PSYCHIATRIC MORBIDITY AMONG RURAL PRIMARY SCHOOL CHILDREN IN WEST BENGAL

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ABSTRACT

Psychiatric morbidity in primary rural school children (n=460) was studied with the use of Rutter-B-Scale, a screening instrument. Overall prevalence was found to be 33.3 percent. Conduct disorder was found to be the commonest diagnostic category with a prevalence rate of 13.5%. This was followed by mental retardation with a rate of 5.4%, enuresis 4%, simple disturbance of activity and attention 3.1%, and relationship problem 2.7%. The results have been discussed in a cross-cultural perspective.

Key Words : Mental morbidity, school children, rural area

Although children under 15 yrs. of age constitute about 40 to 50 percent of the population of the developing countries, child psychiatry in these countries has shown significant development only in the past two decades (Nikapota, 1991).

Epidemiological studies in India in both rural and urban setting have shown wide variation in the prevalence rate of psychiatric disorders in children (Sethi et al., 1967,1972; Varghese & Beig 1974; Nandi et al., 1975; Lal and Sethi, 1977).

However, epidemiological studies in school children in Indian setting are few in number. Prevalence rate of 20 to 33 per cent of psychiatric disorders in school children has been reported in Indian setting (Jiloha and Murthy, 1981; Deivasigamani,1990). This is quite high in comparison to the recently reported prevalence rate of 12 to 14 percent in school children of some developed countries like Japan and France (Suzuki et al., 1990; Fombonne, 1994).

The present study was undertaken to estimate the prevalence rate of psychiatric disorders in primary school children in a rural setting and its association with some demographic variables.

MATERIAL AND METHOD

The study was undertaken during the year 1990. All children between 8 to 10 yrs. of age (n=460) from all the four primary schools within a radius of five kilometres from a primary health centre in Arambag sub-division of the district of Hoogly, West Bengal, were included in the study.

In the first stage all of these children were screened by Rutter's -B- Scale (Rutter, 1967). It is a questionnaire to delineate the deviant behaviour in children and is to be used by teachers. It has been used in different cultures and has been found to have a high yield. For the present study, cut off score of 17/18 was accepted on the basis of a previously conducted validity study of this scale in rural school children. With this cut off score of 17/18, the validity indices of the scale were found as follows: sensitivity 85%, specificity 91%,

positive predictive value 85% and overall misclassification rate 11% (Banerjee et al., 1987- unpublished). Each item in the Rutter's Scale and the method of scoring each item was explained to the teachers who participated in the study. Any confusion in respect of any item in the questionnaire was clarified.

Out of total number of 460 children between 8 to 10 yrs. of age, 125 were found to be above cut off score. All these childen were selected for subsequent clinical examination along with parental interviewing. Parents of 105 children of this group were availabe for interview and these children were included in the final analysis. From the children whose score were below the cut off point, 125 children were picked up through stratified random sampling. Of these 125 children, parents of 117 could be interviewed and these children were included in the final analysis. Thus the total number of children for final assessment became 222 (105 + 117). The parental interviewing of these 22 children were carried out by the same psychiatrist in all the cases through a semi-structured interview schedule based on those used in Maudsley Hospital, London, and NIMHANS, Bangalore in our country, with some modifications (Mukherjee, 1983). Clinical interviewing of the child was also carried out. A clinical diagnosis was made according to ICD-9 (WHO, 1978) wherever possible. The diagnosis was made taking into consideration the findings of the parental interviewing and examination of the child. Statistical analysis of the data was done. Standard X^2 test was employed for the test of significance.

RESULTS

Table 1 shows the age and sex distributiuon of the sample. Boys constituted 61.3 per cent of the total sample. In all age groups, males outnumbered females but the relative proportion were almost the same in each of them.

TABLE 1
AGE AND SEX DISTRIBUTION OF THE SAMPLE

Age (in years)	Male	Female
8	59(60.8)	38(39.2)
9	46 (60.5)	30 (39.5)
10	31 (63.3)	18 (36.7)
Total	136 (61.3)	86 (38.7)

$X^2 = 0.11$, d.f. = 2, N.S.

Figures in parenthesis are percentages caluclated horizontally

Table 2 shows that out of 105 children above cut off score, 56(53%) were found morbid whereas only 18 out of 117 (15%) below cut off score were morbid.

