Indian J Pediatr 1988 ; 55 : 408-415

Prevalence of behaviour problems in Ajmer school children

Sarita Bhargava, O.P. Garg, Sunit Singhi, Pratibha Singhi and K.B. Lall

Department of Pediatrics, J.L.N. Medical College, Ajmer

In a questionnaire survey of 10,000 primary school children, parents and teachers reported behaviour problems in 38% of 6199 children on whom complete information was made available. Categorization of 3572 behaviour problems according to a modified APA-DSM II classification showed aggressive reactions to be the commonest (22·7%). This was followed by disorders of sleep (17·1%), unsocial aggressive reactions (15·5%), aggressive-regressive reactions (13·5%), regressive reactions (10· 7%), school grade problems (8·7%) and others. Significant influence of sex, age and socio-economic class was noted on the overall prevalence, and prevalence of specific behaviour problems. A general lack of awareness among the parents about the childhood behavioural problems was noticeable from the pattern of utilization of the pediatric outpatient services in the study area. There is a need to educate parents on behaviour of children and the significance of behavioural deviations.

Key words : Aggressive reactions; Behaviour problems; School children.

The behaviour of a child is variable and depends on biological, social and environmental factors. Because of this variability, it is difficult to label a particular behaviour as a problem. Behaviour problems have, therefore been defined as deviations from the 'accepted norms' of behaviour on the part of the child when he is exposed to inconsistent social and/or cultural environment.[1,2] These are not to be equated with the presence of psychiatric illness in the child; these are symptoms only or reactions to emotional disturbances or environmental stress.

Very few studies have been reported on behaviour disorders in Indian children. Most of these are confined to clinic or hospital data.[3-7] We could find only one community based study dealing with behaviour problems in children.[8] We therefore planned a study to find out the magnitude of behaviour problems among Ajmer school children and their psycho-socio-environmental correlates. The present communication deals with the prevalence date with respect to age, sex and socio economic class.

Material and Methods

The study was conducted by the Department of Pediatrics, J.L.N. Medical

Reprint requests : Dr. Sunit Singhi, Department of Pediatrics, Postgraduate Institute of Medical Education and Research, Chandigarh 160 012

College, Ajmer. Ten thousand children, aged 4-12 years, formed the study population. The sample was drawn from 25 primary schools for boys and girls, catering to different socio-economic strata of the population. The schools were selected in such a way as to give similar representation to both the sexes, and different socio-economic classes.

Information on the behaviour of the child was obtained from two sources parents, and teachers, as there is an established difference in perception of childhood behaviour problems between teachers and parents. Also parents are not likely to know much about their child's behaviour and interaction with other children in school. The teacher's report thus, has been shown to supplement information obtained from parents.[9] The information was collected on a set of pretested structured proformae. One proforma each was sent to all the parents through their children with an accompanying letter carrying instructions for filling the proforma. This proforma was printed in Hindi, contained 20 questions stand elicited simple traight forward and noncontroversial replies about the behaviour of the child at home. The other proforma which was given to teachers was printed in English, was more elaborate and elicited detailed replies about observed behaviour of the child in school. All the proformae were collected from schools after one week.

Only those children on whom information could be collected from both the sources were analysed further. The children were grouped according to age, sex and socio economic class[10] to study the influence of these major variables in determining the nature and frequency of behaviour problems.

Various behaviour problems were grouped according to the APA DSM II classification as modified by Kishore and Manchanda.[7] Statistical significance of frequency of behaviour problems in various groups was determined by chi-square test.

Since ours is the only hospital providing specialist pediatric services in the study area, a record was also kept of all the children brought to the pediatric outpatient service primarily for behaviour problems during the study period. This was done to find out the proportion of parents seeking medical attention for their child's behaviour problems. The problems so recorded were also grouped according to the modified APA-DSM II classification.

Results

6199 parents responded to the proforma within the stipulated time. The response rate was 70% for boys (3101/4590) as compared to 57% for girls (3098/5410) ($P<0{\cdot}001$). More than 80% parents (2690/3335) from poor socio-economic class (class IV and V) responded in contrast to 59% (2249/3815) from upper socio economic class (class I and II) ($P<0{\cdot}001$). Behaviour problems as reported by parents were present in 32·6% of (2026) children.

