finding that young children with psychological problems were more likely to visit their GP is promising, GP identification of these problems was limited, both for children and adolescents. On average, one in seven children and one in eight adolescents who were considered by their parents or teachers to have psychological problems in the deviant range received a psychological diagnosis from their GP. When GP diagnoses were compared with adolescent self-report of psychological problems, concordance increased to 23%, which is comparable to previous findings.²⁸ This higher concordance may be attributed to the fact that adolescents are increasingly able to directly discuss their own concerns about psychological problems with the GP.

Severity of problems hardly affected GP identification of psychological problems, as concordance figures increased only slightly when only clinical CBCL, TRF, and YSR problem scores were considered.

The limited concordance between GP diagnoses and others' reports of psychological problems may be due to parents' reluctance to explicitly mention their concerns about child problems during consultation.^{7,8,29} Due to increases in the frequency with which Dutch patients consult their GP and in Dutch GPs working part-time, GPs' workload has increased substantially.³⁰ The resulting limited length of consultations (on average <10 minutes)³⁰ may contribute to parents' reluctance, as more time is needed to discuss psychological issues.^{30,31} Improving GPs' skills in using psychologically oriented interview techniques, which facilitate parental disclosure of sensitive information concerning child mental health,

TABLE 4 Simple logistic regression analyses: child and family characteristics influencing GP consultation and child psychological diagnoses by the GP

	GP consultation		GP psychological diagnoses	
	Child	Adolescent	Child	Adolescent
Child gender	–	0.6 (0.4–0.8) ^{a**}	2.6 (1.5–4.4) ^{b**}	–
Child chronic physical disorders	2.7 (2.0–3.6) ^{**}	2.8 (1.9–4.1) ^{**}	1.9 (1.2–3.0) [*]	3.3 (1.8–6.0) ^{**}
Child school problems	–	–	3.3 (2.1–5.3) ^{**}	–
Gen. impression of child health	3.8 (1.6–8.9) ^{**}	–	–	6.9 (3.2–15.1) ^{**}
Parental mental health problems	–	–	2.0 (1.2–3.3) ^{**}	–
Parental education level				
Moderate	–	–	0.5 (0.3–0.9) ^{c*}	0.4 (0.2–0.8) ^{c*}
High	–	–	–	–
Family constellation	–	–	2.0 (1.0–4.1) ^{d*}	2.3 (1.1–5.0) ^{d*}
Type of insurance	–	–	–	–
CBCL				
Internalizing	–	1.8 (1.1–3.0) [*]	1.9 (1.1–3.3) [*]	3.6 (1.8–7.3) ^{**}
Externalizing	–	1.8 (1.1–3.0) [*]	2.4 (1.4–4.1) ^{**}	–
Total Problems	1.6 (1.1–2.2) ^{**}	2.2 (1.3–3.8) ^{**}	3.1 (1.8–5.2) ^{**}	4.1 (2.0–8.2) ^{**}
TRF				
Internalizing	–	–	–	2.6 (1.1–6.2) [*]
Externalizing	–	–	5.7 (3.0–10.9) ^{**}	3.3 (1.4–7.9) ^{**}
Total Problems	–	2.1 (1.0–4.2) [*]	4.4 (2.3–8.5) ^{**}	–
YSR				
Internalizing	–	–	–	5.3 (2.6–10.8) ^{**}
Externalizing	–	–	–	3.0 (1.4–6.6) ^{**}
Total Problems	–	2.3 (1.1–4.8) [*]	–	6.3 (3.0–13.3) ^{**}

Table entries are odds ratios with 95% confidence intervals in parentheses. Due to rounding, some confidence intervals include the value 1.0, which was in fact somewhat larger. Child school problems and parental mental health problems were not assessed in adolescents.

* $P < 0.05$; ** $P < 0.01$.

^aGreater likelihood for girls versus boys.

^bGreater likelihood for boys versus girls.

^cGreater likelihood for low versus moderate education level.

^dGreater likelihood for children from single parent families.

TABLE 5 Multiple logistic regression analyses: child and family characteristics influencing GP consultation and GP psychological diagnoses

	GP consultation		GP psychological diagnoses	
	Child	Adolescent	Child	Adolescent
Analysis including Total Problems				
Child gender	–	–	2.2 (1.1–4.6) ^{a*}	–
Child chronic physical disorders	2.8 (1.8–4.2) ^{**}	2.8 (1.6–4.7) ^{**}	–	–
General impression of child health	–	–	–	7.2 (2.2–23.3) ^{**}
Total Problems (parent report)	1.5 (1.0–2.3) [*]	–	2.5 (1.3–5.1) ^{**}	5.0 (2.1–12.2) ^{**}
Total Problems (teacher report)	–	–	3.0 (1.5–6.1) ^{**}	–
Family constellation	–	–	–	3.2 (1.1–8.6) ^{b*}
Analysis including Int and Ext				
Child chronic physical disorders	2.9 (1.9–4.4) ^{**}	2.8 (1.6–4.7) ^{**}	–	–
Child school problems	–	–	2.5 (1.3–4.8) ^{**}	–
General impression of child health	–	–	–	6.7 (2.1–21.4) ^{**}
Internalizing (parent report)	–	–	–	3.9 (1.6–9.6) ^{**}
Externalizing (teacher report)	–	–	4.6 (2.4–9.0) ^{**}	–
Family constellation	–	–	–	3.7 (1.3–10.2) ^{b*}

Table entries are odds ratios with 95% confidence intervals in parentheses. Due to rounding, some confidence intervals include the value 1.0, which was in fact somewhat larger. Int = Internalizing; Ext = Externalizing. Child school problems were not assessed in adolescents.

