The impact of exposure to talk and television on the language development of toddlers with hearing loss
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Background

1) Children who are exposed to more talk typically develop stronger language skills than children who are exposed to less talk.
2) Mothers, fathers, and siblings each talk differently to young children, which may have varying effects on language development.
3) Conversational interactions may be especially important for language development, as they typically occur in contexts involving joint attention, child-directed speech, and contingent responses.
4) Television viewing may decrease opportunities for conversational interactions, especially for children with hearing loss, who may have increased difficulty perceiving speech in the presence of background noise.

Research Tool

The LENA system collects naturalistic, whole day acoustic recordings and performs automated analyses of the acoustic environment. This technology provides estimates of, among other things:
- Duration of all utterances spoken near the child by adult females, adult males, and other children ("maternal talk," "paternal talk," and "sibling talk")
- Number of back and forth interactions between the child and an adult ("conversational turns")
- Amount of time from electronic media was present in the environment, including sound from radio, video games, and toys, but typically television ("television")

Methods

31 hard-of-hearing (HH) children, ages 26-30 months, with a mean Better Ear PTA of 51.0 dB HL (SD = 12.7, Range = 28-83)

Measurement tool

LENA recording
- (M age at recording = 26.6 months)
- (Recording length ranged from 8.7 to 19.5 months; average length = 15.9 hours (M = 12.1 hours).
Mullen Scales of Early Learning
- (M age at testing = 25.1 months)

Questions and Results

1) Are HH children exposed to more talk by their mothers, fathers, or siblings?

2) Does quantity of talk from mothers, fathers, or siblings contribute to the language outcomes of HH children?

3) Does does quantity of conversational turns contribute to the language outcomes of HH children?

4) How does television exposure relate to talk by family members, conversational turns, and language outcomes for HH children?

Conclusions

1) HH children were exposed to more talk from mothers than fathers or siblings. Exploration of differences in family members’ time in the home, roles in child rearing, views on child development, or general talkativeness may shed more light on this finding.
2) The amount of language provided by mothers, but not fathers or siblings, was associated with improved receptive language outcomes. Further research may examine such factors as how individual family members adapt their speech when talking to children and how they converse with young children.
3) Children who were frequently engaged in conversations demonstrated the strongest language outcomes. This may be related to the increased presence of joint attention, child-directed speech, or contingent adult responses in these interactions.
4) Conversational interactions were less frequent in homes with high rates of television viewing, which in turn predicted weaker language skills for HH children in those homes. However, the impact of television exposure on children’s language skills was only partially explained by the decrease in conversational exchanges.

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