

Original Research Article

# Sociodemographic profile and evaluation of associated factors in Chronic suppurative otitis media patients reporting to tertiary care Hospital of Punjab

Rachna Dhingra<sup>1</sup>, Vikas Dhillon<sup>2</sup>, Shamim Monga<sup>3\*</sup>, Amarveer Singh Mehta<sup>4</sup>, Gurpreet Kaur<sup>5</sup>, Manpreet Kaur<sup>6</sup>

<sup>1</sup>Assistant Professor, Department of ENT, GGS Medical College, Faridkot, India

<sup>2</sup>Senior Resident, Department of ENT, BPS Govt. Medical College for woman, Khanpur, Kalan Sonipat, India

<sup>3</sup>Assistant Professor, Department of Community Medicine, GGS Medical College, Faridkot, India

<sup>4</sup>Assistant Professor, Department of Community Medicine, FH Medical College, Tundla, Firozabad, India

<sup>5</sup>Senior Resident, Department of Plastic Surgery, GMC Patiala, India

<sup>6</sup>PG Resident, Department of ENT, GGS Medical College, Faridkot, India

\*Corresponding author email: [shamimmonga@yahoo.com](mailto:shamimmonga@yahoo.com)

	International Archives of Integrated Medicine, Vol. 3, Issue 6, June, 2016. Copy right © 2016, IAIM, All Rights Reserved. Available online at <a href="http://iaimjournal.com/">http://iaimjournal.com/</a> ISSN: 2394-0026 (P)                      ISSN: 2394-0034 (O)	
	Received on: 04-05-2016 Source of support: Nil	Accepted on: 15-05-2016 Conflict of interest: None declared.
<b>How to cite this article:</b> Dhingra R, Dhillon V, Monga S, Mehta AS, Kaur G, Kaur M. Sociodemographic profile and evaluation of associated factors in Chronic suppurative otitis media patients reporting to tertiary care Hospital of Punjab. IAIM, 2016; 3(6): 6-10.		

## Abstract

**Introduction:** Incidence of chronic suppurative otitis media has been reported varying from 2.55% to 9.25%. CSOM without prompt, proper treatment can progress to a variety of mild to life-threatening complications that can be intra temporal and intracranial. Thus, the present study was conducted to identify sociodemographic factors associated with Chronic suppurative otitis media.

**Materials and methods:** The present study comprised of 100 patients with history of discharge from ear along with perforation. Detailed clinical examination along with history was taken as per proforma. Specific emphasis was given on the sociodemographic factors associated with Chronic suppurative otitis media.

**Results:** The present study found that the majority of cases belonged to lower (poor) socioeconomic status comprising 59% of cases, 74% in study group belonged to rural areas and factors associated

with this infection were living in crowded conditions and in large family, unhygienic practices, such as bathing in contaminated ponds and rivers, unsterile ear piercing, leaning ears with aseptic things such as matchsticks, hairpins, pen-refills, etc.

**Conclusion:** Sociodemographic profile and associated risk factors play a significant role in etiopathogenesis of CSOM. Thus, possible preventive strategies and programs to educate patients regarding knowledge of this burden of illness should be planned in developing countries like India.

## Key words

Chronic suppurative otitis media, Punjab, Sociodemographic profile, Risk factors.

## Introduction

Chronic suppurative otitis media (CSOM) is the most common infection of the ear characterized by persistent or recurrent purulent drainage from the middle ear through a persistent non intact tympanic membrane. Although it is a global disease, its incidence has remained relatively higher in resource-poorer countries [1]. Incidence of chronic suppurative otitis media has been reported varying from 2.55% to 9.25% [2]. CSOM without prompt, proper treatment can progress to a variety of mild to life-threatening complications that can be intra temporal and intracranial [3].

Risk factors for CSOM are factors associated with low socioeconomic status and inadequate healthcare that includes living in crowded conditions and living in a large family, low parental education level, poor nutrition, passive smoke exposure, history of tympanostomy tubes, frequent upper respiratory tract infections and nasopharyngitis, infectious and chronic diseases, such as measles, human immunodeficiency virus (HIV) infection, tuberculosis, diabetes, and cancer, other comorbid conditions, such as cleft lip/palate, Down syndrome, cri du chat syndrome, choanal atresia, and microcephaly, unhygienic practices, such as bathing in contaminated ponds and rivers, unsterile ear piercing, and cleaning ears with cotton buds. A family history of otitis media increased the risk of CSOM. Maternal history of otorrhea and CSOM are risk factors for development of CSOM in children [4]. Thus, the present study was conducted to identify sociodemographic

factors associated with Chronic suppurative otitis media.

