Being Given the Opportunity to Hear: Cochlear Implants

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Introduction:

1 in 8 adults in the United States and 50 million children worldwide experience hearing loss (NIH, 2021 & Leclair et al., 2019). A cochlear implant is surgically placed behind the ear and provides the sense of sound by directly stimulating the auditory nerve, bypassing the damaged inner ear. Children that qualify for cochlear implants have clinically severe-to-profound hearing loss and provide them with the opportunity to perceive the sensation of sound (Victory, J., 2021). The decision to get a cochlear implant must be made within the first 12-17 months of age for children born with congenital hearing loss because of the drastic impacts auditory deprivation can have on their language acquisition and overall quality of life (ASHA, n.d.). However, individuals within the Deaf community that attribute to the Deaf culture argue that making this decision for a child is assuming that they would want to hear when this surgery can be considered extremely invasive and comes with its own risks. Those a part of the Deaf culture consider life without hearing as their norm, rather than an impairment. However, this research dives into how cochlear implants can reverse the adverse effects associated with hearing loss and improves a child's overall quality of life.

Methods:

- **PubMed, ScienceDirect, ASHA databases**
- **Key terms: Cochlear implants, early intervention, hearing loss, communication skills**
- **There was a high variety of articles that stressed the importance of early identification and intervention that led to the acquisition of language and therefore a better quality of life.**

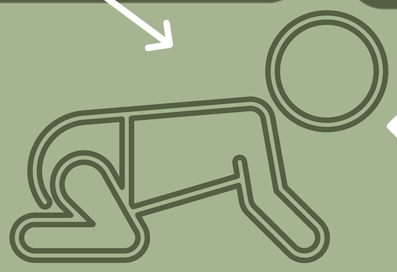
Themes:

EARLY IDENTIFICATION AND INTERVENTION

- **Michael et al., 2019 found that without the proper identification and intervention, children born with hearing loss can suffer from poor cognitive development, delayed speech and language acquisition, and poor academic performance**
- **Almomani et al., 2021 demonstrated the compromising nature of the absence of auditory input to cognitive development over prolonged periods of time. Prior to implantation, children exhibited lower scores on memory and reasoning compared to their peers with normal hearing.**

50 million children worldwide experience hearing loss (Leclair et al., 2019)

Hearing loss in children can lead to learning disabilities, language delays, and poor self-esteem (ASHA, n.d.)



2.5 times more likely to have academic difficulties and experience grade retention (LeClair, 2019)

CHILDREN WHO RECEIVE COCHLEAR IMPLANTS WITHIN THEIR FIRST TWO YEARS OF LIFE HAVE BEEN PROVEN TO ACQUIRE TRADITIONAL LANGUAGE SKILLS, ALLOWING THEM TO SUCCESSFULLY PARTICIPATE IN SOCIAL AND ACADEMIC ENVIRONMENTS, THEREFORE DECREASING THE ADVERSE EFFECTS THAT ARE COMMONLY ASSOCIATED WITH HEARING LOSS.

Evidence:

- **According to Wang, Y., 2020 & Turgeon, C., 2017 those that received their cochlear implant within their first two years of life receive comparable results to those of their age-equivalent peers with normal hearing in expressive language skills**
- **Michael et al., 2019 found that children with cochlear implants were able to successfully cope with the demands of their social and school environment**
- **Netten et al., 2018 discovered through their study that through an Increase in language skills over time, there was a decrease in symptoms of depression and anxiety.**
- **Lim et al., 2018 discussed in her study how children with cochlear implants reported that they were not only able to engage with their families through their traditional culture and linguistics, but they also had the opportunity to learn another form of language and culture that they could choose to be a part of.**

For the future:

Raising awareness on the impacts of hearing loss in children is a crucial step in the right direction. Hearing loss happens to be the third most chronic physical condition in the United States, more prevalent than diabetes or cancer (CDC, 2017). By raising awareness of the impacts and treatment options for hearing loss, there will be greater acceptance and proper accommodations for these individuals.

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