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Hearing Loss and Quality of Life

Abstract

Hearing is the most important sense for human communication. Globally, about 430 million people experience moderate or higher degrees of hearing loss which most likely impacts their daily activities and quality of life. For most of the affected people hearing capacity diminish slowly over time. Common primary consequences are communication problems in noisy situations causing altered social interactions, social withdrawal and loneliness. Furthermore, both can contribute to worsened mental health, leading to experience of depression. Finally, there is some evidence that cognitive decline may be accelerated in people with hearing loss.

Putting all these things together, it is obvious that treatment of hearing loss is necessary in order to prevent secondary impairments. However, the primary aim of hearing interventions is to restore hearing and to increase communication abilities and hearing related quality of life. For most of the people suffering from hearing loss, acoustic amplification by hearing aids is the method of choice. For higher degrees of hearing loss cochlear implants are necessary.

There are numerous inventories which systematically assess quality of life (QoL). Patient reported outcome measures are used across surgical specialties to provide quantitative measures of the impact of interventions on patients' QoL. Usually, not only speech recognition is addressed but also activity limitation, self-esteem and social interaction.

A widely used questionnaire is the Nijmegen Cochlear Implant Questionnaire (NCIQ) which was developed in 2000 to measure the subjective benefit of cochlear implantation. Several studies have shown that the NCIQ allows quantification the success of e.g. cochlear implantation and to monitor QoL in patients after cochlear implantation.

The successful use of the NCIQ requires control of speech recognition and hearing status. The NCIQ may be used to show benefits for a group. Additionally, it may be used to individualize rehabilitation procedure. E.g., the NCIQ helps to identify subjects who need additional communication training or psychological support. In summary, the assessment of QoL improves results of medical treatments.

CV

Between 1987 and 1993 Ulrich Hoppe studied Physics and medicine at Göttingen University. At the University of Erlangen-Nuremberg he performed his Ph.D. thesis (Dr.-Ing.) on “Objective Audiometry by Means of Speech Evoked Cortical Potentials” in 1997. He worked as Postdoc at the Department of Audiology at the medical school in Homburg/Saar where he performed studies in signal processing of transitory evoked otoacoustic emissions (Dr. rer. med.). In 2000 he returned to Erlangen as group leader of a scientific group at the Department of Phoniatrics and Pedaudiology with main focus on objective voice quality measurements and High-Speed imaging of vocal fold vibrations. 2003 he was appointed as full professor at the Technical University Ilmenau for Biosignal Processing.

Since 2005 he is Professor of Audiology and head of the department of Audiology at the ENT-clinic at the University of Erlangen-Nuremberg and since 2009 he is head of the newly founded Cochlear Implant Centre CICERO.

He is general secretary of the board of the German Audiological Society. From 2013 – 2017 he was vice-president then president of the German Audiological Society (DGA).

His main research areas are objective hearing diagnosis, speech audiometry, hearing aids and cochlear implants.