

**ORIGINAL ARTICLE****Assessment of risk factors of Chronic suppurative otitis media**Prabhanshu Dutt Sharma<sup>1</sup>, Anand Kumar Gupta<sup>2</sup><sup>1</sup>Assistant Professor, Dept of Surgery, Saraswathi Institute of Medical Sciences, Hapur, U.P., India<sup>2</sup>Assistant Professor, Department of ENT, Sakshi Medical College and Research Centre, Madhya Pradesh, India**ABSTRACT:**

**Background:** Chronic suppurative otitis media (CSOM) is a major health problem throughout the world. The present study was conducted to assess cases of CSOM. **Materials & Methods:** The present study was conducted on 56 cases of CSOM of both genders. Otoscopic examination was done. Predisposing factors were recorded. **Results:** Out of 56 patients, males were 34 and females were 22. Risk factors were URI in 23, nasal allergy in 34, chronic tonsillitis in 15, DNS in 17, sinusitis in 26 and chronic adenotonsillitis in 24. The difference was significant ( $P < 0.05$ ). **Conclusion:** Authors found that risk factors were URI, nasal allergy, chronic tonsillitis, DNS, sinusitis and chronic adenotonsillitis.

**Key words:** Chronic suppurative otitis media, chronic tonsillitis, Ear

**Corresponding author:** Dr. Anand Kumar Gupta, Assistant Professor, Department of ENT, Sakshi Medical College and Research Centre, Madhya Pradesh, India

**This article may be cited as:** Sharma PD, Gupta AK. Assessment of risk factors of Chronic suppurative otitis media. J Adv Med Dent Scie Res 2017;5(3):143-145.

**INTRODUCTION**

Chronic suppurative otitis media (CSOM) is a major health problem throughout the world in underdeveloped and developing countries including India. The WHO defines CSOM as "a stage of ear disease in which there is a chronic infection of the middle ear cleft i.e. Eustachian tube. Chronic suppurative otitis media (CSOM) is persistent inflammation of the middle ear or mastoid cavity.<sup>1</sup> Synonyms include "chronic otitis media", chronic mastoiditis, and chronic tympanomastoiditis. CSOM is characterized by recurrent or persistent ear discharge (otorrhoea) over 2 to 6 weeks through a perforation of the tympanic membrane. CSOM usually begins as a complication of persistent acute otitis media (AOM) with perforation in childhood. Typical findings may also include thickened granular middle-ear mucosa and mucosal polyps.<sup>2</sup> In India, also CSOM is the most important cause of deafness and occupies a considerable amount of clinic and operating time of otolaryngologists.<sup>3</sup> Although imminently preventable, the progression from a benign upper respiratory tract infection (URTI) to an AOM with perforation and recurring/persistent infection (CSOM) leading ultimately to hearing loss is depressingly quite common in rural areas of India.<sup>4</sup> The high prevalence of

CSOM in school children in India has led us to undertake this study in school going children of rural and urban areas of Muzaffarnagar, Uttar Pradesh and to find out the various predisposing factors for the development of CSOM. Ghosh and Dubey found that in comparison to nonsuppurative OM the incidence of CSOM is no less in developing countries due to lack of consciousness, low socioeconomic status, and increased susceptibility to upper respiratory tract infections.<sup>5</sup> The present study was conducted to assess cases of CSOM.

**MATERIALS & METHODS**

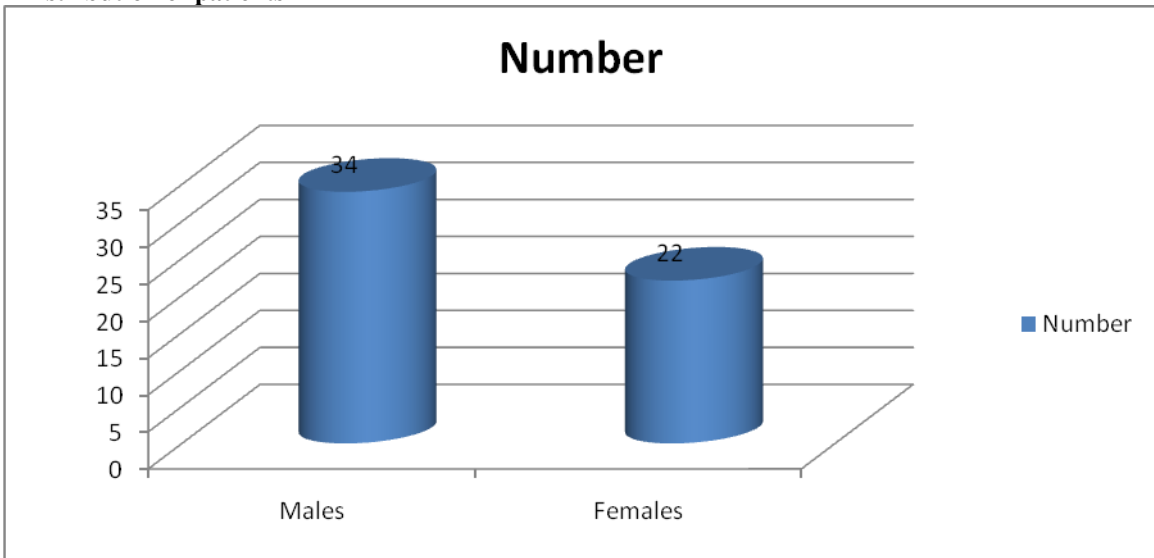
The present study was conducted in the department of ENT and General Surgery. It comprised of 56 cases of CSOM of both genders. The study protocol was approved from institutional ethical committee. All were informed regarding the study and written consent was obtained. Data such as name, age, gender etc. was recorded. Otoscopic examination was done. Predisposing factors were recorded. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