TABLE 2
PSYCHIATRIC MORBIDITY ABOVE AND BELOW CUT OFF SCORE

	Above cut off score (n= 105)			Below cut off score (n = 117)			Total
	Male	Female	Total	Male	Female	Total	
Morbid	45 (55.6)	11(45.8)	56 (53.3)	12 (21.8)	6 (9.7)	18 (15.4)	74 (33.3)
Normal	36 (44.7)	13 (64.2)	49 (46.7)	43 (78.7)	56 (15.4)	99 (84.6)	148 (66.7)
Total	81	24	105	55	62	117	222

Figures in parenthesis are percentages

Table 3 shows that the morbidity in the sample was 33%. Morbidity was higher in males (41.9%) than females (19.8%) and this difference was statistically significant.

TABLE 3
PSYCHIATRIC MORBIDITY BY SEX

	Male (n=136)	Female (n=86)	Total (n=222)
Morbid	57 (41.9)	17 (19.8)	74 (33.3)
Normal	79 (58.1)	69 (80.2)	148 (66.7)

X^2 = 10.63, df =1, P< 0.001

Percentages are in parenthesis

TABLE 4
DIAGNOSTIC BREAKUP OF THE MORBID, STOCK AS PER ICD - 9 CATEGORIES (N=74)

ICD - 9 Code		Male	Female	Total
307.0	Stammering	3 (5.3)	-	3 (4.1)
307.6	Enuresis	5 (8.8)	4 (23.5)	9 (12.2)
307.9	Others (thumb sucking, nail biting, etc.)	3 (5.3)	1 (5.9)	4 (5.3)
312.	Conduct disorder	24 (42.0)	6 (35.3)	30 (40.5)
314.0	Simple disturbance of activity and attention	6 (10.5)	1 (5.9)	7 (9.5)
314.2	Hyperkinetic conduct disorder	3 (5.3)	-	3 (4.1)
313.3	Relationhip problems (sibling jealousy)	5 (8.8)	1 (5.9)	6 (8.1)
317-319	Mental retardation	8 (14.0)	4 (23.5)	12 (16.2)
Total		57	17	74

Figures in parenthesis are percentages

Table 4 shows the diagnostic break up.

Conduct disorder was the commonest (40%) followed by mental retardation (16%) and enuresis (12%).

TABLE 5
PREVALENCE OF DIFFERENT CATEGORIES OF PSYCHIATRIC DISORDERS AS PER ICD-9 IN THE SAMPLE

ICD - 9 Code		Male	Female	Total
307.0	Stammering	3 (2.2)	-	3 (1.4)
307.6	Enuresis	5 (3.7)	4 (4.6)	9 (4.0)
307.9	Others (thumb sucking, nail biting, etc.)	3 (2.2)	1 (1.2)	4 (1.8)
312	Conduct disorder	24 (17.6)	6 (6.9)	30 (13.5)
314.0	Simple disturbance of activity and attention	6 (4.4)	1 (1.2)	7 (3.1)
314.2	Hyperkinetic conduct disorder	3 (2.2)	-	3 (1.4)
313.3	Relationhip problems (sibling jealousy)	5 (3.7)	1 (1.2)	6 (2.7)
317-319	Mental retardation	8 (5.9)	4 (4.6)	12 (5.4)

Figures in parenthesis are percentages

Table 5 shows the prevalence of different categories of psychiatric disorders in the sample. Total prevalence in the sample was found to be 33.3 per cent. Category-wise prevalence rate of conduct disorder was the highest (13.5%) followed by mental retardation (5.4%) and enuresis (4%).

DISCUSSION

More than 50 percent of those above cut off score were found to be morbid whereas only

15 percent from below cut off score had morbidity (table 2).

Prevalence rate of psychiatric disorder was found to be 33.3% in the current sample of school children aged 8 to 10 yrs (table 3). Males were more affected (41.9%) than females (19.8%) and this difference is statistically significant (table 3). Varied prevalence rates of psychiatric disorders in school children have been reported in our country. While Deivasigamani (1990) found a prevalence rate of 33.7%, Jiloha and Murthy (1981) reported it to be 20.7%. The present study reported a more or less similar rate of prevalence (33%). This rate is similar to that found in a recent study in southern India by Chandra et al. (1993), this study reports a prevalence rate of mental disorders in children above 5 years of age attending a general paediatric department to be 33 percent.

Epidemiological studies carried out in both rural and urban India show a much less prevalence rate in children varying between 80.9 and 25.9 per thousand in rural setting (Sethi et al., 1972; Nandi et al., 1975) and between 94.4 to 172.7 per thousand in urban setting (Sethi et al.,1967; Varghese and Beig, 1974; Lal and Sethi, 1977).

However, in a study conducted in four countries based on primary health care setting in Sudan, Columbia, India and Philippines, a prevalence rate of 12-29% for child psychiatric disorders has been reported (Giel et al., 1981).

