A descriptive study of behavioral problems in schoolgoing children

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Background: Behavioral problems among schoolgoing children are of significant concern to teachers and parents. These are known to have both immediate and long-term unfavorable consequences. Despite the high prevalence, studies on psychiatric morbidity among school children are lacking in our country. Materials and Methods: Five hundred children aged 6–18 years were randomly selected from a government school in Kanpur, Uttar Pradesh, and assessed for cognitive, emotional, or behavioral problems using standardized tools. Results: About 22.7% of children showed behavioral, cognitive, or emotional problems. Additional screening and evaluation tools pointed toward a higher prevalence of externalizing symptoms among boys than girls. Conclusion: The study highlights the importance of regular screening of school children for preventive as well as timely remedial measures.

Keywords: Behavioral problems, externalizing symptoms, pediatric symptom checklist

About 20% of children and adolescents, globally, suffer from impairments due to various mental disorders. Suicide is reportedly the third major reason for death among adolescent population.¹⁻³ The alarming rise in the number of children and adolescents in low- and middle-income countries leaves this population with inadequate attention from mental health professionals, minimal infrastructure, and limited resources for managing their mental health problems.⁴

The prevalence rates of behavioral problems across various studies conducted in different states in India vary, thus making it difficult to get a collective understanding of the extent of the problem. A study by Srinath et al., in 2005, conducted on a community-based sample in Bengaluru, revealed the prevalence rates of behavioral problems to be around 12.5% in children up to 16 years of age.⁵ Another study done on school children in Chandigarh found the rate of behavioral problems among 4–11 years’ old to be 6.3%.⁶ As evident from the available literature, the overall rates of psychiatric illnesses among children and adolescent population across the various states in India and other middle- and low-income countries vary between 5% and 6%. A cursory look at the Western data on the subject indicates that these figures are still on the lower side as prevalence rates of behavioral problems among children and adolescents in Canada, Germany, and the USA have been reported to be 18.1%, 20.7%, and 21%, respectively.⁷

Further, many problems among this population do not meet the diagnostic criteria and are thus considered “subthreshold.” Nonetheless, the significant distress that children/adolescents and their families go through because of these mental health issues cannot be undermined.⁸ Since research studies on psychiatric problems among children and adolescents in India are relatively few and variable in methodology, the present study was conducted.
with more robust screening and assessment measures to generate relevant data. This study thus improves our current understanding of the extent and type of behavioral problems among children and adolescents, in our cultural context.

**MATERIALS AND METHODS**

Ethical approval for the current study was obtained from the hospital ethics committee of the first author. In this descriptive study, 500 boys and girls from a government school in Kanpur in the age group of 6–18 years, without any diagnosed medical/surgical/psychiatric/other illnesses, were included after appropriate randomization. All parents/caregivers provided informed consent for participation in the current study. Brief screening was done using the parent-completed version (pediatric symptom checklist [PSC]; 4–10 years) and the youth self-report (Y-PSC; 11+ years) to assess cognitive, emotional, and behavioral problems.[8] After initial screening, wherever the score was found to be significant, children were selected for detailed evaluation. Further assessment was carried out using the following:

- Child Behavior Checklist (CBCL): The CBCL developed by Achenbach is a family of self-rated instruments that surveys a broad range of difficulties encountered in children from preschool age through adolescence. It is a multiaxial scale normed by age and gender.[9]
- Wechsler Intelligence Scale for Children (WISC): The WISC is an individually administered intelligence test for children between the ages of 6 and 16 years.[10]
- Childhood Autism Rating Scale (CARS): CARS is a behavior rating scale intended to help diagnose autism.[11]
- Conner's Rating Scale (CRS)-Revised: CRS-revised is an instrument that uses observer ratings and self-report ratings to help assess attention-deficit/hyperactivity disorder (ADHD) and evaluate problem behaviors in children and adolescents from the age of 3 years through 18 years.[12]

**RESULTS**

Of 500 children selected, 480 children underwent detailed assessments. Two-hundred and forty children in each age group, i.e., 6–10 years and 11–18 years, were administered PSC/Y-PSC, as applicable. Mean ages of boys, girls, and their scoring pattern in PSC are shown in Table 1.

About 41 (17.08%) children demonstrated positive scores in PSC and 68 (28.33%) for Y-PSC. The CBCL was then administered to evaluate behavioral problems. Table 1 shows the distribution of mean age of children along with their mean PSC/Y-PSC scores above cutoff. The difference was not found to be statistically significant across the groups and gender.

Table 2 shows the distribution of mean CBCL scores by gender and age groups where boys had significantly higher scores than girls. However, the relation of CBCL scores (above cutoff) to gender and different age groups was not found to be significant.

The common behavioral problems in school children who scored above cutoff \((n = 52)\) in CBCL were found to be argumentativeness (55%), followed by lack of concentration, restless, and hyperactive behavior. Gender-wise distribution of common behavioral problems noted lack of remorse, argumentativeness, and restlessness more in boys, compared to preoccupation with cleanliness and neatness, perfectionistic ideas, and argumentativeness among girls, though the difference was not statistically significant either.

All 52 children were administered CARS and none were found to have significant scores above cutoff. An assessment of intelligence noted 7 children of 52 to be below average in intelligence, though none had intellectual disability.

On administering CRS for ADHD on 27 children in the age group of 6–10 years, 14 were found to be above cutoff, and 15 children were above cutoff scores in children in the age group of 11 years and above \((n = 25)\). There were no statistically significant differences between boys and girls in CRS scores. Overall, the results showed that a brief screening instrument can be useful for using in schools to obtain a cross-sectional view of common behavioral problems in children, which can then be further assessed and intervention can be provided.