## Materials and methods

The present study comprised of 100 patients with history of discharge from ear along with perforation. The cases were selected from OPD of tertiary Hospital, Punjab. Detailed clinical examination along with history was taken as per proforma. Specific emphasis was given on the sociodemographic factors associated with Chronic suppurative otitis media. Sample collection was conducted under all aseptic conditions to find out presence of fungal infection. Rubber bulb was squeezed, the needle was put in middle ear and rubber bulb was released. Secretions were sucked into the sterilized vial and were sent for fungal culture. If secretions are scanty in amount, may not come in vial, then needle is detached from tube & secretions are pushed on sterilized swab with syringe. If needed, small amount of saline can be pushed through needle to make pus come out of swabs.

## Results

**Adherence** Present study comprised of 100 cases of chronic suppurative otitis media. Study group comprised of ages ranged from 4 years to 62 years. Highest incidence was found in second decade (36%) and formed about 1/3 of cases followed by first decade (**Table – 1**).

The study group showed predominance of males, i.e. 53% were males and 47% were females with insignificant p value (**Table – 2**).

**Table - 1:** Age incidence.

Age (Years)	Study group	
	No. of cases	%
0-10	21	21
11-20	36	36
21-30	12	12
31-40	10	10
41-50	6.0	6.0
51-60	8.0	8.0
+ 60	7.0	7.0
Total	100.0	100.0

**Table - 2:** Sex incidence.

Sex	Study group		P value
	No of cases	%	
Males	53	53	>0.05
Females	47	47	
Total	100	100.0	

The majority of cases belonged to lower (poor) socioeconomic status (**Table - 3**) comprising 59% of cases. This formed about more than half of cases.

**Table - 3:** Socio-economic status (Modified kuppuswamy's socioeconomic scale) [5].

Socio- economic status	Control group	
	No of cases	%
Upper	-	-
Upper middle	-	-
Lower middle	4.0	4.0
Upper lower	37.0	37.0
Lower	59.0	59.0
Total	100.0	100.0

74% in study group belonged to rural areas. Rural urban ratio was 3:1 approximately (**Table - 4**). Majority of the patients were found to be Labourers, Agriculturists, Housewives and students (**Table - 5**).

Factors associated with chronic suppurative otitis media was as per **Table - 6**. Fungal culture

showed that 61% cases were positive with fungal infection.

**Table - 4:** Incidence of residential distribution.

Residence	Control group	
	No of cases	%
Urban	26 .0	26 .0
Rural	74.0	74.0
Total	100.0	100.0

**Table - 5:** Occupational incidence.

Occupation	Control group	
	No of cases	%
Agriculturist	21	21
Labourer	22	22
Housewives	8	8
Students	13	13

**Table - 6:** Factors associated with chronic suppurative otitis media.

Factors	Study group (%)
Living in crowded conditions	54%
Living in a large family,	32%
Low parental education level	12%
Poor nutrition	19%
Passive smoke exposure, history of tympanostomy tubes	16%
Frequent upper respiratory tract infections and nasopharyngitis	4%
Infectious and chronic diseases, such as measles, human immunodeficiency virus (HIV) infection, tuberculosis, diabetes, and cancer	1 %
Other comorbid conditions, such as cleft lip/palate, Down syndrome, cri du chat syndrome, choanal atresia, and microcephaly	0
Unhygienic practices, such as bathing in contaminated ponds and rivers,	39%
Unsterile ear piercing,	18%
Cleaning ears with aseptic things such as matchsticks, hairpins, pen-refills, etc.	51%

## Discussion

Chronic suppurative otitis media (CSOM) is, defined as a chronic inflammation of the middle ear and mastoid cavity, which presents with recurrent ear discharges or otorrhoea through a tympanic perforation. The disease usually begins in childhood as a spontaneous tympanic perforation due to an acute infection of the middle ear, known as acute otitis media (AOM), or as a sequel of less severe forms of otitis media [6]. Occasionally, children with acute otitis media with perforation will go on to develop chronic suppurative otitis media. In developed countries, chronic suppurative otitis media is now very uncommon and most often occurs as a complication of tympanostomy tube insertion. However, in impoverished populations including those in developed countries, chronic suppurative otitis media occurs as a complication of acute otitis media with perforation [7].