Teachers returned all the 10,000 proformae duly filled, but the data from only those 6199 children whose parents had responded, was analysed further. Teachers identified additional 350 children with behavioural problems, thereby bringing the overall prevalence of behaviour problems to 38·1% (2376/6199). Distribution of these 6199 subjects according to sex, age and socio economic class, and prevalence of behaviour problems in relation to each of the above characteristics is shown in Table I. Boys and some-

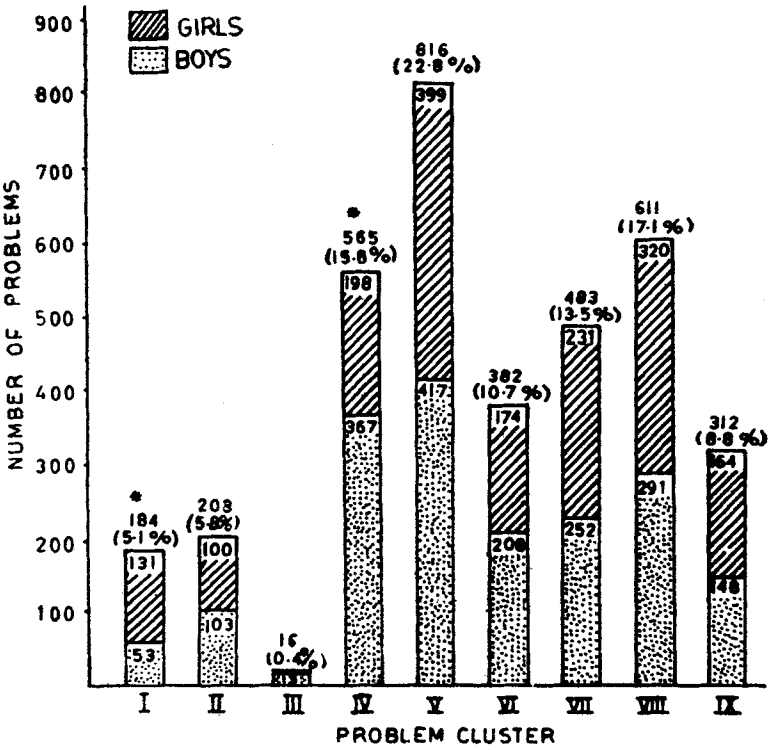

Fig. 1. Distribution of 3572 behaviour problems in different problem-clusters, in boys and girls. Figures in parentheses represent percentage of total problems. Key : (I) Withdrawal reactions, (II) monosymptomatic, (III) Runaway reaction, (IV) Unsocial Aggressive reactions, (V) Aggressive reactions, (VI) Regressive reactions, (VII) Aggressive-Regressive reactions, (VIII) Disorders of sleep, (IX) School grade problems.

what-higher prevalence of behaviour problems, as compared to girls ($P<0·001$), Also children in the age group 10-12 years and in the upper social class had higher prevalence of behaviour problems ($P<0·001$).

Out of 2376 children with problems, about 62% (1480/2376) had one problem, 28% (670/2386) had two and 9·5% (226/2376) had three or more problems.

Fig. 1 depicts the distribution of 3572 behaviour problems in different clusters. Aggressive reactions were the commonest, accounting for 22·8% of all the problems. This was followed by disorders of sleep (17·1%), unsocial aggressive reactions (15·5%), aggressive-regressive reactions (13·5%), and others. No case could be categorised as hyperkinetic reaction, delinquent reactions and over anxious reactions.

