SOME PSYCHOLOGICAL ASPECTS IN SPEECH AND HEARING PROBLEMS

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Many Psychological factors are found to be associated with Speech and Hearing Problems. They need a detailed study, so that the problems can be understood and therapeutic programmes can be outlined effectively. Many persons with such problems may not be able to come to the clinic. All the factors that contribute towards such problems are not known. Survey and screening programmes would be helpful to discover some of these cases. One such screening was undertaken at Davanagere, when our staff camped there for three days.

There was a good response from the public. Four hundred and sixty eight persons were screened and advice was given. The data of 446 subjects have been analysed briefly, in order to explore some of the psychological aspects of speech and hearing problems.

Problems

1. To make an attempt of studying the gross behaviour deviations among cases with speech and hearing defects.
2. To study the type of speech problems as associated with levels of intelligence.
3. Intellectual aspects of cases with hearing loss.
4. To study Mental Retardation in relation to speech and hearing problems.

Procedure

There were 333 male and 113 female subjects.

Screening could not be done in an ideal situation, but effort was made to make the condition suitable for interview, and psychological testing as far as possible.

The problems of speech and hearing were evaluated by speech pathologists and audiologists respectively and rest of the details were supplied by a paediatric and an E.N.T. checkup. As a part of the screening programme psychological evaluation was done. Some of the aspects of personality characteristics could be inferred during clinical interview. Intelligence was assessed by using various tests.

The various tests used were :

1. Gessel's developmental schedule
2. Binet-kamath test

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3. Seguin Form Board test
4. Bhatia-short scale

GesseVs Developmental Schedule: This helps one to observe developmental maturity from four weeks upto three years, in four spheres (namely, motor, adaptive, language and personal-social spheres).[3]

Binet-kamath test {Kamada version): This is a verbal test of intelligence. This helps one to arrive at intelligence quotient of the subject.[4]

Seguin Form Board Test: This is a performance test of intelligence. Here the subject is instructed to keep different geometric shaped blocks in respective holes as quickly as possible. The method of administration and the scoring is as devised by Vernon and Cattell.[2]

Bhatia's Short Scale[1]: This is a performance scale of intelligence and consists of two tests namely block design test and Pass-along test.

(a) *Block Design Test:* There are sixteen coloured cubes and ten cards with designs. Each time, the subject is required to construct a design similar to that on the respective card as quickly as possible. (Before the administration of the subtests, first design is demonstrated.)

(b) *Pass along test:* There are eight graded problems in each of which, the subject is instructed to convert the given one into another arrangement as illustrated in the respective design, by sliding the blocks quickly. (Here also the first design is demonstrated.)

In both the tests the time taken to complete the task is the score. There is a prescribed time limit in case of each sub-tests. If the Subject does not complete the task within the time limit, it is scored as zero. The scores from both the tests are combined and I.Q. is calculated using A.I.I.M.H., Bangalore norms.

During the screening, for heiring loss cases, the performance tests were administered by using Pantomime method.

Results and Discussions

As the Analysis revealed that details were scanty regarding personal data, it is confined only to the conditions as obtained during screening programme.

The results are shown in the following Tables :

The Table 1 indicates that there were 333 male and 113 female cases. The mean age of the whole group was 19.73 (the range was 2 to 85 years).

The cases with defective speech and hearing problems were 231 and 207 respectively i.e., the ratio between the two being 1.1 :1 (Table 2).

The cases were analysed to see gross behavioural disturbances.

Among speech problems, stuttering is found to be more frequent (number of cases being 103 i.e., 44 per cent) (Table 3). Further analysis of those cases

(Table 4), shows that there were 90 males and 13 female cases. Such preponderance of males have been reported by Schuell (1947), Williams, Silverman and Kools (1968).

Mean age of the whole groups 14.9 and that for males it was 12 years. This may indicate that more young adolescents have been brought or came by themselves for consultation regarding stuttering.

