The Languages of Newborn Hearing Screening

Understanding Screener and Parent Talk and Interaction

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Healthy
PASS
Everything is okay.

Normal
My child can hear.

FAIL
My child can’t hear.

Nothing is wrong

Negative
Something could be wrong.

Healthy
Normal
Not healthy

Negative
Something could be wrong.

Not healthy

What does this mean?

FAIL
What did I do wrong?

I need to come back for another test.

REFER

A Two-Stage Screening Protocol

Stage 1 Screening
(In-Hospital)
Result: Refer/Pass

If Refer,
then Stage 2 Screening
(Outpatient Facilities)
Result: Refer/Pass

If Pass,
then no Stage 2 screening

Stage 2 Screening
Result: Refer/Pass

If Refer,
then further screening
or diagnostic testing

If Pass,
then no further screening

Universal Newborn Hearing Screening (UNHS)

- Screening procedures designed to identify infants with the potential for permanent, significant, congenital hearing loss.
- Enables:
  - Diagnosis prior to three months of age
  - Intervention by six months of age (Joint Committee on Infant Hearing, 2000).
- Programs differ in protocols and technology used.

How is newborn hearing screening possible?

Technology
- OAE: Oto-acoustic Emissions
- ABR: Auditory Brainstem Response

Rationale for the Study

- Parents’ reports of stress and anxiety following an initial stage of screening where a positive (refer) result was found.
- Parent-professional interaction identified as a potential factor influencing parents’ emotional reactions to screening.
- Limited research available pertaining to communication of UNHS results, parent-professional interaction, and accounts of the results.
Research Questions

- What is the discourse surrounding the disclosure of re-screen results in one UNHS program?
- How is this discourse constructed?

Parent Participants

- Age: 20 to 26 years old
- Household income: Lower to middle-level incomes
- 2 of 5 mothers first-time parents
- 4 of 5 mothers part of a two-parent household
- 1 mother of an infant who had been diagnosed with a hearing loss
- No prior knowledge of UNHS or involvement with the provincial project

Research Site

- A provincial universal newborn hearing screening project in Canada
- An outpatient facility where infants received a Stage Two screen in a two-stage screening protocol
- A room within an Audiology department of a Children’s Hospital located in a metropolitan area

Mother-Infant Participants

<table>
<thead>
<tr>
<th>Family</th>
<th>Mother</th>
<th>Infant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Case 1</td>
<td>Marie</td>
<td>Scott</td>
</tr>
<tr>
<td>Family Case 2</td>
<td>Janice</td>
<td>Jenny</td>
</tr>
<tr>
<td>Family Case 3</td>
<td>Kate</td>
<td>Robert</td>
</tr>
<tr>
<td>Family Case 4</td>
<td>Carol</td>
<td>Thomas</td>
</tr>
<tr>
<td>Family Case 5</td>
<td>Gail</td>
<td>Wendy</td>
</tr>
</tbody>
</table>

Participants

- 5 mothers who had received a “refer” result at Stage One.
- 1 screener who had communicated screen results at Stage Two to each of the parent participants: audiology assistant

Types of Interactions

- Observation of Screening (Screener - Parent)
- Parent Interview (Researcher - Parent)
- Screener Interview (Researcher - Screener)
Sources of Data

14 interactions
- 4 videotaped screening interactions
- 5 follow-up interviews with parents
- 5 follow-up interviews with a screener
- Follow-up interview included a videotape review portion

A Discourse Analytic Approach

(see Potter & Wetherell, 1987)
- Repeated viewing and listening to the video- and audio-taped data
- Transcription of video- and audio-taped data using Jeffersonian transcription key (see Jefferson, 1985)
- Coding of transcripts
- Reading transcripts prior to analysis: “What feelings came across as I was reading the text?” “What aspects of the text are influencing me to read the text in this way?”

Analysis: Identifying the Action Orientation of Talk

- Searching for patterns of variation and consistency
- Developing hypotheses about functions of talk in interactions
- Examining the linguistic resources of discourse

What did the screening interactions look like?

- 15 to 30 minute appointments
  - Greetings
  - Discussion of Stage One screening
  - Stage Two screening preparation
  - Stage Two screening and disclosure and parental response (screen preparation, wait period, disclosure).
  - Closure
**Example 1:**
**Lori, Janice, and Jenny**

Video clip

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**Screener’s Talk:**
- Are you concerned?
- Are you?
- Is it...?
- In what way?
- To loud noises you mean or to your voice?
- And you remember your son doing that at a young age?
- Okay (repeated)
- Okay. Alright. Were you with her in the hospital when they checked her?
- And did they explain the test to you there or?

