Otorhinolaryngological disorders in a geriatric population: A study from a rural tertiary care hospital in India

Purushottam A. Giri[1], Deepak B. Phalke[1], Sanjay P. Kishve[2], Deepti Mangla[1], Syed M. M. Aarif[1]

[1]Department of Community Medicine (PSM) [2] Department of Otorhinolaryngology (ENT)
Rural Medical College, Pravara Institute of Medical Sciences (Deemed University) Loni, Maharashtra, India

RESEARCH

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Corresponding Author:
Dr. Purushottam A. Giri
Assistant Professor, Dept. of Community Medicine (PSM), Rural Medical College, Pravara Institute of Medical Sciences (Deemed University) Loni, Maharashtra, India Pin- 413 736
Email- drpgiri14@yahoo.co.in

Abstract

Background
The geriatric population in India accounts for 7.7% of the total population. This will rise to 10.4% by 2020 making 142 million people 60 years and above. Otorhinolaryngological problems interfere with the social interaction of some geriatric patients, which can worsen coexistent health problems. This study was undertaken to determine the prevalence of otorhinolaryngological disorders in geriatric population and their relationship with sociodemographic factors in a rural tertiary care hospital in India.

Method
A retrospective hospital record- based study using the medical records of 1270 patients (784 males, 486 females) aged 60 years and above attending the Out Patients Department (OPD) of Otorhinolaryngology of Pravara Rural Hospital, Loni, Maharashtra, India during the calendar year 2009.

Results
Presbycusis was the most common otological problem (53.9%). Other disorders of the otological group (10.2%) included presbyastasis, otitis and tinnitus. Vocal cord problems formed the second most common (21.8%) group of problems in otorhinolaryngology. Pharyngoesophageal complaints were diagnosed in 9.0%. Nasal disorders including sinusitis were evident in a smaller group (5%). Otorhinolaryngological diseases were found to be more common among males (61.7%), people with lower socioeconomic status (75%), illiterates (65%), landless labourers (65%) and the age group (65-69 years).

Conclusion
This study suggests that hearing loss is the most common geriatric otorhinolaryngological problem. General practitioners should be able to recognize otorhinolaryngological problems in geriatrics and possess adequate skills to deal with them. Geriatric health problems are likely to gain public health importance because of the rising population in this age group.

Key Words
Geriatrics, Otorhinolaryngology, Prevalence, Presbycusis

Background

"Ageing is definitely no longer a first world issue. What was a footnote in the 20th century is on its way to becoming a dominant theme in the 21st".

Kofi Annan, Former UN Secretary General

The geriatric population in India accounts for 7.7% of the total population. This will rise to 10.4% by 2020 making 142 million people 60 years and above. [1] Beside India, in several developing nations, the geriatric population is increasing at a faster rate as compared to population as a whole. By 2025 in countries such as China, Brazil and Thailand, the proportion of older people will be above 15 % while in Indonesia, Colombia and Kenya the absolute numbers will increase by up to 400 % in the next 25 years, up to eight times higher than the increases experienced by already aged societies in Western Europe where population ageing occurred over a much longer period of time. [2] Geriatric patients present 3.5 times more health problems as compared to young population. [3] Health problems of geriatric people cause dependency and depression which when added to otorhinolaryngological problems, makes the social interaction of geriatric patient worse. The frequency of otorhinolaryngological diseases appears to start increasing around 40 years of age with an even steeper increase beginning around 60 years of age. Hearing impairment has been found to be the most common otorhinolaryngological morbidity. [4] The data on gerontology from various Indian populations is insufficient. [5] Attempts had been made to acquire a true

picture of the magnitude of geriatric problems by Niranjan GV, Vasundhra MK (1996)[6], Dey AB, Soneja S, et.al (2001)[7], Purty AJ, Bazroy J, Kar M, et. al (2006) [8], Shah B, Prabhakar AK (2001) [4] and others. These studies have reported high prevalence of otological morbidities. A proper understanding of the magnitude of otorhinolaryngological diseases and the factors associated with their occurrence in the community would help in planning for geriatric otorhinolaryngology care services. The present study was undertaken to determine the prevalence of otorhinolaryngological disorders in geriatric population and their relationship with sociodemographic factors in a rural tertiary care hospital in India.

Method

This retrospective hospital record-based study was carried out in the Otorhinolaryngology Department of Rural Medical College and Pravara Rural Hospital - a rural tertiary level health care setup in Loni, Maharashtra, India. All patients aged 60 years and above attending the outpatient otorhinolaryngology clinic during the calendar year 2009 were included in the study.The case records of these patients were obtained from the Medical Records Department (MRD) and the data was obtained in a pre-tested proforma. The information procured included demographic details such as age, sex, occupation, education etc., history and physical examination, findings of laboratory investigations and results of pure tone audiometry. Records with inadequate information were rejected. The project was initiated only after the clearance from the Institutional Ethical Committee. Results were analyzed by using percentage and proportion.

Results

During the study period, 16360 patients received initial attention at the otorhinolaryngology clinic of Pravara Rural Hospital, out of whom 8.4% (n = 1376) were 60 years old and above. However 1270 records were found adequate for study purpose. The others were discarded due to inadequate demographic details and incomplete clinical history. The demographic profile of the study population is shown in Table 1.

