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Introduction

Depression and anxiety are prevalent mental health disorders worldwide (1). These often co-occur with otolaryngology diseases (2,3,4) negatively affecting quality of life and treatment outcomes. Although validated screening instruments are available in Colombia (5,6), their use in routine ENT practice limited. This study aimed to address this gap by determining the frequency of depressive and anxiety symptoms in adults attending otolaryngology outpatient clinics at three institutions in a middle-income country.

Methods and Materials

- Observational, cross-sectional, and analytical study** (July to September 2024).
- Inclusion population:** Patients over 18 years of age who attended otorhinolaryngology outpatient consultations at UNIMEQ and FSFB.
- Sample selection and size:** Consecutive sampling using a 95% confidence level, expected prevalence ≈21–22%, and 5% margin of error, minimum size: 278.
- Demographic and medical history data were collected, and the PHQ-2 and GAD-7 questionnaires were administered to assess depressive and anxiety symptoms.
- Joint bivariate Tobit regression model and bootstrap analysis** → Estimation of changes given the correlation between depression and anxiety levels in the general population.

Discussion

- Depressive and anxiety frequencies in our population were **higher** than Colombian general population rates (7,8).
- Women** showed higher prevalence of both mood disorders in the both in the reviewed literature and in our study (9, 10, 11).
- ENT conditions were **significantly associated** with anxiety scores (+3.82) and depression scores (+1.44) of the scales.
- Suicidal ideation: 3.4%, lower than ENSM 2015 (6.55%) (12).
- ENT consultations are key opportunities for screening and early mental health intervention.**

Conclusions

High prevalence – Frequency of depression (10.8%) and anxiety (15.5%) were higher among ENT patients compared with the Colombian general population.

More prevalence in groups – Women, older adults, and middle/high-income strata showed higher prevalence of mood disorders.

ENT association – Otolaryngologic conditions were significantly linked to increased anxiety and depression scores.

Clinical opportunity – ENT consultations represent a key setting to screen for and address mental health needs, fostering more empathetic and comprehensive care.

Characteristics ^a	Total n=323
Sex	
Female	180 (55.73%)
Masculino	143 (44.27%)
Age in years ^b	50.41 (15.71)
Age group	
18-39 years	95 (29.41%)
40-59 years	129 (39.94%)
60-90 years	99 (30.65%)
Number of people in the household ^c	3.00 (2.00-4.00)
Origin	
Bogotá	223 (69.04%)
Other cities	100 (30.96%)
Socioeconomic status	
1-2 (low status)	61 (18.89%)
3-4 (middle status)	153 (47.37%)
5-6 (high status)	108 (33.44%)
Without status	1 (0.31%)
Educational attainment	
Elementary	20 (6.19%)
High school	59 (18.27%)
Technical/University	133 (41.18%)
Postgrade	75 (23.22%)

a. Data are presented as and n (%) for categorical measures.

b. Data are presented as mean (SD) or median (IQR) for continuous measures

c. Data are presented as median (IQR) for continuous measures

Table 1. Sociodemographic characteristics of the study population.

