

## ORIGINAL ARTICLE

# Awareness among the Patients of Chronic Suppurative Otitis Media about the Disease and its Complications

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### ABSTRACT

**Objective:** To assess the level of awareness among patients of chronic suppurative otitis media (CSOM) about disease and its complications.

**Materials and Methods:** This cross-sectional study was carried out in Combined Military Hospital Rawalpindi, Cantonment General Hospital Rawalpindi and Pakistan Institute of Medical Sciences Islamabad from April to September 2014. Diagnosed out-patients of CSOM after history and clinical examination were included in the study and interviewed with the help of structured questionnaire to assess the knowledge about their disease and its complications. The data was analyzed using SPSS 18.

**Results:** Majority (48.8 %) patients were 15 to 30 years of age. Male to female ratio was 3:2. Only 49.6 % patients knew they had a perforation in their ear drum and 30.4% understood perforation as the cause of continued discharge from the ear. Only 33.6% patients had knowledge about entry of water in the ear as a cause of recurrence of discharge. Most patients (71.2%) did not know they had either the safe or the unsafe type of disease and only 48.8% patients knew that this disease could cause serious complications. 58.4% knew that it can cause permanent hearing loss, 19.2% were aware that infection could spread to brain, 11.2% knew it could cause facial paralysis. Only 0.8% knew it could cause giddiness and vertigo. 27.2% were aware that their disease could be cured by surgery and 26.4% thought early surgery is necessary.

**Conclusion:** Awareness among patients of CSOM about their disease and its complications is very low.

**Keywords:** Chronic suppurative otitis media, Awareness, complications, Perforation, Vertigo

### INTRODUCTION:

Chronic suppurative otitis media (CSOM) is defined as persistent inflammation of the middle ear and mastoid air cells<sup>1</sup> characterized by a perforated tympanic membrane with persistent drainage from the middle ear (i.e., lasting >6-12 week)<sup>2</sup>. The WHO definition requires only 2 weeks of otorrhoea, but otolaryngologists tend to adopt a longer duration, e.g. more than 3 months of active disease<sup>3</sup>. The disease usually occurs after upper respiratory viral infections followed by invasion of pyogenic organisms<sup>4</sup>. The organisms responsible for most cases of CSOM include *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Klebsiella pneumoniae*,

*Escherichia coli*, and anaerobes<sup>5</sup>. There are two types of CSOM, depending on pathology, tubotympanic or safe type and the atticointral or unsafe type. Later is often associated with life-threatening complications<sup>6</sup>. The complications of CSOM can be classified as extracranial intracranial<sup>7</sup>. Extracranial complications include mastoid abscess, petrositis, labyrinthitis, and fascial nerve paralysis. Intracranial complications comprise intracranial abscesses including extradural, subdural, and brain abscess; lateral sinus thrombophlebitis, meningitis and otitic hydrocephalus<sup>8</sup>. Chronic suppurative otitis media is the most common cause of hearing impairment in the developing world, although it is infrequently seen in the developed world<sup>9</sup>. According to the 2004 WHO report, the prevalence of CSOM ranges from less than 1% in developed countries to as high as 30% to 46% among certain developing countries. This burden falls disproportionately on children in developing countries<sup>10</sup>. Majority of the patients with chronic ear disease come from poor communities living in subsistence agricultural or slum areas of the cities<sup>11</sup>. The main reason behind mortality and disability due to CSOM is the lack of awareness among patients about the disease and its possible complications. People consider ear discharge as merely a nuisance rather than a potentially dangerous condition and thus do not seek help till they reach critical stages. Scarcity of qualified ENT practitioners forces patients to take medical advice from local unqualified persons or sometimes they resort to self-medication which makes them vulnerable to develop complications. Ignorance and lack of awareness is so grave that many patients present to the clinics with severe intracranial complications. Hence there is a need to study the level of awareness among OPD patients about CSOM and its complications. This could help in planning interventional measures.

### MATERIALS AND METHODS:

This cross-sectional study was carried out in the

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Combined Military Hospital Rawalpindi, Cantonment General Hospital Rawalpindi, Pakistan Institute of Medical Sciences (PIMS) Islamabad for a period of 6 months from April to September 2014. Permission was taken from hospital authorities and an informed consent was obtained from the patients. A total of 125 Patients diagnosed as CSOM in outpatient department were included in this study by utilizing convenient sampling technique. A close ended questionnaire was used to collect the information regarding the disease and its complications. Patients not able to give correct information due to any reason were excluded from the study. Data was analyzed by SPSS-18. Chi-square was applied between the variables and p value of less than 0.05 was considered significant.

