

Original Research Article

Use of the pediatric symptom checklist to screen for behaviour problems in children

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ABSTRACT

Background: Behavioral and emotional problems comprising internalizing, externalizing and mixed disorders consist of psychiatric disorders in childhood and adolescents. This study aimed to measure the prevalence of emotional and behavioral disorders and to evaluate the usefulness of the pediatric symptom checklist (PSC) in identifying behavioral problems in children between ages of 4 and 12 attending OPD.

Methods: Parents of 450 children between the ages of 4 and 12 attending pediatric OPD were randomly selected for the study after their valid informed consent, regarding awareness of psychosocial problems in their child with the help of 17-item pediatric symptom checklist (PSC)

Results: Overall, 81(18%) children had at least 1 positive PSC-17 subscale or a positive PSC-17 total score. 27 (6%) children scored positive on the internalizing subscale, 36 (8%) scored positive on the externalizing subscale, and 36 (8%) scored positive on the attention subscale. Boys had higher PSC scores than girls for both school-aged (21% vs 16%) and preschool-aged children (15% vs 9%). Children from low socio economic status (20%), living with single parent (53%), nuclear family (21%), alcoholic father (28%) and single child (33%) are the risk factors associated with increased behavioral problems. Internalizing problems were seen more commonly in older children (10 - 12 years), whereas attention and externalizing problems were more commonly seen in younger children (4 - 8 years).

Conclusions: This study showed the extent of childhood emotional and behavioral problems. Use of the PSC offers an approach to the recognition of psychosocial dysfunction that is sufficiently consistent across groups and locales to become part of comprehensive pediatric care in virtually all out-patient settings. Further research is needed to identify effective strategies for using primary care for recognizing, diagnosing, and treating mental health disorders in children and adolescents.

Keywords: Behavioural problems, Pediatric symptom checklist

INTRODUCTION

Children's mental health is just as important as their physical health for their overall health. Childhood psychosocial dysfunction has become as the most common chronic condition of children and adolescents.^{1,2} More than 25% of pediatric patients have a mental or behavioral problem.³ Early detection and treatment of

psychosocial problems may lead to considerable health benefits for the child and family. Only a minority of children with psychological or psychosocial problems are under treatment.⁴⁻⁶

If untreated, problems are likely to persist in later life and can lead to serious limitations in daily functioning.^{2,7} In India, where a psychological problem and visit to the psychiatrist is considered a stigma, it becomes even more

necessary to create awareness amongst parents and health care providers about the extent of the psychological problems in children.

One approach to facilitating recognition and referral of psychosocial problems is to use a parent-completed screening questionnaire as part of routine primary care visits.⁸ The pediatric symptom checklist (PSC) was developed for this purpose. The PSC is a 1-page questionnaire of children's emotional and behavioural problems that reflects parents' impressions of their children's psychosocial functioning. Cut-off scores for school-aged and preschool-aged children indicating clinical levels of dysfunction have been empirically derived using receiver operator characteristic analyses in studies comparing the performance of the PSC with other validated questionnaires and clinicians' assessments of children's overall functioning.^{9,10} In order to look into these various nuances we decided to study the extent of psychosocial problems in children seeking pediatric services, the awareness in parents and help seeking behaviours for these psychological problems.

Aims of the study was to evaluate the usefulness of the pediatric symptom checklist (PSC) in identifying behavioural problems in children between ages of 4 and 12 attending OPD, to identify factors associated with positive scores on a brief psychosocial screening tool with subscales for internalizing, externalizing, and attention problems.

METHODS

This was a prospective, cross sectional study conducted in Chennai Medical College Hospital and Research Institute, Trichy, tamil nadu, India between May 2014 and October 2015 after approval from the institutional ethics committee. The parents of 450 children attending pediatric OPD were randomly selected for the study after their valid informed consent. A proforma was designed in the form of a semi-structured questionnaire to collect information on the children's socio-demographic profile, details of birth history and milestones in the various domains. Only parents of children aged 4 to 12 years were included in the study and parents of children having a chronic medical illness or history of any psychiatric disorder in the past were excluded from the study sample. Parent's awareness regarding psychosocial problems in their child was assessed with the help of the pediatric symptom checklist (PSC).

