

Cognition and Hearing Loss

— Gender, Generational, and Multilingual Considerations in Differential Diagnosis

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PREBRIEF

Culture is unique to each individual and shared across groups. Culture presents itself not only in the clients we serve but also in the way we practice as professionals. Our own cultural beliefs and attitudes are revealed through the way we practice as professionals. As you read this scenario, consider your own cultural values and attitudes and think about the ways in which they may impact your professional services.

OBJECTIVES

- Identify aspects of communication that may be due to generational and/or gender-related practices for the clients in this scenario (e.g., male spouse speaks for female client); explain how they are pertinent to the scenario and interactions.
- Develop procedures that can accurately determine whether a multilingual adult has sufficient English proficiency to complete traditional speech audiometry tests reliably.
- Increase awareness of client behaviors that suggest cognitive decline, and increase knowledge regarding interaction of cognition, hearing, and language background.

CASE SCENARIO

Mrs. Sabitha Kumar is an 82-year-old woman, who primarily speaks Hindi, who came to the ear, nose, and throat (ENT) clinic with a complaint of itchy ears. She was accompanied by her husband, 84-year-old Dr. Kumar. During the intake and evaluation, Dr. Kumar interacted with the ENT physician, Dr. Smith, and answered all of the questions regarding his wife's concerns. Dr. Smith examined Mrs. Kumar's ears and found irritation. She prescribed a mild cortisone cream to apply externally to the ear canal to relieve Mrs. Kumar's reported symptoms. Dr. Smith communicated with Mrs. Kumar in English, and she did not request the services of a spoken language interpreter for the patient's visit. During the assessment, Dr. Smith asked Mrs. Kumar if she had any concerns. Mrs. Kumar looked to her husband in response, and he answered for her. Dr. Kumar indicated that his wife often does not respond to him or to their friends when they speak to her in English. Dr. Smith referred Mrs. Kumar to the audiologist at the same clinic for a hearing evaluation. The audiologist, Dr. Williams, completed a detailed case history. During the case history,

notes:

Mrs. Kumar appeared alert and made eye contact, but she rarely responded to questions in English. When Mrs. Kumar did not respond or appeared to pause, her husband spoke on her behalf. Dr. Kumar reported that they are both retired and spend most of their time at home or traveling to visit family. When asked about her communication interactions, Mrs. Kumar did not respond, but Dr. Kumar reported that she “hears okay most of the time.” Dr. Kumar also noted that recently Mrs. Kumar has become more forgetful and less interactive, preferring to sit away from group gatherings. When Dr. Williams probed further, Dr. Kumar stated that his wife is sometimes confused when their American neighbor talks to her, shaking her head and appearing distressed. He also stated that she enjoys watching television, especially Zee-TV, a popular Indian channel that transmits programs in Hindi and Telegu. Dr. Kumar confirmed that his wife is fluent in three Indian languages and “does pretty okay” with English. Given these details, Dr. Williams suggested that Mrs. Kumar might not be able to complete speech audiometry with English words. After hearing concerns regarding her behavioral changes and considering the patient’s age, Dr. Williams recommended that cognitive function be evaluated given research findings that suggest hearing impairment may be a marker for cognitive dysfunction in adults age 65 and older (Gurgel et al., 2014).

During the audiologic assessment, Dr. Williams observed that Mrs. Kumar seemed comfortable, and she demonstrated understanding of the test instructions. Her tympanograms were Type A, and distortion product otoacoustic emissions were within normal range, bilaterally. However, during speech audiometry, Mrs. Kumar faltered over several words and obtained speech reception thresholds (SRTs) of 45 dB bilaterally. Dr. Williams hypothesized that the words may have been unfamiliar, because they were in English, but wanted to complete a screening test for dementia.

The audiologist administered the Mini-Cog screening test (Borson, Scanlan, Chen, & Ganguli, 2003). Mrs. Kumar earned a score of 3/5, placing her at a borderline pass, because scores of <3 indicate higher risk for dementia. The audiologist noted that Mrs. Kumar performed poorly on the portion of the screening tool that uses English words such as “river, nation, finger, captain, season, sunrise” to assess registration and recall of single words. Dr. Williams repeated the SRT test using spondaic digits as stimuli (Digit-SRT; Ramkissoon, Proctor, Lansing, & Bilger, 2002) to counteract any unfamiliarity that Mrs. Kumar had with the English words. She obtained a Digit-SRT of 35 dB, bilaterally, which was consistent with her pure tone average (PTA). Word recognition testing at suprathreshold levels (WRS) in quiet and in noise using an English word list revealed scores ranging from 58% to 70%, indicating more severe hearing deficits than the SRTs or PTAs revealed.

Dr. Williams presented results of the audiologic assessment to Mrs. Kumar and her husband. Results indicated a mild, high-frequency, bilateral sensorineural hearing loss with disproportionately poor word recognition ability when evaluated with English stimuli. Dr. Williams informed that patient that her score of 3/5 on the cognitive screening test indicated the possibility that poor word recognition scores might be due to unfamiliarity with the English words used in the SRT and WRS tests. An annual hearing evaluation was recommended to monitor any change in the hearing loss to the point at which amplification, such as hearing aids, would be an option. It was also recommended that a diagnostic cognitive assessment be conducted by a gerontologist to rule out any early-stage cognitive changes.

