

A SAMPLE SURVEY IN SCHOOL CHILDREN REGARDING PREVALENCE OF DEAFNESS AND ITS RELATIONSHIP WITH ACADEMIC PROFICIENCY

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The Object of Study

The object of this study was to find out the incidence of children having hearing loss in the children studied at random from among the students between age group of 5 to 10 years studying in class I, II, III, IV, V and VI in some of the schools in Calcutta.

The relationship of academic proficiency of these children according to the remarks of the teachers at school and their hearing acuity was also observed.

Equipment: (a) One Arphi Portable transistored audiometer and Amplivox —83 model audiometer.

(b) Routine E.N.T. examination instruments.

Subjects: Two hundred and six (206) children in five schools situated within a range of 3 miles from S.S.K.M. Hospital, Calcutta served as subjects. The children belonged to the age group of 5 to 10 years and were students in classes 1 to 6.

Method

Head master/mistresses of five different schools in Calcutta were approached and informed about the study. After they agreed to co-operate, the investigator went to the schools and approached the authorities concerned and fixed up date, time and place of examination of the children. The class teachers were given a cyclostyled form of questionnaire with a view to bring out the performance of the children to be examined at school. This form also contained a brief statement as to the purpose of the study and the scope for the class teachers to record the performance of the child in arithmetic, drawing, etc., where black board was used

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more and in the subjects where hearing of the child was used more separately. The teachers were also asked to fill in the details about each child viz., the name, age, sex, class and the remarks, marks obtained and examination, etc.

The examination of the children randomly selected from classes I to VI were undertaken in a quiet room in the school preferably on the top floor and usually after school hours. Routine physical examination of the children e.g., measurement of height, weight etc., routine E.N.T. examinations were done using portable headlamp and other routine examination equipments.

The children were then given audiometric tests consisting of 250, 500, 1000, 2000 and 4000 Hz tones through both air and bone conduction. High frequency tones were given first because the rooms were not sound treated and consequently the higher frequencies were perceived better. Children who showed on an average a loss of more than 15 dB in the above frequencies or a significant loss in any one of the speech frequencies in one or both ears were asked to come to the E.N.T. Department of the S.S.K.M. Hospital for more detailed examinations and farther audiometric check up. The school authorities were requested to inform the guardians about this and the children were provided with transport to be brought to the hospital at the appointed time. The co-operation of the school authorities and the guardians were satisfactory.

Results

206 children belonging to age group of 5 to 10 years were studied in five different schools. Of these, 57 (27.6 per cent) children were brought to the E.N.T. Department of S.S.K.M. Hospital for clinical check up and repeat audiometry. Forty five (21.8 per cent) of these children had mild hearing loss and 12 (5.8 per cent) had moderate hearing loss, 21 (10.1 per cent) had ear problems, 27 (13.1 per cent) had nose and throat affections. There were overlap of the affections in a number of them. General paediatric and psychiatric opinion on some (43) of these children—did not reveal any abnormalities of significance.

Surgical treatment for the ear, nose and throat lesions were offered through the S.S.K.M. Hospital to 19 (9.2 per cent) children with the consent of the guardian but the result of treatment regarding improvement of their proficiency at school could not be judged as follow up reports are not yet obtained.

As for the proficiency of these 206 children on the basis of teachers remarks—72 (34.9 per cent) were rated good, 90 (43.6 per cent) were rated average and 44 (21.3 per cent) were rated poor. Of these, 44 children 18 (8.7 per cent) fell in the category of the children with hearing loss.

Thus among 206 children, 18 out of 44 backward in class were found to have significant hearing loss i.e., 18 (8.7 per cent) showed deafness and backwardness in class among the 206 subjects tested.

Discussion

Audiometric studies are helpful in differentiation but audiograms are not usually easy to obtain on children without sufficient training and are to be done by skillful audiologists. This holds good specially in such screening tests. The deafened group should be followed up both for diagnosis as the sharply sloping audiograms and severe hearing loss is characteristic of deaf children; normal sensitivity or a moderate hearing loss for all frequencies is characteristic of aphasic children. The result could have been analysed for the severely hearing impaired with additional learning problems. Speech test could have preceded the actual survey work.

This study is in fact a gross sample survey of hearing impairment in school going children from different socio-economic background with multi-lingual atmosphere.

The questionnaire was designed to elicit information from parents about family background, the child's birth and development and early experiences related to diagnosis, parent-child interactions and educational guidance.

Nevertheless the information obtained from the study is an important piece of information which might provide the research oriented workers in the field for many other investigations, in a range of topics for exploration.

The purpose then of presenting this paper is to put forward the information gathered through the sample survey conducted so that this may be of use for other workers in this field.

Summary

8.7 per cent of the 206 children who had hearing loss showed backwardness at school. The teachers and the parents were informed about this and were asked to pay special attention to the further progress of the children.

It is felt that further survey with larger number of children and for a greater period of time will reveal more significant information.