* $P < 0.05$; ** $P < 0.01$.

^aGreater likelihood for boys versus girls.

^bGreater likelihood for adolescents from single parent families.

and in actively eliciting parental concerns, may increase GP diagnoses.^{8,32} Identification may also be enhanced by the introduction of standardised screening measures in general practice.³¹

Efforts to improve GPs' skills may, however, be hampered by the fact that GPs' task conception regarding counselling in case of pedagogical/educational difficulties is rather limited and has decreased markedly during the previous decade. Whereas 3% of Dutch GPs perceived this kind of counselling hardly or not at all as their task in 1987, this figure rose to 18% in 2001. Merely 21% of Dutch GPs believed pedagogical/educational counselling to fall largely or completely within their role as GP in 2001, whereas 57% of GPs had this opinion in 1987.³⁰

Another explanation for the limited concordance may be reluctance on the side of the GP to diagnose a child or adolescent with psychological problems because of the stigma associated with the diagnosis. Particularly when the likelihood of obtaining specialist mental health care following referral is limited due to waiting lists, GPs may not see the benefit of diagnosing children with these problems. Strengthening collaboration between GPs and mental health professionals may prove useful in this respect.

Thirdly, concordance figures might have been underestimated since children and adolescents with parent, teacher, or self-reported psychological problems may truly have consulted their GP for physical instead of psychological complaints. This possibility is even more likely because chronic physical disorders were found to be elevated in those with psychological problems, and were associated with an increased chance of GP consultation. Since our study was part of a larger study on morbidity and treatment in general practice, data were collected on GP consultation in general, and we were not able to deduct whether GP assistance was sought for child psychological problems specifically. This means that GPs indeed might have been aware of the presence of psychological problems, but did not register them as reason for consultation. However, restricting future analyses to consultations for psychological problems only could produce a too narrow focus, because previous research has shown that even if parents do express concerns about their child's psychological problems to the GP, they generally do this in the context of medical problems, instead of directly relating to the actual problems.^{3,33}

The finding that child psychological problems were often accompanied by chronic psychical disorders could be an indication of somatisation. GPs may have difficulty disentangling physical and psychological symptoms and may be more inclined to record the overt physical instead of the underlying psychological symptoms, thereby reducing identification of psychological problems. The fact that the diagnoses occurring most frequently among children and adolescents with unidentified psychological problems were primarily purely physical ones, argues against the possibility of GPs being aware of underlying psychological problems.

Some of the children and adolescents identified as having psychological problems by parent, teacher or self-report may be able to function adequately, which could partly explain why they were not identified by their GP. The limited consistency between parent, teacher, and adolescent reports of such problems³⁴ implies that there are no unequivocal criteria to define the distinction between normal and pathological behaviour. However, our finding that the presence of psychological problems is associated with a range of additional difficulties may indicate a reduced sense of well-being among children with psychological problems.

The probability of GPs diagnosing children and adolescents with psychological problems was increased for those whose parents also reported such problems in their child. Inspection of the specific types of problems associated with GP diagnoses shows a pattern that could be expected based on age-related differences in prevalence rates of the problem types: young children with externalising, and adolescents with internalising problems had better chances of being diagnosed.

Of the additional problems assessed in our study, only school problems (for young children) and moderate/bad perceived health (for adolescents) significantly increased the chance of receiving a GP psychological diagnosis. The presence of chronic physical disorders, which did increase the likelihood of contact with the GP, did not affect the chance of receiving a psychological diagnosis when other variables were controlled for. Since chronic physical disorders occurred significantly more frequently in children and adolescents with psychological problems in the deviant range, increasing GPs' awareness of the association between chronic physical illness and the risk for psychiatric disorders^{35,36} might elevate identification.

The chance of receiving a psychological diagnosis was increased for young boys. This effect was only found in the multiple regression analysis including Total Problems, but disappeared in the analyses including Internalizing and Externalizing scores.

The only family characteristic associated with GP psychological diagnoses after controlling for the effects of other variables was family constellation, and this effect was found in adolescents only. Adolescents from single parent families were more likely to receive a GP psychological diagnosis. Apparently, GPs have an intensified focus on the possibility of psychological problems in these youngsters.

Although not all children and adolescents with psychological problems need additional care, the limited detection of disorders may prevent or delay the receipt of appropriate care for the ones who do. Efforts to improve GP detection of child and adolescent psychological problems may enhance access to care. Because Dutch GPs' task conception regarding the management of psychological problems has been narrowed in the last decade, and they tend to refer patients with psychological problems to other service providers (e.g. primary care psychologists, social

workers) more frequently,³⁰ such efforts should be accompanied by good referral possibilities.

Declaration

Funding: this study was financially supported by grant number 2100.0064 from the Netherlands Organisation for Health Research and Development.

Ethical approval: This study was carried out in accordance with Dutch privacy legislation. Privacy rules and regulations were deposited at the Dutch Data Protection Authority.

Conflicts of interest: none.

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