

Research Article

A HOSPITAL BASED PROSPECTIVE STUDY OF SOCIODEMOGRAPHIC PROFILE OF CSOM IN A TERTIARY CARE HOSPITAL

Dr Amit Kumar¹, Dr Abhinav Paul Minj^{2*}

¹*Assistant Professor, Department of ENT, SBMCH, Hazaribagh.

²Associate Professor and HOD, Department of ENT, Medinirai Medical College Hospital, Palamu, Jharkhand.

Corresponding Author: Dr Abhinav Paul Minj

²Associate Professor and HOD, Department of ENT, Medinirai Medical College Hospital, Palamu, Jharkhand.

Received date: 10-10-2026, Date of acceptance: 20-10-2026, date of Publication: 24-10-2026.

Abstract

Introduction: Chronic Suppurative Otitis Media (CSOM) is a persistent inflammation of the middle ear characterized by recurrent or continuous ear discharge through a perforated tympanic membrane, lasting for at least 6-12 weeks. It is one of the leading causes of preventable hearing impairment worldwide and significantly impacts the quality of life, particularly in developing countries. CSOM not only affects hearing but can also lead to serious complications such as mastoiditis, facial nerve paralysis, and intracranial infections if left untreated.

Materials and methods: This is a hospital based cross sectional study in the department of ENT, Medinirai Medical College and Hospital, Palamu for a period of 6 months from May 2026 to October 2026. All the patients of Chronic

Suppurative Otitis Media attending the OPD of department of ENT, Medinirai Medical College and Hospital, Palamu after fulfilling the inclusion and exclusion criteria were included in the study. All the patients included in the study population shall be subjected to thorough history taking, detailed clinical examination including tuning fork tests, Otoscopic examination, EUM (Examination under microscope), audiometric investigation in the form of PTA (Pure Tone Audiometry) & radiological investigation. Radiological investigations include X-Ray Mastoid (Law's lateral oblique view), HRCT Scan of temporal bone in cases of suspected features of complications of CSOM.

Results: The study found that 31-40 years was most commonly involved age group with female preponderance. Rural population mostly suffered from CSOM

with left ear being more commonly involved. Purulent discharge was the commonest symptom with total perforation of tympanic membrane being the commonest presentation. Audiometry showed that 65.56% of the patients suffered from conductive type of hearing loss.

Conclusion: The study concluded that CSOM is a major health problem in the society involving all age groups with tubo-tympanic type being more common. Majority of the patients belongs to rural area and lower socioeconomic status with poor living standards with otorrhoea being the commonest presentation.

Key Words: Chronic Suppurative Otitis Media, mastoiditis, facial nerve paralysis, and intracranial infections.

INTRODUCTION

Chronic Suppurative Otitis Media (CSOM) is a persistent inflammation of the middle ear characterized by recurrent or continuous ear discharge through a perforated tympanic membrane, lasting for at least 6-12 weeks. It is one of the leading causes of preventable hearing impairment worldwide and significantly impacts the quality of life, particularly in developing countries. CSOM not only affects hearing but can also lead to serious complications such as mastoiditis, facial nerve paralysis, and intracranial infections if left untreated.¹

The prevalence and presentation of CSOM are influenced by a variety of factors including socioeconomic status, hygiene practices, overcrowding, nutrition, and access to healthcare facilities.² Sociodemographic factors such as age, gender, educational level, occupation, and urban or rural residency play a crucial role in the occurrence, progression, and management outcomes of this condition. Understanding these factors is essential for developing targeted preventive strategies, improving early diagnosis, and optimizing treatment outcomes.³

Despite its high burden, there is limited recent data regarding the sociodemographic distribution of CSOM in tertiary care settings, which are often referral centers for complicated or chronic cases.⁴ A hospital-based prospective study focusing on the sociodemographic profile of patients with CSOM can provide valuable insights into risk factors, patterns of presentation, and potential gaps in healthcare delivery. Such data can guide public health interventions and inform clinicians to tailor management strategies for high-risk populations.⁵

Therefore, this study aims to study the clinical profile of the patients of Chronic Suppurative Otitis Media and to analysis the epidemiological factors associated with CSOM.

MATERIALS AND METHODS

This is a hospital based cross sectional study in the department of ENT, Medinirai Medical College and Hospital, Palamu for a period of 6 months from May 2026 to October 2026. All the patients of Chronic Suppurative Otitis Media attending the OPD of department of ENT, Medinirai Medical College and Hospital, Palamu after fulfilling the inclusion and exclusion criteria were included in the study.

Selection of Cases

All the cases of Chronic Otitis Media irrespective of age, sex, caste, religion, duration of illness & severity of illness attending the Outpatient Dept. & Inpatient Dept. of Otorhinolaryngology of SBMCH Hazaribagh by taking detailed history & proper clinical examination.

