A survey of ear, nose and throat disorders in rural India

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Abstract

Aims and objectives The main aim of this survey was to assess the prevalence of common ear, nose and throat (ENT) disorders in the rural India.

Setting After initial screening of the patients at the primary health center, a week long camp was organized in a district where entire population resides in the rural area and a complete ENT examination and investigation was done by the ENT specialists.

Materials and methods A total of 950 patients were found to be suffering from the ENT ailments in the total population of thirty thousands of the district (4.31%). Out of the total of 950 patients 36.6% of patients (n = 348) had ear problems, 23.57% (n = 225) had nasal problems, while 16.58% (n = 161) of patients were suffering from the throat disorders. Among the ear patients most common diagnosis was chronic suppurative otitis media (CSOM) 114 and presbycusis 83. Deviated nasal septum and sinusitis was most common diagnosis in nasal symptoms while gastroesophageal reflux (GERD) was the commonest throat problems seen in this study. Eleven patients had various benign tumors of head and neck and only one patient was found to be having oropharyngeal malignancy. The congenital head and neck lesion was seen in only four patients.

Conclusions In this survey 4.31% of the rural population of the district were having ENT ailments. The highest numbers rural population (35.65%) were having ear diseases. This was primarily due to low socioeconomic status and lack of awareness of the population. The nasal problem was seen

in 23.57%, while throat problem was seen in 16.58%. The percentage of head neck malignancy in this survey was 0.0028.

Keywords Ear, nose and throat disorders · Rural India

Introduction

Seventy percent of Indian population still resides in rural area, even despite the recent economic development of India in last 15 years and continuing influx of population to urban areas. The rural area especially the far flung and remote area have limited access to the specialist care even today. So a remote area of Himachal Pradesh was undertaken for the survey, which still remains cut off from rest of country for 6 months during the winters. There is no data till date regarding the extent of Ear, nose and throat (ENT) disorders in rural area, whatever data exists is from the medical institutes and is far away from the true extent of rural area data.

The basic aim of this survey was to assess the prevalence of various ENT diseases in the rural area with the help from the Health Department of District and Non-governmental Organization (NGO) and ENT specialists through screening program. This will help us in future to formulate a concrete measure to manage such patients in the future and also to create awareness among population about these disease and method of the prevention and management. The other objective of this survey was to educate the peoples regarding the various ENT disorders and method to prevent and treat such things through posters competitions, seminars and group discussion with the help from the NGO.

Materials and methods

A week long ENT camp was organized in the Lahaul block of district of Lahaul and Spitti, Himachal Pradesh from

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20–26 June 2007. The camp was organised and conducted on a voluntarily basis by the authors with a great deal of help from the district as well as state government and NGO. The entire population residing in the Lahaul block was covered in two steps. In the first stage patients suffering from the ENT disease were screened at primary care level by the general practitioners and health workers of the district and they were enrolled and referred to the ENT camp. Considering unique geographical feature of Lahaul valley and easy accessibility to target population, the camp was carried at three health-care facilities centers of Keylong (District Headquarter), Tholang and Udaipur. The survey was subdivided into two parts, firstly an awareness programme and screening of the patients was done by NGO, medical officer and health worker at primary healthcare level by of district. Then the patients having ENT problems were enrolled and referred to the camp where they underwent complete clinical examination and investigations. This camp survey was managed by ENT specialists, audiologists and paramedical staff for proper investigation and management as well as referral of patient to higher center. A free distribution of medicines and hearing aids were carried after proper audiometric test to those patient indicated. The awareness and education to the patients as well general population, was given through hand out printed material, group discussion, documentaries and lectures by the doctors and the NGO. All the patients needing surgical interventions were either referred to tertiary care hospitals. The data base of such patients requiring surgical intervention for diseases such as DNS, CSOM- tubotympanic variety requiring tympanoplasty were also prepared simultaneously for future surgical camp if these patients fail to get operated in the intervening period. The patient's data were analyzed regarding age, sex, diagnosis, socioeconomic status, investigations and management which were seen in the 7 days long camp.

Results

A total of 1452 patients were examined in the camp, among which the 950 patients were suffering from the ENT disorders. Four hundred fifty six patients were male, 364 were female and 130 were children. The age distribution of the patients is shown in the Table 1. Majority of patients were in 3rd, 4th and 5th decade while children constituted 13.65% of total patients. The pure tone audiometry was performed in 400 patients and hearing aid trial was given to 80 patients. The numbers of patients who underwent flexible endoscopy and rigid nasopharyngoscopy was 120. The syringing of ear was done in 156 patients for wax removal.