Interview of stuttering cases reveal that 75 cases showed anxiety (Table 5). 25 of them showed severe anxiety features viz., anxiety states, palpitation, sweating of palms etc., whereas 32 of them showed some of the anxiety features. About eighteen of them revealed slight anxiety which centered around their speech. They reported that they avoided speaking with strangers because of the fear of stuttering. Similar thing has been reported by Sheehan and others.

Apart from stuttering, other cases also showed disturbances in behaviour.

Severely retarded cases about 18 of them presented problems of management as they were unable to take personal care even. They presented features seen in mentally deficient with gross retardation.

Seven of these cases were found to be hyperactive as well.

Sixty-two cases were found to have problems of adjustment and were not benefitted by education (in ordinary schools).

One male case of 18 years with mild retardation presented schizophrenic reactions of recent origin.

4 cases with hearing loss were found to be restless.

Problems of management were seen in case of 2 children with hearing and visual impairment (multiple defect).

Withdrawal behaviour was noticed in two cases. One of them had hearing loss. This child was not showing interest in persons.

Another was a female child. She appeared to present autistic behaviour. Apparently she could hear and be aware of the surroundings. She was not interested in persons and had not picked up speech. She was refusing food.

Nervous behaviour was noticed in a boy of 12 years, who had palatal deformity and speech defect. With much persuasion, he was made to take intelligence test and and he was found to have an average intelligence. He appeared to have been over-protected by his parents because of the speech defect.

A seven year old boy with misarticulation, and with an I.Q. of 94, came with night terror. He was found to be nervous during testing. His people reported that he was a problem child at school as well as at home.

Two cases of dysarthria have been screened. In both, behavioural disturbances were noticed. Detailed testing was done to one of them, a boy of 16 years, who had a head injury a few months ago. Intellectual deterioration was evident. His I.Q. was 78. Organic involvement was seen in his visuo-motor protocol and there was memory impairment.

Table 1. *Age distribution of cases*

Chronological age in years	Total No.	Males	Females
80-89	2	2	
70-79	6	5	1
60-69	6	5	1
50-59	10	6	4
40-49	34	25	9
30-39	21	13	8
20-29	82	70	12
10-19	171	132	39
0- 9	114	75	39
Total cases	446	333	113
Mean age in years	19.73	20.67	18.8

Table 2. *Main types of cases*

Main type	Number	% of cases
Defective Speech	231	51.12
Defective Hearing	207	46.41
	438*	98.63

* The remaining cases were found to be normal during screening. (i.e. free from speech and hearing problems)

Table 3. *The types of speech problems*

Types of speech problem	No. of cases
Stuttering	103
Articulation defect (Functional)	19
Palatal Deformity + Speech defect	15
Dysarthria	2
Aphasia	2
Voice and other defects	90

Table 4. *Age distribution of stuttering cases*

Age in years	Total No. of cases	Males	Females
40-44	1	1	—
35-39	—	—	—
30-34	2	*2*	—
25-29	7	*1*	—
20-24	16	15	I
15-19	17	16	1
10-14	39	32	7
5- 9	20	16	4
0- 4	1	I	—
Total No. of cases	103	90	13
Mean age in years	*14.9*	12	12.1

Table 5. *Behavioural disturbances in speech and hearing problems*

Type of case	Behavioural Deviation		No. of cases
I. Stuttering	Anxiety		75
	(a) Severe anxiety feature	25	
	(b) Moderate anxiety features	32	
	(c) Concern about speech defect	18	
2. Mentat Retardation	(a) Severe problems of Management	18	81
	(b) Hyperactivity +(a)	(7)	
	(c) School retardation and problems of adjustment	*62*	
	(d) Schizophrenic features	1	
3. Hearing loss	Restiessness		4
4. Hearing and visual impairment	Problems of management		2

Type of case	Behavioural Deviation	No. of cases
5. Hearing loss	Withdrawal	1
6. Autism	Withdrawal and refusal of food	1
7. Palate disorder + Articulation defect	Nervousness	1
8. Articulation defect	Night terror problem behaviour	1
9. Dysarthria	Intellectual deterioration	2
(i) Case of head injury	involvement of visuo-motor perception and impaired memory	1
10. Aphasia	Intellectual deterioration etc.	2
No. of cases with gross behaviour disturbance		170 i.e., 32.05%