Health condition ^a	Female n=180	Male n=143	18-40 years n=95	41-60 years n=129	>60 years n=99	Total n=323
GAD 7 Total Score	3.00 (1.00-7.50)	3.00 (1.00-6.00)	3.00 (1.00-7.00)	3.00 (1.00-8.00)	2.00 (0.00-7.00)	3.00 (1.00-7.00)
GAD 7 diagnostic						
Without Anxiety disorder	148 (82.22%)	125 (87.41%)	82 (86.32%)	108 (83.72%)	83 (83.84%)	273 (84.52%)
With Anxiety disorder	32 (17.78%)	18 (12.59%)	13 (13.68%)	21 (16.28%)	16 (16.16%)	50 (15.48%)
GAD 7 severity						
Minimal Anxiety	105 (58.33%)	92 (64.34%)	58 (61.05%)	79 (61.24%)	60 (60.61%)	197 (60.99%)
Mild Anxiety	43 (23.89%)	33 (23.08%)	24 (25.26%)	29 (22.48%)	23 (23.23%)	76 (23.53%)
Moderate Anxiety	20 (11.11%)	15 (10.49%)	10 (10.53%)	13 (10.08%)	12 (12.12%)	35 (10.84%)
Severe Anxiety	12 (6.67%)	3 (2.10%)	3 (3.16%)	8 (6.20%)	4 (4.04%)	15 (4.64%)
PHQ-2 diagnostic						
Without major depressive disorder	159 (88.33%)	129 (90.21%)	88 (92.63%)	112 (86.82%)	88 (88.89%)	288 (89.16%)
Major depressive disorder	21 (11.67%)	14 (9.79%)	7 (7.37%)	17 (13.18%)	11 (11.11%)	35 (10.84%)
In the last 2 weeks have you had thoughts of death or suicide?						
No	173 (96.11%)	136 (95.10%)	95 (100.00%)	117 (90.70%)	97 (97.98%)	309 (95.67%)
Yes	5 (2.78%)	6 (4.20%)	0 (0.00%)	9 (6.98%)	2 (2.02%)	11 (3.41%)
Missing	2 (1.11%)	1 (0.70%)	0 (0.00%)	3 (2.33%)	0 (0.00%)	3 (0.93%)

a. Data are presented as median (IQR) for continuous measures, and n (%) for categorical measures.

Table 2. Mental health results in the study population.

