

Original Article

HEALTH SEEKING BEHAVIOR AMONG PARENTS OF CHILDREN WITH HEARING LOSS: A CROSS SECTIONAL STUDY

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ABSTRACT

Introduction: Prevalence of hearing loss is 11.7% of the school going population (5-15 years). Such children fail to develop speech, language and cognitive skills unless proper habilitation is initiated. If detected early and managed suitably, will have a far better chance at a normal life than those who are habilitated late or not at all.

Aims & objectives: To detect the age of suspicion, identification, intervention and treatment seeking behavior of children with hearing loss.

Materials & methods: This was a cross-sectional study done in Children between 5 and 15 years age-group with hearing loss, coming to an ENT OPD, New Civil Hospital, Surat during the period of 1st August 2011 to 31 July 2012.

Results: A total of 246 children were studied. Mean age of the study population was 9±3.46 years. Average age at first suspicion of hearing loss was 2.9±1.7 years, first consultation was 3.5±1.5 years and first intervention was 7.8±3.3 years. There was significant association between age of first suspicion of congenital hearing loss with father's occupation (p=0.03). There was significant association between delay in diagnosis and gender (p= 0.04). As the level of education of parents and socio-economic status increased, preference for private set ups for first consultation also increased (p< 0.05). In 63.5% cases, advice of general practitioner resulted in the delay in referral to ENT specialist.

Conclusion & Recommendations: Even after primary care, an average gap of 4.3 years is observed among parents for receiving intervention. Mother is the first person to suspect hearing loss among their children. Basic training of general practitioner/ MBBS doctors regarding primary ear care is required.

Keywords: Hearing loss, health seeking behaviour

INTRODUCTION

"Hearing"- one of the five special senses with which a human is gifted. At times, due to variety of reasons, this sense is impaired. WHO estimates that prevalence of hearing impairment is 4% in worldwide¹. In India, prevalence of hearing loss is 6.3%². Government of India launched National Programme for Prevention and Control of Deafness (NPPCD) during years 2006-2008.

In India, Prevalence of hearing loss is 11.7% of the school going population (5-15 years)³. It is important to find the hearing impairment in school going children because at this age child has to build his vocabulary and has to learn auditory discrimination. Hearing impairment of any degree has a profound effect on children. It delays development of speech, slows educational progress and leads to being stigmatized.

Hearing-impaired children who are identified early and appropriately managed have improved outcomes in speech, language, cognitive and social development.

Proper documentation of various factors contributing to the hearing loss in children and their health seeking behavior is needed. New Civil Hospital is a tertiary care center in South Gujarat, where large number of patients of hearing loss comes or is referred from PHC's/CHC's from different parts of south Gujarat.

The objective in this study is to identify the age of suspicion, identification, intervention and treatment seeking behavior available for children with hearing loss. From these factors, suitable recommendations shall be given for health education. So, early diagnosis and

treatment of hearing loss can be possible and early rehabilitation of affected cases.

OBJECTIVES

- 1 To detect the age of suspicion, identification, intervention for hearing loss in children between 5 and 15 years agegroup attending the ENT OPD of New Civil Hospital, Surat.
- 2 To identify treatment seeking behavior of parents of such children.

MATERIALS & METHODS

This was a cross-sectional study done in Children between 5 and 15 years age-group with hearing loss, coming to an ENT OPD, New Civil Hospital, Surat. The study was conducted during the period of 1st August 2011 to 31 July 2012. Those children whose parents/guardian refused to participate in study were excluded from study. Children included in the study visited first ENT OPD where complete ear-nose-throat examinations were done by ENT specialist. Then children were referred to audiologist if necessary for audiometry. If hearing loss detected in audiometry test those children were included in study after necessary verbal consent of their parents/guardians. A Pre-designed and pretested proforma was used for the interview. The clinical diagnosis and audiometry reports were noted from the case paper. In case of any doubt, immediate clarification was done from concerned doctor to avoid confusion. Pretesting was done in 20 patients. Certain questions modified, some rearranged and some added/ removed to elicit required information. Data was collected and entered in MS Office XL sheet and analysis was done by using the EPI Info software.

