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ESTIMATE OF MENTAL ILL HEALTH IN CHILDREN OF AN URBAN COMMUNITY*

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The development of psychiatry is of recent origin in this country. Much of the attention has, however, been directed towards adult psychiatry and attention paid to the emotional health of the child has been a nominal one. According to Singh (1971) only 66 child guidance clinics are functioning all over the country. In addition, fifty special schools and institutions meant for mentally retarded children are operating in India (Kulkarni 1966). Although the exact number of children suffering from emotional problems is not known, an estimate has been arrived at which indicates that the incidence in children is fairly high (Sethi *et al.* 1972, Sethi et al. 1974, Verghese and Beig 1974, Dube 1967, 1970). Furthermore a large number of these psychiatrically disturbed children has been found to be suffering from mental retardation (Sethi *et al.* 1972, Sethi *et al.* 1974, Dube 1967, 1970). Several large scale field and clinical studies have been conducted in which the prevalence of mental disorders in the rural and the urban population has been determined, however a comprehensive report with particular focus on the emotional illhealth of children is missing. It, therefore, occurred to us to make an attempt to explore the incidence of emotional problems in children in an urban population. The present report deals with the period prevalence in a section of the local urban population, and the pattern of childhood emotional illnesses along with related factors.

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The Sample

Of 152 families in the corporation flats of Napier Road I and II, 109 had one or more than one child up to the age of 12 years, as their members. These 109 families comprised the sample. They were contacted and a research team consisting of a psychiatrist, a clinical psychologist and social worker evaluated each of these families on the spot. Information regarding the family was obtained from the mother and was recorded on a structured proforma. These 109 families consisted of 272 children who were studied in detail. In addition to a chronological history, each child was subjected to a clinical interview. The I.Q. was estimated by the Stanford Binet Test. The nutritional status of the children was assessed

by height (head to heal in the standing position without shoes) and weight measurement, and clinical signs of nutritional deficiency were looked for. Each family was visited twice, once at the time of initial evaluation and then at the end of 30 days.

Results

A period prevalence of 356/1000 for childhood disorders is estimated (Table 1) from this study. The prevalence of different diagnostic groups is given in Table 2 which reveals that mental retardation remains the largest diagnostic group and a majority of the mentally retarted was in the border line group (Table 3). The distribution of the I.Q. of the remaining children above $2\frac{1}{2}$ years of age (Table 4) revealed that a majority of children who were not retarded possess average intelligence. Sociodemographic variables of the surveyed population included the analysis of sex, age, education, family size and family type for the sick population (Table 5). 1.2% cases reported physical manifestations during pregnancy (Table 7A). The responses of the mother for stresses during pregnancy are listed in Table 6 and a detailed analysis of stresses is listed in Table 7B. It is revealed that 34.1% of the mothers did report a positive history about such stresses and 9 children (10%) born of such pregnancies were sick. Nutritional status on the basis of height and weight revealed that 9 male and 12 female children were less than the 26 limit of the all India means (I.C.M.R. 1968) for all age groups put together, and 2 males and 3 females were psychiatrically sick. Similarly, on the basis of weight, 6 males and 3 females were less than the 26 limit of the all India means (I.C.M.R. 1968) for all weight groups put together, out of which 2 males and 3 females were psychiatrically sick.

38 cases (13.9%) of the sample had delayed milestones out of which 19 cases (50.0%) were found to be sick (Table 8 A, B, C). A large number of neurotic traits before the age of 5 years in the children was reported by the mothers (Table 9).

Table 1. *Period prevalence*

Item	Number
Total no of flats (A-52, B-36, C-108)	196
Flats occupied by hostel + school	31
Flats locked and vacant	17
Flats available for survey	148
Number of family units in 148 flats	152
Families without or with children above 12 years of age	43
Families with children up to 12 years	109
Number of children up to 12 years	272
Psychiatrically sick children	97
Period prevalence (1 month)	35.6%

Table 2. *Diagnostic break up*

Diagnosis		Number	Percentage
Subnormality		43	15.8
Subnormality with neurotic behaviour		14	5.1
Subnormality with organic brain- psychosis		1	0.3
Neurotic and allied disorders		30	11.0
Hyperkinetic reaction	6		
Hysteria	1		
Nail biting	2		
Thumb sucking	5		
Night terrors	4		
Somnambulism	1		
Runaway reaction	2		
Temper tantrum	3		
School maladjustment	2		
Emotionally unstable	2		
Other (transient reaction and speech disorders)	2		
Enuresis		7	2.5
Anti-social-personality		2	0.7
No psychiatric illness		175	64.6
Total		272	100.0

Table 3. *Degree of Mental retardation**

I.Q.	Number of cases
68—83 (Borderline retardation)	50
52—67 (Mild retardation)	4
35—51 (Moderate retardation)	4
Total	58

*Classification of degree of retardation is based on D.S.M. II of A.P.A.

