

Abstract

Objective:

The objective of this cross sectional study was to explore the effects of systolic blood pressure variance on hearing level.

Hypothesis:

There is a correlation between the systolic blood pressure and the hearing level.

Design:

Data collected from a previous longitudinal study of male mono- and dizygotic twins in Sweden who are at the age of 52-93 were analyzed by using SPSS version 27 as the statistical software. Multiple regression analysis was used to investigate the effect of systolic blood pressure variance on hearing level measured as pure tone average (PTA) of 500 Hz, 1000 Hz, 2000 Hz and 4000 Hz. The confounding variables age and body mass index (BMI) was analyzed to investigate the presence of possible effects on the criterion variable (hearing level). This helped to distinguish whether the variance was purely due to systolic blood pressure or with the contributions of the other predictor variables.

Results:

A multiple linearity was detected with hearing level (PTA) as a criterion variable and systolic blood pressure, age, and body mass index as predictor variables with an explanation rate of variance of 26 % (adjusted $r^2=26.2$). The linearity between systolic blood pressure, body mass index and hearing level was significant but had low impact on the variance in hearing level after being corrected for age. We found small covariance between body mass index and systolic blood pressure which was expected but it did not have a big effect on the result.

Conclusion:

Our hypothesis was not confirmed, the deterioration of hearing loss could only be explained by a variance of age and not by systolic blood pressure.

Key words: Hypertension, body mass index, dizygotic twins, hearing loss, monozygotic twins, systolic blood pressure

Abstract

Introduction Living with a severe hearing loss is stressful and most people experience significant difficulties in communication with others as hearing aids usually do not provide sufficient benefit. People with a severe hearing loss can receive individually tailored help through an extended hearing rehabilitation. **Purpose** The main purpose of this study is to compare the impact of hearing loss on the lives of people with severe hearing loss at the beginning of the extended rehabilitation to the follow-up one year later. The subordinate purpose is to study whether there is a difference between men and women. **Method** Through data from the Register for severe hearing loss in adults in the Stockholm Region, 94 patients who participated in the extended hearing rehabilitation during the period 2016-2021 were studied. The data on which this study took place are the baseline questionnaire that was completed at the start of the rehabilitation and the follow-up questionnaire that was completed at the follow-up after one year. In both surveys, each individual patient is allowed to estimate the value of how much the hearing loss affects his or her life. The rating scale used in the two surveys ranges from 0-100, where 0 means no impact on life and 100 means negative impact on life in all situations. The value each individual patient estimated at the follow-up is subtracted from the estimated value the patient stated at the start of the rehabilitation. **Results** The statistical analysis showed that there was a statistically significant difference in the estimated value of the impact of hearing loss on life between follow-up and at the beginning of rehabilitation. The majority of patients experienced an increased negative impact. This means that the hearing impairment affected life to a greater extent at the follow-up than what they stated at the beginning of the rehabilitation. There was no statistically significant difference between men and women in the impact of hearing loss on life. **Conclusion** The fact that patients stated that they had an increased negative impact on their lives instead of an improvement may be due to several reasons as a severe hearing loss is often complex. The study also showed that 98% of the patients who took part in the extended rehabilitation for a year experienced the benefits of hearing care, which indicates that the problem may be deeper than that.

Keywords: communication, gender, quality register, severe-to-profound hearing loss, technical rehabilitation