CRITICAL THINKING AND DEBRIEFING QUESTIONS

1. What were your thoughts regarding Dr. Kumar's practice of responding to questions directed toward his wife? If this was a result of cultural practices, how do you incorporate those responses into your assessment? If these practices were different from your own cultural beliefs surrounding gender roles, what were your impressions?
2. What signs indicated the need for a cognitive screening?
3. How would an audiologist assess cognitive skills in an adult client whose first language is not English?
4. What other ways would you modify your speech audiometry protocols for a client with (a) limited English proficiency and (b) possible cognitive decline?

COMMENTARY

In American medical culture, clinicians often expect the adult client, not a family member or spouse, to respond to diagnostic questions. In this case, Dr. Kumar was likely responding for his wife, Sabitha, because of his cultural practices and her lack of English skills. Given their Indian heritage and their age, it may have been common practice for the male to serve as the speaker for all important matters, including his wife's health (Roopnarine, Krishnakumar, & Vadgama, 2013). Any confusion in this matter could have been alleviated by asking about preferred cultural practices or offering the services of an oral language interpreter.

The practice of the ENT to go along with Dr. Kumar's practice of answering for his wife could have been due to a shared communication style in which those who are educated at the doctoral level are more comfortable communicating with peers or accepting a man as the family spokesperson without further consideration. The audiologist made more concrete attempts to elicit information from the client by making eye contact with her, but when this did not produce the desired result, the audiologist relied on the husband as the spokesperson for his wife.

The last issue, not offering an alternate SRT test, may have been a contributing factor in Mrs. Kumar's difficulty with certain words during the SRT testing. When working with clients who speak languages other than English, it is important to have alternative assessments ready for their appointments that can measure true abilities that are not hindered by a lack of proficiency in English.

By failing to directly address cultural practices and offer alternate speech audiometry tests, both medical professionals disempowered Mrs. Kumar in her assessment and treatment journey. In the future, it would be appropriate to address Dr. Kumar's responses and to offer an interpreter at the beginning of any assessment to encourage Mrs. Kumar to respond during the case history interview. Overall, it is recommended that direct conversations occur with patients and families to optimize culturally sensitive practice as well as reliable assessment and treatment.

CRITICAL THINKING AND DEBRIEFING RESPONSES

1. **What were your thoughts regarding Dr. Kumar’s practice of responding to questions directed toward his wife? If this was a result of cultural practices, how do you incorporate those responses into your assessment? If these practices were different from your own cultural beliefs surrounding gender roles, what were your impressions?**

This question necessitates personal reflection. When considering your answer, think about the communication styles from your culture: Do you have patriarchal communication styles? Direct? Indirect? Also, consider that your thoughts and impressions reflect your knowledge of culture (yours and a client’s), any personal bias you may have, and your expectations for successful communication exchanges. Did you view the husband’s responses a result of Mrs. Kumar’s hearing loss and cognitive decline, or a patriarchal practice? Elaborate on your response.

2. **What signs indicated the need for a cognitive screening?**

In this scenario, the audiologist noticed possible memory loss, confusion, avoidance of communication during the intake, and faltering on responses during testing as possible signs of cognitive decline. This information, paired with Mrs. Kumar’s case history, indicated that a cognitive screening was appropriate at this point. It was important that given these risk factors, the audiologist paused testing and screened for possible cognitive issues. Early recognition of cognitive decline is imperative in addressing issues and providing timely medical treatment and support (Zalewski, 2010).

3. **How would an audiologist assess cognitive skills in an adult client whose first language is not English?**

The first step in working with individuals who speak multiple languages is to offer interpreter services as part of the visit and intake. Because of the strong association between hearing loss and dementia, audiologists should be prepared to screen the cognitive skills of adults in their care (Loughrey, Kelly, Kelley, Brennan, & Lawlor, 2018). Practitioners should consider how a client’s limited English proficiency might influence their performance on cognitive screening measures, especially in English. There are several screening tests available for cognitive evaluations. Best practice uses tests that are not linguistically loaded, normed on the target population, and preferably in the client’s language, rather than tests translated from English.

4. **What other ways would you modify your speech audiometry protocols for a client with (a) limited English proficiency and (b) possible cognitive decline?**

Audiologists often modify test procedures but must take care to maintain validity while testing so that they can produce reliable information about a client’s hearing ability.

(a) Deciding to eliminate the speech audiometric tests is not preferred practice. Instead, an audiologist may review some language-specific speech audiometry tests that are available. Audiologists should have access to tests in other languages that are readily available in the clinic. Some options include Spanish, Hindi, and Zulu. As an alternative to language-specific tests, the Digit-SRT test may be used irrespective of first language provided the client has a basic knowledge of English numbers.

(b) Clients with cognitive decline may be challenged to respond appropriately in speech and pure-tone audiometric procedures. Audiologists should include a screening test for

cognitive function for older adults or any client who seems to not understand conversation or test instructions. Familiarize yourself with at least one cognitive screener.

TAKE AWAYS

- Clinicians should aim to identify preferred cultural practices and explore cultural family dynamics that may impact the intervention process to offer adequate support to the families, as needed, ensuring that their assessment is representative of their client's abilities.
- The benefits of involving oral language interpreters in clinical interventions with bilingual clients who might need them should be highlighted to them and their families ahead of their scheduled visit.
- Clinicians aiming to work with multicultural populations would greatly benefit from equipping their practice with materials and alternative assessments that can help more accurately measure their bilingual clients' true abilities.
- Given the link between hearing impairment and cognitive dysfunction, clinicians should be prepared to screen patients who demonstrate cognitive decline using appropriate language versions of the screening tests and an interpreter.

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ADDITIONAL RESOURCES

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