Table 4. *Classification of I.Q. of 132 Healthy Children*

I.Q.	Male (N=68)	Female (N=64)
84—90	20 (29.4%)	16 (25.0%)
91—100	12 (17.6%)	14 (22.7%)
101—110	20 (29.4%)	22 (33.7%)
111—120	8 (11.8%)	6 (9.3%)
121—130	5 (7.4%)	2 (3.1%)
131—140	3 (4.4%)	4 (6.2%)

N=Number

Table 5. *Socio-demographic.*

	Total (N=272)		Sick (N=97)			Total (N=272)		Sick (N=97)	
	N	%	N	%		N	%	N	%
Sex					*Religion*				
Male	135	49.7	52	53.7	Hindu	219	80.5	73	75.3
Female	137	50.3	45	46.3	Muslim	51		24	24.7
					Christian	2		—	—
	x^2=0.61, d.f.=1, N.S.					x^2=1.71, d.f.=1 N.S.			
Family Type					*Size*				
Joint	62	22.8	22	22.7	Up to five	115	42.3	43	44.3
Unitary	210	77.2	75	77.3	Six & above	157	57.7	54	55.7
	x^2=.001, d.f.=1, N.S.					x^2=0.17, d.f.=1 N.S.			
Income (Rs.)					*Education*	N=(172)		(N=72)	
0—150	241	88.6	89	91.7	Nil	20	11.9	8	11.1
Above 150	31	11.4	8	8.3	Up to V	83	48.2	34	47.2
					Above V	69	39.9	30	41.7
	x^2=0.95,d.f.=1, N.S.					x^2=0.11, d.f.=2 N.S.			
Age					*Caste*				
Up to 6	107	39.3	52	53.3	Schedule caste	40	14.7	12	12.4
Above 6	165	60.7	45	46.7	Other caste	232	85.3	85	87.6
	x^2=8.28, d.f.=1, $p < .01$					x^2=0.42, d.f.=1 N.S.			

* Children up to 5 years were excluded

Table 6. *Emotional stresses during pregnancy.*
(Total No. of pregnancies=270)*

Replies given by mother	No.	Percentage
Does not recollect	102	37.8
Denied any stress	76	28.1
Positive history of emotional stresses	92	34.1

* Out of 272, two children were dropped as they were adopted.

Table 7A. *History of physical illnesses during pregnancy.*
(N=270)

Physical factors	No.	Percentage
Drugs	1	0.4
Prematurity	1	0.4
Anti-partum haemorrhage	1	0.4
Nil	267	98.8

Table 7 B. *Nature of stresses during pregnancy.*
(N=92)

Nature of Stresses*	No.	%
Family maladjustment	23	25.0
Marital disharmony	3	3.3
Death in the family	7	7.6
Death of husband	1	1.1
Fear of having female child	33	35.8
Unwanted pregnancy	16	17.4
Miscellaneous	9	9.8

* There was more than one stress during 11 pregnancies but the most prominent one as perceived by the mother was tabulated.

Table 8 A. *Delayed milestones.*

	N	%
Present	38	13.9
Absent	234	86.1
Total	272	100.0

8 B. *Psychiatric illness in children having delayed milestones.*

Illness	N	%
Mental retardation	11	29.9
(Moderate = 4)		
(Mild = 2)		
(Border line = 5)		
Enuresis	5	13.2
Hyperkinetic reaction	2	5.2
Night terror	1	2.6
No psychiatric illness	19	50.0
Total	38	100.0

8 C. *Psychiatric disorder in children with delayed and normal milestones.*

	Delayed Milestones N	%	Normal Milestones N	%	Total N	%
Psychiatric disorder	19	50.0	78	33.3	97	35.7
No psychiatric disorder	19	50.0	156	66.7	175	64.3
Total	38	100.0	234	100.0	272	100.0

$x^2 = 3.96$, d.f. = i, $p < 0.05$

Table 9. *History of neurotic traits up to 5 years of age.*

	Healthy children (N=175)		Sick children (N=97)		Total (N=272)	
	M	F	M	F	M	F
Grinding of teeth	3	—	1	1	4	1
Temper tantrum	6	3	3	—	9	3
Nail biting	5	2	3	1	8	3
Thumb sucking	16	6	2	1	12	7
Irritability	2	4	3	—	5	4
Night terrors/Nightmares	6	1	—	—	6	1
Secondary enuresis	3	—	1	1	4	1
Talking in sleep	—	3	1	—	1	3
Disobedience	1	—	—	—	1	—
Quarrelsome	—	1	—	—	—	1
Somnambulism	—	—	—	1	—	1

Clinically, 28 children (10.3%) were found with signs of nutritional deficiency of which 12 children (4.4%) were sick (Table 10).

