The Quality of Life among Children with Additional Disabilities Who Use Cochlear Implants

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Background
Increasing numbers of deaf children with additional disabilities are receiving cochlear implants (CI).

Studies indicate that these children demonstrate benefit from CIs in terms of speech intelligibility, auditory perception, as well as self-care, social functioning, and quality of life (Cejas, Hoffman, & Quittner, 2015).

Health-related quality of life (HRQoL) is a multidimensional construct that provides an assessment of how a certain condition affects individuals’ daily lives in several areas of functioning, including physical, emotional, and social.

Research on HRQoL indicates that children with CIs and no additional disabilities score similarly to hearing peers (Loy, Warner-Czyz, Tong, Tobey, & Roland, 2010).

Younger children with CIs and no additional disabilities tend to rate their HRQoL higher than older children (Warner-Czyz, Tobey, Nakonezny, & Roland, 2011).

Children with CIs and additional disabilities have a poorer QoL with regards to communication, peer relations, and emotional well-being, compared to CI children without additional needs; however, parents report that their child’s QoL did improve after CI (Edwards, Hill, & Mahon, 2012).

Relatively little is known about the broader impact of cochlear implantation on children with additional disabilities, especially with regard to HRQoL.

Purposes of the study:
1. To examine the QoL among deaf children with and without additional disabilities who are CI users.
2. To examine the associations between demographic variables and children’s QoL.

Method

Measures
The KINDLR Questionnaire - Measuring Health-Related Quality of Life in Children (Ravens-Sieberer & Bullinger, 2000).

The KINDLR consists of six multidimensional scales: physical well-being, emotional well-being, self-esteem, family, friends, and school. Parent proxy report was used. The score is transformed to a 100 point scale, with 0 representing minimal quality of life and 100 representing maximal quality of life.

Results

Profile Analysis: Quality of Life across six life domains

Profile Analysis Results

Test of parallelism
Is the overall shape of the curve across the various subscales in the two groups identical?
The parallelism hypothesis showed a significance effect (F(5,73)=2.46, p<.05, η2=0.14).
The overall profiles of the QoL domains among the two groups of children is different.

Test of flatness
Does the QoL elicit similar average responses across the various domains beyond the children’s group?
The profile deviated significantly from flatness (F(5,73)=7.51, p<.001, η2=0.34). Children with CI without additional disabilities showed a similar QoL scores across the various domains.

Children with CI and additional disabilities showed significantly higher scores in physical and emotional well-being than in self-esteem, friends and school domains. In addition, higher score in family QoL than friends and emotional well-being all p’s <.001.

A level test
Is there a difference between the group averages across the different QoL domains?
Children with CI and additional disabilities had significantly lower QoL than children with CI without additional disabilities beyond QoL scales (F(1,77)=7.350, p<.001, η2=.09).

Pair-wise comparisons
Are there differences in QoL domains between children with CI and additional disabilities and without?
Significant differences in 3 of the 6 subscales [self-esteem, peer relationships, and school].

Similar levels of QoL in terms of physical well-being, family life and emotional functioning.

Conclusions

• The presence of an additional disability had a significant impact on multiple domains of QoL in young children with CIs.
• Because the impact of cochlear implantation is not uniform across QoL domains, decisions about needed supports should incorporate a broad range of relevant indicators of outcomes.
• These findings contribute to the literature on QoL for CI recipients and their families.

References