Age distribution. A total of 484, 1350, and 1738 problems were reported among children between 4-6 years, 7-9 years, and 10-12 years of age, respectively. Fig. 2 shows per cent prevalence of various types of behaviour problems in these age groups. Aggressive reactions were the commonest of all the problems, at all the ages, and

Table I. Overall prevalence of behaviour problems among Ajmer school children, as reported by parents and teachers, in relation to age, sex and socio-economic class

Characteristics	Total	Number of children with behaviour problem (%)	Total number of problems (rate/100 children)
Sex			
Boys	3101	1250 (40·3)*	1852 (59·7)
Girls	3098	1126 (36·3)	1720 (55·5)
Both	6199	2376 (38·3)	3572 (57·6)
Social Class			
Upper (I & II)	1260	522 (41·4)†	832 (66·0)
Middle (III)	2249	782 (34·3)	1141 (50·7)
Poor (IV & V)	2690	1072 (39·8)‡	1579 (58·7)
Age Group			
4-6 years	1054	318 (30·2)	484 (45·9)
7-9 years	2515	898 (35·7)	1350 (53·7)
10-12 years	2630	1160 (44·2)†	1738 (66·1)

*$p<0·01$, higher compared to girls; ‡ $p<0·001$, higher compared to other two subgroups; ‡$p<0·001$, higher compared to middle class

showed a significant increase with age ($P<0·001$). A significant increase with increasing age ($P<0·001$) was also seen in school grade problems and disorders of sleep ($p<0·001$).

Socio economic class (Fig. 2). In all the socio-economic classes aggressive reactions were the commonest. Unsocial aggressive reactions were most common among children from middle class; disorders of sleep in the upper class and school grade problems in the lower class. A significant decrease in aggressive regressive reactions was noted with lowering of socio economic status ($p<001$).

During the study period of five months, 21,480 children (13,600 boys and 7,880 girls) utilised the pediatric out patient services of JLN Medical College Hospital. Of these, only 412 children (264 boys and 148 girls) were brought primarily for complaints suggestive of some behaviour problem. Distribution of these problems in various problem clusters is shown in Table II. The commonest problem cluster seen was regressive reactions (168/412; 40·8%), of which enuresis was the most frequent (128/168; 76·1%). Next in order of frequency were the monosymptomatic reactions (34%), disorders of sleep (10%) and aggressive reactions (7%).

Discussion

The study provides some hitherto scarce, and important information on the epidemiology of behaviour problems among a large population of school children in India. This information is fairly reliable as it was sought from both parents

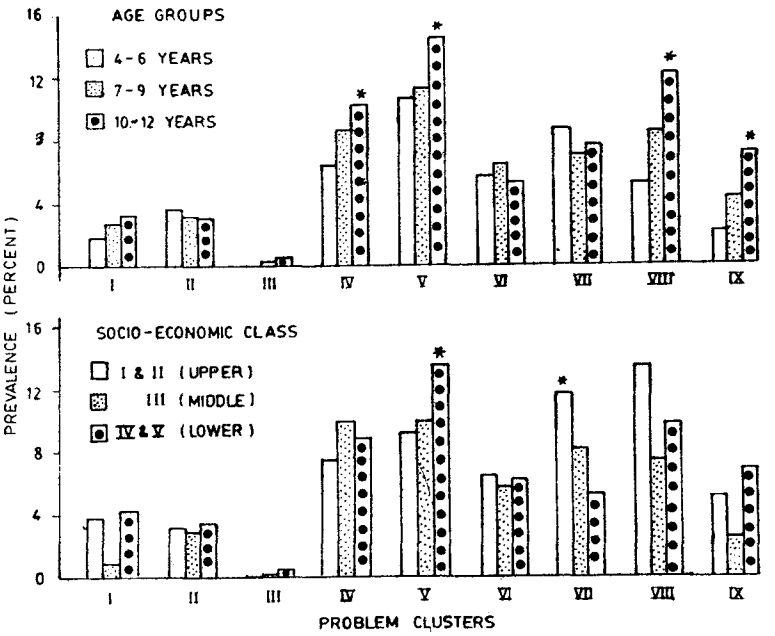

Fig. 2. Percent prevalence of various behaviour problems in different age groups and socio-economic classes. Asterix (*) denotes a significant trend ($p<0.001$). (For key see legends for Fig 1).