Discussion

Studies on the clinical incidence of different behavioural disorders in children are available from India (Marfatia 1966,

Table 10. *Malnutrition on the basis of clinical examination.*

	Total sample (N=272)		Sick children (N=97)					
	Nutritional deficiency (Clinically)		Subnormality (N=58)		Enuresis (N=7)		Neurotic symptoms (N=30)	
	N	%	N	%	N	%	N	%
Present	28	10.3	10	20.8	1	16.60	1	3.3
Absent	244	89.7	48	79.2	6	83.4	29	96.7

Nagraja 1966, Manchanda *et al.* 1969, Kishore *et al.* 1972). Analysis of the studies by Marfatia (1966) and Nagraja (1966) are uniform in reporting that mentally retarded children comprise the major load of work in such clinics. Our observation is also along similar lines (Lal *et al.* 1976). It is significant that a high prevalence of mental retardation in the general population has been reported by a number of authors (Marfatia 1966, Sethi *et al.* 1972; Sethi *et al.* 1974, Dube 1967). Marfatia (1966) estimated 13,000,000 mentally retarded in this country in comparison to 5 5 millions in the U.S.A. and 300,000 in England and Wales, while Gupta and Sethi (1970) estimated 2 millions mentally retarded in the state of Uttar Pradesh.

The present study also revealed period prevalence of mental retardation as 213.6/1000. Such a high figure in comparison to other Indian studies (Sethi *et al.* 1972, Sethi *et al.* 1974, Gupta and Sethi 1970) is mainly because in other studies each child was not subjected to I.Q. evaluation on psychometry, thus many border line cases could have been missed. A number of factors must contribute towards such a high occurrence of mental retardation in Indian children. Malnutrition, poverty, and poor prenatal care, lack of medical facilities for gynaecological help, poor nutritional status of mothers and repeated pregnancies with short spacing, are some of the outstanding ones. Another important factor is poor availabilty of education and developmental opportunities in the lower economic classes of the Indian masses, a conclusion which could be drawn from observations made by almost all Indian investigators, that mental retardation is more frequent than other psychiatric disorders of children among the lower economic strata. Exact estimation of I.Q. and categorisation in different groups is a difficult task under existing facilities and tests available. Malin (1968) in an excellent review had drawn the attention of Indian clinicians towards this problem, but no substantial advancement has been made in this direction. I.Q. estimation of our sample revealed that a majority of children in the healthy group possess only average intelligence.

Aetiological evaluation in field studies is a difficult task mainly because of a large number of laboratory tests involved in this procedure. Most of the information available on the subject is obtained by correlation of events rather than by experimental proof (Marfatia 1972). Marfatia (1972) investigated all the possible areas in this connection, but as the sample was small and selective, no definite conclusion could be drawn, although 42% of cases were in the genetic or probably genetically predisposed group. Nagraja (1966) observed that cases of mental retardation with idiopathic origin are in a minority, and cases with known causes formed a large series which could be prevented if detected in time. In this report observations are drawn by correlation of events and not by experimental proof. On the other hand in a well conducted study (Sethi *et al.* 1973), 66% cases had primary mental retardation. Attempts were made to correlate the illness with factors of aetiological significance which revealed that factors like ingestion of drugs, physical illness, psychological stress during pregnancy, malutrition, congenital defects and subsequent physical illness had very little to do with the causation of mental retardation. Family history had

not been in favour of genetic predisposition. Similarly, no significant correlation could be established between these factors and other emotional disorders.

On analysis of socio-demographic variables revealed that mental retardation occurs in the lower economic class, a finding reported by other investigators and that neurotic disorders such as conversion and enuresis are found more in the middle classes. The entire sample is over-dominated by the lower class, which has no particular relevance as more than two-thirds of Indians are living below the poverty line.

Summary

This study was conducted in an urban locality to determine the psychiatric morbidity in children up to 12 years of age. All 109 families having children up to 12 years of age were studied. The results revealed a period prevalence of psychiatric morbidity in these children of 356 per 1000. Further more, mental subnormality, either alone or in association with neurotic behaviour or organic brain syndrome, formed the largest diagnostic category. A large number of neurotic and allied disorders was also observed but there was complete absence of functional psychosis. Out of those who were mentally retarded a majority had only borderline retardation and a majority of healthy children possessed an I.Q. between 91-120. A comparison of socio-demographic variables of the total and the sick population revealed that children above 6 years of age were more frequently sick ($p<0.01$). Analysis was made of the physical and emotional stresses during pregnancy, psychiatric disorders in the children having delayed and normal milestones, and neurotic traits up to 5 years of age along with malnutrition in association with psychiatric disorders in these children.

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