**RESULTS****Table I Distribution of patients**

	Total- 56	
Gender	Males	Females
Number	34	22

Table I, graph I shows that out of 56 patients, males were 34 and females were 22.

**Graph I Distribution of patients**

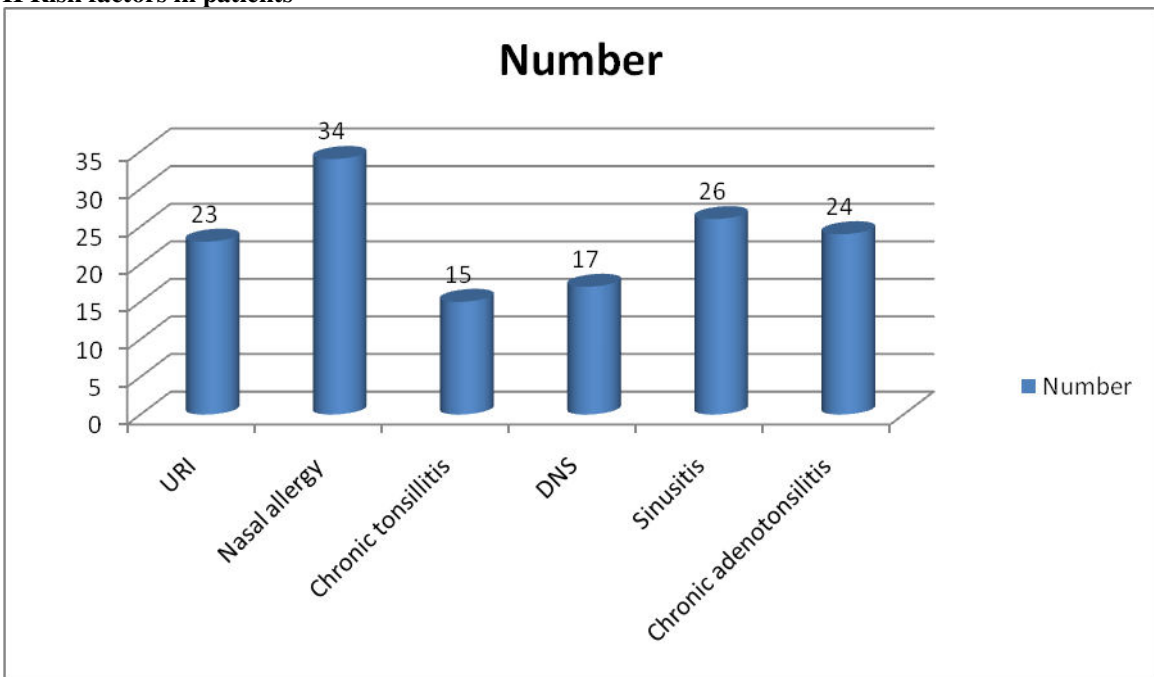


**Table II Risk factors in patients**

Risk factors	Number	P value
URI	23	0.05
Nasal allergy	34	
Chronic tonsillitis	15	
DNS	17	
Sinusitis	26	
Chronic adenotonsillitis	24	

Table II, graph II shows that risk factors were URI in 23, nasal allergy in 34, chronic tonsillitis in 15, DNS in 17, sinusitis in 26 and chronic adenotonsillitis in 24. The difference was significant ( $P < 0.05$ ).

