

Family-Centered Audiology Care: Emotion and Reason in Hearing Healthcare

The impact of engaging in emotion-based conversations with patients and their families

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Exploration of domains related to the emotional experiences of the patient and family will act to sensitize our clientele to the topic of emotion, and possibly address underlying motivations for their visit. At a minimum, the evidence suggests that conversations about the emotional impact of hearing loss will provide a better understanding of the patient's and family's disability experience, foster a stronger therapeutic alliance, and likely lead to more positive practice outcomes, such as greater treatment adherence, more open and honest communication with patients, and greater patient satisfaction.

As reported in The Hearing Review, Phonak has convened a select group of hearing healthcare experts to provide evidence-based recommendations to hearing care providers on how to better engage family members. Chaired by Louise Hickson, PhD, the objective of this group is to facilitate family involvement throughout the hearing remediation process.

Emotions are central to the experience of being human and are inherent to communication. Accordingly, there has been a long-standing effort to understand the impact of hearing loss and problematic communication on the emotional well-being of patients and their significant others. Critically, there has been a lack of research investigating the connection between emotion processing and its role in motivating behavior and action. Indeed, a growing body of research from social and cognitive neuroscience is adopting the position that emotions contribute significantly to the processes that govern behavior and action generation and execution. In other words, behavior is often influenced by emotion.

Modern healthcare, and audiology, is no exception, and is in the midst of a transformation of service delivery.¹ We are witnessing a change in care rooted in biological determinants of pathology with hierarchical power structures between patients and care provid-

ers (ie, medical model) to one that assumes that healthcare outcomes are optimized when patients and their significant others actively participate in the care they receive (ie, Family-Centered Care). Family-Centered Care (FCC) is supported by four pillars of clinical practice:

- 1) To explore both the disease and illness experience;
- 2) To understand the whole person and their context;
- 3) To develop a therapeutic alliance with patients and their significant others, and
- 4) To share power and decision-making responsibilities.

These practices take many hearing care professionals into new territory. The purpose of this article is to draw attention to the central role of emotions to understand the patient and their family, develop a strong therapeutic alliance, and reinforce motivation to address communication difficulties.

Emotion and the First and Second Pillars

To date, much of the academic literature on emotion in audiology has investigated topics related to the first and second pillars of FCC. Research typically observes that mental health outcomes and subjective wellbeing in those that experience hearing loss are poorer than indi-



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viduals with good hearing.²⁻⁵ Furthermore, the poorer mental health and subjective wellbeing outcomes observed with hearing-impaired patients also extend to proximal others, such as spouses and parents.⁶⁻¹⁰ In this regard, we have a good understanding that patients and significant others tend to report poorer outcomes on self-report measures assessing emotional impact (eg, sadness, frustration, anger, fear), quality of life, and depression.

One emerging topic designed to better understand listeners in real-world contexts is research investigating communication experiences in listening situations that contain vocal emotion, such as anger or sadness. For example, Dupuis and Pichora-Fuller¹¹ found that speech intelligibility can either improve or worsen depending on the emotion with which a sentence is spoken. Picou¹² found that compared with normal-hearing listeners, hearing-impaired listeners report smaller differences in arousal ratings (ie, less range) between high and low arousal stimuli at high signal presentation levels.

Within audiology research, less is known about the impact of engaging in emotion-based conversations with patients and family with respect to the third and fourth pillars of FCC. That said, research from other health professions strongly suggests that having conversations with patients and their family very likely facilitates and strengthens the therapeutic alliance. Furthermore, intriguing new research raises the possibility that conversations about emotion could potentially facilitate behavior change in patients.

Emotion and Decision Making

From our daily experiences, it may seem apparent or even obvious that emotions influence decision-making processes. In heightened states (eg, when someone cuts you off while driving), decision-making is rather different than when reasoned deliberation takes place. Based on such informal wisdom, it would seem that emotions likely exert a degree of influence on decision-making processes.

In his influential book, *Descartes' Error: Emotion, Reason, and the Human Brain*, Antonio Damasio¹³ describes his experiences working with patients with highly localized brain injuries. As measured by standard IQ tests, such patients demonstrated preserved intellectual capabilities and intelligence, but nevertheless, these patients experienced severe impairments when they attempted to make a decision. In one particularly striking example,



Damasio presented a brain-injured patient with two possible dates for their next appointment, then proceeded to spend the next 30 minutes engaging in a tiresome back-and-forth of the relative benefits and costs of the two options. Interestingly, such patients also demonstrated impairments in their ability to experience and express emotion. This led Damasio to propose that not only do emotions guide relatively automatic behaviors, but that even simple decision-making requires emotional input.