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**Eye gaze - An example**

<table>
<thead>
<tr>
<th>Counter</th>
<th>Lori’s Eye Gaze</th>
<th>Carol’s Eye Gaze</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:19</td>
<td>Screen device</td>
<td>Lori</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:20</td>
<td>Screen device</td>
<td>Screen device</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:21</td>
<td>Screen device</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:22</td>
<td>Screen device</td>
<td>Lori</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:23</td>
<td>Screen device</td>
<td>Screen device</td>
<td>Wait for result (L,C)</td>
</tr>
<tr>
<td>4:25</td>
<td>Screen device</td>
<td>Thomas</td>
<td>Wait for result (L,C)</td>
</tr>
</tbody>
</table>

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**Construction of the Wait Period**

**Screener’s Version**
- need to repeat the screen several times
- trying to get a “seal”
- “squeaky” or noisy baby
- parent may not be anxious about the screen result but may just want to complete the screen

**Parent’s Version**
- time to screen this ear is much longer than for the other ear
- concern that child may not be able to hear in one ear

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**Example 2:**
**Lori, Carol, and Thomas**

Video clip

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**The Talk of the Interactions**

**Screener**
- Took the lead (How?), goal-directed talk, requests, declarative statements, Yes-No questions; initiated topic shifts

**Parents**
- Followed the lead of the screener (How?); shorter conversational turns, acknowledgment tokens, few initiations, few questions
Lori: What we're looking for. We're gonna put some sounds in her ears and we're looking for -- it's called an emission but it's like an echo.
Janice: Okay.
Lori: In response to that sound. And it comes from her inner ear.
Janice: Okay.
Lori: And what we know about the inner ear is that when we hear that echo coming back out, it's healthy. It means that it's working properly and that she's hearing the sound.
Janice: Okay.
Lori: Okay. And we test at three different pitches or tones.
Janice: Okay.
Lori: Okay. And that's why we... you know, it is just a screening. We're not testing at every conceivable, audible sound.
Janice: Okay.
Lori: But we're testing the important frequencies for speech perception. So. Okay. And we need to do both her ears.

How was the discourse constructed?

Screener Talk
- Factual accounting conveyed a sense of confidence and certainty; indicated lack of personal stake or interest in claims made; could remove self from her talk with parents; could build up facticity of accounts

Parents’ Talk
- Put forth claims and supported them through various devices; indicated personal stake and interest in claims

Discourse Constructions: A Few Examples

**Screener: Factual Accounting**
- Detail in terms used
- Systematic vagueness
- Consensus and corroboration
- Distanced footing
- Empiricist accounting
- Minimal narrative

**Parents: Personal Accounts**
- Narrative accounting and detail
- Close footing
- Active voicing
- Extreme case formulations

Consequences
- less refutable;
- less amenable to questioning
- presented information as “facts”;


Hierarchy of modalization
- X
- X is a fact
- I know that X
- I claim that X
- I believe that X
- I hypothesize that X
- I think that X
- I guess that X
- X is possible

Construction of a “Pass”

**Result**

**Screener’s Versions**
- Pass as an indication of physiologic response and biological functioning
- Pass as one of two options on the handheld screen device indicating detection of emission or echo (fit with certain criteria)
- Pass as ability for infant to hear sounds, such as the sounds of speech (speech perception)

**Parents’ Versions**
- Pass means my child can hear.
- Pass means my child has normal hearing.
- Pass means I don’t need to come back here for more testing.
**Construction of a “Refer” Result**

**Parents’ Versions**
- Associated with infant’s ability to hear and the possibility of a hearing loss
- Linked with the infant’s observable behaviours in response to sounds

**Screener’s Versions**
- A number of factors of the screening environment may have influenced the result
- Fluid or vernix in the ear
- Does not mean that the infant is deaf

**Talking about a “refer” result**

*Interviewer: And so that day the result was—what was the result exactly?*

- A) **Parent:** All she said [was] that he had **failed**.
- B) **Parent:** … Because it was the one side that **failed**, and not just—not both sides, or anything like that.
- C) **Parent:** U:m:, I think I was just glad to hear that, that the test came back, you know he passed it—**in the ear that failed** beFO:RE so…

**Implications**
- May help to inform the development of family-focused services in newborn hearing screening programs:
  - Parent-centered screener talk (see Street, 1991; Street & Millay, 2001)
  - Inviting discussion of parents’ unvoiced concerns
- May help to improve follow-up of parents and their infants to subsequent stages of screening and diagnostic testing

**Possible Social Influences on the Interactions**
- Screening embedded within a biomedical framework; instrumental prioritized over interpersonal (Walker et al., 2001)
- Screening Framework - guidelines and recommendations; less focus on process and desired outcomes for the interaction

**Variation in Discourse**

- Accounts of screen results varied depending upon factors such as:
  - conversational partner
  - timing during interaction
  - nature of the conversational turn

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  - nature of the conversational turn

**Social Implications of the Interactions**
- **Screener:** Finding Balance; Required Responsibilities; Accomplishing the screening.
- **Parents:** Unvoiced concerns and unasked questions.
- **Competing versions** (e.g., referral as a “double bind;” Chenail et al., 1990).
Implications (continued)

- May indicate the importance of attending to the process of screening in more depth rather than predominately on outcomes.
- May contribute to theories of meaning construction through its emphasis on social contexts and their influence on screener-parent interaction and language use.
- May inform theories of curriculum development for training screeners UNHS programs.

Considerations for Training

- Encourage screeners to reflect upon their own use of language with parents and consider their potential effects on parents.
- Consider the various versions of screening results that are possible, their dynamic nature, and their contexts.
- Consider incorporating family-centered approaches into screening environments.
- Training screeners with the perspective of interaction—co-construction—rather than a one-way transmission of information from screener to parent.

Limitations of the Study

- Lack of diversity in talk of participants who differed in age, ethnicity, and degree of hearing loss.
- Lack of diversity of types of screening interactions observed (e.g., all Stage Two, similar types of screening procedure).
- Issues of reactivity.

References


HELP’s Vision

“Create, promote and apply new knowledge through leading interdisciplinary research to help children thrive.”

Thank you!

HELP’s website: www.earlylearning.ubc.ca