In cross cultural perspective the prevalence rates of psychiatric disorders in school children have consistently been lower in developed countries than the studies in India including the present one. In a community sample study of 2441 French school-aged children by Fombonne (1994), the overall prevalence rate among 8 to11 year olds was estimated to be 12.4%. Prevalence was higher in boys (15.0%) than in girls (9.5%). In a study by Morita et al. (1993) in Japanese secondary school children using Rutter's Teachers and Parents Questionnaire and Diagnostic Interview,

the prevalence estimate was 16% for the 12-13 years old and 14% for the 14-15 year old children (ratio of morbidity among boys and girls 2.4:1). In another epidemiological survey of psychiatric disorders in Japanese school children, overall prevalence was found to be 14.8% (20.1% for males, 8.3% for females) (Suzuki et al., 1990). Controlled studies of school children in different situations of urban Uganda (Minde, 1975), Beijing (Yu-Feng et al., 1989) and Hongkong (Luk et al., 1988) have demonstrated that rate of behavioural problems in children is very close to that observed in studies in developed countries. But rate found in studies from India is quite high in comparison to that in developed countries.

Diagnostic break up of the morbid group as per ICD-9 categories shows that conduct disorder is the commonest diagnosis (30 out of 74 cases - 40.5%) followed by mental retardation (16.2%), enuresis (12.2%), simple disturbance of activity and attention (9.5%) and relationship problems (8.1%) (table 4).

Corresponding prevalence rates in the total sample (N=222) for these categories are conduct disorder 13.5%, mental retardation 5.4%, enuresis 4%, simple disturbance of activity and attention 3.1% and relationship problems 2.7% (table 5).

Roughly equal prevalence rates of disruptive and emotional disorders (6.5% and 5.9%) have been reported in study by Fombonne (1994). Conduct disorder was found more frequently in boys than girls in a study of Japanese school children by Morita et al. (1993). In the present study conduct disorder is found more in boys (42%) than in girls (35%) (table 4). Though there is difference in the extent of psychiatric morbidity in school aged children in developed and developing countries (rate being lower in developed countries). the pattern of morbidity shows some similarities.

Preponderance of conduct disorder in boys is a widely reported phenomenon across cultures. Apart from this difference there may be a difference in norm of acceptable standard

of behaviour in boys and girls. Disinhibited behaviour in boys is, as a rule tolerated, while in girls it is discouraged. This dichotomy in the standard of socially accepted behaviour might be at the root of this gender difference in behaviour when measured by rating scale.

While enuresis has been the commonest category in different studies in school children between the prevalence ranging between 8.8% and 14.3% (Jiloha and Murthy, 1981, Deivasigamani, 1990), in the present study the rate is quite low (4%) coming next to conduct disorder and mental retardation in this order. Premarajan et al. (1993) in their study of prevalence of psychiatric morbidity in an urban community of Pondichery also observed enuresis as the commonest psychiatric disorder in children. Urban school children between 8 and 11 years of age were included in the study by Deivasigamani (1990) and the present study included rural school children between 8 and 10 years of age. Premarajan et al. (1993) in their study of urban community of Pondichery included all children upto 12 yrs. of age and nocturnal enuresis was the commonest disorder (4%). However, 82% of all cases were found in children between 6 and 12 yrs. of age. This difference in rates of enuresis may be attributed to the characteristics of these samples. Tolerance of the symptoms, stressful life events, institutional upbringing, early toilet training - all these factors which are again related to socio-economic and cultural background, vary in rural and urban setting. And these factors may have bearing in determining the prevalence rate of enuresis.

Prevalence rate of mental retardation (5.4%) in the present study is almost same like that (5.9%) in study by Jiloha and Murthy (1981) but higher than that (2.9%) reported by Deivasigamani (1990). This difference, though not very wide, might be due to differences in two samples. Rural school children constitute the sample in the present study whereas it is urban school children in the other. The

selection procedures for students in these two types of school, might have a bearing on it. The prevalence rate of conduct disorder (13.5%) in the present study is very close to that (11.1%) in the sudy by Deivasigamani (1990). Apart from these common categories of illness, stammering and hyperkinetic conduct disorders were also detected in the sample under study. They accounted for 8.2% of the morbid stock (table 4). Although some difficulties in respect of reading, writing and arithmetic skills were noted in few children, they could not merit inclusion in specific category of learning disorder. Indeed the extent and pattern of morbidity in the sample under study is rather high.

Results obtained from more comprehensive studies done in the community and in school setting by valid rating scales may arouse some of us from the complacency of the notion that mental morbidity in the school going children in India is rather low. The substantial rate of morbidity of children as obtained by these studies will enjoin upon our planners and policy makers to devise means for the promotion of positive mental health and prevention of morbidity in children.

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