

PREVALENCE OF SPEECH PROBLEMS AMONG SCHOOL CHILDREN OF MYSORE CITY

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Studies regarding the incidence of speech problems in general population as well as school children have not been reported so far in country on a large sample, though there are studies regarding the incidence of hearing problems. In 1968, Dr Hegarty of New Delhi in a pilot study of the seventh standard school going children found that 22/322 children were speech defectives and thus concluded that 7 per cent of the school-going children are speech defectives. In 1969, Mr E. P. Balakrishnan at Mysore in a study of 1000 school going children found that 15 per cent of them had speech disorders. The problemwise percentage he gives are 6.6 per cent of them had misarticulations, 3.8 per cent of them had dysphonias, 4.5 per cent of them had stuttering. As our speech and hearing field is growing rapidly and gaining importance there is every reason for initiating these studies which will serve many practical purposes. Towards this aim a small beginning is made at our Institute. The institute has a screening programme for detecting the speech and hearing problems for the conservation and rehabilitation among school children. This report is the analysis of the speech evaluation carried out from 17 Dec. 1970 to 29 Sept. 1972 in Mysore City to find an estimate of various speech problems in the school children which is a part of the screening programme of the All India Institute of Speech and Hearing, Mysore.

Methodology

The speech evaluation was carried out by the senior student trainees in both the graduate and post-graduate levels under the supervision of a Speech Pathologist. Each child was tested for peripheral speech mechanism, articulation, voice, fluency and language. Peripheral speech mechanisms were tested with reference to any possible deviations in the speech. Articulation was tested in spontaneous speech and using the picture cards in their languages. Voice was examined in the conversation for the possible deviations in the pitch, quality and loudness with respect to the age of the children, keeping in view the mutation of the voice. Similarly the fluency was also examined in spontaneous speech and also from reading materials. And finally while doing the language examination no formal test was employed excepting for testing reception and comprehension through questions and answers and performance of simple tasks. The vocabulary,

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sentence construction and spontaneity of speech was also considered. Printed proformae were used for recording any deviations that were found in each child. The children who were found to have speech problems were followed up.

Results

Table 1 shows that the total number of children tested was **1454**, in which 707 were boys and **747** were girls. They are drawn from eleven different schools in Mysore City in the age range of 3-16 years. Table 2 shows the distribution of

TABLE 1
Details of the School Children included in the Study

Sl. No.	Name of the school	Age range (In years)	Boys	Girls	Total
1.	Dalavai Primary School	6-12	53	7	60
2.	Dalavai Middle School	8-16	193	70	263
3.	J.S.S.P. School	3-11	82	57	139
4.	J.S.S.M. School	8-14	91	122	203
5.	Govt. P.B. School	5-13	81	—	81
6.	Chowdaiah School	7-11	30	—	30
7.	Royal English School	4-10	155	98	253
8.	C.F.T.R.I. School	5-8	22	23	45
9.	Govt. H.P. School	9-12	—	25	25
10.	Govt. L.P. School	4-13	—	172	172
11.	Ambale Annaiah P. School	4-12	—	183	183
Total		3-16	707	757	1454

TABLE 2
Distribution of Boys and Girls age wise

Age (In years)	Boys	Girls	Total
3	2	1	3
4	10	9	19
5	37	32	69
6	120	118	238
7	86	94	180
8	91	105	186
9	75	122	197
10	88	76	164
11	111	127	238
12	56	46	102
13	21	15	36
14	14	2	16
15	3	—	3
16	3	—	3
Total	717	747	1454

boys and girls age wise. It is found that (Table 3) 95 boys out of 707 tested were found to have speech problems which accounts for 13.43 per cent; and 113 girls out of 747 tested were found to have speech problems which accounts for 15.79 per cent. Totally 213 out of 1454 tested were found to have speech problems which accounts for 14.61 per cent. In the analysis of speech problems among boys (Table 4) it was found that 44 children had dysphonias (46.30 per cent of the speech problems), 31 children with stuttering (32.64 per cent of the speech problems); 19 children with misarticulations (20.00 per cent of the speech problems) and one child with cleft palate.