Note:

(a) With severe retardation also

No. of cases	I.Q. range	Speech problem
33	**90 +**	Stuttering
4	80-89	Articulation defect
4	70-79	Articulation defect and Delayed Speech and Language
4	60-69	Delayed Speech
6	50-59	Articulation defect
6	40-49	Delayed speech and articulation defect
9	30-39	Delayed speech
7	20-29	Delayed speech
4	10-19	Jargon
5	0- 9	No Speech

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(* Male subjects with normal hearing between 10-12 years of age).

Table 7. *Intelligence and Hearing Loss*

I.Q. Range	Total No. of eases	Male subjects	Female subject?
110-119	T	1	—
90-109	ill	82	39
80-89	**to**	6	4
70-79	4	3	1
60-69	9	6	3
50-59	7	3	4
20-29	2	—	2
Total No. of subjects	154	10!	53
Mean I.Q.	93.41	91.41	90.18
Range	23-119	55-119	23-109

Table 8. *Intelligence and Congenital Hearing Loss*

I.Q. Range	Total No. of cases	Male subjects	Female subjects
110-119	t	1	
90-109	19	12	7
80-89	9	5	4
70-79	4	3	1
60-69	6	2	4
50-59	5	1	4
Total **No.**	44	24	20
Mean I.Q.	85.11	89.58	79.5
Range	55 to 1.9	55 to 119	53 to 109

Table 9. *Age distribution of Menially Retarded Cases (18.49% of cases with speech and hearing problem)*

Age Range	Total No.	Male cases	Female cases
20-24	5	3	2
15-19	9	7	*2*
10-14	20	12	8
5- 9	33	19	14
0- 4	14	9	5
Total No.	81	50	31
Mean age in yrs.	9.4	9.6	9.19
S.D.	5.74	5.03	5.3

Table 10. *Degree of Retardation*

No. of cases with mild retardation	35	43.20%
No. of cases with moderate retardation	28	34.56%
No. of cases with severe retardation	18	22.2%

Table 11. *Classification of Mentally Retarded Cases*

1. Not classifiable	31
2. Classifiable	50
(i) with organic brain damage	20
(a) Post-encephalitic sequelae	7
(b) Post-epeleptic sequelae	3
(c) Other types viz. birth injuries—Asphyxia etc.	10
(ii) Mongoloid type	4
(iii) Microcephaly	3
(iv) Associated with sensory deprivation	22
(a) Hearing loss	20
(b) Visual and hearing impairment	2
(v) Cretinism	1

Table 12. *Speech problems in Mental Retardation*

	Type of cases	Speech problem	Frequency of cases
1.	Organic brain damage+Mental retardation	No speech	6
		Jargon	5
		Articulation defect	4
		Speech defect	3
2.	Mental Retardation + Hearing loss	No speech	7
		Delayed Speech	8
		Articulation defect	5
3.	With hearing loss and Visual Impairment	No speech	2
4.	Mongoloid Microcephaly	Delayed Speech	4
		Jargon	2
		No speech	1
5.	Rest of cases	Delayed speech	15
		Articulation defect	15
		Stuttering	1
			78

There were two cases of aphasia with behavioural disturbances. Only one of them could be tested. He showed difficulty in analytico-synthetic ability, although he had an I.Q. of 90.

Altogether there were 170 cases with gross behavioural disturbance i.e., 38.08 per cent of the total cases.

Distribution of Intelligence of those with speech and hearing problems needs to be studied. In the screening programme, a variety of tests have been used as the variability of cases regarding age was too large. The data from various tests were not actually comparable but an attempt is made to have an idea about the intellectual aspect.

Eighty-two male subjects between 10 to 15 years with normal hearing have been analysed to find out the frequent type of speech problem noticed in different levels of intelligence (Table 6).

