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Causes Of Delayed Care Seeking For Chronic Suppurative Otitis Media In Upper Karnali Region.

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Abstract
Background: *Chronic suppurative otitis media causes hearing impairment and serious lifelong consequences when treatment is delayed. Early detection an effective treatment result in a good outcome and possible complications can avoided. The aim of this study was to determine the factors resulting in delayed care seeking for treatment of CSOM in upper karnali.*
Methods:*The study was descriptive cross-sectional study,which was carried out in the Karnali Academy of Health Sciences, Jumla, A questionnaire was used to collect data of patients diagnosed with CSOM who attended ENT Department during the study period. Delayed care seeking wasdefined as seeking treatment 6 months after onset of symptoms. Data was entered and analyzed using SPSS 16.0.*
Result: *This study enrolled 120 patients, whomhad delays in care seeking. Majority were young adults ranging between 16-30years (39.2%) while 62.5% were rural residents. The main reason for delayed care seekingwas low knowledge of CSOM reported by 108 (90%) patients.*
Conclusion*: This study shows that majority of patients with delayed care seeking are young adult patients. Low knowledge concerning this disease and lack of ENT services significantly contributes to delaycare seeking.*
Keywords:*Chronic suppurative otitis media; Karnali; Delay care;Lack of knowledge*

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I. Introduction:

Chronic suppurative otitis media (CSOM) is one of the common health problems in Nepal[1].

CSOM is defined as a chronic inflammation of the middle ear and mastoid cavity, which presents with recurrent ear discharges or otorrhoea through a perforated tympanic membrane. The disease usually begins in childhood as a spontaneous tympanic membrane 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 (e.g. secretory OM). The infection may occur during the first 6 years of a child's life, with a peak around 2 years. It is one of the most common diseases of the ear, particularly in childhood[2].Although the disease may affect a child and persist into adulthood if left untreated[3].

Initially, CSOM presents with muco-purulent discharge through perforated tympanic membrane with otalgia; then hearing impairment follows. Thus, the clinical manifestation of CSOM tends to change as the disease progresses.

Otitis media can present itself in different forms because of large variations in the nature of the disease. This could range from silent otitis media withclinically undetectable middle ear pathology to late-stage intracranial life-threatening complications like meningitis, brain abscess etc. It is a recognized cause of mild to moderate hearing loss[4]. CSOM with and without complication continues to affect a large number of patients[5]. Poor living conditions, overcrowding, poor hygiene, frequent upper respiratory infection, inadequate antibiotic treatment, unavailable healthcareand nutrition have been suggested as a basis for the widespread prevalence of CSOM[6].

The diagnosis is made from history taking and otoscopic findings. Audiogram can be done to find out the degree of hearing loss. CT-scan should be requested to rule out any associated complications[7,8]. CSOM can be managing by nonsurgical, surgical, or combined modalities. Tympanoplasty can be done in most of the cases and tympanomastoidectomy should be considered in complicated CSOM. It is an important cause of preventable hearing loss, particularly in the developing world. It causes serious lifelong consequences when treatment is delayed. Early detection and effective treatment result in a good outcome and can avoid possible complication.

Many studies show that patients with complicated CSOM belong to a lower socioeconomic status and had low awareness of complications of CSOM[9]. This is also true in upper Karnali where low awareness and financial problem were reported to be a barrier to care seeking for ear infections in children.This is a hospital-based study to establish the factors resulting in delays care seeking for CSOM as well as the characteristics of patients with delayed presentation at a referral hospital in upper Karnali.

II. Materials And Methods

This descriptive cross-sectional study was carried out in the Karnali Academy of Health Sciences, Jumla, Nepal. The ethical permission was taken from IRC of Karnali Academy of Health Sciences (KAHS). It enrolled 120 patients who consulted ENT Department at KAHS from November 2020 to March 2021.

Inclusion Criteria: The study will include all patients visiting the ENT OPD of KAHS and diagnosed with CSOM for the first time. Delayed care seeking was defined as seeking treatment 6 months after onset of symptoms.

Exclusion Criteria: Patients who had been treated for CSOM at this hospital before and also patients diagnosed with other types of otitis media were excluded.

Predesigned questionnaires were used to collect data on the process of seeking treatment for disease. Information collected included demographics, being affiliated to a health insurance, presenting symptoms, duration between onset of symptoms and care seeking, where they sought treatment, and reasons for delayed presentation.

The data entry and statistical analyses were performed using the SPSS 16.0. Comparison of categorical variables was performed using the chi-square test. The limit of significance was set at $p < 0.05$.The patients gave written informed consent to participate in this study. Patient who could not give consent, their guardian/parent gave consent on their behalf. Confidentiality was ensured for all collected data, during both data collection and analysis.

III. Results

A total of 120 patients were diagnosed with CSOM those who fulfilled the criteria for delayed presentation were included in this study. The age range was 2 – 78 years.

Our study population comprised 63 females and 57males, female to male ratio of 1.10:1. Age range 16-30years (39.2) was predominant, age <5 years were least in number 12 (10%). More than half, 75 (62.5%) patients resides in the rural area. Patient who doesn't have proper job or house hold workerwere 39 (32.5%), while students accounted for 56 (46.6%) of our study subjects. Concerning education level, less than half 51 (42.5%) were in secondary school, others just went primary and some of them didn't continue further. Majority of thestudy population 86 (71.7%) had health insurance. Table 1 gives further detail.

