Factors Influencing Delayed Presentation of Congenitally Hearing Impaired Children in Rural India

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Abstract A study was conducted to determine why there was a delay in detection of hearing loss in congenitally hearing impaired children in rural India. It was found that although the parents of these children visited a primary care physician, relevant information regarding investigation and rehabilitation of hearing loss was not available to the patient. In the absence of a universal hearing screening programme in this country, it is a matter of importance to strengthen this aspect of community otolaryngology in the undergraduate ENT programme. There is also a need for continuing medical education programmes for primary care physicians regarding available methods of investigation and rehabilitation for a hearing impaired person.

Keywords Congenital hearing loss ·
Primary care physician

Introduction

Glusac, a Croatian poet said “I am like a tree-trunk in a mountain deaf, and I might add dumb because I cannot speak for not hearing what is spoken” [1]. The perception of hearing is very essential if one has to develop a means of

communication. Congenital or acquired hearing loss in infants and children has been linked with lifelong deficits in speech and language acquisition, poor academic performance, personal-social maladjustments, and emotional difficulties [2]. Human brain is so adapted that adequate neurological development for speech can occur if there is auditory stimulation within the first two years of life [3]. If congenital hearing loss is diagnosed early in life and adequately treated, most children will develop near normal speech. This will contribute to decreased financial burden for the country [4]. This is especially important in a country like India where there is no universal screening programme. Due to absence of such programmes, the onus lies on the parents as well as the primary care physicians to detect such children at the earliest and refer them to specialist centres for early rehabilitation. In this study we try to find out the average delay in identifying the impairment and the reasons leading to non rehabilitation.

Materials and Methods

In this study, hearing impaired candidates above the age of 5 years who attended the ENT department in a tertiary level hospital for a physically handicapped certificate were selected. The duration of study was one year. These candidates or their caretakers were interviewed with a specific questionnaire. The delay in recognition of hearing impairment as well as the subsequent steps for the child's welfare was noted. The time of recognizing the hearing defect was noted. Further enquiry was conducted regarding the course of events after recognizing the defect. The number of candidates attending a primary care physician or a specialist and further rehabilitation process were evaluated. Odds ratio was calculated for the patients getting

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rehabilitation after consultation with a primary care physician and was expressed with a 95% confidence interval.

Observations and Results

Sixty-six patients were evaluated in a period of one year. Of these 33 (53%) were diagnosed in their third year while 17 (27%) were diagnosed in their second year. The remaining 7, 3 and 2 of our patients were diagnosed at 1, 4 and 5 years, respectively. Four of them could not recollect the age of diagnosis (Table 1).

Thirty-seven (56%) of our patients consulted a primary care physician of whom only six (9%) were referred for rehabilitation process. The rest of the patients were informed about the irreversibility of the disease process and were not told about the rehabilitation process. 13 (19.7%) of our patients did not consult any doctor and there was no effort for rehabilitation. 16 (24%) of our patients consulted specialist centres and there was an attempt at rehabilitation. However, of these only four developed independent communication skills. Others did not comply with the rehabilitation process for the designated period of time (Table 2).

Although 56% of our patients had consultation with primary care physicians, only six of them (16%) were referred for rehabilitation. This means that for a hearing impaired child going to primary care physician the odds of being referred for rehabilitation is only 0.16 (95% CI 0.05–0.49). Nearly 20% of them never visited a doctor because of ignorance or lack of facilities.

Table 1 Age of recognition of hearing impaired

Age of diagnosis	No of candidates	% Age of candidates
1st year	7	11
2nd year	17	27
3rd year	33	53
4th year	3	5
5th year	2	3
Did not remember	4	6

Table 2 Steps taken after recognition of hearing impairment

	Attempted rehabilitation	No rehabilitation	
Attended primary care physician	6	31	37
No primary care physician	16 (specialist evaluation)	13 (No medical evaluation)	29
	22	44	66

Discussion

According to WHO, World-wide approximately 350 million people have hearing disorder. The overall prevalence of congenital hearing disorder is 1–3/1,000 newborns [5]. In India the prevalence is 5.6 per 1,000 live births [6]. But even in developed countries, before universal screening practices were adopted, the age of detecting hearing impairment in these children varied between 2 and 3 years [7–9]. All these data show that the age of identification is much higher than the optimal age of detection so that a reasonable rehabilitation can be undertaken [10].

What makes things worse is the fact that most cases of hearing impairment occurs in economically deprived section of the society [11]. This is probably because of greater incidence of prematurity and low birth weight in deprived families [12]. This can have a greater impact in the Indian scenario as many of these cases are found in the rural population and to compound this, the lack of quality health services make rehabilitation very difficult.

In the present study, most cases were identified at 3 years of age (53%) followed by 2 years (27%). About 24% of the cases were taken to specialized centres and some form of rehabilitation was tried. This was successful in only four out of 16 cases. However, a majority of children did not get any form of rehabilitation. What makes it worse is the fact that this happens even after 56% of the patients visited a primary care physician.

Key Message

Considering the data above, we see that many of these patients with congenital hearing impairment do not get active intervention. So, they end up being hearing and speech challenged and economically dependent. Even though 56% had consultation with primary care physicians only 16% of them were referred for rehabilitation process. So there is a need to strengthen the aspects of community otolaryngology at the undergraduate level and also train the primary care physicians with respect to rehabilitation options that are available in the country today. Also the rehabilitation process should be within the reach of the rural people as we see that many patients who started rehabilitation do not comply till the end of the process. These aspects have to be considered in the national programme for prevention and control of deafness.

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