SPEECH AND HEARING PROBLEMS AMONG THE MENTALLY RETARDED

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Relatively few studies have been carried out in our country which throw light on the prevalence of communication disorders among Indian children. But this is felt to be an important area for survey as it would indicate the statistics about number of cases requiring diagnostic and therapeutic services in that orientation.

One of the early studies which covered a sample of 320 mentally retarded children showed that 45 per cent of them had speech defects and that speech defects were more prevalent among the severely sub-normal group than the sub-normal group (G. G. Prabhu, 1968). In another study, an analysis of a total of 300 cases of intellectually retarded, drawn from lower income groups, belonging to the age group 0-20 years (Gupta, 1970) showed a ratio of male to female as 2:1 and that speech defect was one of the main reasons for psychological consultation. 65 per cent of these children had speech defects. Shah *et al* 1970) studied 133 cases of mentally retarded from a clinical population and brought out the fact that dull-mindedness and speech difficulty were the frequently mentioned complaints. Speech defects were presented by 82 per cent of the whole group.

This study is a part of a larger research project on Mental Retardation (Bharathraj, 1973). The speech and hearing problems observed among the 300 cases of mental sub-normality have been highlighted here. These 300 cases were the consecutively registered cases at the out-patient departments of the Hospital for Mental Diseases, Ranchi and the All India Institute of Speech and Hearing, Mysore during the years 1966-1972. After ascertaining that the samples of cases from these two places did not show statistically significant difference (Means, Standard Deviations of samples); both these groups were treated as one single sample. The age range of cases was from 1 year 9 months to 25 years. There were 197 males and 103 females.

Each case was assessed on one or more of the five psychological tests depending upon age, level of co-operation, the child's handicap, etc. Three of the tests were Indian adaptations. The tests used were Seguin Form Board (SFB) of which Indian Norms were available (Bharathraj, 1971), Tredgold's Normal

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.Developmental Data (Tredgold, 1976), Gessell's Developmental Schedule., Malin's Indian Adaptation of Vineland Social Maturity Scale (Malin, 1966) and Kamath's Revision of the Binet Scale (Kamath, 1963).

Table 1 presents the different tests used in the study.

1. Seguin Form Board	Indian norms available
2. Tredgold's Normal Developmental Data	
3. Gesell's Developmental Schedule	
4. Vineland Social Maturity Scale	Indian Adaptation by Malin
5. Kamath's Revision of Binet Scale	Indian Adaptation by Kamat

These different tests showed significant positive inter-correlations among themselves. Thurstone's Centroid Technique was tried on the matrix of correlations. The factor analysis of the correlation table yielded one factor with much loadings which may perhaps be called General Mental Ability.

TABLE 2. shows the intercorrelations among tests

	S.F.B.	Tredgold	Gesell	Vineland	Kamath
S.F.B.		0.67	—	0.79	0.79
Tredgold			0.85	0.96	0.94
Gesell				0.84	0.85
Vineland				"	0.92
Kamath					

For each case, mental age, developmental age, or social age was derived independently on each test and the overall mental age was obtained by averaging and was then converted into IQ's. The criterion for inclusion of the cases under study was that the case must have an IQ of 85 or less. Depending upon the IQ's obtained, the cases were classified into mild, moderate and severe grades.

TABLE 3. Grades of Mental Subnormality

I.Q. Range	No. of cases	Grades
50-85	168	Mild Mental Subnormality
20-49	100	Moderate Mental Subnormality
Less than 20	32	Severe Mental Subnormality

Each case was evaluated on a list of 16 major complaints for consultation, namely, epileptic convulsions, problems for management, speech defects, poor comprehension, schooling difficulties, feeding problems, sleep problems,

unpredictable behavior, memory problems, no bladder and bowel control, asocial, personal hygiene problems, physical deformities, cannot guard from common dangers, neurotic problems and sexual deviations.

Table 4 presents the top six problems shown by the 3 grades of mental retardation.

TABLE 4. Top six problems under grades of subnormality

	Mild	Moderate	Severe
1.	Speech defects	Speech defects	Speech defects and poor comprehension.
2.	Schooling difficulty	Poor comprehension	Schooling difficulty
3.	Physical deformity	Schooling difficulty	Feeding problem, memory problem, No bladder/bowel control.
4.	Poor comprehension	Memory problem	Sleep problem
5.	Memory problem	Physical deformity	Problem for management, asocial, personal hygiene problem
6.	Neurotic problems	Feeding problems	Physical deformity

It may be observed that speech defects emerge as the most important complaint for referral among all the three grades. Among the next being schooling difficulty and poor comprehension which is very intimately related to speech defects. A child with defective speech will not be admitted to a school even if he is of the school-going age. This study seems to corroborate with some of the early studies where speech defects are frequently mentioned complaints among the mentally retarded.

Table 5 below gives the grade-wise distribution of these communication disorders.

TABLE 5. Percentage of cases with sensory and speech defects

	N 168 Mild grade	N 100 Moderate grade	N 32 Severe grade	Total
Speech defects	44%	f>4%	66%	53%
Hearing defects	- 8%	1%	0%	5%
Speech and Hearing defects	37%	21%	16%	-29%

It may be observed that here also among each group the predominant complaint mentioned is under speech defects. The next being cases where speech and hearing defects co-exist and least being hearing defects.

Within the group of speech defects, a further analysis of the different types of speech defects among the three grades was attempted. The results are presented in Table-6,

TABLE 6. Percentage of Types of Speech Defects

Type of Speech defect	Mild grade	Moderate grade	Severe grade
Delayed speech	36%	54%	63%
VArticulation disorders	20%	17%	9%
Aphasic speech	14%	8%	13%
Voice disorders	9%	8%	3%
Stuttering	5%	1%	0%

Delayed speech is the most commonly observed type of speech defect among the mentally retarded. It may also be observed that as the severity of retardation increases, frequency of delayed speech also increases. Defective articulation occupies next prominence. Next being aphasic speech. Next being voice disorders and lastly stuttering. Incidentally stuttering is mostly prevalent in mild grades, negligible in moderate and severe grades.

Sex differences with reference to the speech defects has been presented in Table 7. Here all the types of speech defects are included together and the percentage of males and females presenting these are given.

TABLE 7. Sex differences in speech defects (All speech defects combined)

	Mild		Moderate		Severe	
	M	F	M	F	M	F
All speech defects	66%	34%	58%	41%	84%	16%

Often observed fact is evidenced here also, namely, that the speech defects are more prevalent among males than females.

Some of the important observations to be made from the study are as follows :

1. There is a great deal of inter-correlation amongsojne of the intelligence tests used in clinical practice, possibly, indicating the operationof general mental ability.

2. That speech defects form the prominent complaint for referral among the mentally retarded.

3. Communication disorders thereby will have to be given proper attention in diagnosis and therapy of cases.

4. Delayed speech and articulation disorders are most frequently observed and stuttering least observed among mentally retarded.

5. Sex differences pointed out a larger prevalence of speech defects among males than among females.

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