

**Original research article****Hearing impairment in school children**<sup>1</sup>Santosh Patil, <sup>2</sup>Shivani Manjrekar<sup>1</sup>Assistant Professor, Department of ENT, JGMM Medical College, Hubli, Karnataka, India<sup>2</sup>Associate Professor, Department of Community Medicine, SSPM Medical College, Kasal, Sindhudurg, Maharashtra, India**Corresponding Author:**

Shivani Manjrekar

**Abstract**

Hearing problems, which can then lead to a retardation in the children's mental development, can emerge in children with hearing loss as little as 15 dBHL. 1-3 It's possible for children to experience a wide range of developmental challenges if they have secretory middle ear otitis during a pivotal point in their lives, which is when they're growing and changing the most. This is due to the fact that these impairments are capable of occurring at any point within this time frame. Problems in as many as six separate functional areas, including mental maturity, perception, speech and speaking, cognition and general intelligence, academic performance, and interpersonal behaviors, can lead to complications in a person's conduct. we decided to conduct this study to determine the nature and cause of hearing loss in school-aged children.

**Keywords:** Hearing, impairment, school, children

**Introduction**

Hearing disabilities can develop in children with hearing loss as low as 15 dBHL, which can then lead to a retardation in the children's mental development [1-3]. The presence of secretory middle ear otitis in children at a crucial time in their development can lead to a variety of developmental difficulties in children. This is because these impairments can occur throughout this period of time. Complications in behavior may result from these difficulties in six different functional areas, including mental maturity, perception, speech and speaking, cognition and general intelligence, academic accomplishment, and interpersonal behaviors. [4, 5]. One of the additional impairments is unilateral hearing loss (UHL), which, in the event that it is present, if it is not inspected, it will most likely be discovered later because one of the ears is healthy. It was discovered that 30% of children with unilateral deafness have academic performance that is at least 1.2 years behind that of their normal peers in terms of academic achievement [6]. This finding was made in relation to the impact that unilateral hearing loss has on the academic achievement of children. Academic achievement, language development, and children's auditory perception are all significantly impacted when only one ear is affected by unilateral hearing loss [6-7]. As a result, we decided to conduct this study to determine the nature and cause of hearing loss in school-aged children.

**Aims and Objectives**

To study the hearing impairment in school going children.

**Materials and Methods**

This research was a cross-sectional study that was conducted among the students at the school over the course of six months. In total, 700 school-aged youngsters gave their permission to be examined, either by their parents or by someone else in their care. The specifics of the information, such as age and complaints, were gathered, and an otolaryngological examination, including audiometric and aural testing, was performed. It was discovered both the etiological origin of the hearing loss as well as the kind of hearing loss. The information that was gathered was organized into tables, and the results were given as percentages.

**Results****Table 1:** Age Distribution

Age	Impaired	Percent	Total (n)	Percent
6-7	4	4	100	100%
7-8	5	5	100	100%
8-9	5	5	100	100%
9-10	11	11	100	100%

10-11	02	2	100	100%
11-12	03	3	100	100%
12-13	01	1	100	100%

**Table 2:** Sex Distribution

Male	18
Female	13

**Table 3:** Unilateral Vs Bilateral

Unilateral	19
Bilateral	12

**Table 4:** Etiology

Etiology	No
CSOM	09
ASOM	09
Trauma	02
Wax	01
Sensory neural Hearing lost	03
Secretary Otitis Media	03
Idiopathic	04