Inclusion Criteria

Patients with history of chronic discharging ear both unilateral & bilateral with perforation of tympanic membrane diagnosed as tubo-tympanic type of Chronic Suppurative Otitis Media.

Patients with history of chronic discharging ear both unilateral & bilateral with perforation or retraction of tympanic membrane with or without cholesteatoma diagnosed as atticotympanic type of Chronic Suppurative Otitis Media.

Patients with history of hearing impairment (Documented with Pure Tone Audiometry, PTA) with previous history

of discharge from ears with diagnosis of Chronic Suppurative Otitis Media.

Patients presenting with features of complications of Chronic Suppurative Otitis Media either intracranial or extracranial.

Exclusion Criteria

All patients of Acute Suppurative Otitis Media with perforation.

Traumatic perforation of tympanic membrane.

Patients presenting with otorrhoea and/or earache and/or decrease hearing with diagnosis of otomycosis or wax in the ear.

Methodology

All the patients included in the study population shall be subjected to thorough history taking, detailed clinical examination including tuning fork tests, Otoscopic examination, EUM (Examination under microscope), audiometric investigation in the form of PTA (Pure Tone Audiometry) & radiological investigation. Radiological investigations include X-Ray Mastoid (Law's lateral oblique view), HRCT Scan of temporal bone in cases of suspected features of complications of CSOM.

RESULTS

The study found that 31-40 years was most commonly involved age group with female preponderance. Rural population mostly suffered from CSOM with left ear being

more commonly involved. Purulent discharge was the commonest symptom with total perforation of tympanic membrane being the commonest

presentation. Audiometry showed that 65.56% of the patients suffered from conductive type of hearing loss.

Age in years	No of patients	% of patients
<10 years	8	9.44
11-20 years	16	17.2
21-30 years	17	19.4
31-40 years	23	25
41-50 years	20	2.22
>51 years	6	6.67

Table 1: Age distribution

Gender	No of patients (%)
Male	38 (42.78%)
Female	52 (57.2%)

Table 2: Gender distribution

Type of population	No of patients (%)
Rural	76 (84.44%)
Urban	14 (15.5%)

Table 3: Distribution of Rural vs Urban Population

Clinical features	No of patients
Ear discharge only	24 (26.1%)
Hearing loss only	10 (11.67%)
Ear discharge + hearing loss	21 (23.33%)
Ear discharge + hearing loss + earache/tinnitus/ear itching	29 (32.22%)
Ear discharge + complications	6 (6.67%)

Table 4: Distribution of Clinical Presentation

Associated Features	No of patients
DNS	20 (22.78%)
Adenoid hypertrophy	12 (12.78%)
Tonsillitis	26 (28.89%)
Pharyngitis	22 (23.89%)
Sinusitis	45 (49.44%)
Aural polyp	14 (15.55%)

Table 5: Distribution of Associated Clinical Features

Side involved	No of patients
Right	30 (33.89%)
Left	42 (46.11%)
Bilateral	18 (20%)

Table 6: Distribution of Side of Ear involved at Presentation

Characteristic of Ear Discharge	No of patients
Discharge type	
Perulent	37 (41.11%)
Mucopurulent	24 (26.67%)
Mucoid	15 (17.22%)
Blood stained	14 (15%)
Amount	
Profuse	107 (62.78%)
Scanty	33 (37.22%)
Odour	
Foul smell +	49 (54.44%)
Foul smell -	41 (45.55%)

Table 7: Characteristics of Ear Discharge and its Distribution

Duration in Months	No. of Patients
<12 months	15 (17.2%)
13-24	19 (20.5%)
25-36	24 (26.67%)
37-48	12 (13.33%)
49-60	9 (10.5%)
>61	11 (11.67%)

Table 8: Duration of Discharge

Type of Perforation	No. of Patients
Small perforation (<25%)	9 (10%)
Medium (25-50%)	12 (13.33%)
Large (50-75%)	15 (16.11%)
Subtotal (>75%)	15 (16.11%)
Total	23(25.56%)
Marginal	10 (11.67%)
Attic	6 (6.11%)

Table 9: Distribution of Types of Tympanic Membrane Perforation

DISCUSSION

Chronic Suppurative Otitis Media is a major public-health problem, and India is one of the countries with high prevalence where urgent attention is needed. It is a persistent disease with great risk of irreversible complications. Chronic Suppurative Otitis Media is an important cause of preventable hearing loss particularly in the developing world and a reason of serious concern, particularly in children, because it may have long-term effects on early communication, language development, auditory processing, educational process, and physiological and cognitive development which in turn has

substantial economic burden on the health care system.⁶ Poor living conditions, overcrowding, poor hygiene and nutrition have been suggested as a basis for the widespread prevalence of Chronic Suppurative Otitis Media in developing countries.⁷

The study found that 31-40 years was most commonly involved age group with 25% cases belonging to it. 9.4% of the cases were less than 10 years while 6.67 % cases were more than 51 years. Indorewala et al in their study found that the age of the patients ranged from 5 to 76 years with a

mean age of 35 ± 15.8 years; the age group 21 - 40 years was the most affected group (36%).⁸

The male to female ratio was 0.75:1 which indicates female preponderance over male. Browning et al found the incidence of CSOM to be 1.9% in male and 1.2% in female.