RESULTS

A total of 246 children belonging to 5 to 15 years were studied. Out of them 61.8% were males and 38.2% were females. Thus, in this study the M: F ratio is 1.7:1. Mean age of the study population was 9 ± 3.46 years.

In present study, 72% children had congenital permanent hearing loss, followed by 2% had acquired permanent hearing loss and 26% children had temporary hearing loss.

Majority of children (71.5%) had sensory neural hearing loss, followed by 26.4% having conductive hearing loss and 2.1% having mixed hearing loss. In congenital deafness, 98.3% children had sensory neuronal type of hearing loss. In acquired deafness, conductive hearing loss was present in 94.2% children.

Among total studied population more than half of the children 51.6% had profound degree of hearing loss. This was followed in order by 19.1% having severe, 17.9% having moderate and 11.4% having mild degree

hearing loss. In Congenital hearing loss Severe and Profound degree of hearing loss together constituted 92.7% children while in acquired hearing loss mild and moderate degree together constituted 85.5% children.

Among 246 children, 53 (21.5%) did not present with complaints of hearing loss. In these 53 children, hearing loss was detected during examination and investigation.

Among 177 children suffering from congenital deafness in our study, in most of the children hearing loss were first suspected (45.8%) and first consultation with any doctor (50.3%) at the age between 3 to 5 years. In majority of the children intervention was started between 5 to 15 years (71.8%). Average age at first suspicion of hearing loss was 2.9 ± 1.7 years. Average age at first consultation to doctor was 3.5 ± 1.5 years and average age for start intervention was 7.8 ± 3.3 years. This means that it takes average 4.9 years for actual utilization of healthcare by congenitally deaf children.

Delay in diagnosis was considered when parents did not take child for ENT examination within a week after first suspicion. Out of total children, delay in diagnosis of hearing loss was observed in 62.6% children. Delay in diagnosis was more common in female compared to male i.e. 71.3% and 60.5% respectively. There was significant association between delay in diagnosis and gender ($p = 0.04$). Most common reason for delay in diagnosis was parental neglect (67.4%). Other reasons were financial constraint (11.9%); Busy in other work (7.5%); social factors (7.5%) and laziness (5.7%). In male and female, similar rank of order observed, except in male laziness (5.4%) by parents/caretaker was more common compared to social factors (4.3%). In female (11.9%), social factors play an important role for delay in diagnosis as compared to male (4.3%).

In present study, suspicion below 1 year is considered as 'early' while that above 1 year is considered as 'late'. Among the children with congenital deafness, in 91.0% of children hearing loss was suspected late while in 9% children hearing loss was suspected early. There was no significant association between age of first suspicion of congenital hearing loss with type of family and parent's education ($p > 0.05$). There was significant association between age of first suspicion of congenital hearing loss with father's occupation ($p = 0.03$). Mother tops the list (73.0%) as being the first suspect the hearing loss in children followed by father in (19.7%); teachers (2.6%); others like grandmother and friends (4.7%).

In 85.8% cases, parents came on their own, to avail health services for the first time. Besides parents, health worker promoted the parents of the 7.3% children with any ear complaints to go to doctor followed by school teacher (3.7%).

Among the total study population, parents of 52.8% children brought for first consultation in private hos-

pital and 47.2% in government hospital. There was no significant association between type of first consultation and gender ($p=0.3$).

Most common reason for choosing NCHS was minimum cost of treatment (52.4%) followed by need for disability certificate (43.1%); good facility 83 (33.7%); located near to house (1.6%) and good faith from past experience (0.8%). In congenital deafness, common reason for choosing NCHS was for obtaining disability certificate (59.9%) followed by treatment with minimum cost (45.8%). In acquired deafness, common reason was treatment with minimum cost (69.6%) and good facility (62.3%).

In the present study, relation between parents' education and socio-economic status with preference of first consultation for hearing loss was assessed. As the level of education of parents increased preference for private set ups also increased ($p < 0.05$). There was significant association between father and mother's education and preference to the type of hospital for first consultation ($p < 0.05$). There was significant association between higher socio-economic status and preference of the private hospital for the first consultation ($p < 0.001$).

