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Hearing loss is significantly associated with cognitive decline, may be related to depression, isolation and altered self-esteem. Auditory deprivation decreases neuronal activity in auditory brain areas. However, it was shown that with electrical stimulation a reorganization of auditory cortex is possible due to brain plasticity.

## OBJECTIVES

1. To analyze the benefits of CI in a group of elderly patients in relation to speech recognition after 6 months of use.
2. To compare results among younger age groups with over 75 years
3. Relate these results to the benefits in their life quality.

## MATERIAL AND METHOD

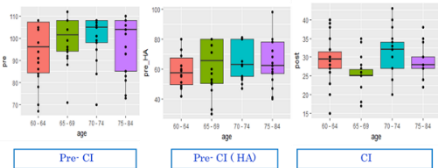
- Data analysis was performed before the implantation and at 6 months post operatively.
- Average free-field thresholds (250 to 4000 Hz pre and post CI).
- Speech perception scores preoperatively with and without hearing aids and post CI.
- Audiological results were related to the Glasgow Benefit Inventory questionnaire.

## STUDY DESIGN

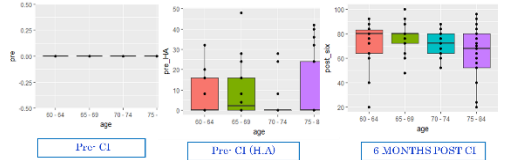
Retrospective analysis of 70 postlingual elderly Nucleus and Advanced Bionics CI users.

- 4 subgroups were compared:
- 60-64 years
  - 65-69 years
  - 70-74 years
  - + 75 years

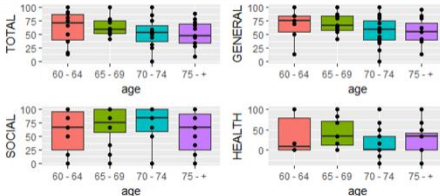
### RESULTS – 4 GROUPS (AVERAGE FF THRESHOLDS)



### RESULTS – 4 GROUPS (OPEN-SET WORD RECOGNITION)



### RESULTS – 4 GROUPS (G.B.I)



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## RESULTS

- Open-set word recognition scores are clearly better and similar among the different groups.
- G.B.I results show positive changes in related quality of life, all the variables (overall, general and physical health, social support) improved their scores.
- Average CI free-field thresholds has better values and less variability. There are no significant differences between the different age ranges.

## CONCLUSIONS

- Increase in life expectancy makes more elderly patients CI candidates. Consistent with previous studies (Waltzman, 1993; Leung, 2005; Orabi, 2006; Eshraghi, 2009; Benatti, 2013), our results show that the use of this therapy significantly improves audiological performance, a fact that positively impacts their social abilities and quality of life.