**RESULTS:**

Most of our patients (48.8%) were 15 to 30 years of age (Figure 1a). The male to female ratio was 3:2. Majority of the patients i.e. 61.6% had a monthly income below 15,000 rupees. Education status of the patients (Figure 1b) and duration of the disease of the study group is shown (Figure 2). Only 49.6 % patients knew that they had a perforation in their ear drum and 30.4% understood perforation in the ear drum as the cause of continued discharge from the ear. Ear cleaning practice of the patients is shown (Table 1). When enquired about previous treatment, 51.2% patients said they had consulted qualified doctors or ENT specialists. Treatment seeking pattern of patients is shown (Figure 3). Only 33.6% patients had knowledge about entry of water in the ear as a cause of recurrence of discharge. Practice of preventing water entry in the ears is mentioned (Table 2). When asked about the type of disease, 71.2% patients did not know they had either the safe or the unsafe type of disease and only 38.4% patients recognized foul smelling discharge and bleeding from ear as indicators of unsafe disease. When knowledge of complications of the disease was questioned, 48.8% patients said that this disease could cause serious complications. Among the complications, 58.4% knew that it can cause permanent hearing loss, 19.2% said infection could spread to brain, 11.2% said it could cause facial paralysis, 8 % knew that it can result in accumulation of pus in mastoid area. Only 0.8% knew it could cause giddiness and vertigo and 0.8% said that diplopia or squint could be caused by the disease. Those who said that their disease could be cured by surgery were 27.2% and 26.4% thought early surgery is necessary. Table-3 tells about the source of most of the information about the disease among patients.

**DISCUSSION:**

Most of the patients of CSOM have very little awareness about their disease, despite the disease being highly prevalent in our community and contributing to a great portion of the Otolaryngology practice nationwide. The CSOM patients constitute an average of 25.3% (13.1) of ENT patient load, with an average of 31 (15.3) % having significant hearing loss<sup>12</sup>.

Figure: 1a  
Age distribution of patients

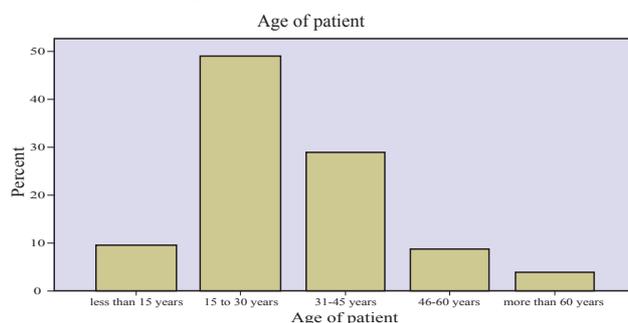


Figure: 1b  
Education status of study group

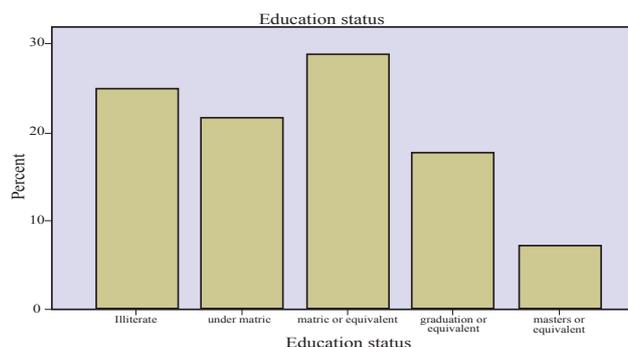


Figure:2  
Duration of disease in patients

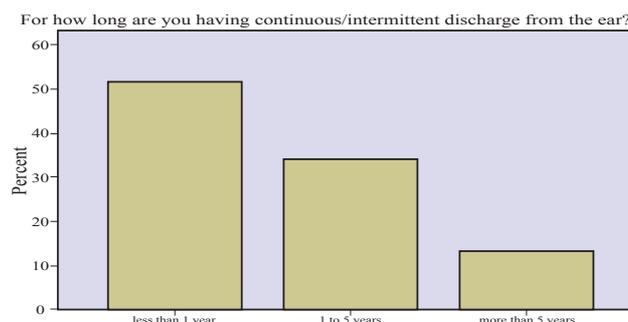


Figure: 3  
Treatment seeking pattern of patients

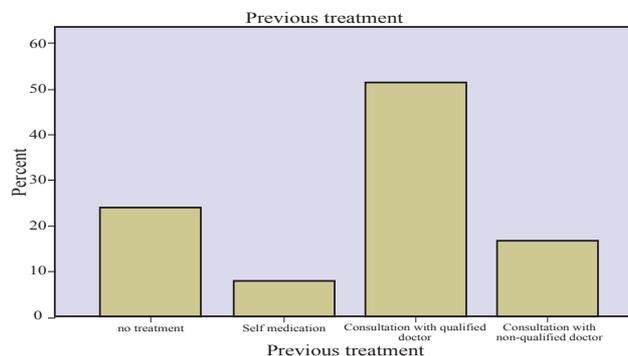


Table:1  
Ear cleaning practice of patients

Practice	Frequency	Percent (%)
With match stick	14	11.2
With tissue paper	19	15.2
With cotton bud	90	72.0
With water	2	1.6
Total	125	100.0

Table: 2  
Practice of preventing water entry in the ear

	Frequency	Percent (%)
None	61	48.8
Cotton soaked in oil	21	16.8
Cotton with vaseline	30	24.0
Ear plugs	13	10.4
Total	125	100.0