**Discussion**

Hearing loss is estimated to affect over 360 million people across the globe, many of them are unable to work because of it. Children make up 32 million of this total population<sup>[8]</sup>. Hearing loss of more than 40 decibels in the better hearing ear is considered to be disabling in adults, whereas hearing loss of more than 30 decibels in the better hearing ear is considered to be disabling in children. The state of a child's health is a major factor in determining the child's level of overall development. It is indicative of his or her capacity to learn new things and develop new skills. A kid may be classified as having a disability for a number of reasons; however, one of the most significant causes is an impairment in the child's ability to make use of their five most fundamental senses (to see, to hear, to smell, touch and to taste). Hearing impairment is one of the conditions that affects a greater number of people at any one time. According to the World Health Estimates from 2012, there are 184,899 children in the age range of 5 to 14 years old in the south east Asia region. Of those children, 162,547 suffer from disorders that affect their sense organs. There are 61,813 people who have problems with their vision, and there are 55,230 people who have issues with their hearing<sup>[9]</sup>. The World Health Assembly reaffirmed the importance of measures in the control of preventable HI<sup>[10]</sup> and advocated population-based epidemiological research to assess the prevalence rate and causes of HI in all countries so that preventative efforts can be targeted more effectively<sup>[11]</sup>. There was a large amount of variation in the reported prevalence rates of CHI from country to country<sup>[12, 13, 14]</sup>. The majority of research concentrate on either rural or urban populations, despite the fact that it is necessary to compare the differences between the two. The discrepancies between urban and rural areas could be attributed to variances in urban and rural populations' cultural conceptions of the impact of HI, diagnosis, and treatment<sup>[15]</sup>. Our findings are comparable to those observed by Saud Lateef Chishty<sup>[16]</sup> *et al*, who discovered that 9.3% of people suffer from hearing loss. The majority of cases, or 60.22 percent, were found to belong to lower socioeconomic strata.

**Conclusion**

The vast bulk of. According to the proposed mechanism of disease, the vast majority of individuals were The majority of people who lost their hearing were found to have CSOM.

**References**

1. Eisenberg LS, Johnson KC, Martinez AS, VisserDumont L, Ganguly DH, *et al*. Studies in pediatric hearing loss at the House Research Institute, Journal of the American Academy of Audiology. 2012;23(6):412-421.
2. Islam MA, Islam MS, Sattar MA, Ali MI. Prevalence and pattern of hearing loss, Medicine Today. 2012;23:(1)18-21.
3. Sekhar DL, Zalewski TR, Paul IM. "Variability of state school-based hearing screening protocols in the United States," Journal of Community Health. 2013;38(3):569-574.
4. Byrne DC, Themann CL, Meinke DK, Morata TC, Stephenson MR. "Promoting hearing loss prevention in audiology practice," Perspectives on Public Health Issues Related to Hearing and Balance. 2012;13 (1):3-19.
5. Muller R, Fleischer G, Schneider J. Pure-tone auditory threshold in school children," European Archives of Oto-Rhino Laryngology. 2012;269(1):93-100.

6. Turton L, Smith P. Prevalence and characteristics of severe and profound hearing loss in adults in a UK National Health Service clinic," *International Journal of Audiology*. 2013;52(2):92-97.
7. Lieu JEC, Tye-Murray N, Fu Q. Longitudinal study of children with unilateral hearing loss," *Laryngoscope*. 2012;122(9):2088-2095.
8. World Health Organisation Web site. [Online]; 2015 [cited 2016 march. Available from: <http://www.who.int/mediacentre/factsheets/fs300/en/>.
9. [www.who.int](http://www.who.int). [Online]. 2012 [cited 2012]. Available from: [http://www.who.int/healthinfo/global\\_burden\\_disease/estimates/en/index2.html](http://www.who.int/healthinfo/global_burden_disease/estimates/en/index2.html)
10. Czechowicz JA, Messner AH, Alarcon-Matutti E, *et al*. Hearing impairment and poverty: the epidemiology of ear disease in Peruvian schoolchildren. *Otolaryngol Head Neck Surg*. 2010;142:272-7
11. World Health Organization. WHA 48, Prevention of hearing impairment. 1995.
12. Kaewboonchoo O, Morioka I, Miyashita K, *et al*. Hearing impairment among young Chinese in an urban area. *Public Health*. 1998;112:143-6.
13. Mehra S, Eavey RD, Keamy DG. The epidemiology of hearing impairment in the United States: newborns, children, and adolescents. *Otolaryngol Head Neck Surg*. 2009;140:461-72.
14. Rao RS, Subramanyam MA, Nair NS, *et al*. Hearing impairment and ear diseases among children of school entry age in rural South India. *Int J Pediatr Otorhinolaryngol*. 2002;64:105-10.
15. Hixon B, Chan S, Adkins M, *et al*. Timing and impact of hearing healthcare in adult cochlear implant recipients: a rural-urban comparison. *Otol Neurotol*. 2016;37:1320-4.
16. Saud Lateef Chishty Sajad Hamid Esbah-i-lateef Mohd Lateef Chishty Asef Wani, *et al*. A Prospective Study Of Hearing Impairment In School Going Children Of Ghaziabad City Attending A Tertiary Care Hospital. 2014;4(4):3-13.