Among total study population, 30.1% children first sought treatment with the general practitioner. Out of these children, 47.3% had congenital hearing loss while 52.7% had acquired hearing loss. It was observed that 36.5% cases were referred urgently to higher center by general practitioner. In remaining 62.2% cases, 25.7% cases were given conservatively treatment; 20.3% cases diagnosed but not given any advice and 17.5% cases were reassured that "hearing loss will improve with age". Thus in 62.2% cases, the advice of general practitioner resulted in the delay in referral to ENT specialist and so to the delay in intervention.

DISCUSSION

In the present study, male constituted 61.8% as compared to females who constituted 38.2% of total study population. In a similar study by Ganga N et al for deaf children an overwhelming male predominance of 60.3% male against 39.7% female is seen⁴. According to National American Academy on an Aging Society analysis of data, 61% male against 39% female are suffering from hearing loss. Men of all ages are more likely than women to have hearing loss⁵. Thus, the current study and previous studies done globally show that hearing loss is more common in males. However, more community based studies should be undertaken to understand the societal dynamics involved.

In present study, 72% children had congenital permanent hearing loss, followed by 2% had acquired permanent hearing loss and 26% children had temporary hearing loss. More children with congenital hearing loss come to New Civil Hospital Surat. Reason may be that it is the only government tertiary care center in

Surat district which provides the documentary disability/fitness certificate.

Among total children, 21.5% did not present with complaints of hearing loss. In these children, hearing loss was detected during examination and investigation. Out of these children, 96.2% had acquired hearing loss while only 3.8% had congenital sensoryneural hearing loss. The reason could probably be that the parents were more concerned about the visible ear discharge compared to the mild hearing loss in the child which might not have affected the child's day to day activities. Thus more IEC activities are needed for parents/ caregivers and children to generate awareness about the association between hearing loss and ear discharge. Overall 1 in 5 children were not aware that they were suffering from hearing loss and the impact of this on their quality of life could be tremendous. Thus regular health checkups, effective school health surveys and IEC activities are the need of the day.

The Joint Committee on Infant Hearing recommends identification of hearing loss by 3 months and commencement of intervention by 6 months of age⁶. So that care and services can be given to child to allow timely rehabilitation. Average age at first suspicion of hearing loss was 2.9 ± 1.7 years. Average age at first consultation and first intervention was 3.5 ± 1.5 and 7.8 ± 3.3 years respectively. Thus this present study documents a very late diagnosis and treatment in relation to the recommendations of The Joint Committee on Infant Hearing. Rout N et al in their study found an average age of first consultation and first intervention was 3.0 ± 1.5 and 7.4 ± 4.1 years respectively. This means that gap of 4.3 years for actual utilization of health care⁷. Sjoblad et al in their study reported the median age of identification to be 18 months and intervention was about 20 months⁷. Davis JM et al in their study found that average age of suspicion of hearing loss was 18.8 months, confirmation of hearing loss was 26 months and the average age of intervention was 30 months⁸.

In this study, we observed that an average of 4.9 years for actual utilization of healthcare by congenitally deaf children. Out of this delay of 4.9 years, an average time of 0.5 years is taken for screening the hearing loss, while to get specialist intervention or care, a gap of 4.3 years was found in the present study. Thus our study highlights the fact that even after primary care, an average gap of 4.3 years is observed among patients for receiving interventions for treatment or rehabilitation in relation to their hearing loss. This strengthens the need of Universal Neonatal Hearing Screening Programme in India. So that the hearing loss can be detected in pre-lingual stage. Another important finding of the current study is that screening is not motivating the parents to avail specialist care. The average age of first consultation and that of consultation to ENT specialist is 4.3 years which is way beyond the age where the deaf child can be rehabilitated successfully. Thus these parents either encounter barriers

at higher healthcare levels or are not convinced about the rehabilitation services available about hearing loss. This clearly indicates an urgent need for focused efforts to make secondary and tertiary care services available and more conducive to the patients. Moreover, services of Audiologists and Counselors at the primary and secondary health care centers are very important for early diagnosis and rehabilitation

Out of total children, delay in diagnosis of hearing loss was observed in 62.6% children. There was significant association between delay in diagnosis and gender ($p=0.04$). Most common reason for delay in diagnosis was parental neglect (67.4%). Other reasons were financial constraint (11.9%); Busy in other work (7.5%); social factors (7.5%) and laziness (5.7%). The commonest explanation was inability to identify the hearing loss in children, not convinced about it being a permanent affliction, hoping it to be a self limiting disease etc. Thus parental education is also necessary for early diagnosis and prompt treatment which in turn shall positively influence the outcome in hearing loss management. Similarly, in 11.9% females, social factors played an important role in the management decisions related to hearing loss like surgery, using hearing aids as compared to 4.3% male ($p=0.32$).

