

TONAL PERCEPTION AMONG MANDARIN-SPEAKING CHILDREN WITH A COCHLEAR IMPLANT

Chin Ee Ling

This study aimed to investigate tone perception ability of prelingually deaf Mandarin-speaking children with cochlear implant. Twenty-six prelingually deaf children aged 4 to 16 years old (mean =9;3 years old, SD=2;11 years old) implanted under the Universiti Kebangsaan Malaysia Cochlear Implant Program participated in this study. Three children had implant experience of at least 3 years (mean = 6;1 years, SD = 2;6 years old). Tone Perception Test (TPT) was used to test each subject under four different test conditions which are with and without ADRO program in quiet and in noise at 10dB SNR. Test items were presented at 65dB SPL, while multitalker babble noise were presented at 55dB SPL, both through a calibrated loudspeaker situated at 0° azimuth and 1m from subject. The average score of TPT is 73.5% in quiet and 65.7% in noise. Tone 4 was found to be the easiest tone identified. Two-way Repeated Measures ANOVA showed that there was a significant difference between with and without ADRO programs ($p > 0.05$). Pearson Correlation and Partial Correlation analysis were done to investigate the relationship between duration of implant experience and age at implantation with TPT scores. Results revealed a significant positive correlation between duration of implant experience with TPT scores ($p > 0.05$). However, no significant correlation was found between age at implantation with TPT scores ($p > 0.05$). In conclusion, although most cochlear implant children in this study were able to identify Mandarin tones, the majority of their performances were still in the average range (40%-80%). However, there were a few children who obtained excellent scores in TPT. Thus, it suggests that factors other than device limitation may contribute to affect the tonal perception of prelingually deaf cochlear implanted children.

Chin, E. L. 2009. Tonal Perception Among Mandarin-Speaking Children with a Cochlear Implant. Bachelor of Audiology Thesis. Universiti Kebangsaan Malaysia.