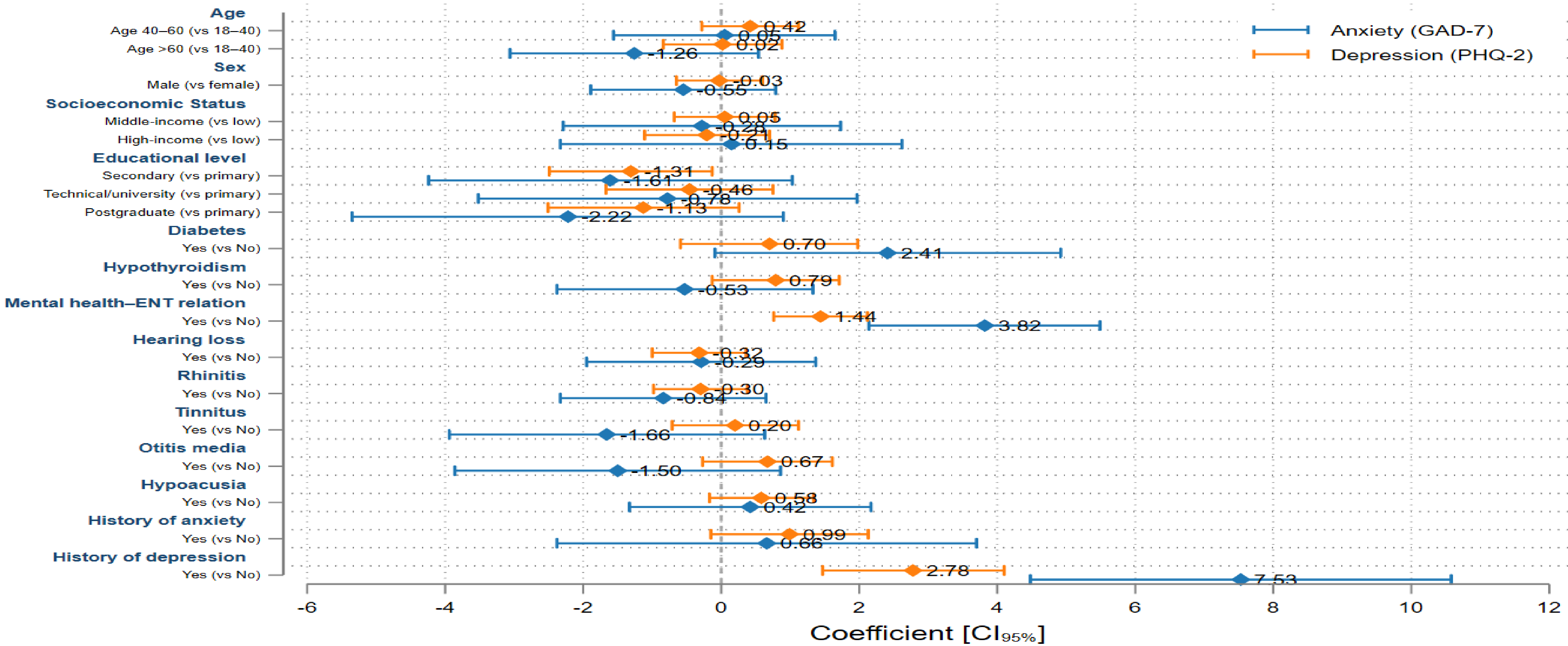


Figure 1. Joint bivariate Tobit regression results

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References

- World Health Organization. Depression and Other Common Mental Disorders. Global 254 Health Estimates. 2017. 255
- Lucente FE. PSYCHIATRIC PROBLEMS IN OTOLARYNGOLOGY. Ann Otol. 256 1973;340–6. 257
- Wang J, Wu X, Lai W, Long E, Zhang X, Li W, et al. Prevalence of depression and 258 depressive symptoms among outpatients: A systematic review and meta-analysis. BMJ 259 Open. 2017;7(8):1–14. 260
- Vázquez-Machado A, Cossa J, Pichs-Llópiz C. Psychosocial factors in patients from an 261 otorhinolaryngology service. Rev Chil Neuropsiquiatr. 2019;57(3):247–53.
- Cassiani-Miranda CA, Cuadros-Cruz AK, Torres-Pinzón H, Scopetta O, Pinzón-Tarrazona JH, López-Fuentes WY, et al. Validity of the Patient Health Questionnaire-9 (PHQ-9) for depression screening in adult primary care users in Bucaramanga, Colombia. Rev Colomb Psiquiatr. 2021;50(1):11–21.
- Gutiérrez Maldonado S, Gutiérrez-Gómez E, Bastidas Rosas D. Demographic characteristics of the population with main otorhinolaryngological pathologies in Colombia. Acta De Otorrinolaringología & Cirugía de Cabeza Y Cuello. 2022;49(4):272–8.
- Gómez-Restrepo C. The National Mental Health Survey – ENSM 2015. Rev Colomb Psiquiatr. 2016;45:1 p.
- Botero-Rodríguez F, López-Figueroa C, Yucumá D, Salgado-Cendales A, Acevedo-Gallego JP, Rodríguez-Barrios JG, et al. Mental health in the Bogotá population: Analysis of the National Mental Health Survey. 2023;25(3):1–9
- Ministry of Health and Social Protection - Minsalud. Mental Health Bulletin Depression. Subdirectorate of Non-Communicable Diseases. 2017;2:0–16. Available from: <https://www.minsalud.gov.co/sites/rid/Lists/BibliotecaDigital/RIDE/VS/PP/ENT/boletin-depresion-marzo-2017.pdf>
- Farhane-Medina NZ, Luque B. Factors associated with gender and sex differences in anxiety prevalence and comorbidity: A systematic review. 2022;105(4):1–30.
- McLein CP, Asnaani A, Litz BT, Hofmann SG. Gender differences in anxiety disorders: Prevalence, course of illness, comorbidity and burden of illness. J Psychiatry Res. 2012;1–18.
- Grunfeld EA, Gresty MA, Bronstein AM, Jahanshahi M. Screening for depression among neuro-otology patients with and without identifiable vestibular lesions. Int J Audiol. 2003;42(3):161–5.
- Jotic AD, Opankovic AM, Radin ZJ, Cvoric L, Vujovic KRS, Krejovic-Trivic SB, et al. Symptoms of depression, anxiety and stress in patients with chronic otitis media. PLoS One. 2022;17(7):1–13