Among girls (Table 5) dysphonias again ranks the highest with 87 children (73.47 per cent); 24 children with misarticulations (20.53); 5 children with stuttering (4.30) and one each with cleft palate and cerebral palsy. Analysis of the dysphonias is depicted in the Table 6. In the girls it is found that the hoarse

TABLE 3. Percentage of School Children having Speech Problems

Sex	Total tested	Speech Problems	Percentage
Boys	707	95	13.43
Girls	747	118	15.79
Total	1454	213	14.61

TABLE 4, Distribution of Speech problems among Boys

Problems	Age Range	Total	Percentage
Dysphonias	5-14	44	46.30
Misarticulations	6-12	19	20.00
Stuttering	6-12	31	32.64
Cleft Palate	12 year	1	1.06
Total	5-14	95	100.00

TABLE 5. Distribution of Speech problems among Girls

Problems	Age Range	Total	Percentage
Dysphonias	5-13	87	73.47
Misarticulations	5-14	24	20.53
Stuttering	9-11	5	4.30
Cleft Palate	6 years	1	0.85
Cerebral Palsy	6 years	1	0.85
Total	5-13	118	100.00

voice ranks the highest accounting for 66.46 per cent and in the similar way in boys it accounts for 40.90. When the total percentage was calculated for both boys and girls combined the first three ranks on the basis of incidence were found for Hoarseness (58.00 per cent); Breathiness (16.00 per cent); and Soft voice (9.36 per cent).

TABLE 6. Different types of dysphorias observed

Dysphonias	Boys	Per cent	Girls	Per cent	Total	Percentage
Deviations in quality	36	81.80	67	76.44	103	78.84
Deviations in pitch	3	6.81	5	5.75	8	6.81
Deviations in intensity	3	6.81	9	10.34	12	8.80
Others	2	4.54	6	7.47	8	6.81
Total	44	100.00	87	100.00	131	100.00

Discussion

At the outset it is to be noted that the sample tested may not be an adequate and representative one. The sample consisted of only those children who came to the institute for the routine screening programme for finding the speech, hearing and allied problems. However with all sincerity the speech evaluation was carried out for finding out the incidence of various speech problems in the school children in the sample available for the study. We found that out of the total population tested (that is 1454), 213 had speech problems which accounts for 14.61 per cent. The incidence appears to be little higher in girls (15.79) than in boys (13.43). When we come to the analysis of the dysphonias observed in both boys and girls, the hoarse voice tops the incidence. In general the quality disorders appear to be higher in incidence when compared to others. When the distribution of the speech problems among boys and girls are compared, the dysphonias were found to be having the highest incidence and the stuttering next in boys and mis-articulations in girls. When the incidence of stuttering is compared between both boys and girls, it appears in around 6:1 ratio. When the percentage of misarticulation is compared, it is almost same in both boys and girls. However it is interesting to find that only one child among girls was found to have cerebral palsy. In other words, it is appropriate to say that the observed behaviour of one child was suggestive of cerebral palsy (mild athetosis). Later this case was transferred to our Institute. From this study other speech disorders were not discovered because this study was not aimed at the etiology of speech problems. Taking into consideration the age range, the incidence of speech disorders were found in boys between 6 and 12 and in girls between 6 and 11 years. This may be due to the fact that the sample tested was not uniform in number in all the age groups.

Conclusions

From this study the following conclusions are warranted.

1. **14.61** per cent of the school going children have speech problems.
2. The incidence of speech problems is higher in girls (15.79 per cent) than in boys (13.43 per cent).
3. Dysphonias appear to be higher in incidence among the speech disorders in school children.
4. Voice quality disorders are higher among the dysphonias among the school children in both sexes.
5. The incidence of stuttering is more in boys than in girls.

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