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Self-esteem and social well-being of children with cochlear implant compared to normal-hearing children

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Summary

Objective: The purpose of this study was to make a quantitative comparison of parameters of self-esteem and social well-being between children with cochlear implants and normal-hearing children.
Material and methods: Data were obtained from 164 children with cochlear implant (CI) and 2169 normal-hearing children (NH). Parental questionnaires, used in a national survey assessing the self-esteem and well-being of normal-hearing children, were applied to the cochlear implanted group, in order to allow direct comparisons.
Results: The children in the CI group rated significantly higher on questions about well-being in kindergarten/school and the CI boys appeared to manage school work better than normal-hearing boys. CI children were significantly more active and bullied other children less than normal-hearing peers, whereas no difference existed as to being bullied by other children. No difference was obtained regarding overall self-esteem or number of friends. The two groups of children scored similarly on being confident, independent, social, not worried and happy.
Conclusion: Children with cochlear implant score equal to or better than their normal-hearing peers on matters of self-esteem and social well-being.

1. Introduction

There is a risk that children with profound hearing loss experience serious speech and language delays that can impact their communication, their cognitive development, as well as their social

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development [1]. Substantial literature has documented the difficulties encountered by children with severe-to-profound hearing loss in the area of self-esteem and social—emotional adjustment [2]. Since the introduction of cochlear implant, many studies have documented auditory and speech/language progresses not previously described for a profoundly hearing impaired pediatric population [3—7]. Studies of speech and language outcome have shown that early implantation facilitates development of age equivalent speech and language for deaf children [1].

A study of adult users in Denmark revealed that all respondents expressed a high degree of satisfaction with the implant and would recommend an implant for a deaf friend [8]. The group as a whole experienced a significant increase in self-confidence ratings and a significant decrease in negative effects of deafness on their family life. In addition, studies addressing matters regarding social well-being and self-esteem for children with cochlear implants have shown that parents generally rate their children positively on these matters of quality of life [2,9,10]. However, there are only a limited number of studies comparing matters regarding the level of social well-being of children with cochlear implants to that of normal-hearing children.

Khan et al. [11] studied non-verbal measures of cognition between hearing impaired children with cochlear implants and hearing aids compared to normal-hearing children [11]. They concluded that hearing impaired children with cochlear implants were able to perform at the same non-verbal cognitive level as normal-hearing children, whereas hearing impaired children with hearing aids performed worse. Sahli and Belgin [12] compared the level of self-esteem of adolescents with cochlear implants and normal-hearing and found that there was no significant difference between the two groups and thus concluded that cochlear implantation had a positive effect on the quality of life.

The purpose of the present study was to make quantitative comparisons of the level of self-esteem and social well-being between children with cochlear implants and normal-hearing children. UNICEF states in a report of child well-being [13], that a measure of overall child well-being must include a consideration of how well the children get on in the educational system, in which they spend a large proportion of their childhood, and upon which their future well-being is likely to depend. One focus of the present study was, therefore, on social well-being related to kindergarten/school, on how the children managed their school work, on the number of good friends and on the issue of bullying or being bullied by other children. Another focus of the study was the general well-being and self-esteem, as rated by the parents.

2. Material and methods

The study was the part of a nationwide study of the first 200 children with cochlear implants in Denmark. The inclusion criterion was implant use for a minimum of 6 months, in order to assure that the child had integrated the auditory sense. 194 cochlear implanted children and families fulfilled the inclusion criterion and were invited to participate.

Of the 166 families who accepted, two children were excluded due to blindness, leaving 164 (85%) participating children and families. Of the 28 children and families who did not participate, eight families actively replied that they did not have an interest in participating. 20 families did not show up on the day of testing or it was not possible to contact them.

The 164 cochlear implanted children (89 girls and 75 boys) received the implant between 1993 and 2004. Fig. 1 shows the diagnoses of the cochlear implanted children. The children were implanted between the age of 6 months and 17 years (mean 4 years; S.D. 2.63). Age ranged from 2 to 17 years at the day of testing with a mean of 7 years (S.D. 3.30). Data from cochlear implanted children were collected from August 2004 until February 2005. All children used a Nucleus product. All children detected the six Ling sounds. All parents were normal-hearing, except for two mothers who used cochlear implants themselves. 100 children attended a kindergarten/school for the deaf and 64 children were placed in mainstream institutions. All children in mainstream educational settings had a support teacher. 70% of the children communicated by means of sign support or sign language and 30% used spoken language as communication mode.

The parental assessments of the cochlear implant children were compared to a similar assessment of 2169 normal-hearing children (50% boys and 50% girls) with ages ranging from 2 to 17 years and a mean age of 9.4 years. Participation rate was 69% for the NH group. The study of the NH group was a nationwide survey performed by the National Institute of Public Health, University of Southern Denmark, in March 1996 [14].

2.1. Description of applied assessment

For the CI group, assessments of the children's social well-being were carried out by the parents, when the child came for speech and language