The present study found that the majority of cases belonged to lower (poor) socioeconomic status comprising 59% of cases, 74% in study group belonged to rural areas and factors associated with this infection were living in crowded conditions and in large family, unhygienic practices, such as bathing in contaminated ponds and rivers, unsterile ear piercing, leaning ears with aseptic things such as matchsticks, hairpins, pen-refills, etc. Similarly, Lasisi AO, et al. [8] evaluated sociodemographic risk factors of CSOM and reported low socioeconomic class, malnutrition, congestion from high number of children in the household and bottle feeding constitute significant risk factor. The early onset of disease (<6 months) may suggest a prenatal predisposition. Muftah S, et al. [9] determined the prevalence of CSOM among school children, Yemen and reported history of ear discharge, swimming in local pools, recurrent respiratory infections, and overcrowded housing was the strongest predictors for CSOM. Thus, the various studies report overcrowding, poor living conditions, exposure to cigarette smoke, and lack of access

to medical care are all major risk factors for otitis media [10].

## Conclusion

Sociodemographic profile and associated risk factors play a significant role in etiopathogenesis of CSOM. There is a need for better ear care and screening programs for early detection and management of this disease to prevent complications; and thus possible preventive strategies and programs to educate patients regarding knowledge of this burden of illness should be planned in developing countries like India.

## References

1. Orji F, Dike B. Observations on the Current Bacteriological Profile of Chronic Suppurative Otitis Media in South Eastern Nigeria. *Annals of Medical and Health Sciences Research*, 2015; 5(2): 124-8.
2. Dhingra R, Monga S, Kaur M, Singh G, Bansal V, Shivani, Aggarwal V. Role of *Aspergillus* as Major Fungal Infection in CSOM Patient Attending Ent Opd, Rajindra Hospital, Patiala. *Int J Dent Med Res.*, 2014; 1(3): 17-23.
3. Idowu OE, Adekoya VA, Adeyinka AP, Beredugo-Amadasun BK, Olubi OO. Demography, types, outcome and relationship of surgically treated intracranial suppuration complicating chronic suppurative otitis media and bacterial rhinosinusitis. *Journal of Neurosciences in Rural Practice*, 2014; 5(Suppl 1): S48-S52.
4. Levi J, Robert C O'Reilly. Chronic suppurative otitis media (CSOM): Pathogenesis, clinical manifestations, and diagnosis. <http://www.uptodate.com/contents/chronic-suppurative-otitis-media-csom-pathogenesis-clinical-manifestations-and-diagnosis>
5. Bairwa M, Rahput M, Sachdeva S. Modified kuppuswamy's socioeconomic

- scale: social researcher should include updated income criteria, 2012. Indian J of Community Med., 2013; 38(3): 185-6.
6. Global burden of disease due to chronic suppurative otitis media: disease, deafness, deaths and DALYs <http://www.who.int/pbd/publications/ChronicSuppurativeOtitisMedia.pdf>
  7. Morris PS, Leach AJ. Managing otitis media: an evidence-based approach. Aust Prescr., 2009; 32(6): 155-9.
  8. Lasisi AO, Olaniyan FA, Muibi SA, Azeez IA, Abdulwasiu KG, Lasisi TJ, Imam ZO, Yekinni TO, Olayemi O. Clinical and demographic risk factors associated with chronic suppurative otitis media. Int J Pediatr Otorhinolaryngol., 2007; 71(10): 1549-54.
  9. Muftah S, Mackenzie I, Faragher B, Brabin B. Prevalence of Chronic Suppurative Otitis Media (CSOM) and Associated Hearing Impairment Among School-aged Children in Yemen. Oman Medical Journal, 2015; 30(5): 358-65.
  10. Kong K, Coates HL. Natural history, definitions, risk factors and burden of otitis media. Med J Aust., 2009; 191(9)(Suppl): S39-S43.