Table II. Sexwise distribution of behaviour problems seen in the pediatric outpatient department, during the study period

Problem	Total (%)	Boys (%)	Girls (%)
Monosymptomatic anxious reactions	142 (34·4)	84 (31·8)	58 (39·0)
Aggressive reactions	32 (7·9)	20 (7·5)	12 (8·0)
Regressive reactions	168 (40·7)	116 (43·9)	52 (35·1)
Disorders of sleep	40 (9·9)	24 (9·0)	16 (10·8)
School grade problems	30 (7·4)	20 (7·5)	10 (6·7)
Total	412 (100)	264 (100)	148 (100)

P value not significant for any group.

and teachers, and included children from all socio economic classes. We have no information on those children whose parents did not return the proformae, but we presume that they would not differ significantly from those whose parents responded. Though complete accuracy and objectivity cannot be claimed, we

tried our best to minimize subjectivity by eliciting straight forward, non-controversial 'yes-no' type of replies from a questionnaire proforma. Thus, what we are saying is that this is how the picture appeared to the informant or rather how they were willing to describe it.

No similar epidemiological data from India is available to make a meaningful comparison. The only epidemiological study available is the one conducted by Datta Banik et al[8] in Delhi school children, but in their paper, they did not calculate the overall prevalence, and used a very simple classification which divided all the problems in two groups : either conduct disorder or personality disorder. Studies from other countries also indicate a high prevalence of behaviour problems in pre-school children; about 10-12% in the study by Chazen and Jackson[11] and 22% in that by Richman et al.[12] Among UK school children prevalence has been reported in the range of 19% to 35%, and upto 41% in children of West Indian immigrants.[13,14] Similarly, high prevalence of behaviour problems has been reported in Sudanese,[15] Ethiopian[16] and Swedish children.

We observed a marginally higher prevalence of behaviour problems among boys (40·3%) as compared to girls (36·3%). Similar observations have been made by other workers also.[8,9,13–17] We feel that the apparent difference may be due to the usual overindulgence of Indian parents with sons, and their tendency to hide any deficiency among their daughters. Poorer response rate in this survey for girls also supports this assumption. Indeed in our culture "problem behaviour" is considered a bigger stigma in girls than in boys.

It is possible that boys are just more prone to behavioural deviations due to inherent biological conditioning. In fact, behavioural differences between boys and girls are known to exist even in early neonatal period. Studies on behaviour problems indicate that boys are more likely to be aggressive,[14] overactive,[11,12,18] jealous and competitive, not getting along well with others[11] and show unsocial behaviour[15,18] commonly. Girls in contrast are shy and timid,[11] fearful,[12,15,18] anxious over sensitive,[13] reserved and withdrawn, and fussy about food.[18] In our study withdrawl reactions were seen more frequently among girls (4·2%) than boys (1·7%). On the other hand unsocial aggressive reactions were seen more commonly among boys (19·8%) than girls (11·3%). Similar observations have been made by Kishore et al,[8] and in studies from UK, USA,[18] and Africa.[15,16] It is possible that the biological factor is operating here, as this male predominance has remained unaffected by culture or race.

The prevalence of behaviour problems showed an increase with increase in the age, from 30% at 4-6 years to 44% at 9-12 years of age. Similar finding has been reported by Cebarblad.[15] On the other hand, Macfarlane[18] reported a decline in number of behaviour problems with increasing age. Age also played an important role in determining the nature of behaviour problem. The prevalence of disorders of sleep and school grade problems showed a clear increase with the age.

The overall prevalence of behaviour problems was lowest in the middle class and highest in the children belonging to upper class. This is similar to the observations made by other workers in India[3,7,8] and abroad,[13,14] however, Richman et al[12] did not find any social class related differences. This social class related difference in the prevalence may partly be due to

better balanced home environment and increased attention to children in our middle class families, children from these families have lesser number of behaviour problems. Indeed, personality adjustment, performance of children from middle class has been shown to be significantly better than those from upper and lower social classes.[17]

Socio-economic class, also appeared to influence the nature of childhood behaviour problems. Disorders of sleep were most common in the upper social classes. Constant pressure on upper class children to live upto the expectations of parents and teachers, and inconsistent discipline among such families, where parents tend to be authoritative might be contributory factors. Aggressive reactions (food fads being the commonest) were also most common in the upper socio economic class and showed a gradual decrease with declining socio economic status. Children in lower socio economic status had less food fads, probably they have to get satisfied with whatever they get. School grade problems were commonest in lower socio economic class. This may be attributed to poorer facilities in such households, and lack of proper attention by parents who are preoccupied with earning a living. Also, in the poorer households, boys are expected to help parents in earning a living and girls are expected to help their mothers in domestic chores. Going to school and completion of home work are secondary. Unsocial aggressive reactions were reported most frequently in children from middle class. Whether this increase in actual or apparent only, because of less permissiveness for such acts in middle class families, is difficult to comment.