Stuttering was seen in cases with an I.Q. of 90 and above. Articulation defect was found in case of I.Q. ranges between 70 to 89. Below these ranges and above 20, usually delayed speech was seen but between 40 and 70 ranges either articulation defect or delayed speech was seen. Below this I.Q. range usually "Jargon" or "no speech" (no attempt at speaking) was seen.

These conclusions need to be considered with caution since the number of cases (except stuttering problem) seen in each category was too small to generalise.

Hearing loss cases also have been analysed regarding intelligence, (Table 7). The data is not actually representative, as the evaluation was done only with regard to 154 persons between 2 to 45 years of age. There were 101 males and 53 females.

The mean intelligence quotient of the whole group was 93.41. The mean I.Q. for males was 91.41 and that for females it was 94.6. On the whole the range was 20 to 119.

The results should be viewed with caution as the factors like the duration and severity of loss have not been considered.

In order to rectify these factors to a certain extent, cases with a definite history of congenital bilateral loss of hearing, about 44 of them are analysed (Table 8). Here also age varied from 2 to 45 years. The analysis reveals that the mean intelligence quotient for the whole group was 85.11 and the range was from 55 to 119 and that for the two groups, the mean I.Q.'s were 89.58 and 79.5 respectively. As the numbers in each group is small, it need not be considered. They as a whole, appear to come under dull group. This is, as reported by other workers (Pintner, etc.) in the field.

In this screening programme, an effort was made to study about cases with Mental Retardation in detail.

The analysis reveals (Table 9) that the total number of eases with retardation were 81 i.e.. 18.49 per cent of total cases with speech and hearing problems). There were 50 male and 31 female cases.

The mean age of the whole group was 9.4 years. Almost same thjng was seen with male as well as female cases. The standard deviation was 5.74 for the whole group.

The cases have been analysed according to degree of retardation (Table 10). There were 35 cases with mild retardation i.e., 43.2 per cent of the retarded. Moderate retardation was seen in 28 cases i.e.; 34.56 per cent. Severe retardation was seen in 18 cases i.e., 22.2 per cent.

The eases with Mental Retardation were classified (Table 11) according to clinical pattern. 31 cases could not be grouped. The other 50 cases could be classified. Organic brain damage was evident in 20 cases, Among them 7 had post-encephalitic sequelae. There were 4 mongoloid cases. Features of micro-cephaly could be seen in 3cases, and one was cietin.

There were 22 cases associated with sensory deprivation as well. Among them 20 cases had hearing loss and the other two cases had visual impairment as well.

An analysis of speech problems in mentally retarded (Table 12) showed that all except three had speech problems. 31 cases who could not be classified had delayed speech, defective articulation and only one had stuttering.

A large frequency of the brain damaged, showed severe speech problems. 6 children had "no speech" and 5 were seen with Jargon.

In 22 cases of hearing loss, "no speech" and delayed speech were reported more frequently than others. In such cases the speech defect might have been profound as they had more than one defect. 4 mongoloids had delayed speech and the 3 cases of microcephaly showed severe speech problems.

Thus the analysis indicates that the Mental Retardates show speech problems. The same thing had been reported by others (Karlin and Shazzula etc.) in the field.

Summary and conclusions

468 cases with speech and hearing problem were screened at Davanagere. As a part of that, psychological evaluation was made.

An analysis of 446 cases have been made to explore some of the psychological aspects of speech and hearing problems. Gross Behavioural disturbances were evident in 170 cases or 32.05 per cent of the cases with speech and hearing problems.

Anxiety features were seen in 72 per cent or 75 cases of stuttering.

Management problems were seen in 20 cases. Educational retardation was seen in 62 cases. Withdrawal was seen in 2 cases. Stutterers, mostly belonged to average or above average levels of intelligence. Hearing loss cases as a group belonged to the low-average level of intelligence.

There were 81 mentally retarded cases (i.e., 18.49 per cent of the cases with speech and hearing problem). 50 of these cases could be classified. 20 of them had brain damage. Invariably mentally retarded were found to have speech problems.

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