ORIGINAL ARTICLE

Knowledge, attitude, and practice of aural precautions among chronic otitis media patients

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Aim: This study aims to assess the knowledge, attitude, and practice (KAP) related to aural precautions among patients diagnosed with chronic otitis media (COM) in a tertiary care hospital in Northern India. **Background:** COM is a significant public health concern globally, particularly in developing nations. Poor awareness and maladaptive ear care behaviors contribute to disease chronicity, complications, and preventable hearing loss. Understanding patient-level KAP is essential to design effective community-level interventions and improve clinical outcomes. **Materials and Methods:** This hospital-based cross-sectional study included 114 adult patients diagnosed with COM. Data were collected using a structured and pre-validated questionnaire covering knowledge (5 items), attitude (4 items), and practice (2 items) domains. The majority of participants (48.2%) demonstrated low knowledge scores, while only 14.9% had good knowledge. Attitude scores were significantly higher among those with better educational qualifications. Despite favorable attitudes, practice scores were poor, with only 6.1% undergoing regular ear check-ups and 2.6% ever requesting ear examinations during unrelated consultations. Only 17.6% of patients had previously encountered educational material on ear health. **Conclusion:** There exists a considerable gap between awareness and real-world practices concerning aural care among COM patients. While attitude levels were encouraging, knowledge deficits and underwhelming preventive practices call for structured educational efforts. This study underscores the need for targeted ears, nose, and throat patient education in hospital and community settings. Strengthening aural hygiene awareness and correcting misconceptions can play a pivotal role in reducing COM burden and associated hearing disabilities.

KEY WORDS: Chronic otitis media, Health knowledge, attitudes, practice, Patient education as topic, Preventive health services, Referral and consultation

INTRODUCTION

Chronic otitis media (COM) remains a significant global public health challenge, particularly in low- and middle-income countries like India, where factors such as poor hygiene, lack of awareness, and delayed medical intervention contribute to its burden. The World Health Organization has identified chronic suppurative otitis media (CSOM)–a subset of COM–as one of the leading causes of preventable hearing loss worldwide, with India falling into the highest prevalence category (>4%) for this condition.[1] In 2012, CSOM was responsible for an estimated 31 million cases globally, with a significant impact on speech development, education, and quality of life.[2]

Several modifiable and non-modifiable risk factors contribute to the persistence and recurrence of COM, including upper

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respiratory tract infections, passive smoking, allergy or atopy, poor aural hygiene, and low socioeconomic status.[3] Despite the known risks and consequences, patient knowledge and practice toward preventive aural care remain suboptimal. Earlier Indian studies suggest that more than half of the patients with ear infections are unaware of causative risk factors.[4] Furthermore, common maladaptive practices such as inserting objects into the ear, using non-prescribed ear drops, and neglecting preventive measures such as keeping the ear dry are still prevalent.[5]

Understanding the knowledge, attitude, and practice (KAP) of patients suffering from COM is essential in tailoring effective community-based interventions. Such studies not only identify gaps in awareness but also reveal behavior patterns that may contribute to disease chronicity. There are limited data on the KAP related to aural precautions specifically in COM patients in Northern India. The current study addresses this gap by evaluating the KAP among COM patients, aiming to highlight the need for targeted patient education and behavioral change strategies in otological healthcare delivery.

MATERIALS AND METHODS

A hospital-based, cross-sectional observational study was conducted to assess the KAP regarding aural precautions among patients diagnosed with COM. The study was carried out over a period of 3 months in the department of ears, nose, and throat (ENT) at a tertiary care teaching hospital in Northern India. Ethical approval was obtained from the Institutional Ethics Committee before the initiation of the study (IEC/RMCH/16/2025/JUL). Written informed consent was secured from all participants.

Sample Size

A total of 114 patients diagnosed with COM were recruited using convenience sampling.[6]

Inclusion Criteria

- Patients aged 18 years and above with a clinical diagnosis of COM confirmed by an ENT specialist.

Exclusion Criteria

- Patients who had received prior formal education or counseling on ear care
- Those who had undergone any prior surgical treatment for otologic conditions
- Patients who were unwilling to participate in the study.

Data Collection Tool

A structured and pre-validated questionnaire was developed based on standard KAP survey frameworks and expert consultation. The tool was divided into three sections:

1. Knowledge domain (5 items): Assessed awareness of aggravating and relieving factors of COM, including water entry, oil instillation, swimming, and anatomical understanding
2. Attitude domain (4 items): Evaluated perceptions of ear hygiene, social consciousness, and behavioral patterns regarding itching or self-treatment
3. Practice domain (2 items): Explored real-world practices such as the use of cotton balls or earplugs in daily life.

The questionnaire was administered by trained interviewers through face-to-face interaction in the local language. Each correct or favorable response was awarded one point.

Statistical Analysis

Data were entered into Microsoft Excel and analyzed using Statistical Package for Social Sciences version 21. Descriptive statistics were used to summarize demographic variables. Continuous variables were expressed as mean ± standard deviation. Associations between KAP scores and demographic factors were assessed using independent *t*-tests, Chi-square tests, and analysis of variance, with a $P < 0.05$ considered statistically significant.