The commonest behaviour problem seen in our sample was aggressive reaction. The prevalence of the problem remained unaffected by sex or socio economic status. This is somewhat different from the pattern reported elsewhere. Most of the past studies indicate a higher prevalence of such problems in boys.[11,15,18] In our culture qualities like obedience, passivity and conformity receive a high premium. It is likely, therefore, that because of preferential concern of parents and teachers for above values aggressive feactions were perceived more frequently.

Inspite of a 38% prevalence of behaviour problems in the community, only 1·9% of all the children attending pediatric outpatient clinic during the study period of 5 months had been brought primarily for behaviour problems. None of the children were consulted or unsocial aggressive reactions. This suggests that most of the parents were either ignorant of the significance of behaviour problems or were not concerned about the problem behaviour of their children. Therefore, there is a definite need to educate the parents, and would be parents, about normal behaviour of a child and the significance of behavioural deviation through more professional interest by sociologist and psychologists.

References

1. Anantasi A. *Differential psychology*, 3rd ed., New York, McMillian Co., 1958
2. Verma R. Behaviour problem in children and problems of exceptional child. *Child Development* Delhi, NCERT 1964 p 176,
3. Bassa DM. An analysis of cases attending child guidance and psychotherapy centres. *Indian J Psychiatr* 1962; 4 : 139-144
4. Chacko R. Psychiatric problems in children. *Indian J Psychiatr* 1964; 6 : 147-152

5. Raju VB, Sundervalli N, Somasunderam O, Veeraraghavan G. Neurotic disorders in children. *Indian Pediatrics* 1969; **6** : 296-301
6. Teja JS, Verma SK, Shah D. A study of childhood emotional problems in India. Paper presented at the second convention of All India Association of Clinical Psychologists, Lucknow 1970
7. Kishore B, Jain CK, Manchanda SS. Behaviour disorders of childhood and adolescence. *Indian J Psychiatr* 1972; **14** : 213-221
8. Datta Banik ND, Nayer S, Krishna R and, Raj L. Behaviour problems of primary school going children. *Indian Pediatr* 1972; **9** : 757-761
9. Mitchell S and Rosa P. Boyhood behaviour problems as precursors of criminality. A fifteen year follow-up study. *J Child Psychol Psychiatr* 1981; **22** : 19-33
10. Prasad BG. Proposed changes in social classification of Indian families. *J Indian Med Assoc* **455** : 198-199
11. Chazen M and Jackson S. Behaviour problems in the infant school. *J Child Psychol Psychiatyy* 1971; **12** : 191-210,
12. Richman N, Stevenson JE and Graham PJ. Prevalence of behaviour problems in 3 years old children in a London Borough. *J Child Psychol Psychiatr* 1975; **16** : 277-287
13. Rutter M, Yule W, Berger M, Yule B, Morten J, Bagley C. Children of West Indian immigrents. *I. J Child Psychol Psychiatr* 1974; **15** : 241-262
14. Graham P and Rutter M. Psychiatric disorders in young adolescents : a follow up study. *Proc R Soc Med* 1973; **66** : 1226-1229 :
15. Cedarblad M. A child psychiatry study on Sudanese Arab children. *Acta Psychiatr Scand* 1968 **200** (Suppl) 1-239
16. Giel P, Bisham M and Van Luijk JN. Behaviour disorders in Ethiopian children. *Psychiatr Neurol Neurochir* 1969; **72** : 395-400
17. Hoch ME. *Indian children on psychiatric playground.* New Delhi, ICMR p 10, 1967
18. Macfarlane A. Development study of the behaviour problems of normal children between 21 months and 14 years. California, Berkley University Press, 1954