Table: 3  
Source of information for the patients

Source	Frequency	Percent (%)
Treating doctors	91	72.8
Internet/literature	4	3.2
General public	29	23.2
Total	124	99.2

The 125 patients included in our study had very limited knowledge about the underlying cause of their symptoms, the cause of recurrence of the symptoms, preventive measures against recurrence of the symptoms and the complications that can occur if the disease is left untreated. Majority of our patients (75.2%) were either illiterate or educated only up to the level of matriculation. Lack of education shows out to be a major factor associated with low awareness about such a common disease. Most of our patients were from low socio-economic status group (61.6%). Poor living conditions, poor access to medical care, inadequate medical treatment, bad status of hygiene and recurrent upper respiratory tract infections can be considered as predisposing factors in this group of population. Our findings are quite similar to the findings of a previous similar study, conducted to assess the level of awareness about complications of chronic suppurative otitis media (CSOM) in CSOM patients, by Chandrashekharayya in a tertiary care teaching hospital of Bagalkot, India<sup>13</sup>. In this study too, the majority (77.6%) of the patients belonged to low socio-economic status group. The results obtained about knowledge of association between perforation in ear drum and the discharge from ear, entry of water in ear as a cause of recurrence of discharge, differentiation into safe and unsafe type of disease, possibility of serious complications, surgery as a cure for the disease and the need for early surgery were more or less comparable to those of our study and indicated little awareness in patients. However the study differed from ours in some aspects. Majority of patients in this study were from 3<sup>rd</sup> and 4<sup>th</sup> decade of life whereas in our study majority were between 15 to 30 years of age. Unlike our study, a very small percentage (16.4%) of the patients had ever consulted an MBBS or ENT doctor.

This finding, and that the majority of patients (52.23%) were using match sticks to clean their discharging ears unlike cotton buds mostly being used in our study group, show a worse picture of awareness in their study group than in ours.

Another study conducted by Neogi revealed that 31.2% patients were from 0-10 years of age group and were males (58.8%). Majority of them (96%) lived in slums, 76.8% practiced unhygienic ear pricking, 36.8% poured oil in their ears, 70.8% bathed in ponds/rivers, 52.8% had ear discharge for more than 1 year. 17.2% knew that CSOM was contagious, 24% thought CSOM ran in family, 20% knew CSOM is preventable<sup>14</sup>. Complications of CSOM are common among untreated cases and include meningitis, brain abscess, lateral sinus thrombosis mastoid fistula and facial nerve paralysis. These complications have significant morbidity<sup>15,16,17</sup>. Only 30.4% patients understood perforation in the ear drum as the cause of continued discharge from ear. These figures include the patients who had the disease for more than 5 years and many of them had been consulting doctors before but were never properly educated. Only 33.6% patients had knowledge about entry of water in the ear as a cause of recurrence of discharge and yet 48.8% were not taking any measures to prevent water to enter the ear while taking a shower despite many of them being taking consultation from general practitioners and ENT specialists before. So it would not be wrong to blame the treating doctors for improper counseling of their patients<sup>18</sup>. Most of the patients (71.2%) did not know or were never told whether they had the safe or the unsafe type of disease and only 38.4% patients recognized foul smelling discharge and bleeding from ear as indicators of unsafe disease. This lack of knowledge about how to recognize the disease being dangerous may be the cause of failure of many patients to consult a doctor at the right time before occurrence of serious complications<sup>19,20</sup>.

Knowledge about the potential complications of CSOM among the patients was very poor. Less than half i.e. 48.8% patients said that this disease could cause serious complications. Many of the patients, due to lack of education, could not think of a disease causing symptoms in the ear to cause problems elsewhere like in the eyes, the face or the brain<sup>21,22,23</sup>. This is why many patients as well as their families neglect the disease and often present to the doctors too late sometimes with life threatening intracranial complications. Only 27.2% patients thought that their disease could be cured by surgery and only 26.4%, because most patients being unaware of the possibility of the disease to progress to serious complications, thought early surgery is necessary<sup>24,25,26</sup>.

The limitations in our study were that it only included patients of tertiary care hospitals and that too only of Rawalpindi and Islamabad which are among the most advanced cities of Pakistan with better literacy rate and health care facilities. The level of awareness among patients in smaller cities and rural areas is expected to be much lower than that shown by our study. We suggest such areas to be included in future studies so that the results can be applied to the whole country. Besides this,

since our study group was small, we recommend for large scale studies on this topic which would be helpful in planning interventions for health education.

### CONCLUSION:

Awareness among patients of CSOM about their disease and its complications is very low despite living in the age dominated by media and technological revolutions like mobiles and internet. This is leading to ignorance of the disease making it potentially life threatening and demanding serious interventions regarding health education. Wide implementation of mass educational programs aimed at imparting the knowledge about the nature of the disease and the complications caused by it can drastically lower the disease burden. A large number of people can be targeted through media campaigns to spread the basic knowledge about the disease and the preventive measures that can be adopted to avoid complications.

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