Increasing access to hearing implants to further enhance educational and professional opportunities to people in low-resource settings

Patrick D’Haese

Content

- What is the issue?
- Some facts on hearing loss
- Outcomes with cochlear implants
- What needs to change?
What is the issue?
What is the issue?

Unequal and inequitable access to hearing care for children with severe hearing loss despite the availability of innovative technologies such as cochlear implants and despite high outcomes with these implants.
Some facts on hearing loss
Some facts

- WHO estimates that 0.5 to 5 in every 1000 children worldwide are born every year with or develop hearing impairment.
- Approx. 130,000 newborns/year globally have a severe hearing loss.
- Studies demonstrate that 4 to 11 out of 10,000 school children are affected by severe hearing loss in early childhood.
- Hearing impairment impacts on children’s development… it reduces their speech understanding and their reading ability so vital for their development and academic, vocational and professional achievements.
Some facts

- In the EU, the cost of untreated hearing impairment amounts to around 224 billion Euro/year (incl. medical costs, special training, rehabilitation and the related loss in productivity)

- Lifetime costs of untreated hearing loss in the US amounted to 383,000 USD/person (CDC, 2003)
Outcomes with cochlear implants
Cochlear implants as a cost-efficient treatment for severe hearing loss
Outcomes with cochlear implants

Fig. 3. The three thick curves are the average language development curves for each age-at-implantation group (which were shown separately in each panel of Fig. 2). The normal-hearing comparison lines are the same as in figure 2. Note that the average curve for children implanted at 12–24 months reached the -1 standard deviation level (16th percentile for the normal-hearing population) at around 60 months of age, whereas the average curve for children implanted at 37–48 months was well below the -2 standard deviation (2nd percentile). The arrows indicate the average age at implantation for each group.

Svirsky et al, 2004

Figure 1.
In the top panel, the mean trajectories for CASL core composite scores as a function of age of implantation are shown for the 4-, 5- or 6-year follow-up visits after implantation. The dashed lines represent the 95% confidence limits for the trajectories acquired at the 6-year follow-up. The bottom panel depicts the means and standard deviations for the five quintiles for each test period.

Tobey et al, 2013
Outcomes with cochlear implants

Fig. 1 Seven years after implantation: age at implantation versus “net” reading age (N = 105).

Fig. 2 Net reading ages for children implanted at or before 42 months and later.

Archbold et al, 2008
Outcomes with cochlear implants

- Children with a CI are more likely:
  - To participate in mainstream schooling (Semenov et al., 2013)
  - To participate in the labour force upon reaching working age and by that supporting their families more easily (Venail, 2010)
  - To play an increasing role in the provision of indigenous expertise to the benefit of domestic economies

- Total costs over the lifespan associated with CI were 204,000 USD less than those associated with hearing aids (Penaranda, 2012)
In summary

Early implantation improves quality of life, educational achievements, increases their future earning power and enhances their communication abilities.
What needs to change?
What is needed?

- Severe hearing loss must be identified as an important issue
- Policy is needed that:
  - Acknowledges equal and equitable access to cochlear implants as a right of all children that need it and fosters equal opportunities, full inclusion and active participation in society
  - Fosters best practice sharing among governments and health authorities and public private partnerships based solutions
How can we achieve this?

- Neonatal screening programs to detect congenital hearing loss are necessary (WHO, 2011)
- Early diagnosis and assessment of the hearing loss (WHO, 2011)
- Early rehabilitation and treatment (WHO, 2011)
- For children with severe hearing loss, early access to cochlear implantation is crucial to guarantee the highest outcomes and social integration
How can we achieve this?

- Raise awareness for hearing impairment and its impact on children and societies
- Promote policy solutions to address barriers and inequities in access to innovative technologies such as cochlear implants
- Create visibility and recognition of severe hearing loss in children as a priority disability with high socio-economic and personal impact
No one stakeholder can do it alone. All stakeholders need to work together in partnership to ensure that every child that needs it has equitable and equal access to screening, diagnosis and treatment for severe hearing loss.

“Alone, we can do so little, together we can do so much”

Helen Keller

American author and lecturer
first deaf blind person to receive a Bachelor of Arts
1880-1968