Table 1: Demographic Characteristics of the study population

	Numbers	Percentage
Gender		
Male (Total)	784	61.7
60-64 years	230	29.3
65-69 years	284	36.2
70 years & above	270	34.4
Female (Total)	486	38.3
60-64 years	168	34.6
65-69 years	198	40.7
70 years & above	120	24.7
Marital Status		
Married	1258	99.1
Unmarried	12	00.9
Age (in years), Mean (SD)		
Male	62.74 (1.70)	-
Female	65.01 (1.45)	-
Education		
Illiterate	826	65.0
Primary	261	20.5
Secondary	105	8.3
Graduate/or above	78	6.1
Occupation		
Landless Labourers	835	65.0
Cultivators	61	4.8
Household Work	309	24.3
Service (Pvt. /Govt.)	41	3.2
Others	34	2.7

Otorhinolaryngological diseases in our geriatric study population were found to be more common among males (61.7%), people with lower socioeconomic status (75%), illiterates (65%), landless labourers (65%) and the age group 65-69 years. The prevalence of otorhinolaryngological morbidity increases with age in case of males ($p<0.05$). Diseases of auditory system (67%) were the most common group of otorhinolaryngology problems among the elderly population. It comprised mainly of presbycusis (38.7%, n=492). The prevalence of presbycusis among elderly males was slightly higher (11.0%) than females (6.2%). However, overall prevalence of hearing loss in women and men were 22.4% and 31.4% respectively. Other problems of the otological group (10.1%) included presbyastasis, otitis and tinnitus.

Vocal cord problems like vocal cord atrophy, bowed vocal cord, vocal cord edema, Carcinoma of the larynx and benign lesions (vocal cord polyp, laryngeal palsy, reflux laryngitis) formed the second most common (21.8%) group of geriatric problems in otorhinolaryngology. Pharyngoesophageal complaints like dysphagia, odynophagia, halitosis, etc. were diagnosed in 9.0% of the geriatric patients. Dysphagia was the most common pharyngo-oesophageal complaint (4.2%). Nasal disorders like sinusitis, nasal polyps, allergic rhinitis and epistaxis were evident only in a smaller group (5.0%).

Geriatric otorhinolaryngological morbidities in the age group 65-69 years were higher as compared to the other two groups. An age and sex wise distribution of the otorhinolaryngological problems is depicted in Table 2.

Table 2: Age and sex wise distribution of otorhinolaryngological disorders in study population

Age Group (years)	Disorders	Male	Female	Total	Percentage
60-64	Presbycusis	108	92	200	50.2
	Other otologic Complaints	23	20	43	10.8
	Vocal Disorders	52	28	80	20.1
	Nasal Disorders	12	12	24	6.0
	Pharyngo oesophageal Disorders	35	16	51	12.8
65-69	Presbycusis	152	113	265	55.0
	Other otologic Complaints	26	28	54	11.2
	Vocal Disorders	64	37	101	20.9
	Nasal Disorders	18	8	26	5.4
	Pharyngo oesophageal Disorders	24	12	36	7.5
70 and above	Presbycusis	140	80	220	56.4
	Other otologic Complaints	18	14	32	8.2
	Vocal Disorders	84	12	96	24.6
	Nasal Disorders	8	6	14	3.6
	Pharyngo oesophageal Disorders	20	8	28	7.2

Discussion

India is now an "ageing nation". It has already entered the third stage i.e. the late expanding phase of demographic cycle. This expansion is attributed to the decreasing fertility and mortality rates due to the availability of better health care services. It has been observed that the reduction in mortality is higher as compared with fertility.

Presbycusis is the most common form of hearing loss encountered in old age. The high prevalence of presbycusis in this study corresponds to the results obtained elsewhere in similar study populations. [5,9] World Health Organization (WHO), reports that 30 – 35% patients above 60 years suffer from presbycusis and this increases to 40 – 45% in patients above 70 years of age. [3, 10] Rosenhall confirms the results of population based studies that had shown a higher prevalence of hearing loss in this age group. [11] Cruickshanks et. al found still higher prevalence of hearing loss (45.9%) in an epidemiological study of geriatrics in Wisconsin, USA.[12] Hearing loss severely affects the quality of life especially in the background of low socioeconomic status where the accesses to health care facilities are restricted due to various reasons. It increases the disability burden on society and could be a cause of depression, isolation and suicidal tendencies.

Vocal cord disorders have been found to be bothering 21.8% of our study population which was higher as compared to other findings in similar Indian setup [5]. Age related changes like vocal ligament fibrosis, vocal cord atrophy, laryngeal muscle atrophy and poor mucosal hygiene were various contributory factors. Neurological disorders can also affect the vocal cords.

The predominance of dysphagia as major pharyngoesophageal complaint was in consistency with findings of Clarke LK.[13] A comparatively low prevalence of nasal problems like sinusitis, nasal polyps, allergic rhinitis and epistaxis has been seen. These problems are not very typical of old age. Trauma is one of the important causes of bringing the patient for seeking relief of nasal problems. However neoplastic changes are more common in geriatric age group and have been similarly reported by Clarke LK .[13]

The results from this study are only applicable to the geriatric population attending the otorhinolaryngology outpatient department of our tertiary care health centre. These results cannot be generalized and applied for the community. The prevalence of the geriatric otorhinolaryngological morbidity could be much higher as all patients do not seek health care. Community based study of otorhinolaryngological health problems among geriatric population would reveal the true magnitude of the problem.

Conclusion

This study suggests that hearing loss is the most common geriatric otorhinolaryngological problem. General practitioners should be able to recognize otorhinolaryngological problems in geriatrics and possess adequate skills to deal with them. Geriatric health problems are likely to get public health importance because of the rising population in this age group. WHO's "age-friendly" primary health care project can help sensitize and educate Primary Health Care (PHC) providers about the specific needs of their older clients. "Age-friendly Principles for PHC Centres" serve as a tool to increase provider awareness and empower older users of PHC centres'.

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PEER REVIEW

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CONFLICTS OF INTEREST

The authors declare that they have no competing interests.

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