More recent social and cognitive neuroscience research further suggests that emotion processing sets into motion preparatory activation of brain structures that are linked to action. For example, Goldberg et al¹⁴ presented brief audiovisual clips that varied in their emotional content while undergoing functional magnetic resonance imaging (fMRI) scans. In contrast to affectively neutral stimuli, emotionally-arousing stimuli were associated with greater activity in brain regions (ie, superior parietal lobule and inferior parietal sulcus) associated with action-related functions.

Similarly, research involving electroencephalography (EEG), has demonstrated that brain networks involved in action are more likely to be engaged in response to vocalizations when participants are asked to make an emotion-related judgment.¹⁵ In physiological work using electromyography (EMG), Cacioppo et al¹⁶ observed that spontaneous facial muscle activity can accurately differentiate both the valence and intensity of emotionally arousing stimuli. This spontaneous facial muscle activity can also be observed in response to vocal-facial displays of emotion in singing and speech.^{17,18}

Emotion, Decision Making, and the Third and Fourth Pillars

So what does this all mean? One pos-

sible interpretation of this work is that emotions influence—sometimes for the better and sometimes for the worse—the process of decision making. This finding, we argue, provides healthcare more broadly and audiology specifically, with an interesting opportunity, one that builds on pillars 3 and 4 of FCC. We posit that conversations with patients and families that explicitly focus on their emotional experiences will foster a better therapeutic alliance and will encourage and equip patients and families to make better decisions regarding their hearing rehabilitation.

At this point, two points are worth mentioning. First, effective clinician-patient communication is associated with a myriad of positive outcomes such as greater treatment adherence, greater patient disclosure, and greater patient satisfaction (for a review, see Ha & Longnecker¹⁹). Despite these benefits, when opportunities to discuss emotions present themselves (ie, a patient makes a minor comment that could be further explored through the lens of emotion), healthcare practitioners, unfortunately, infrequently respond with empathy.²⁰

Second, not only are we as clinicians not engaging in effective patient communication, particularly as it relates to conversations about emotion, there is evidence to suggest that clinicians tend to greatly overestimate their communication abilities.²¹ Analyses of communication patterns between audiology clinicians, patients, and significant others reveals that few (< 5%) emotionally-focused utterances are observed from any party and that “little emotional relationship building” takes place.²²

How Conversations about Emotion Facilitate Rehab

One method to potentially foster better communication about emotion with patients and

families is by incorporating into practice questions that probe a patient's emotional experiences. In collaboration with Frank Russo, PhD, and Lisa Liskovoi, MA, from Ryerson University, researchers from Phonak have developed the Emotional Communication in Hearing Questionnaire (EMO-CHeQ), a 17-item questionnaire designed to better understand communication handicap when encountering environmental signals that contain emotion information. Participants are asked to report their degree of agreement on a 5-point scale from 1 (strongly disagree) to 5 (strongly agree). The EMO-CHeQ was primarily developed as a tool to facilitate research on vocal emotion. To date, data from over 400 patients with hearing loss suggests that several items (see below) appear to be sensitive markers of emotion communication handicap (Singh G, Liskovoi L, Launer S, et al; paper in preparation).

Q10. It is harder for me to identify the emotions expressed by others when I'm in a noisy environment.

Q11. I find it challenging to identify emotions expressed by others when there is someone talking at the same time.

Q12. Difficulties identifying emotions in speech make me feel left out in groups.

One application of the EMO-CHeQ is to use questions, such as those above, as a prompt to further discuss the emotional consequences associated with hearing loss for both the patient and their family. Such prompts could be used to better understand possible impairments individuals experience when attempting to distinguish emotional valence (positivity or negativity of an emotion) and intensity of speech spoken with emotion (eg, anger, sadness, or even sarcasm) or environmental sounds that evoke emotional responses (eg, different types of newborn cries). The EMO-CHeQ is comprised of several subscales, and subscales on which the largest differences in handicap were observed included those assessing how situational factors influence emotional communication (ie, Q10 and Q11 above) and the impact of emotional communication handicap on socio-emotional wellbeing (Q12).

Prompts, such as those listed above, and exploration of domains related to the emotional experiences of the patient and family will act to sensitize our clientele to the topic

of emotion, and possibly address underlying motivations for their visit. At a minimum, there is good evidence to suggest that conversations about the emotional impact of hearing loss will provide a better understanding of the patient's and family's disability experience, foster a stronger therapeutic alliance, and likely lead to more positive practice outcomes, such as greater treatment adherence, more open and honest communication with patients, and greater patient satisfaction.

Although still speculative, the research outlined above suggests that emotional considerations may be particularly suited to influencing behavior change. Although Plato originally suggested that emotion is primitive and bestial and must be controlled by reason, research from social and cognitive neuroscience suggests greater nuance; emotion may contribute meaningfully to processes that support complex decision-making. ▀

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