

Quality of life measures for adult patients with sequential bilateral cochlear implants

Introduction

At the moment, adults with a severe to profound hearing loss are implanted with a unilateral cochlear implant (CI) in the UK whilst patients up to the age of 18 years are implanted with 2CI if this is appropriate.

Most of the research into bilateral implantation has concentrated on outcomes in a clinical setting. To date, there have not been any published studies on the patients' views on how their life changed when they got 2CI sequentially.

Even though quality of life (QoL) is personal, and there are various definitions, they all have a shared concept - *'The perception by individuals of their position in life, in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns' (WHO)*

Study Objectives

- To investigate the effects on QoL a 2nd CI has when compared to having one implant
- To design and validate a questionnaire which measures the QoL of patients with bilateral cochlear implants (received sequentially)

Methodology

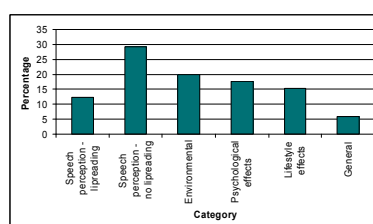
The study has been split in 3 stages:

- **Stage 1** – Retrospective open-ended questionnaire – reason why patient wanted 2CI and lead to changes experienced by having 2CI vs 1
- **Stage 2** – Interviews - discussed categories developed from Stage 1 and aimed at exploring important constructs to be included in the final questionnaire
- **Stage 3** – Exploring the reliability and validity of questionnaire named 'Outcomes from Bilateral Cochlear Implantation (Adults)'

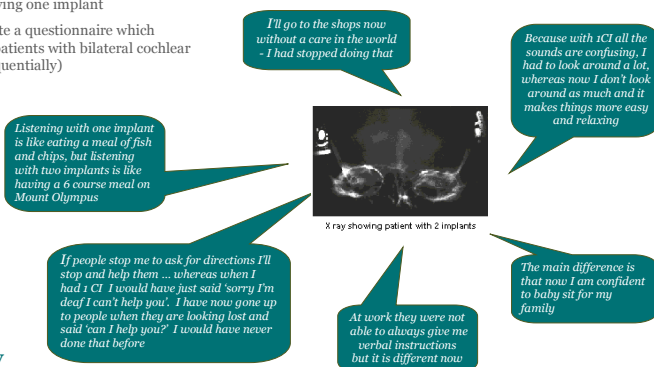
Participants were recruited from 3 NHS clinics – SOECIC, Manchester and Birmingham.

Results

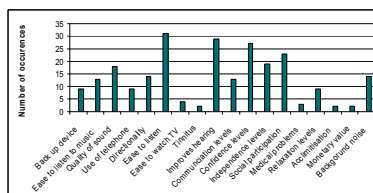
In **stage 1** participants listed the advantages they experienced by having 2 CI as seen in the table below



In **stage 2** participants discussed their experiences and some comments that were made are listed below. These illustrate the different ways how having 2CI has affected patients lives and also those of their families.



During the analysis of the interviews held with participants a count was made of the number of occurrences that a construct was made as seen in the table below.



There are 2 categories that are directly related to QoL - their sub-categories are already seen in the literature as an improvement in QoL after the 1st CI but participants still felt that they saw a further improvement once they got the 2nd CI:

Psychological	Lifestyle
Reduced sense of isolation	Improvement at work
Increased happiness	Improved social life
Increased energy	Increased independence
More relaxed	Increased drive
Reduced depression	Better family relationships
More confident	Have 2nd CI in case 1 fails

Interesting facts....

All participants were asked:

- (1) Would you recommend bilateral CI to other patients? – all except one said 'Yes'
- (2) If you were offered £15,000 or a 2nd CI, which one would you prefer to have? – all except one said they would rather have the 2nd CI

The participant who felt he would rather have the money and not a 2nd CI felt he did not make full use of the benefits of having 2CI since he lived on his own and lead a solitary lifestyle.

Where are we now?

Stage 3 is presently being carried out.

The 1st version of 'Outcomes from Bilateral Cochlear Implantation' had 42 questions. This was given to 25 participants to fill in twice (with a month interval in between). The replies were used to remove redundant questions. The final questionnaire has 33 questions that cover 4 factors:

- (1) Hearing ability
- (2) Relations with others
- (3) Psychological and lifestyle aspects
- (4) Reflections on bilateral implantation

What will happen next?

Participants will be asked to fill in the amended questionnaire and another 3 questionnaires. The results will be compared and the questionnaire will be validated against them. This is being carried out presently.

Better understanding of QoL after receiving 2nd CI will aid professionals understand what the practical limitations of these devices are and advising future patients accordingly.

Roberta Buhagiar MSc CS
Prof Mark Lutman
Email: rb@isvr.soton.ac.uk

UNIVERSITY OF
Southampton
Institute of Sound and
Vibration Research

