

INTRODUCTION

Chronic otitis media (COM) has the potential to impact the inner ear, resulting in otovestibular disease (1). Therefore, patients with COM frequently experience vertigo, tinnitus, and sensorineural hearing loss (SNHL) (2). These symptoms can negatively impact patient's quality of life (QoL) and can be assessed using the Chronic Otitis Media Questionnaire-12 (COMQ-12) (3).

METHODS

- Secondary analysis from an observational, cross-sectional study conducted between August 2018- August 2019
- We propose an **inner ear damage index** to assess the severity of inner ear damage due to COM that consists of three main items: dizziness symptoms (Using COMQ-12), tinnitus symptoms (Using COMQ-12), bone conduction PTA > 15 Db (Audiometric testing)
- The quality of life (QoL) of all the participants was assessed using the COMQ-12 questionnaire.
- Ethics committee:** Fundación Santa Fe de Bogotá (CCE-8807-2018; CCEI-12031-2020).
- Study population:**
 - Inclusion criteria:** patients over the age of 18 with COM, who sought medical attention at the Department of Otorhinolaryngology in two hospitals located in Bogotá.
 - Exclusion criteria:** Middle ear diseases other than COM, severe comorbidities (e.g., cancer, HIV), psychiatric disorders or cognitive deficits.
- Bivariate and multivariate analysis were used to assess the **correlations (adjusted Odds Ratios: aOR)** between the possible factors associated with inner ear damage severity.
- Model assumptions were validated through a linearity test, the Hosmer-Lemeshow test.

RESULTS

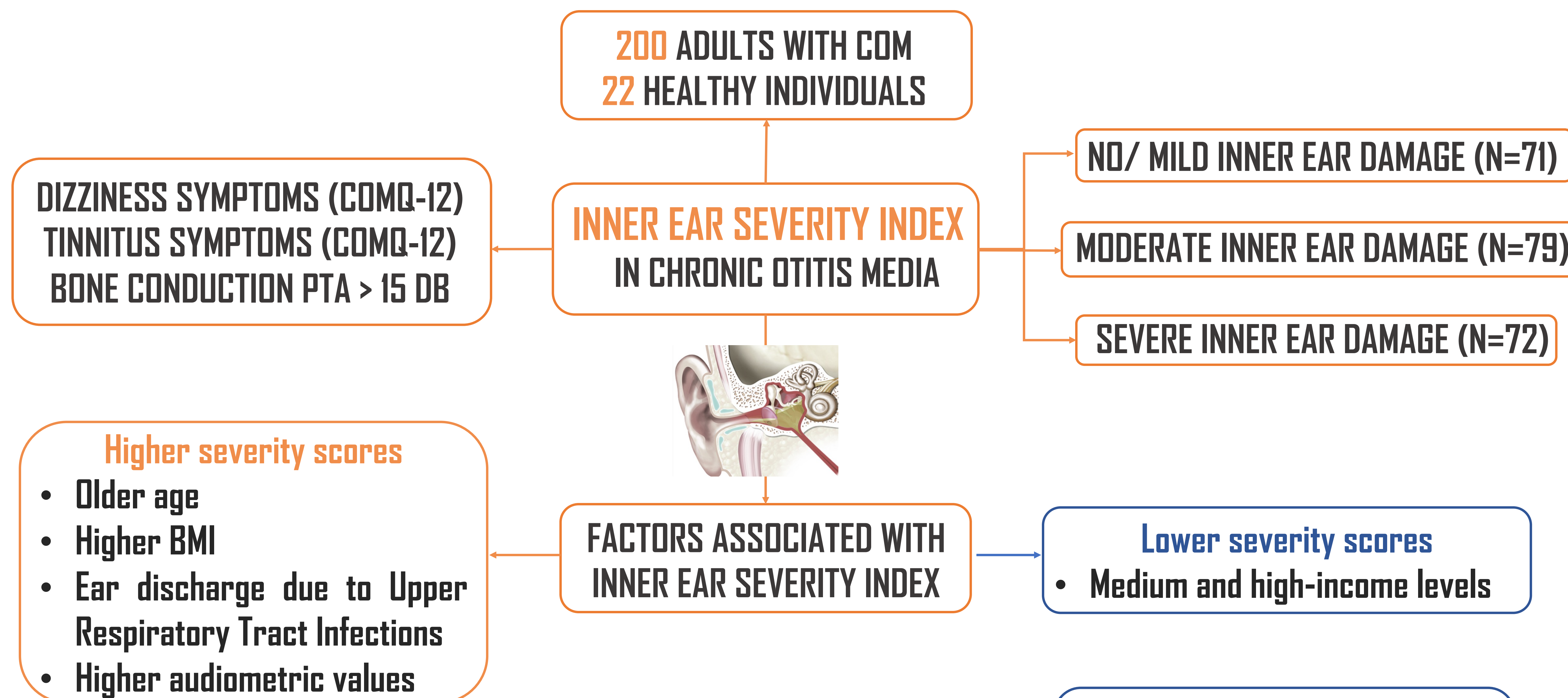


TABLE 1. Factors associated with Inner Ear Severity Index: Reduced model

VARIABLE	OR	IC 95%	
Age (Years)	1.03	1.01	1.05
Body Mass Index kg/m ²	1.08	1.02	1.14
Socioeconomic Status			
Medium (3-4) and High-income levels (5-6)	0.15	0.05	0.41
Increased ear discharge due to URTI			
Yes	1.88	1.06	3.34
Have you ever had ear discharge?			
Yes	1.81	0.93	3.52
Have you presented cholesteatoma?			
Yes	2.56	0.83	7.94
Higher audiometric values	1.04	1.02	1.05

68% of the patients presented severe or moderate inner ear damage based on this index score

Median differences between no inner damage/mild damage and severe damage were **25 points** in the COMQ-12 score

The median variations in COMQ-12 between no inner damage and severe damage were: **29 points** for "Disease severity," **4 points** for "lifestyle and work impact," **2 points** for "impact on health service," **2 points** for "General Appearance," **3 points** for the VAS domain, and **25.5 points** for the total score.

DISCUSSION

- The factors associated with a higher frequency of **severe inner ear damage** were **older age, body mass index (BMI), ear discharge due to URTI, and higher audiometric values (SNHL)**. Conversely, the factors associated with lower inner ear severity index were **higher socioeconomic status and higher educational level**. These findings are similar to prior studies describing the factors associated with COM (2,4).
- Statistically significant differences were found in terms of quality of life for all the domains of COMQ-12 between the different "index of inner ear damage severity" groups. These findings can be supported by prior quality of life assessments in COM populations (3,4).

CONCLUSION

We highlight the importance of assessing all the probable factors associated with a severe inner ear damage index in patients with COM disease. Considering these factors in the clinical practice may prevent a COM related burden and future inner ear sequelae

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