

Auditory Speech Effects and Quality of Family Life of Prelingually Deaf Children with Different Hearing Aid Models: A Prospective Study

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April 05, 2024

Abstract

Objective To explore the differences in auditory speech effects and quality of family life of pre-lingual deaf children with different hearing aid models within one year after postoperative, and analyze the relationship between them. **Design** A prospective cohort study **Setting and Participants** Fifty-eight cases of children with prelingual deafness who underwent cochlear implantation at the First Affiliated Hospital of Anhui Medical University from March to July 2020 were selected. **Main Outcome Measures** According to the hearing aid mode, Children with prelingual deafness were divided into 21 cases in the unilateral cochlear implant group (CI), 8 cases in the bimodal group (CI+HA), and 29 cases in the bilateral cochlear implant group (BCI). The speech, spatial and qualities of hearing scale-parent's version (SSQ-P) and children using hearing implants quality of life (CuHI QoL) were used to measure auditory speech ability and family quality of life in three groups. **Results** At one year postoperatively, the speech perception, spatial hearing, hearing sound quality and SSQ-P scores of the BCI group were significantly higher than those of the CI+HA group, and the CI+HA group was superior to the CI group. Especially in spatial hearing and hearing sound quality, the BCI group was more advantageous than the other two groups ($P < 0.05$). At 6 months postoperatively, the BCI group had the highest quality of family life scores. while at 1 year postoperatively, there was no differences in quality of family life between the three groups ($P > 0.05$). Overall, their quality of family life and SSQ-P scores showed a gradual increase with the postoperative time. Auditory speech effects were positively correlated with quality of family life ($r = 0.312$, $P < 0.01$). **Conclusions** BCI can effectively improve children's spatial hearing and hearing quality. The better the postoperative auditory speech effects, the higher the quality of family life.

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2021.11.02\begin{CJK}{UTF8}{gbsn}.\end{CJK}\selectlanguage{english}.docx available at <https://authorea.com/users/737744/articles/712496-auditory-speech-effects-and-quality-of-family-life-of-prelingually-deaf-children-with-different-hearing-aid-models-a-prospective-study>