



277. PREDICTING USAGE OF HEARING AIDS AND COCHLEAR IMPLANTS FOR CHILDREN AT THREE YEARS OF AGE

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Aims

To examine the daily usage patterns of hearing aids and cochlear implants in children at three years of age, and explore demographic factors associated with consistent device usage. Changes in usage patterns over time were also examined.

Methodology

Parent reported levels of hearing device usage and Parent's Evaluation of Aural/oral performance of Children (PEACH, Ching & Hill 2007) data were obtained for 413 participants of the Longitudinal Outcomes of Children with Hearing Impairment (LOCHI) study. Data were collected at six and twelve months after hearing aid fitting or cochlear implant switch-on, and at three years of age. A range of demographic characteristics were examined to determine predictors of consistent device use and changes in usage over time. Further, the effect of daily device use on auditory performance was examined.

Results

At three years of age, over 70% of participants were reported to be using their hearing devices consistently. For those using hearing aids, consistent use was associated with a higher maternal education level, the use of frequency modulation (FM) system and a greater degree of hearing loss. For those using cochlear implants, consistent use was associated with absence of additional disabilities and higher maternal education. Longitudinal changes in device use and the impact of device usage on auditory functioning outcomes will also be discussed.

Conclusions

Consistent hearing device usage was achieved for many children by an early age; however those with milder hearing losses tended to use their hearing aids less often. The clinical implications will be discussed.

302. DO CHILDREN WITH HEARING LOSS WHO RECEIVED EARLY INTERVENTION CATCH UP WITH THEIR NORMAL – HEARING PEERS AT 5 YEARS?

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Aims

To examine the efficacy of universal newborn hearing screening (UNHS) for improving outcomes of children with hearing loss; and to investigate the factors affecting outcomes.

Method

This is a prospective, population-based trial that commenced in 2005. In the Longitudinal Outcomes of Children with Hearing Impairment (LOCHI) study, about 450 children born with hearing loss between 2002 and 2007 in NSW, Victoria and Southern Queensland were

recruited. After enrolment, children were evaluated at several intervals over the first 5 years of life. Standardized, normed tests were administered to children, and demographic information was collected from parents and service providers.

Results

Regression analysis revealed that language ability of 5-year-old children with hearing aids decreased significantly with increase in age at hearing-aid fitting. Together with severity of hearing loss, non-verbal cognitive ability, maternal education and oral mode of communication, these factors accounted for more than 78% of variance in scores. The decrement in performance with delays in age of fitting was greater for children with more severe loss than those with lesser loss. For children with cochlear implants, age at cochlear implantation, nonverbal cognitive ability and absence of additional disabilities were significant predictors of language outcomes. The presence of auditory neuropathy did not significantly affect outcomes of children with hearing aids or cochlear implants, after allowing for the effects of hearing sensitivity and other characteristics.

Conclusions

This study provides high-quality evidence on the efficacy of UNHS. The findings form the basis for evidence-based guidelines for effective management of children with hearing loss.

Wednesday 7th May – Round Table 3

498. HUMAN AGING

Mr Ian Cooke

Human ageing is associated with progressive decline in physical capability – we are all familiar with, and expect to experience, decreasing strength, mobility and endurance as we age, although many of us may hope that these changes may be slowed by the adoption of “preventive” healthy lifestyles. The human brain also changes with age in adulthood. Typically, there are decreases in the volume of grey matter in certain regions of the brain and concomitant reductions in dendritic structure and the complexity of synaptic connectivity. These morphological changes reflect changes in information processing capabilities. Yet while age is by far the biggest risk factor for Alzheimer's disease and other major forms of dementia, significant cognitive decline is not an inevitable consequence of ageing. Rigorous prospective studies of ageing have identified potentially modifiable independent risk factors for cognitive decline, including age-related hearing loss and social interaction. This presentation will consider these matters in the context of potential intervention strategies and the need for objective biomarkers of risk, prognosis and response.

496. WORKING WITH THE MEDIA

Dr Joseph Milton

Senior Media Officer, Australian Science Media Centre

Working with the media can be unfamiliar territory for many experts and downright scary when things go wrong. But the opportunities are great, not only in publicising the work you do but also in terms of informing policy, public opinion and contributing to debate on issues