RESULTS

A total of 114 patients diagnosed with COM participated in the study. The demographic characteristics are presented in Table 1. Majority of the participants were female (51.8%), and the most common age group was 26–30 years. Educational status varied, with the highest number of participants educated below 8th standard. Most belonged to socioeconomic Class I (78.9%), and nearly half were unemployed.

Knowledge Assessment

Knowledge scores were assessed on a scale of 0–5 based on five key questions. Out of 114 participants, 55 (48.2%) had low knowledge scores, 42 (36.8%) had moderate knowledge, and only 17 (14.9%) had good knowledge regarding aural precautions [Table 2]. The most commonly known aggravating factor was water entry into the ear, while awareness regarding anatomical connections between the throat and the ear was limited.

Attitude Scores

Attitudes were measured using four key items related to perceptions and hygiene beliefs. The mean attitude scores

Table 1: Demographic profile of participants (*n*=114)

Characteristic	Subcategory	Distribution
Gender	Male, Female	55/59
Age group	18–25, 26–30, 31–35, 36–40, 41–45, 46–50, 51 and above	20/22/21/16/14/11/10
Education level	<8th standard, High school, Undergraduate, Graduate, Postgraduate	40/25/23/18/8
Occupation	Employed, Unemployed	58/56
Socioeconomic class	Class I, Class II, Class III, Class IV	90/15/7/2

Table 2: Knowledge levels of participants

Knowledge level (%)	Number of participants	Percentage
Low (<50)	55	48.2
Moderate (50–75)	42	36.8
Good (>75)	17	14.9

were highest among postgraduates (6.0) and graduates (6.1), whereas participants with <8th standard education had the lowest average score (4.7) [Table 3]. A significant positive correlation was observed between higher education levels and favorable attitudes toward ear care.

Practice Behavior

Practice responses revealed that 78 participants (68.4%) reported they would visit a doctor for ear-related symptoms. However, only 7 participants (6.1%) underwent regular ear check-ups in the absence of symptoms, and just 3 (2.6%) had ever requested an ear examination during unrelated medical consultations [Table 4]. Overall, real-world practices remained limited despite favorable attitudes.

DISCUSSION

The findings of this study provide significant insight into the current state of knowledge, attitudes, and practices related to aural precautions among patients with COM. Nearly half of the participants (48.2%) demonstrated low knowledge levels, indicating a critical gap in awareness of risk factors, symptoms, and preventive measures for COM. This aligns with previous Indian studies that reported over 50% of patients were unaware of major risk contributors such as upper respiratory infections and passive smoking.[6]

Our results revealed that while most participants could identify symptoms such as ear discharge and pain, fewer recognized systemic signs such as fever or poor school performance, which have been associated with chronic ear pathology.[7] Notably, the least recognized risk factors were snoring and tobacco exposure–factors well-established in literature as contributors to persistent otitis media.[8]

Despite the low knowledge scores, attitude levels were relatively positive, with higher educational status correlating with significantly better attitude scores. This is consistent with findings from studies in both India and the Middle East, where education has shown a strong association with favorable health beliefs regarding ear disease.[9,10] Majority of the participants believed ear infections are preventable and felt ear health is important, indicating a foundation on which future educational initiatives can be built.

However, the practice scores remained suboptimal. Only a small fraction of participants sought preventive check-ups or requested ear evaluations during unrelated consultations. This discrepancy between knowledge, attitude, and practice has also been reported in African and Asian populations, suggesting that structural barriers such as accessibility, cultural beliefs, or health literacy may influence behavior more than awareness alone.[11-13]

Table 3: Mean attitude scores by education level

Education level	Mean attitude score
<8th standard	4.7
High school	5.4
Undergraduate	5.8
Graduate	6.1
Postgraduate	6.0

Table 4: Practice responses of participants

Practice question	Yes (*n*)	No (*n*)
Visit a doctor for ear problems	78	36
Regular ear check-up without symptoms	7	107
Request ear examination during an unrelated consultation	3	111

Importantly, our study highlighted a significant underutilization of credible health information sources, with only 17.6% of patients reporting prior exposure to ear health education. Studies suggest that increasing public exposure to educational campaigns through community health workers, multimedia, and outpatient counseling significantly improves both awareness and treatment-seeking behavior.[14,15]

CONCLUSION

This study revealed a concerning disconnect between patient attitudes and actual practices related to aural precautions in COM. While attitudes were generally positive, knowledge deficits and poor practices were prevalent. These findings emphasize the need for targeted educational programs and regular ENT screening initiatives to prevent disease progression and improve patient outcomes. COM continues to be exacerbated by poor awareness and maladaptive ear care behaviors. This study underscores the need for integrating structured patient education into ENT clinics and community outreach. Reinforcing basic aural hygiene, discouraging harmful practices, and promoting regular medical consultations can significantly reduce disease burden, recurrence, and associated hearing complications.

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