Most of the patient initially complaint of ear discharge, gradually hearing loss is increased as duration of the complaints increased. Table 2 elaborates the patients' complaints compared to duration from onset to care seeking.Considering the complaint among those with delayed care seeking, the half of the patient 50.8% (n=61) complained of hearing loss, 42.5% (n=51) had active ear discharge while 6.7% (n=8) had ear pain.

Comparing use of traditional medicine and delayed care seeking, results show that 46 (38.3%) used traditional medicine before seeking treatment at our facility as shown in Table 3.

Lack of knowledge about ear infection was the most recurrent barrier that resulted in delays in care seeking as reported by 90% (n=108) of our participants. Other barriers included no service delivery, financial problem and no geographical access by 84(70%), 78 (65%) and 75(62.5%) respectively as shows in table 4.
These above barriers cause delaysin care seeking in patients with CSOM.

Table 1: Characteristic of patients with delayed care seeking for treatment of CSOM.

		n= 120	Percent
Age of patient	<5 Years	12	10
	6-15 Years	28	23.3
	16-30 Years	47	39.2
	>31 Years	33	27.5
Gender	Male	57	47.5
	Female	63	52.5
Residence	Rural area	75	62.5
	Urban area	45	37.5
Occupation	Office worker	25	20.8
	Self/ house hold work	39	32.5
	student	56	46.7
Educational level	Complete primary/none	69	57.5
	Post primary	51	42.5
Insurance	Health insurance	86	71.7
	None	34	28.3

Table 2: Patients' complaints compared to duration from onset to care seeking.

	Duration of complaints		
Complaint	**6-12 months(n=23)**	**> 12 months (n=97)**	**Total (n=120)**
Ear discharge	13 (10.8%)	38 (31.7%)	51 (42.5%)
Hearing loss	9 (7.5%)	52 (43.3%)	61 (50.8%)
Ear pain	1(0.9%)	7 (5.8%)	8 (6.7%)

Table 3: Time and duration for patients that used traditional medicine.

	Frequency	Percentage
Used traditional Medicine	46	38.3
Not used	74	61.7
Total	120	100

Table 4: Barriers to early care seeking.

Barriers		Frequency
Lack of knowledge	Yes	108 (90%)
	No	10 (10%)
Financial	Yes	42 (35%)
	No	78 (65%)
Service delivery	Yes	36 (30%)
	No	84 (70%)
Geographical	Access	45 (37.5%)
	No access	75 (62.5%)

IV. Discussion

CSOM is a common condition and comparative studies show that majority of people with long standing CSOM or those with ear infections globally reside in developing countries and specifically in rural areas[10,11].

During our study period, we found more females (52.5%) than males (47.5%) with delayed presentation for care seeking.Some otherstudies alsoreport that CSOM affects more females than males[12,13].In contrast, other studies show a male preponderance[14].

The most frequently affected age group is 16-30 years. This is productive age group. More than 90% are students. Perhaps, their inability to seek treatment early due to barriers faced. Delaying treatment is a significant cause of morbidity and mortality. Mostly hearing impairment in developing countries is caused by CSOM. This underscores the burden of CSOMand its implication on hearing loss, productivity, global burden of disease, and cost on the health system and the economy[15].

Patient's first complaint is ear discharge than hearing loss and ear pain. Pain is very minimal and late in CSOM. So, the painless nature of CSOM causes patients to defer care seeking for later[16].

Up to 38.3% of patients who delayed in seeking treatment at a health facility had used traditional medicine

We find good number of patients were under health Insurance (71.7%),Consequently more people are able to visit health facilities resulting in long queues that may be a discouragement to patients especially farmers and those patients whose house is far from hospital. Those patients will use traditional medicine and delayed in seeking definitive treatment at hospital. Only enrolling health insurance will not discourage for traditional medicine, Health communication and education drives are necessary to help parents understand the nature of ear infections and their treatment to enhance care seeking practices.

In remote area most of the patient will seek the treatment from counter or localpharmacy, who are untrained about ear infection and its treatment. A study done in Bangladesh shows, up to 85% of patients with

CSOM preferred to seek over the counter treatment from untrained local village drug vendors instead of seeking help from qualified staff[17].

Our study showed that financial problem contributes to delays in care seeking. Upper karnali region have very less infrastructure like access to road, well trained health staff, geographically also difficult to travel. Long distances to a health facility require that a patient pays a fee to be transported regardless of whether they have a medical cover.

However, barriers encountered at health facilities were also reported. Shortage of qualified staff, long periods of waiting for services, and well as unsatisfactory services were reported in our study and in other studies[18,19].

Lack of knowledge about ear infection was the most recurrent barrier in delays in care seeking as reported by 90%, along with financial problem, lack of well-trained health staff and no access of transport up to hospital are main causes for delayed care seeking at hospital for CSOM and tendency to seek traditional treatment as shown our study and other studies.

V. Limitation:

This study was only limited in KAHS, It includes patient nearby Jumla. It includes only new case of CSOM.

VI. Conclusion

Majority of patients with delayed care seeking were from rural area. Most of them were young adults. Knowledge regarding CSOM and its complication is very low in majority of participants.They preferred to use traditional and counter medicine before consulting at hospital. Consequently, low awareness of CSOM, no geographical access and lack of ENT services are the main causes of delayed care seeking.There is a need to increase awareness among the population on CSOM and avoid complicationssuch as hearing impairmentwhich were common in this study. Moreover, healthcare workers in primary healthcare facilities should be trained for management of ear infectionsand encouraged to refer patients to higher levels when the ear infection does not respond to treatment.

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