

THE MODERN APPROACH TO DEAFNESS

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In this article an attempt has been made to deal with the problem of deafness in all its aspects. We have attempted *to show* the important causes of deafness, suggest preventive measures and dispel some misunderstanding about the various types of deafness and the possibility of cure by medical or surgical treatment.

The existing facilities for the education and training of the deaf have been briefly surveyed. Available information about future plans has been included in the article.

An examination of the present situation seems to indicate that the value of educating the deaf and placing them in remunerative employment is beginning to be gradually recognized. There is an imperative need, however, for the rapid expansion of the existing facilities which are very inadequate. The lack of financial resources and the trained personnel are the major causes of retarded progress in the field.

We hope that with an increasing awareness of the value of rehabilitating the deaf, it will be possible to generate greater interest in the public at large and in the State and that this interest will be translated into more educational and training facilities and employment opportunities for the deaf.

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Introduction.—The attitude of society towards the physically handicapped, including the deaf, has passed through three main stages. Ancient society denied to the handicapped the right to live. The advent of religion led to the gradual recognition of the right to live. The era of technological progress has, however, revolutionized the modern concept of disability and has introduced an element of rationale in this as in many other concepts. It is being increasingly appreciated now that the loss of hearing does not close the realm of knowledge for the victim nor does it deprive anyone of the capacity to receive training and engage in productive work. In fact, the modern concept of rehabilitation can be summarized in the phrase "charity to opportunity".

Incidence.—We have no reliable estimate of the deaf population in the country. The

deaf were last enumerated at the 1931 census when the number was put at about 2,30,000. It is believed, however, that the number of deaf persons in the country is not less than about 8 lakhs.

During the Second Plan period, the Government of India attempted to assess the size of the handicapped population by carrying out random sample surveys in selected areas. The first such survey was carried out in Bombay in 1957.

According to this survey, 0.8 per cent. of the population is deaf. According to the tentative census figures for 1961, India's population has gone up to 438 million. If however the results of the Bombay are taken as representative, India should have nearly 35 lakh deaf persons. The enormity of the problem is easily understood at a glance by these figures.

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A similar survey carried out in Delhi last year that 4 per cent. of the families in the capital had a handicapped member and about 12 per cent of these persons were deaf. Even this reveals that the problem is of very considerable size. A sample survey has just been completed in Kanpur. It is possible that this survey might throw more light.

Causes of Deafness.—Deafness is caused by a variety of causes. Any serious infection during pregnancy like German measles, typhoid, influenza and the intake of drugs like quinine and streptomycin could lead to the impairment of the child's hearing. Cerebro-spinal fever during pregnancy is another potent source of danger.

Congenital syphilis could destroy the auditory nerve before birth. Unfortunately, if the auditory nerve is destroyed, no medical treatment can bring about any improvement.

Simple conditions like recurrent common colds might lead to deafness by giving rise to infection of the middle ear. Parents would, therefore, be well advised to consult a doctor if their children suffer from prolonged or frequent common colds.

Summarising, the aetiology of deafness is concerned in young children the causes are prematurity, familial deafness, prenatal diseases such as anoxia, kernicterus due to prematurity, Rhesus incompatibility, or infection, meningitis, adenoids and Vit. "A" shortage.

From the point of view of prevention prematurity is always bound up with antenatal care, social conditions, adequate rest etc. for the pregnant mother. There was an interesting paper by Cheeseman & Stevenson in the *Journal of Humangenetics* 1951, on the genetic factors in familial deafness where they showed that if consanguinity was present the inherited factor

showed a recessive pattern and that, as a measure of prevention by inference, it would be much better for the deaf not to marry the deaf when there was a genetic factor involved. This theory did not hold good in a case of a deaf (Secretary of Bombay Deaf and Dumb Society) who married a deaf but have perfectly normal adult daughter. Such a case was also reported to me from Kerala while deliberating at the Deaf Seminar 1955.

The causes of Kernicterus in this country are usually detected in the last month of pregnancy, when careful examinations are made for anti-bodies where the mother is rhesus negative, and it is usually taken that if the serum bilirubin reaches 20 mgms. % that there is a danger of residual problems and definite indications for exchange transfusion.