**DISCUSSION**

A total of 109 children (22.7%) were found to have behavioral problems with initial screening by PSC/Y-PSC. This is slightly higher than another Indian study,[13] but similar to study by Muzammil et al.[14] and Malhotra and Patra.[15] Few western studies have shown higher prevalence rates.[15-17] The disparate estimate of prevalence and need for national data on epidemiology has been highlighted by Sharan and Sagar.[18] It emphasizes that although available Indian studies have started to address the unmet need for systematic information tracking of the prevalence and distribution of mental disorders, national data are still not available. The absence of empirical data on the magnitude,
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Table 1: Distribution of mean age of children and comparison of scores

| Groups               | Number of children (n) | Mean age±SD | Number of children (n) with PSC/Y-PSC scores above cut-off | Mean scores±SD |
|----------------------|------------------------|-------------|----------------------------------------------------------|----------------|
| Boys (6-10 years)    | 120                    | 9.27±1.13   | 11                      | 35.32±5.54    |
| Girls (6-10 years)   | 120                    | 9.23±1.02   | 10                       | 37.20±9.79    |
| Boys 11 years        | 120                    | 13.59±2.14  | 51                       | 35.27±4.57    |
| Girls 11 years       | 120                    | 13.85±2.09  | 37                       | 34.58±3.428   |

F statistics=0.554, df=3, P=0.64 (NS). PSC/Y-PSC – Pediatric symptom checklist or youth self-report version; SD – Standard deviation; NS – Not significant

Table 2: Distribution of mean CBCL checklist scores by gender and age groups

| Groups                | Mean CBCL scores±SD |
|-----------------------|----------------------|
| Boys (6-10 years)     | 69.39±17.05          |
| Girls (6-10 years)    | 46.12±25.79          |
| Boys (11 years and above) | 47.07±27.89        |
| Girls (11 years and above) | 31.92±21.63  |

One-way ANOVA F statistics=6.68952, df=3, P<0.05 (significant). CBCL – Child behavior checklist; SD – Standard deviation

The mean CBCL scores of this study population were higher than most similar studies in India.15,19 This can be attributed to the type of study population (school based vs. community based) and informant chosen (teachers/parents) among other factors. CBCL was being used in the present study in a population which was already screened for behavioral problems by PSC/Y-PSC, this put together with greater sensitivity of CBCL, growing concern among teachers and parents of behavioral problems or even growing magnitude of behavioral disturbances may have contributed to a higher mean score. The epidemiological issues of different vantage points have been discussed by Wolpert.20

The analysis of CBCL scores showed significant differences between the mean scores of boys and girls who scored above cutoff, as per age groups. This was similar to the findings by Malhotra et al.,21 which is a clinic-based study with advantage of long-term data. The age-wise distribution of positive CBCL scores did not show any significant difference between the two groups.

The analysis for a pattern of distribution of behavioral problems in children revealed them to be more of externalizing ones. This goes along with the findings by Chaudhury et al.,22 Shetty and Shihabudeen,23 and Shastri et al.24 Girls had more internalizing behavioral problems whereas boys had more externalizing problems.

Overall difference was not significant which could be due to the small size of CBCL screened sample (n = 52) only analyzed for these dimensions. This is similar to the findings by Deb et al.25 No cases of autism spectrum disorder were found in this study when CARS was applied to this group of children. This is possibly due to the fact that the average age for diagnosis of children with the above disabilities is 3–4 years and these are not common in general population. This finding is similar to the study by Malhi and Singh26 and Vijay Sagar.27

Majority of children among the screened study population showed intelligence level in average range, and no cases of intellectual disability were noted though few (n = 7) children were noted to have below average intelligence. This is similar to other school-based studies in India by Eshwar et al.28 and Basu.29

Analysis of CRS when applied to these children for ADHD and related disturbances did not show a significant difference between the groups. This is similar to the study by Meyer et al.30

Relation of CRS scores in both genders was analyzed in respect of total number of children who scored positive in CBCL. The difference in boys and girls were not found to be significant. This is similar to the findings by Efron et al.31 and Malhotra and Patra.14

All the children who showed positive scores in tests were taken up for remedial treatment or referred for further follow-up as per target symptoms.

**CONCLUSION**

About 22.7% of children among the total study population were found to have behavioral problems such as anxiety, hyperactivity, argumentativeness, and perfectionist ideas during initial screening which needed attention. Boys showed more externalizing behavioral problems and girls more internalizing ones. There were no children with intellectual disability or pervasive developmental disorders although ADHD was noted and addressed. This finding is close to the findings of various western studies where up to a quarter of children have various mental health issues, but higher than the available Indian studies quoted – where a different vantage point and methodology may have been responsible.
This study emphasizes the need for periodic screening of children among schools for behavioral problems which may serve as early indicators of future psychopathology. Once a detailed assessment of behavioral problems is over, life skills training modules developed by the World Health Organization for schools may help schools in reducing the number of behavioral problems and development of psychopathology among children.

This study, however, has the following limitations:

- The study is a descriptive study, trying to find out the extent of various behavioral problems in school-going children. Participants may not be truthful or may not behave naturally when they know they are being observed
- Descriptive studies cannot be used to correlate variables or determine cause and effect
- Researcher bias may play a role in selection of the questionnaire and interpretation
- Findings may not be replicable in a different population
- Findings may be open to interpretation.

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Conflicts of interest
There are no conflicts of interest.

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