**Graph II Risk factors in patients**



## DISCUSSION

CSOM is usually a complication of persistent AOM, but the risk factors for CSOM vary in different settings. Frequent upper respiratory tract infections and poor socioeconomic conditions (overcrowded housing and poor hygiene and nutrition are often associated with the development of CSOM.<sup>6</sup> In developed countries and advantaged populations, previous insertion of tympanostomy tubes is now probably the single most important aetiological factor. Of those children with tympanostomy tubes in place, a history of recurrent AOM, older siblings, and attendance at child care centres all increase the risk of developing CSOM. In developing countries and disadvantaged populations, poverty, overcrowding, family history, exposure to smoke and being Indigenous are important.<sup>7</sup> The present study was conducted to assess cases of CSOM.

In present study, out of 56 patients, males were 34 and females were 22. Olatoke et al<sup>8</sup> conducted a cross-sectional study in 2158 school children between the age group of 5 and 15 years. A total of 1161 children belonged to urban school whereas 997 children were from three adjacent rural government schools. A total of 78 children were found to be suffering from either unilateral or bilateral CSOM. The prevalence of CSOM in urban school children was 2.32%, while for rural children, it was 5.11%. 42.10% of cases of CSOM belonged to upper-lower socioeconomic group followed by lower middle group (31.57%). The tubotympanic disease was present in 87.18% of CSOM cases while 12.82% had atticointral disease. Active CSOM was found amongst 37.18% while 62.82% had inactive disease. 42.10% had smoking father, 36.84% had indoor cooking with kerosene oil exposure, and 34.21% used unhygienic ear cleaning methods. 31.58% had a history of recurrent URI, 28.95% had chronic tonsillitis, and 21.05% of children had domain name system as associated findings with CSOM.

We found that risk factors were URI in 23, nasal allergy in 34, chronic tonsillitis in 15, DNS in 17, sinusitis in 26 and chronic adenotonsillitis in 24. The natural history of CSOM is poorly understood. The perforation may close spontaneously in an unknown portion of cases, but it persists in others leading to mild to moderate hearing impairment (about 26–60 dB increase in hearing thresholds), based on surveys among children in Africa, Brazil, India and Sierra Leone, and among the general population in Thailand.<sup>9</sup> In many developing countries, CSOM represents the most frequent cause of moderate hearing loss (40–60 dB). Persistent hearing loss during the first 2 years of life may increase learning disabilities and poor scholastic performance. Progressive hearing loss may occur among those in whom infection persists and discharge recurs. Less frequently, spread of infection may lead to life-threatening complications such as intracranial infections and acute mastoiditis. The frequency of serious

complications fell from 20% in 1938 to 2.5% in 1948 worldwide and is currently estimated to be about 0.7% to 3.2% worldwide.<sup>10</sup>

## CONCLUSION

Authors found that risk factors were URI, nasal allergy, chronic tonsillitis, DNS, sinusitis and chronic adenotonsillitis.

## REFERENCES

1. Daly KA, Hunter LL, Levine SC, Lindgren BR, Giebink GS. Relationships between otitis media sequelae and age. *Laryngoscope* 1998;108:1306-10.
2. Tos M. Sequelae of secretory otitis media and the relationship to chronic suppurative otitis media. *Ann Otol Rhinol Laryngol* 1990;99Suppl 146:18-9.
3. Verma AK, Vohra A, Maitra A, Banerjee M, Singh R, Mittal SK, et al. Epidemiology of chronic suppurative otitis media and deafness in a rural area and developing an intervention strategy. *Indian J Pediatr* 1995;62:725-9.
4. Ghosh LM, Dubey SP. Paediatric myringoplasty in India. *Auris, nasus, larynx. Int J Paediatric Otolaryngology* 1991;18:209-13.
5. Tuli BS, Parmar TL, Kumar S. Incidence of deafness in school going children. *Indian J Otol* 1988;40:137-8.
6. Adhikari P, Sinha BK, Pokharel NR, Kharel B, Arya R. Prevalence of chronic suppurative otitis media in school children of Kathmandu district. *International archives of otorhinolaryngology* 2007;29.
7. Olubanjo OO, Amusa YB. Epidemiology of chronic suppurative otitis media in Nigerian children. *The Internet Journal of Otorhinolaryngology* 2008;7(2).
8. Olatoke F, Ologe FE, Nwawolo CC, Saka MJ. The prevalence of hearing loss among schoolchildren with chronic suppurative otitis media in Nigeria, and its effect on academic performance. *Ear Nose Throat J* 2008;87:E19.
9. Kamal N, Joarder AH, Chowdhury AA, Khan AW. Prevalence of chronic suppurative otitis media among the children living in two selected slums of Dhaka city. *Bangladesh Med Res Counc Bull* 2004;30:95-104.
10. Adhikari P, Joshi S, Baral D, Kharel B. Chronic suppurative otitis media in urban private school children of Nepal. *Braz J Otorhinolaryngol* 2009;75:669-72.