It will pay us dividends to give free Vit. "A" to expectant mothers, and examine school children for adenoids and infections of the upper respiratory passages.

Types of Deafness.—Two types of deafness are commonly observed, (1) conductive or middle ear deafness and (2) perceptive or nerve deafness. A combination of both the types of deafness is also not uncommon.

Conductive is caused by a blockage of the external auditory canal, infection of the ear drum, eustachian tube and the middle ear. This type of deafness often yields to medical and surgical treatment. Otosclerosis is now becoming more and more susceptible to surgical treatment.

Perceptive or nerve deafness involves the inner ear where the sensory cells and auditory nerve fibres are located. Although in young children this type of deafness may be called congenital or inherited. It can result from meningitis and many other acute infections, from severe trauma and from other causes. Prompt treatment may salvage

the hearing, even when the inner ear is involved provided no permanent damage has effected the sensory cells and nerve fibres. However, no type of treatment, medication, or amplification will restore the hearing of persons whose hearing loss is caused by true nerve deafness.

Prevention.—The following are a few simple measures which could help in reducing the incidence of deafness:—

- (1) Prompt and effective treatment of conditions like German measles. Every expectant mother getting an attack of German measles, however mild, specially in the first three months of pregnancy should be given one injection of gamma globulin, which will permanently immunize the foetus.
- (2) Early treatment of conditions like syphilis, particularly if it occurs in the last three months of pregnancy.
- (3) Early diagnosis and treatment of conditions like typhoid, colds and so on.
- (4) Careful use of drugs like quinine and streptomycin.
- (5) Measures to insure that the flow of blood in the foetus is not interfered with.
- (6) Avoidance of ex-ray laboratories by expectant mothers.

Education.—The first school for the deaf was established about seventy-five years ago in Bombay. Since then schools for the deaf have sprung up in most parts of the country. Today there are about 52 schools for the deaf with a total enrolment of about 3,000.

The majority of schools for the deaf are run by voluntary agencies. As a rule, how-

ever, they receive some financial assistance from the State Government concerned or the Central Social Welfare Board. In the recent past the Government of India have also been giving assistance to suitable institutions for implementing developmental projects. The Government of India have just decided to liberalize their grant-in-aid policy. In future they will be prepared to contribute 75% of the expenditure on the development schemes of voluntary agencies instead of 70% as in the past. It is hoped that with the liberalization of the grant-in-aid rules by the Government of India and the State Governments more and more schools for the deaf will come up. India needs many more schools if the country is to provide education to every deaf child.

Our constitution enjoins on the State to provide compulsory and free education for all children till they reach the age of fourteen years. This provision of the constitution applies to all children, including deaf children. It is, therefore, obligatory on the State to take all possible steps to fulfil this requirement of the constitution.

Education in most schools for the deaf is given through the oral method. This means that the child is taught to understand the spoken word rather than depend on some other symbols such as the manual alphabet.

The main medium for understanding the spoken word is by watching lip movements—a process technically known as lip-reading.

Some of the schools in the country take the deaf child up to the primary standard. Since the deaf child cannot easily understand the spoken word, he usually takes ten years or more to complete primary education. The majority of the schools do not take the deaf child even up to the primary standard. They are content with imparting to the child a certain degree of linguistic ability.

Craft training usually forms an essential part of the curriculum of schools for the deaf. These schools do not attempt to turn out skilled craftsmen. They usually give good pre-vocational preparation.

Some of the schools for the deaf use group hearing aids. Experience has shown that many of the deaf children retain a usable degree of residual hearing. With training this hearing can be utilised to improve the child's speech and language. It is important therefore that more and more schools for the deaf should begin using hearing aids and should lay increasing emphasis on aural training.

As in the case of normal children, the education of the deaf child begins in the mother's lap. But it is more important that the formal training of the deaf child in the ability to watch and interpret lip movements should begin at a very early age. To-day even infants can use hearing aids. In this way the limitations of deafness can be very substantially minimized.

The Role of Audiology in the Education of the Deaf.—Audiology is a science of hearing, it is a new integrated concept of human communication. For the purpose of this article we shall confine ourselves to the detection and measurement of the loss of hearing.

