Psychopathology in Early Identified Preschoolers with CI Compared to Hearing Controls


Dept. of Otorhinolaryngology and Head & Neck Surgery

LEIDEN – THE NETHERLANDS
None

Funding source:
• Care for the Young: Innovation and Development program by ZonMw (grant number 80-82430-98-8025)
• Stichting het Heinsius-Houbolt Fonds
‘The terrible twos’

Urge for autonomy

Decrease in frustration because development of:
• Motor skills
• Emotion regulation
• Language
Background

More psychopathology in DHH children, especially in children with hearing aids and in special education

CI possible protective factor because of improvement in language and communication

How do early signs of psychopathology develop in children with CI, compared to hearing peers?

Theunissen SCPM et al. JAMA Pediatr. 2014.
<table>
<thead>
<tr>
<th></th>
<th>CI (n=74)</th>
<th>Controls (n=190)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age - in months \textit{(range)} **</td>
<td>39.8 (18-61)</td>
<td>45.6 (18-66)</td>
</tr>
<tr>
<td>Gender - Male (%)</td>
<td>47 (63.5)</td>
<td>97 (51.1)</td>
</tr>
<tr>
<td>Language Comprehension \textit{(SD)} ***</td>
<td>30.0 (13.3)</td>
<td>40.4 (11.8)</td>
</tr>
<tr>
<td>Expressive Language \textit{(SD)} ***</td>
<td>31.2 (13.0)</td>
<td>43.1 (11.2)</td>
</tr>
<tr>
<td>Age at first adaptation - in months \textit{(SD)}</td>
<td>6.9 (6.7)</td>
<td></td>
</tr>
<tr>
<td>Age at implantation - in months \textit{(SD)}</td>
<td>16.8 (7.2)</td>
<td></td>
</tr>
</tbody>
</table>
Procedure

Baseline
Early Signs of Psychopathology
Language development
Background information

Follow-up year 1
Early Signs of Psychopathology

Follow-up year 2
Early Signs of Psychopathology
Language development
Outcomes – Anxiety/Depression

- Lower symptoms
- Increasing language comprehension

CI = NH

Graph showing changes in anxiety/depression symptoms with age for Cochlear Implant and Control groups.
Outcomes – Disruptive behavior

No effect of language development

High language skills at baseline prevent development of symptoms over time

$CI = NH$
### Conclusions

<table>
<thead>
<tr>
<th>Symptom Area</th>
<th>Change</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms of psychopathology</td>
<td>Equal</td>
<td>in CI and NH children</td>
</tr>
<tr>
<td>Increasing language comprehension</td>
<td>Decreases</td>
<td>Symptoms of anxiety and depression</td>
</tr>
<tr>
<td>Early language skills</td>
<td>Prevent</td>
<td>Development of disruptive behavior</td>
</tr>
</tbody>
</table>
Acknowledgements

Netten AP, Rieffe C, Ketelaar L, Soede W, Gadow KD, & Frijns JHM. Terrible Twos or Early Signs of Psychopathology? Developmental Patterns in Early Identified Preschoolers with Cochlear Implants Compared to Normal Hearing Controls. *Submitted.*