The PSC-17 consists of 17 symptoms that parents rate as "often," "sometimes," or "never" present in their child. The PSC-17 is scored by assigning 2, 1, or 0 points, respectively, to these ratings. The points are then added to obtain PSC-17 subscale and total scores. The internalizing subscale consists of 5 items: "feels sad, unhappy," "feels hopeless," "is down on self," "worries a lot," "seems to be having less fun"; the externalizing subscale consists of 7 items: "fights with other children,"

"does not listen to rules," "does not understand other people's feelings," "teases others," "blames others for his/her troubles," "refuses to share," "takes things that do not belong to him/her"; the attention subscale consists of 5 items: "fidgety, unable to sit," "daydreams too driven by a motor." A positive score for each of the subscales was as follows: 5 or greater for the internalizing subscale, 7 or greater for the externalizing subscale, and 7 or greater for the attention subscale. A positive score on the screen was defined as at least 1 positive PSC-17 subscale or a PSC-17 total score of ≥ 15 .¹³

RESULTS

Overall, 18% of children (81/450) scored positive on the screen. Boys were significantly more likely to have higher PSC scores than girls for both school-aged (21% vs 16%) and preschool-aged children (15% vs 9%). Behavioural problems were observed more commonly in low socio economic status group (20%) compared with high socio economic status (9%).

Table 1: Demographic characteristics of the participating children, and pediatric symptom checklist scores for selected sociodemographic groups (n = 450)*.

Characteristics	Percentage (number/total number)
Age range – years	4-12 years
PSC case rate	18 (81/450)
Sex	
Male	19(45/234)
Female	17(36/216)
Age/sex	
Preschool boys	15 (4/26)
Preschool girls	9 (3/28)
School aged- boys	21 (43/208)
School aged- girls	16 (31/188)
Socio economic status	
Low	20 (41/205)
Lower/middle	18 (36/200)
Upper/middle	9 (4/45)
Parental marital status	
Single parent	53 (31/59)
Parents living together	13 (50/391)
Family composition	
Nuclear family	21 (72/348)
Joint family	9 (9/102)
Single child	33 (42/126)
More than 1 child	12 (39/324)
Father alcoholic	28 (42/150)
Father non-alcoholic	13 (39/300)

Single parent status is associated with high incidence (53%) of psychosocial problems in children compared with parents living together (13%). Nuclear family

(21%), alcoholic father (28%) and single child (33%) are other risk factors associated with behavioural problems

Table 2: Percentage of children scoring positive on the psc-17 subscales.

Scale	No. (%) with positive scores (n = 450)
Internalizing	27 (6%)
Externalizing	36 (8%)
Attention	36 (8%)
PSC-17 total	41 (9%)

27 (6%) of the children scored positive on the internalizing subscale, 36 (8%) scored positive on the externalizing subscale, and 36 (8%) scored positive on the attention subscale. Of the 81 children with a positive score, 49 (60%) had 1 positive subscale, 32 (40%) had 2 positive subscales, and none had 3 positive subscales. Internalizing problems were seen more commonly in older children (10-12 years) whereas attention and externalizing problems were seen in younger children (4-8 years).

DISCUSSION

First proposed by Haggerty et al in 1975 as the “new morbidity,” psychosocial problems have become the most common chronic condition for pediatric visits.^{1,14}

In this sample of children aged 4 to 12, 6% scored positive on the internalizing subscale, 8% on the externalizing subscale, and 8% on the attention subscale. Overall, 9% had a positive PSC-17 total score, and 11% had at least one positive PSC-17 subscale score or a positive total score. These rates are comparable to those found in other studies using parent-completed measures including the PSC-17 and the Diagnostic Interview Schedule for Children.^{15,16} However, these studies observed a higher rate of internalizing symptoms than externalizing symptoms among the samples of children studied, whereas more children scored positive on the externalizing than the internalizing subscale in our study. It should be noted that a positive score on the PSC-17 is not a diagnosis, but rather an indication for further assessment of the child and family, with subscale scores serving as a guide for the assessment.

The current study demonstrated that boys were significantly more likely to have higher PSC scores than girls for both school-aged (17% vs 9%) and preschool-aged children (12% vs 9%).

Our results were comparable to the study done by Michael S et al, where higher rate of dysfunction for boys were seen in both preschoolers and school aged children using the PSC.¹¹ These results are consistent with epidemiological findings showing a higher prevalence of parent-identified behavioural problems and a higher rate

of mental health referral in male children and adolescents than in female children and adolescents.¹² Previous studies also suggest that girls are more likely than boys to have internalizing difficulties (i.e., anxiety and depression), which may not be as readily identified and/or reported by parents or teachers.

In accordance with previous studies using the PSC, poverty and coming from a single-parent family doubled the risk of psychosocial dysfunction. In our study father alcoholic, single child and nuclear family are other risk factors associated with higher mean PSC scores.

CONCLUSION

Pediatricians in India do not receive adequate training concerning psychosocial problems and could be hesitant to attach deleterious label to children. Hence including psychiatry training in their pediatric residency program would definitely make them more sensitive and alert in identifying the various emotional and behavioural problems which are commonly seen in children. In addition to its clinical utility, the consistency and widespread acceptability of the PSC make it well suited for the next generation of pediatric mental health services research, which can address whether earlier recognition of and intervention for psychosocial problems in pediatrics will lead to cost-effective outcomes.

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