A survey of schools for the deaf in India carried out by Mr. John K. Duffy revealed that about 20 per cent of children in these schools had an average loss up to 80 D.B. for the frequencies, 500; 1,000; and 2,000. Another survey carried out by Mr. A. C. Sen, in 1960, showed that 29 per cent of the children had an average loss of 80 D.B. This means that at least 30 per cent of the children in our schools for the deaf should be reclassified as hard-of-hearing. They might even be able to receive education in ordinary schools with the help of powerful hearing aids.

In view of this the importance of detection and accurate measurement of the loss of hearing can hardly be over-emphasized. The handicap of a child can be very greatly minimized if hearing loss is detected at a very early age and a good hearing aid is used even from infancy.

Audiology play an equally important role in the training and employment of deaf adults. For this reason the author has been advocating the establishment of a comprehensive audiological centre in the country. The Government of India proposed to establish such a centre during the Second Plan but was unable to do so for want of funds. The Ministry of Health is however proposing to establish 20 audiological clinics attached to E.N.T. departments in hospitals during the Third Plan period. This will be a very great step forward in promoting the right type of education of the deaf. It will also be desirable for some of the schools for the deaf to have small audiological units. Some of the good schools like the Lady Noyce School for the Deaf, New Delhi and the School for the Deaf, Lucknow, have such units. It is hoped that more and more schools will take to the detection of hearing loss and its accurate measurement.

In view of the over-riding importance of the subject, the author advocated the establishment of an audiological centre in 1952 at Patna, again in 1955 at Mussoorie and New Delhi and at St. Louis in 1957 and in subsequent years with the Union Ministries of Education and Health and the Planning Commission. Let us hope that this country will soon have adequate audiological facilities.

Training and Employment.—Training is an essential prerequisite for employment. Unless the deaf can engage in remunerative work the process of rehabilitation will be incomplete.

Unfortunately, there is at present no special institution for imparting technical training to the adult deaf. The Government of India are however proposing to start a Training Centre for the Adult Deaf at Hyderabad. This Centre will impart training to the adult deaf in engineering and non-engineering trades. Initially the Centre will have accommodation for 25 deaf men and women, but the accommodation will later be increased to 100.

As a first step towards the training of the deaf, in 1955, the Government of India initiated a scheme of scholarships for the deaf. Under this scheme scholarships are given to deaf students over sixteen years of age for technical training in addition to general education. But unfortunately, many deaf scholars are unable to take advantage of these scholarships because ordinary technical institutions are usually unwilling to admit deaf students. Quite often deaf students do not satisfy the academic qualifications prescribed for entry into these institutions. Again, deaf students cannot always follow the instruction in ordinary institutions particularly if the subject has a great deal of theoretical content.

In view of these difficulties there is imperative need for the establishment of special training institutions for the deaf. The Government of India have decided to establish one. We hope that the State Government will follow suit.

Experience in this country and abroad has shown that it is possible for the deaf to engage in productive work. The special employment office for the physically handicapped established by the Government of India at Bombay in March, 1959, has placed 39 deaf persons in employment since its inception. These deaf persons are able to earn an

average wage of Rs. 94 p.m. It is evident from this that they can hold their own in ordinary industry.

Encouraged by the success of this experiment, the Government of India propose to establish at least one special employment office for the physically handicapped in each State in addition to Delhi. The office in Delhi has just been opened. The main task of these office will be to try place physically handicapped persons, including the deaf, in ordinary industry, commerce and the public services.

Plans for the Future.—During the Third Plan period the Government of India are proposing to give a larger number of scholarships to the deaf. They have recently liberalized and rationalized the rates of scholarship payable to the deaf.

As pointed out earlier the Central Government also proposes to establish a Training Centre for the Adult Deaf at Hyderabad. Many of the State Governments propose to, establish additional schools for the deaf.

Conclusion.—The value of educating the deaf and placing them in employment has begun to be gradually recognized in this country. The existing facilities are however very inadequate. It is therefore necessary to expand these facilities as rapidly as we can with the limited human and material resources that are available. The training of personnel should receive top priority because at present the lack of trained staff is probably the most serious obstacle to the expansion of educational and training facilities for the deaf.

Public education is of paramount importance. Without the co-operation of the public at large the total integration of the deaf individual into his community will be impossible of achievement.

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