In this study, mothers top the list (73.1%) as being the first person to suspect the hearing loss in the child followed by fathers - 19.7%; teachers - 2.6% and others like grandmother and friends - 4.7%. Nachiketa Rout et al in their study found that in 65.6% children, mothers were the first to suspect hearing loss in the child⁹. Thus, these both study concludes that usually mother is the first person to suspect the hearing loss. Hence IEC campaigns should be primarily targeted at them.

Usually parents and relatives or school teachers play the role of decision making for treatment seeking pattern of child. But interestingly in this study it was found that the most common person beside parents, who prompted the parents to visit the doctors, was health workers of their respective PHC/CHC. This finding further strengthens the strong role the health workers can play in the health status of Indian population and that these grass root level workers are the main stay in the success or failure of any national programme. The National Programme for Prevention and Control of Deafness (NPPCD) which is just 3 to 4 years old shall depend heavily on how effectively these workers could work if trained and motivated. This study brings forward the need for an effective strategy to involve these grass root workers and parents/teachers towards early diagnosis and prompt treatment.

In the present study, 47.2% children brought for first consultation in New Civil Hospital. The parents' opinion for choosing New Civil Hospital was solicited. In the children with congenital deafness, the most common reason for choosing NCHS was for obtaining disability certificate (59.9%) followed by treatment with minimum cost (45.8%). In the children with acquired

deafness, the most common reason was treatment with minimum cost (69.6%) and good facility (62.3%). Prahlad Rai Sodani et al in their study found that the common reasons for choosing the public health facility were inexpensiveness and good infrastructure cited in 83% of respondents followed by near to the house (58%) and unavailability of other health facilities in the area¹⁰. There was no significant association between type of first consultation and gender ($p=0.3$). As the level of education in parents increased, preference for private set ups was also increased ($p<0.05$). There was significant association between higher socio-economic status and preference of the private hospital for the first consultation ($p<0.001$). Harihar Sahoo et al found that educational level, occupation and monthly per capita consumer expenditure are important determinants of treatment seeking behavior³⁵. Both these findings tell us that there is a further need to assess this preference for private set ups shown by the higher educated and financially solvent people. This gap analysis would give us valuable inputs in this era of increasing medical costs on how to provide quality care to the needy people in the government set ups.

Among the 52.8% children who first consulted a private practitioner, 30.1% children sought services of a general practitioner/MBBS. The remaining 22.7% had directly consulted an ENT specialist. Among the 30.1% children who sought treatment with the general practitioner, it was observed that 36.5% cases were referred urgently to a higher center. The rest were given conservative treatment (25.7%); diagnosed but not given any advice (20.3%); only to wait and watch for improvement with increasing age in (17.6%). Thus, in 63.5% cases, in spite of good intentions, effectively the advice of these general practitioners resulted in the delay in referral to ENT specialist. These figures highlight the need for a basic training to the general practitioners / medical officers about "how to diagnose and treat" and "when to refer" in cases with ear diseases. This could result in reducing delay and thereby significantly affecting the outcome.

CONCLUSIONS AND RECOMMENDATIONS

The average age of suspicion and that of consultation to an ENT specialist was way beyond the age where the deaf child can be rehabilitated successfully. This strengthens the need of Universal Neonate Hearing Screening Programme in India. Regular school health checkups are needed.

There is an urgent need for focused efforts to make secondary and tertiary care services available and more conducive to the patients. Moreover, services of Audiologists and Counselors at the primary and secondary health care centers are very important for early diagnosis and rehabilitation. IEC could reach up to the mothers, then it would be effective in early diagnosis leading to a better quality of life. There is a need for a basic training to the general practitioner/ MBBS doctors about 'how to diagnose, how to treat and when to

refer?' the cases with ear disease. There is need to improve the rehabilitation services

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