The study observed that 84.4% % of the cases belonged to rural population while 15.5% % cases were from urban locality.⁹ The study by Maharjan et al reflected that the prevalence of Chronic Suppurative Otitis Media is high in rural communities of Nepal, Bangladesh and aboriginal children of Northern and central Australia. Probably, the habit of swimming in polluted water in a pond or river regularly may be a factor responsible for discharging ear.¹⁰

CONCLUSION

The study concludes that chronic suppurative otitis media is still a major health problem in this part of the country. Individuals belonging to all age groups more or less suffer from CSOM. Tubo-tympanic variant is more common than atticofurcal type. Overall female preponderance has been observed in the study probably due to lack of proper medical care in early stages in the rural areas. Majority of the patients belongs to rural area and lower socioeconomic status with poor living standards along with traditional habit of taking bath in ponds

and other water bodies. This can be attributed to higher incidence of Chronic Suppurative Otitis Media in Barpeta and adjoining area in lower Assam districts.

Otorrhoea is the commonest clinical presentation of Chronic Suppurative Otitis Media. Majority of the patients have purulent ear discharge. Otorrhoea is followed by wide clinical presentations like decreased hearing (conductive hearing loss), itching in the ear, earache, tinnitus and features of complications like vertigo have been observed in our study. Otoscopic examination showed total perforation of tympanic membrane as the commonest clinical finding. Presence of nidus of infection in the upper airway in the form of pharyngitis, tonsillitis or sinusitis has been seen to be associated with Chronic Suppurative Otitis Media. By improving the living standards, health care facilities & awareness among the population particularly in lower socioeconomic class and rural areas, the incidence & prevalence of Chronic Suppurative Otitis Media (CSOM) can be reduced.

This in turn will help in substantial reduction in morbidity associated with chronic suppurative otitis media i.e. hearing loss which subsequently eases the social and economic burden on the health care delivery system of our country.

REFERENCES

1. Indorewala S, Adedeji TO, Indorewala A, et al. Tympanoplasty outcomes: a review of 789 cases. *Iran J Otorhinolaryngol* 2015;27(79):101-8.
2. Browning GG, Gatehouse S, Calder IT. Medical management of active chronic otitis media: a controlled study. *J Laryngol Otol* 1988;102(6):491-5.
3. Maharjan M, Bhandari S, Singh I, et al. Prevalence of Otitis media in school going children in eastern Nepal. *Kathmandu Univ Med J* 2006;4(4):479-82.
4. Shivakumar KL, Joshym S, Mary. Role of cortical mastoidectomy in inactive, mucosal type of chronic otitis media. *Journal of evidence based medicine and healthcare* 2014;1(7):509-17.
5. Saha AK, Munsu DM, Ghosh SN. Evaluation of improvement of hearing in type I tympanoplasty & its influencing factors. *Indian J of Otolaryngology and Head and Neck Surgery* 2006;58(3):253-7.
6. Kumar N, Chilke D, Puttevar MP. Clinical profile of tubotympanic CSOM and its management with special reference to site and size of tympanic membrane perforation, Eustachian tube function and three flap tympanoplasty. *Indian J Otolaryngol Head Neck Surg* 2012;64(1):5-12.
7. Shetty S. Pre-operative and post-operative assessment of hearing following tympanoplasty. *Indian J Otolaryngol Head Neck Surg* 2012;64(4):377-81.
8. Slam M, Taous A, Hossain M, et al. Comparative study of tubotympanic and atticofacial variety of chronic suppurative otitis media. *Bangladesh J of Otorhinolaryngology* 2010;16(2):113-9.
9. Kolo ES, Ramalingam R. Hearing results post tympanoplasty: our experience with adults at the KKR ENT hospital, India. *Indian J Otolaryngol Head Neck Surg* 2014;66(4):365-8.
10. Gopen Q. Pathology and clinical course of the inflammatory diseases of the middle ear. In: Gulya AJ, ed. *Glasscock-Shambaugh surgery of the ear*. 6th edn. Shelton, CT: People's Medical Publishing House 2010: p.425-36.