Shared decision making in rehabilitative audiology

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Sincere thanks
to the Academy of Rehabilitative Audiology

John Deere

Decision making
• Cognitive process leading to selection of course of action among several alternatives (Albert, 1978)
• In rehabilitative audiology:
  • Do I feel I have a hearing loss?
  • Should I seek assessment?
  • Who should I go to for assessment?
  • Should I seek intervention?
  • Who should I go to for intervention?
  • What intervention do I prefer?
  • ...

Intervention decision making
• Hearing aids
• Group program: Active Communication Education (ACE)
  • Group sessions on problem-solving strategies to improve communication.
  • 5 consecutive 2-hour weekly sessions (Hickson, Worrall, & Scarinci, 2007).
• Individual program: Individualised - Active Communication Education (I-ACE)
  • Written chapters on problem-solving strategies to improve communication.
  • 5 chapters, each completed at the participant's pace before contacting the facilitator
  and then receiving the next chapter in the post.
• No intervention
  • Average time between first symptoms of hearing impairment and consultation: 10 years (Davis et al., 2007)
Evidence-based medicine (EBM)

“Integrating clinical expertise with the best available evidence from systematic research. Clinical expertise is reflected in many ways, but especially in diagnosis and in identification and use of individual patients’ predicaments, rights, and preferences in decisions.”

(Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996, p.71)

First piece: Evidence

- Hearing aids
  - Reduce activity limitations and participation restrictions (e.g., Cox & Alexander, 2002; Takahashi et al., 2007)
  - Improve quality of life (Chisolm et al., 2007)
- Group and individual programs
  - Reduce activity limitations and participation restrictions (Hawkins, 2005; Sweetow & Palmer, 2005)
  - Improve quality of life (e.g., Wolbars et al., 2006; Kramer, Almeida, Dondorp, de Vries, & Kaptein, 2005)

Second piece: Client preferences

- Activity limitations and participation restrictions (Davis et al., 2007; Humes, Wilson, & Humes, 2004; van der Brink, Wit, Kemper, & van Ijzendoorn, 1996)
- Personality and life events (Cox, Alexander, & Gray, 2004; Garstecski & Efer, 1998)
- Financial cost (Garstecski, 1996; Garstecski & Efer, 1998)
- …

Shared decision making

- Ethics: Client autonomy and informed consent (Emanuel & Emanuel, 1992)
- Better intervention adherence and outcomes (Epstein, Alper, & Quill, 2004; Joosten et al., 2008)
  - Good for chronic health conditions and when intervention > 1 session (Joosten et al., 2008)
  - Clients who chose between group cardiac rehabilitation and individual cardiac rehabilitation were more likely to complete their program than those randomized (Wingham, Dalal, Sweeney, & Evans, 2006)
  - Clients who chose to pursue depression counselling achieved better outcomes than those randomized (Chilvers et al., 2001)

Decision making in RA

- Clinical trial on shared decision making in rehabilitative audiology
Goals

1) To quantify the uptake of 4 intervention options (hearing aids, group program, individual program, and no intervention) in a context of shared intervention decision making.
2) To identify the client factors involved in intervention decision making and the experiences of clients in rehabilitative audiology shared decision making.
3) To explore the outcomes of the different interventions in this clinical trial with those obtained from other research projects where shared intervention decision making was not used.

Sampling and recruitment

- Adults ≥ 50 years with acquired hearing impairment (average of air conduction thresholds at 0.5, 1, 2, and 4 kHz > 25 dB HL in at least one ear) and who had not previously received rehabilitative audiology services
- Recruitment via the Australian government’s Department of Health and Ageing, print and electronic media, notice boards, and word-of-mouth

Design

1) Baseline measures
2) Intervention decision
3) Client factors
4) Intervention outcomes

Decision aid

- "Evidence-based tool designed to prepare clients to participate in making specific and deliberated choices among healthcare options [...]. Supplements (rather than replaces) clinician’s counselling about options." (O'Connor et al., 2009, p.3)
- Summary of intervention options and their outcomes according to research evidence
- Contained 5 pages
  - 1st page providing overview of 4 intervention options
  - 1 page with details of each of the 4 intervention options
- Readability: Flesch-Kincaid Grade Level of 5.3

