

Tinnitus and comorbidity



JANNIKE HEYERDAHL-LARSEN AUSLAND, BO ENGDahl, NORUN HJERTAGER KROG
NORWEGIAN INSTITUTE OF PUBLIC HEALTH, OSLO, NORWAY

Introduction

- Tinnitus is a sensation of sound without external stimulation.
- International studies, using different definitions of tinnitus, indicate a prevalence of 5 - 41% in the general population, and 12 - 30% with the definition “lasting more than five minutes”.
- Tinnitus perception varies greatly when it comes to both manifestation and degree of suffering.
- It is known that tinnitus can significantly influence mental health and quality of life, but little is known about how comorbidity in general is associated with nuisance and degree of disability.

Aims

- The study aims to investigate comorbidity with tinnitus in the general population, more specifically:
 - The association between tinnitus, pain sensitivity, and chronic pain.
 - The association between tinnitus and cardiovascular disease.
 - The association between tinnitus, comorbidity, and work capability.
 - The association between symptom intensity, annoyance with tinnitus, co- and multimorbidity and use of health services.

Methods

- Data:
 - The Tromsø 7 Study (2015-16). All inhabitants 40 years or older invited to participate.
 - In total 21 083 men and women aged 40 – 99 years old participated (65% of those invited).
 - Tinnitus questions included in the second questionnaire (n=20 558).
 - Data from Tromsø 7 will be combined with data from the KUHR registry (control and disbursement of health refunds).
- Statistical analyses:
 - Standard multiple techniques, i.e. linear and logistic regression and analysis of variance.

Some preliminary results

- 21% had experienced ringing in their ears lasting more than 5 minutes within the last 12 months.
- 37% of participants with tinnitus reported having ringing in their ears most of the time.
- On a scale from 0 to 10, where 0 means not bothered by tinnitus and 10 means worst imaginable suffering, the mean response was 3.5 (SD 2.3).
- The project has only recently started, and additional results will be ready at a later stage.

Conclusions

- The high prevalence of tinnitus makes tinnitus a public health issue. Hence, it is useful to examine relationships between tinnitus and other diseases, in order to uncover possible causes for development of debilitating tinnitus.
- The Tromsø Study is thorough and of wide scope and is therefore well suited for this kind of research.
- The tinnitus prevalence in the Tromsø Study is in the mid range of the interval found in studies internationally. The large heterogeneity between studies may be due to differences in definitions of tinnitus, and even differences in time frame where the same question is used (tinnitus “nowadays” versus no time frame). Different age spans may also influence comparability, since tinnitus prevalence increases with age.

Cooperation and user involvement

- The project is conducted by NIPH in cooperation with researchers at UiT – The Arctic University of Norway and UNN.
- **NIPH:** J. H.-L. Ausland (PhD-student), N. H. Krog (project leader and main supervisor), B. Engdahl (co-supervisor), B. H. Strand (internal supervisor, UiO) C. S. Nielsen, Ó. A. Steingrimsdottir, B. Oftedal.
- **UiT:** L. Hopstock, A. L. Eggen, O. Friborg, E. Mathiesen, J. A. Olsen, U. Ringberg, J. H. Rosenvinge.
- **UNN:** Magnar Johnsen.
- **User involvement:**
 - Two representatives from **HLF** with tinnitus, and an audio pedagogue from **HLF Briskeby** will attend the project meetings.
 - The PhD-student will discuss tinnitus-related problems with **tinnitus patients** attending a course at HLF Briskeby.