

# Study of hearing loss among school going children in Bastar

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## Abstract

**Objective:** To study hearing loss in children of school going age. **Material and Methods:** After screening 1000 school going children 160 were selected for present study. Detail history and clinical examination were carried out. **Statistical analysis:** were expressed in terms of simple proportion. **Observation findings:** Conductive hearing loss was present in majority of school going children (91.25%), followed by sensory neural hearing loss and mixed hearing loss. Most of affected children were male and of less than 10 years of age. **Conclusion:** conductive hearing loss was most common cause of hearing loss and correctable also. Hence there is urgent need to bring awareness in parents, school staff about various aspect of this handicap and proper training to paramedical staff for early detection of cases and in time management to reduce hearing handicap.

**Key Words:** Hearing loss, conductive, sensoryneural, mixed.

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detection and treatment of hearing loss in school going children and also suggested preventive measures.

## MATERIAL AND METHODS

This study was conducted between 1<sup>st</sup> Jan17 and 30<sup>th</sup> June 17 in the department of ENT, LSBRKM government medical college hospital Jagdalpur Chhattisgarh. In our study 1000 school going children were examined and 160 cases with some amount of hearing loss selected ranging between 5-15 years age from urban and semiurban schools in and around Jagdalpur city area (Bastar district). While selecting the case special emphasis was on selecting children who had history of ear disease and poor academic performance or delay in school going. Details of sampled cases were recorded in a predrawn proforma. A detail history of any nasal, aural and throat complaints were taken from each case or parents. Details of ear, nose and throat examination was carried out. Detailed ear examination was carried out after removing cerumen, ear discharge and fungal debris from external auditory canal. State of auricle, external auditory canal and tympanic membrane was noted. Eustachian tube patency was noted in all cases of hearing loss. Free field conventional voice test, Tuning fork tests and sweep frequency audiometry were carried out in all cases to determine hearing loss. All cases showing some amount of hearing loss in clinical

## INTRODUCTION

Introduction: Prevalence of hearing loss in our country is fairly significant. It is the second most common cause of disability. Approximately 6.3% people in India suffer from significant amount of hearing loss. Hearing loss is very disparate handicap in all human calamities. It places the people at great disadvantages. If hearing loss is present at birth it may interfere with development of speech, mental health and behaviour and also constitute considerable amount of handicap. Purpose of this study is to determine type and severity of hearing loss among selected school going children and also to evaluate causative factors of hearing loss and their distribution pattern. We have made efforts to use methods of early

tests and audiometric screening were managed in ENT department of LSBRKM Govt. medical college hospital Jagdalpur.

### OBSERVATION AND RESULTS

After screening 1000 school going children, hearing loss was found in 160 children. Collected data was analysed and it has been observed that among affected 160 school going children majority had conductive hearing loss (91.25%), sensory neural hearing loss 7.5% and mixed hearing loss 1.25% (Table-I). Table-II reveals different causes of hearing loss. In conductive hearing loss meatal atresia in 1.24% of cases, external ear diseases in 36.75% of cases, middle ear diseases in 53.1% of cases. In external ear cerumen 23.7%, otomycosis 11.25% and otitis

externa in 1.85 of cases were observed. In middle causes majority of cases were of CSOM 42.5% and SOM 10.6%. This observation shows that mostly conductive hearing loss was due to middle ear diseases 53.1%. In sensory neural hearing loss it was observed that congenital defect in 0.62%, acoustic trauma in 3.75%, viral infection like mumps in 3.12% of cases. In mixed hearing loss CSOM with noise trauma in 0.62% and SOM with viral infection (mumps) in 0.63% cases observed. Table III reveals that most of cases were male 75.62% and female only 24.37% of cases. Table-IV reveals that most of children affected with hearing loss were under 10 years of age 78.75% and above 10 years were only 21.25% of cases.

**Table 1: Case distribution according to type of Hearing loss**

Sr. No.	Type of Hearing loss	No. of Cases	Percentage%
1	Conductive	146	91.25
2	Sensory neural	12	7.5
3	Mixed	02	1.25
	<b>Total</b>	<b>160</b>	<b>100</b>

**Table 2: Case distribution according to causes of Hearing loss**

Sr. No	Causes of hearing loss	No. of cases	percentage%
	<b>Conductive</b>	146	91.25
	1.Meatal atresia		
	a)Congenital	01	0.62
	b)Acquired	01	0.62
	2.External ear(EAC)		
	a)Cerumen	38	23.7
A.	b)Otomycosis	18	11.25
	c)Otitis externa	03	1.8
	3.Middle ear		
	a)CSOM	68	42.5
	b)OME/SOM	17	10.6
	c)Otosclerosis	-	-
	d)others	-	-
	<b>Sensory neural</b>	12	7.5
B.	1.congenital	01	0.62
	2.acoustic trauma	06	3.75
	3.viral infection	05	3.12
		02	1.25
	<b>Mixed</b>	1	0.62
C.	1.CSOM+acoustic trauma		
	2.OME+viral infec	1	0.63

**Table 3: Case distribution according to sex**

Sr. No	Sex	No. of cases	Percentage%
1	Male	121	75.62
2	Female	39	24.37
	<b>Total</b>	<b>160</b>	<b>100</b>

**Table 4: Case distribution according to age**

Sr. No.	Age	No. of cases	Percentage%
1	Below 10 years	126	78.75
2	Above 10 years	34	21.25
	<b>Total</b>	<b>160</b>	<b>100</b>

## DISCUSSION

Hearing loss in school going children may be due to very simple cause and can remain unnoticed for long period and can lead to sensori handicap. Hearing in small children may have significant impact on development of speech, everyday living and can lead to isolation, depression and lack of independence. In our study prevalence of hearing loss in school going children is 16% and results are similar to reported by Tuli *et al* and Mishra *et al* who found prevalence rate 12.5% and 11.7% respectively. Conductive hearing loss is more common 91.25% as compared to sensorineural 7.5%, and mixed hearing loss 1.25% in this study. In our study conductive hearing loss is 91.25% unlike sukhtanker *et al* who observed conductive hearing loss in only 24% of cases in there study. Among different causes of conductive hearing loss chronic suppurative otitis media was most common cause in school going children 42.5% while acoustic trauma was most common cause of sensory neural hearing loss(50% of total SNHL cases).In first decade of life hearing loss was found maximum 78.75% in this study. Since conductive hearing loss was commonest cause of this hearing handicap and it is correctable by early detection and in time proper management. Hence awareness of this problem among parents and school teachers is very much important to

detect this disability at an early stage to provide the child, benefit of proper medical attention before disability reaches a serious stage. This can be achieved by proper training of paramedical staff, screening hearing tests by trained paramedical staff at regular interval, regular school health check-up and awareness in community will help a lot in early detecting and ameliorating this hearing handicap.

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