Measures

1) Baseline measures
2) Intervention decision
3) Client factors
4) Intervention outcomes
Measures 1. Baseline measures

- **Demographics**
  - Age
  - Gender
  - Education level
  - Income
  - Living arrangement
  - Work status
- **Hearing disability**
  - Time since hearing impairment onset
  - Hearing impairment
  - Pure-tone audiometry
- **Participation restrictions**
  - Hearing Handicap Questionnaire (HHQ: Gatehouse & Noble, 2004)

- **Others**
  - Self-efficacy
  - Self-Efficacy for Situational Communication Management Questionnaire (SESMQ: Jennings, 2005)
  - Readiness to change
  - University of Rhode Island Change Assessment (URICA: McConnaughy, Prochaska, & Velicer, 1983)
  - Locus of control
  - Locus of Control Scale (LOC: Levenson, 1981)
  - Attitudes
  - Hearing Attitudes in Rehabilitation Questionnaire (HARQ: Hallam & Brooks, 1996)

Measures 2. Intervention decision

- **Hearing aids**
- **Group program**
- **Individual program**
- **No intervention**

Measures 3. Client factors

- **Mixed methodology**
  - First phase: Qualitative
    - One-on-one interviews to identify client factors influencing decision
    - e.g. expected outcomes, convenience (location and schedule), likely adherence
  - Second phase: Quantitative
    - Based on factors identified in first phase: Rehabilitative Audiology Intervention Decision (RAID) questionnaire

Measures 4. Intervention outcomes

- **2 outcome measure points:**
  - Post intervention
  - 3 months post intervention
- **International Outcome Inventory (IOI: Cox et al., 2003; Noble, 2002)**
  - Hearing aid version (IOI-HA) for participants with hearing aids
  - Alternative intervention version (IOI-AI) for participants with group program and individual program
- **Client-Oriented Scale of Improvement (COSI: Dillon, James, & Ginis, 1997)**
- **Hearing Handicap Questionnaire (HHQ: Gatehouse & Noble, 2004)**
Hearing impairment

<table>
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<th>Right (dB HL)</th>
<th>Left (dB HL)</th>
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Research question

What are the experiences of clients with rehabilitative audiology shared decision making?

Methodology

- **Design**
  - Qualitative descriptive study
- **Sampling and recruitment**
  - Purposive (maximum variation) from pool of clinical trial participants
- **Data collection**
  - One-on-one semi-structured in-depth interview, audio-recorded
  - Interview guide included:
    - How did you decide what to do about your hearing?
    - What would be the ideal way for people like you to make decisions about their hearing?
- **Data analysis**
  - Interview audio-recordings transcribed and analyzed inductively using content analysis (Graneheim & Lundman, 2004)

Participants

- **n = 22**

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<th>Characteristics</th>
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<tr>
<td><strong>Age</strong></td>
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</tr>
<tr>
<td>50 - &lt; 65</td>
<td>36% (9)</td>
<td></td>
</tr>
<tr>
<td>65 - &lt; 80</td>
<td>50% (12)</td>
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<tr>
<td>80 +</td>
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<td></td>
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<tr>
<td><strong>Gender</strong></td>
<td></td>
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<tr>
<td>Male</td>
<td>68% (15)</td>
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<tr>
<td>Female</td>
<td>32% (7)</td>
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<td><strong>Work status</strong></td>
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<td>Work</td>
<td>49% (11)</td>
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<tr>
<td>Retirement</td>
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<td><strong>Living situation</strong></td>
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<tr>
<td>Alone</td>
<td>37% (9)</td>
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<tr>
<td>With others</td>
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<td><strong>Intervention decision</strong></td>
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<tr>
<td>Hearing aids</td>
<td>40% (10)</td>
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</tr>
<tr>
<td>Group communication program</td>
<td>14% (3)</td>
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<td>Individual communication program</td>
<td>27% (6)</td>
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<tr>
<td>No intervention</td>
<td>43% (10)</td>
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Methodology – Data analysis

- **Sub-categories and categories**
  - Groups of content that share commonality
- **Codes**
  - Labels
  - Condensed meaning units
  - Shortened with preserved content
- **Meaning units**
  - Words related to each other through their content and context
Methodology – Data analysis

