

The Quality of Life in Pre-Lingual Deaf Children after 1.5 Years of Cochlear Implantation from the Point of View of Parents in Shiraz, Iran

SB Hashemi¹, L Monshizadeh^{2*}

¹Department of Otolaryngology, ²Department of Speech and Language Pathology, Shiraz University of Medical Sciences, Shiraz, Iran

Abstract

Background: As much of the studies on cochlear implantation (CI) have concentrated on aspects of speech perception and production, we studied the quality of life in pre-lingual deaf children in Shiraz, Iran.

Methods: Twenty four parents were selected from those families that their children were implanted by Fars CI Center. The quality of life questionnaire was used and after 3 months was evaluated again.

Results: Significant changes were noticed in parent's satisfaction. The parents believed that the children communicated better, but they still needed special care to do school works, etc. Also they had still difficulty in articulation.

Conclusion: CI was significantly associated with improvement of quality of life, especially in communication, happiness and relations with their friends and family members.

Keywords: Quality of life; Cochlear implant; Pre-lingual; Deaf; Children; Iran

Introduction

Rehabilitation after cochlear implantation (CI) provides far better chances for children to learn their language and to be integrated in mainstream schools.¹ As much of the studies on CI tend to be from a professional perspective and have concentrated on aspects of speech perception and production,^{2,3} we aimed to study the quality of life from the point of view of parents in pre-lingual deaf children after 1.5 years of cochlear implantation in Shiraz, southern Iran.

Materials and Methods

Twenty four parents were selected from those chil-

dren who were implanted in Fars CI Center affiliated to Shiraz University of Medical Sciences in Shiraz, southern Iran. The inclusion criteria were that the children should be born deaf or were deaf after 3 years and were implanted for at least 1.5 years ago. The parents were asked to complete and return a questionnaire that its reliability was determined by α coefficient which was 0.82. After one month, all questionnaires were collected and again, the same procedure was performed 3 months later. Part one of the questionnaire comprised 14 and part 2, 11 questions on child communication, happiness, school activities, and its relation with child's need, expenses, child's speech intelligibility and family wishes. All 24 questionnaires were also received after the 3 months period. SPSS software (Version 15, Chicago, IL, USA) was used for statistical analysis. Wilcoxon signed ranks test was used or assessment of changes in responses during the time also recognition in order to determine the agreement of the factors. A p value less than 0.05 was considered significant.

*Correspondence: Laila Monshizadeh, Department of Speech and Language, Khalili Hospital, Shiraz University of Medical Sciences, Shiraz, Iran. Tel/Fax: +98-711-6471934, +98-917-7010028, e-mail: lmon1008@yahoo.com

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Results

Table 1 shows the changes as mean and standard deviation in two steps of giving questionnaire to the parents. Table 2 demonstrates the distribution of changes in responses. Significant changes were noticed in responses ($p=0.03$). In four questions related to social relationship, child's happiness, family relationship and school support services, responses were indicative of converge to positive zone. In the question of 'He does not make friends easily outside the family', the answers converge to the negative zone .41.6% of parents reported that it is vice versa and the child was more sociable than before. Although 12.5% of parents believed that their child had difficulty in social rela-

tionship. In 5 questions related to child's general functioning, school activities, education, CI expenses, speech condition and parent's wishes about the time that children started to speak, the responses were in the positive zone. The improvement in child's functioning after 1.5-2 years of implantation was significant regarding communication and relation with friends and family members.

Discussion

There have been fewer studies about the effects of CI on children from the point of view of their parents. Kelsay and Tyler used an open format questionnaire to

Table 1: Changes in mean and standard deviation in two steps of questionnaires

Factors	Average	Standard deviation	Average	Standard deviation	P value
	1	1	2	2	
Child's general functioning and family view	37.95	41.58	8.88	9.35	0.09
Limitations, disadvantages and supporting the child	37.66	39.66	7.55	5.53	0.09
Child's education and your expectation	18.13	19.2	3.94	3.3	0.44
Decision to implant	8.58	9.08	1.52	1.41	0.15
Child's status before operation and suggestions after operation	10.5	11.16	3.12	2.25	0.29
changes	14.7	15.5	2.8	1.84	0.21
Child's advancement	2.45	2.54	0.65	0.72	0.59
Weakness	18.62	18.04	3.38	3.12	0.60
Effects of implantation	9.41	9.7	2.04	2.05	0.52
Difficulties	5.04	5.62	2.03	1.71	0.08
Social relationship	8.25	8.66	2.25	2.05	0.24
Feelings	5.62	5.7	1.71	1.7	0.80
Cochlear implant benefits	5.41	6.29	1.99	2.17	0.03
Process of implantation	30.7	31.66	5.36	4.3	0.06

Table 2: Frequency in distribution of changes in responses

Number of questions	Frequency						
	-3	-2	-1	0	+1	+2	+3
1	24	0	0	0	19	5	0
2	24	0	0	0	18	6	0
3	24	2	2	6	11	3	0
4	23	0	0	1	16	6	0
5	16	0	1	2	13	0	0
6	16	0	0	1	11	2	2
7	19	0	1	3	5	6	3
8	21	0	0	3	11	5	1
9	23	0	0	1	15	5	2
10	24	0	1	5	4	6	7
11	24	0	0	2	13	5	4

find the annual expected benefits and problems prior to implantation and the resultant benefits and problems following implantation. Parents were realistic about the potential advantages and disadvantages prior to implantation. The disadvantages were evaluated for the size and maintenance of equipment. They reported that subjective questionnaires were useful to provide information on child progress following implantation.⁴

Generally CI recipients achieved statistically significant improvements in the ability to communicate. It is an important aspect of quality of life after the definition of WHO "Physical health, psychological state, level of independence, social relationship and their relation to salient features of environment" mentioned as important factors.^{5,6}

In our study, significant changes were noticed in responses showing parent's satisfaction ($p=0.03$). In four questions related to social relationship, child's happiness, family relationship and school support services, responses were indicative of converge to positive zone, being the sign of parent's satisfaction in these four questions too. In the question of 'He does not make friends easily outside the family', the answers converge to the negative zone .41.6% of parents reported that it is vice versa and the child was more

sociable than before. Although 12.5% of parents believed that their child had difficulty in social relationship.

According to these factors we came to a conclusion that after CI the children were happy and established a better communication. In 5 questions related to child's general functioning, school activities, education, CI expenses, speech condition and parent's wishes about the time that children started to speak, the responses were in the positive zone indicating to the parent's relatively consent. The improvement in child's functioning after 1.5-2 years of implantation was significant regarding communication and relation with friends and family members that improved the relatives' daily lives too. We can conclude that CI was significantly associated with improvement of quality of life, especially in communication, happiness and relations with their friends and family members.

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Conflict of interest: None declared.

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