Effects of Frequency Allocation on Lexical Tone Identification by Mandarin-speaking Children with a Cochlear Implant

林永松

Lin YS;Peng SC

摘要

Abstract

Conclusion. Frequency allocation with extended frequency ranges yielded significantly higher accuracy in pediatric CI recipients' lexical tone identification. These findings suggest that frequency allocation with extended frequency ranges may be useful in improving lexical tone recognition for at least some pediatric CI recipients. Objectives. To assess the effects of frequency allocation on lexical tone identification by Mandarin-speaking children with a cochlear implant (CI). Subjects and methods. In a prospective study, 15 prelingually deafened children between 7.17 and 16.17 years of age served as participants. Using Med-el CI devices, each participant's accuracy in lexical tone identification was compared in two conditions: first, the experimental condition, i.e. use of the extended frequency range from 233 to 8501 Hz; second, the control condition, i.e. use of the participant's clinically assigned frequency range from 300 to 8404 Hz. Results. The group mean of pediatric CI users' accuracy in lexical tone identification was 88.02% (SD = 6.31%) in the experimental condition and 83.82% (SD = 9.84%) in the control condition. The group mean was 4.20% (SD = 5.48%) higher in the experimental condition than that in the control condition; this difference was statistically significant ($t(14) = 2.97$, $p=0.010$).