

Tinnitus is associated with reduced sound level tolerance in adolescents with normal audiograms and otoacoustic emissions

*Tanit Ganz Sanchez^{1,2,3}, Fernanda Moraes², Juliana Casseb², Jaci Cota², Katya Freire³, & Larry E. Roberts⁴

¹University of São Paulo School of Medicine, São Paulo, Brazil

²Instituto Ganz Sanchez, São Paulo, Brazil

³Association of Interdisciplinary Research and Divulcation of Tinnitus, São Paulo, Brazil

⁴Department of Psychology Neuroscience and Behaviour, McMaster University, Hamilton, Ontario, Canada

*Corresponding Author:

Tanit Ganz Sanchez, MD, PhD

Av. Padre Pereira de Andrade, 353

São Paulo, SP, Brazil – CEP: 05469-000 Phone/fax (+5511) 3021-5251

Author emails: tanitsanchez@gmail.com; drafmoraes@gmail.com; jucasseb@yahoo.com.br; jacicota@gmail.com; katya@audicare.com.br; roberts@mcmaster.ca

Table 1s. Summary of questionnaire. Each main question was answered “yes” or “no”. If “yes”, supplementary questions provided further information^{1,2}

1. Is it hard to hear or understand?

2. Have you had tinnitus in the last 12mo, but once/twice/few seconds?

When or where:

- A. Only at bedtime, less than 50% of the nights
- B. Only at bedtime, more than 50% of the nights
- C. Anytime you are in silence (day or night)
- D. After loud music, but disappears next day
- E. After loud music, and lasts 2-3 days to disappear
- F. In other situations:

Ear of tinnitus: (Right, left, both)

Tinnitus sound: (ringing, hissing, other)

Tinnitus affects: (nothing, concentration, sleep, social life)

3. Are you bothered with sounds that other people are not?

If yes, which sounds?

- | | | |
|-----------------|---------------------|-------------------|
| A. recess | E. whistle | I. people talking |
| B. classroom | F. cars/motorcycles | J. games |
| C. Barking dogs | G. radio/TV | K. Other: |
| D. Phone | H. music | |

4. Do you use to hear music with ear phones?

- Which volume? () high () medium () low
 How many hours per day? () < 1h () 1-2h () > 3h
 How many days per week? () 1-2d () 3-4d () 5-7d

5. Do you use to go to parties/baladas/shows/raves with loud sounds?

- How long do you stay? () < 1h () 1-2h () > 3h
 How many days per week? () 1-2d () 3-4d () > 5d
 Do you leave them with temporary tinnitus? (yes/no)

6. Have you been exposed to loud sounds in the last 14h? (yes/no)

7. Do you use a mobile phone (except for texting or internet)?

- How long per day? () <10min () 10-30min () >30min
 How do you use? () speaker () touching ear () ear phone
 Which ear do you prefer? () right () left () both

¹ Subjects reporting tinnitus on Question 2 above rated its loudness and annoyance separately on visual analogue scales ranging from 1 (minimal loudness or annoyance) to 10 (maximum loudness and annoyance).

² Questions not listed investigated eating habits, otitis, and temporomandibular joint symptoms.