• **Category**
  - Similar data that can be defined and compared

• **Theme**
  - Essence of narrative that transcends and overarches categories

#### Category 1. “Decision actors”

1.1. “Family”
- Had I not been nagged by my kids... I was aware that there were certain situations in which I was having a small degree of difficulty hearing, but I don’t know that I would have thought, at that stage of it anyway, that it was bad enough for me to do anything about it. (66 year old male)

1.2. “Me”
- I’ve decided what I wanted was the hearing aids. I thought a lot about it, but THAT’S the option for me. (82 year old female)

1.3. “Health clinicians”
- He (GP) was... not forceful, but he was saying “I’ve seen too many people get hearing aids too early in the hearing problem and they end up being worse off as a result of that”. (66 year old male)

#### Category 2. “Decision processes”

2.1. “Getting the full picture”
- It was good to see how defective my hearing was with the test. (66 year old male)

2.2. “Having a decision to make”
- If it was general knowledge that there’s an approach other than hearing aids I’m sure I would have investigated it before this. (77 year old male)

2.3. “Being informed”
- I like to get an informed opinion, an educated opinion because I’m not the expert. (65 year old male)

2.4. “Deliberating”
- I did go through it (decision aid) when I got home, showed my wife and talked about it. (77 year old male)

2.5. “Understanding the chronic nature of hearing impairment”
- Decisions like this are reversible. I can always turn around and say “Yep, ok, at this point I need it (a hearing aid)”. (59 year old male)

#### Category 3. “Decision dimensions”

3.1. “Type of decision maker I am”
- I’m impulsive. Well, I have been in my life, I know that! (68 year old female)

3.2. “General health care preferences”
- If I go to the doctor and she tells me what to do and I’m happy with that then I’ll go ahead. If I don’t, I’ll think about it and get a second opinion. (63 year old female)

3.3. “Type of decision I am making”
- I find it hard to make a decision. (71 year old male)

#### Theme 1. “My story”

- It’s a good question to ask: “What is it that you miss with your hearing loss?” I think specific questions in that regard are important. “Do you feel at a total loss when you’re watching a play?” (81 year old male)

- My experience (with health clinicians) has been overwhelmingly good. I’ve found people in the medical profession who’ll listen. You have to go against their grain initially, but I’ve found people that will listen. (79 year old male)
Theme 2. “Trust”

- I will be led by them (audiologists). I’ve got no choice in the matter. I don’t know anything about them (hearing aids). After they (audiologists) test me, they’re there to advise me and I’ll be taking their advice. (65 year old male)
- In the last couple of years, they seem to become big, hearing aid clinics. I’d never seen them advertised the way they do and they’re always very swish looking setups. That’s what made me cynical about it. (55 year old male)
- I won’t go to one of these (hearing aid clinics) that offer free hearing tests because they’re not interested in your hearing from your health point of view. (63 year old female)
- Different audiologists, it’s a business to them and they’re just interested in selling you the hearing aid. (63 year old female)

Summary

- The audiologist and the client are not the only people involved in decisions
- Clients want information about their options
- Clients do not want to rush their decisions
- Clients want to be listened to
- Clients want an audiologist they can trust

Research implications

- Three categories (“decision actors”, “decision processes”, and “decision dimensions”) and two themes (“my story” and “trust”)
- How can client-centredness, shared decision making, and trust influence rehabilitative audiology intervention uptake, adherence, and outcomes?

Clinical implications

- Take into account our client’s story
  - Client-centred consultation does not take longer than biomedical consultation (vanRiper & Rose, 1986)
  - Client-centred consultation achieves better treatment adherence than biomedical consultation (Kosinski, Juriknowski & Dittrich, 2000)
- Use the research evidence to inform decisions, but acknowledge that this is only part of evidence-based medicine
- Build trust in the client-audiologist relationship
  - Knowledge
  - Ethics

Final words

- That’s a better thing: to make the patient decide, to give options. (81 year old male)
- For me, this way of doing things is part of the way of the future. (79 year old male)

To find out more

- Louise Hickson presentation at the Aging and Speech Communication Conference, 12-14 October 2009, Indiana University, Bloomington, IN
- Literature review in press in the Journal of Aging and Health
- Evidence-based model of rehabilitative audiology shared decision to be submitted to the Journal of the Academy of Rehabilitative Audiology
- Ariane Laplante-Lévesque email: ariane@uq.edu.au