INTRODUCTION

Approximately 30-40% of children with reduced hearing also have a comorbid disability that can significantly impact development outcomes, particularly language acquisition (Fiuspañol et al., 2014). Research strongly indicates that the early diagnosis of hearing loss and fitting of amplification in children with complex disabilities are critical factors in the development of language for these children (Kaga et al., 2007). Parents of children with developmental differences and hearing loss report that consistency of device use is challenging due to a multitude of factors (Moeller et al., 2003). This project will describe and outline features, accessories, assistive devices and strategies to consider when selecting and fitting hearing technology on children who are deaf and hard-of-hearing with occurring developmental differences. The aim of this project is to provide an accessible resource for audiologists and families to guide them in making informed decisions regarding hearing device technology that will maximize the use and acceptance of these devices for children with developmental differences.

RESULTS

Autism Spectrum Disorder

Motor Delay

This resource would be helpful for families in considering their hearing technology options for their child.

Cognitive Delay

Vision Differences

This resource should be provided to all families of children with and without developmental differences when considering hearing technology options.

DISCUSSION

Comparison across devices indicates that several manufacturers include features which could assist with device retention, suggesting good principles of universal design. Results indicate a few areas of specific differences between manufacturers which could influence device retention with children with developmental differences (e.g., body worn option).

In this sample of pediatric trained audiologists, indicator lights, tamper-proof battery doors, and durability were considered the most important considerations when fitting hearing technology for children with developmental differences. The developed resource may be helpful in counseling families how to use these features for device retention. Programming features and features such as Find My Hearing Aid, bilateral initialization, MRI capability, and streaming were not identified by audiologists as critical, but may be useful features with this population.

Areas for improvement identified to assist with device retention of bone conduction devices include modifying materials of the softband, better with children with craniofacial differences. The chart developed may be most useful as a tool for audiologists to counsel families.

Further research is needed to determine what parents and caregivers of children with developmental differences consider the most important when fitting hearing technology to increase device acceptance and use.

CONCLUSIONS AND FUTURE DIRECTIONS

Both parents and audiologists must be considered of device options and accessories to maximize use and acceptance in children with developmental differences. Indicator lights, tamper-proof battery doors, and durability were considered some of the most important variables by audiologists when selecting hearing device technology for children with developmental differences. Overall audiologists could think more flexibly regarding the use of features and their application towards children with developmental differences.

As a next step, more research should be conducted to determine how parents of children with developmental differences respond to specific hearing technology programming and accessories in order to increase acceptability and device use.

REFERENCES


Children’s Hospital Colorado