The majority of patients were suffering from ear problem 36.66% while nasal and throat problem was seen in 23.57% and 16.58% respectively (Fig. 1). Among the ear problem CSOM was the commonest 32.75% followed by

Table 1 Age distribution of the patients

Age range	No. of patients
0–10	69
11–20	76
21–30	179
31–40	241
41–50	150
51–60	164
61–70	38
71–80	22
81–90	11

Fig. 1 Distribution of patients according to site of disorders

Fig. 2 Distribution of ear patients according to diagnosis

presbycusis seen in 26.34%. The distribution of numbers of ear patients is shown in the pie diagram given below (Fig. 2). Among the 225 patient with nasal symptoms most

common problem was sinusitis which was seen in 46% of cases while allergic rhinitis was seen in 33% and nasal polyps were seen in 6% of cases. The distribution of nasal disorders is given in Fig. 3.

In the throat problems most common was gastroesophageal reflux (76), others were tonsillitis (39), vocal nodule and cervical spondylitis. The neck masses were seen in 9 patients while one mass was metastatic and eight were benign lesions. Fig. 4 is showing the distribution of patient with throat and neck problems.

Discussion

The district of Lahaul and Spitti in Himachal Pradesh, a remote area situated beyond tourist destination of Manali across Rohtang pass of 13050 feet height comprises of two subdistrict blocks of Lahaul and Spiiti. Due to heavy snowfall in winters, the picturesque Lahaul block of this district remains cut off from the rest of the world for

about 6–7 months from November–May/June in a year and becomes totally inaccessible. Due to high elevation, the Lahaul spitti experiences very cold climate similar to arctic one especially in winters. Hence it was a challenging as well interesting to find the variety of ENT disorders amongst the population [1].

In this survey, the 4.31% of the rural population were suffering from the various ENT disorders. The majority of patients were suffering from ear problems (36.66%) and CSOM was most common among it 32.75%. This could be due to fact of poor socioeconomic status of the population as well as being a far flung area. Even among the district there was significant variation distribution of CSOM patients being more common in less educated as well as poorer section of the population.

The tubotympanic type of diseases was seen in 81.57% while atticoantral was seen in 18.43% and eight patient had previous history of tympanoplasty and no complicated case of CSOM was seen in our series.

The pediatric patients with CSOM were seen in 12.17%. This is comparable to the study by Rao et al. which had reported the incidence of hearing loss in school going children was 11.9% in South India rural population [2]. In a recent study by Vikram et al. it was seen that incidence of complicated CSOM is higher in rural area (85%) than urban area (48%) [3].

In a study by Cherian et al. it was seen that persistent rhinorrhea is a common condition among the rural children (21%) and it was commonly caused by pneumococcal infection and was also associated with otitis media [4]. In this series sinusitis was the most common symptom seen in 46% of patient with nasal symptoms, others common entity were allergic rhinitis (33%) and epistaxis (15%).

The ENT diseases among the school going children can have a detrimental effect on their school performances. This was seen in a study by Egeli et al. which showed that school going children with rural background have a higher incidence of ENT disorders and this had a negative effect upon their school performances when compared with children from the urban background [5].

In a study by Jacob et al. in rural south India setup among school going children of age of 6–10 years 21.5% had otological abnormalities and incidence of hearing impairment was 11.7% [6].

Health indicator of a country can be assessed at the rural level. This was the basis of our study and we did a screening and diagnosis of the patient of the entire district in the field of ENT. The most of studies done to assess the prevalence of ENT diseases are done at the referral center, which obviously does not give the true picture. With this survey we like to present the extent of ENT disorder in the rural India with acceptance that it might will variable in different parts of the India.

Fig. 3 Distribution of patients according of nasal diagnosis

Fig. 4 Distribution of patients according of throat diagnosis

Conclusions

In this survey prevalence of ENT disorders in rural area was 4.31% and ear diseases was the commonest. This was mostly seen in population from low socioeconomic status. There is lack of facility for proper management of such patients and more facility as well as education regarding the diseases and method of prevention is needed. This can be done by combined governmental help and support from the NGO's.

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References

1. Gell FM, White E, Mcnewell K, Mackenzie I, Smith A, Thompson S, et al. (1992) Practical screening priorities for hearing impairment among children in developing countries. *Bull WHO* 70 R5 pp 645–655
2. Rao RSP, Subramanyam AM, Nair NS, Rajashekhar S (2002) Hearing impairment and ear disease among children of school entry age in rural south India. *Int J Pediatr Otorhinol* 64:105–110
3. Vikram BK, Khaja N, Upayashankar S, Ventatesha BK, D Manjunoth (2008) Clinicoepidemiological study of complicated and uncomplicated chronic supportive otitis media. *J Laryngology Otology* 122:(5)442–446
4. Cherian T, Bhattacharji S, et al. (2000) Persistent rhinorrhea in rural Indian children: Prevalence and consequences. *J Tropical Pediatr* 46(6):365–367
5. Egeli E, Oghan F, Ozturk O, Harputluoglu U (2004) Effects of otorhinolaryngological diseases and socioeconomic status on school performance: A survey study. *Int J Pediatr Otorhinol* 68:883–888
6. Jacob A, Rupa V, Job A, Joseph A (1997) Hearing impairment and otitis media in a rural primary school in south India. *Int J Pediatr Otorhinol* 39:133–138