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DOCTOR'S STORIES

Hearing the Deaf Patient

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At a retail clinic, the next patient, a 19-year-old woman, was called by name from the waiting area. Nobody in the waiting area responded, and so the call was repeated, this time using the pharmacy's overhead speaker system. Again, no patient came forward. The next patient in the waiting area was called by name, responded, and was treated, after which the original patient's name was called again. When still nobody responded, a text message was sent to the patient's mobile phone.

Immediately, a young woman presented to the clinic door and, without speaking, pointed to the text message on her phone. She texted her reply, noting that because of her deafness, texting was her preferred form of communication for the visit. She texted that she had a 1-year history of type 2 diabetes, and that she was concerned about the elevated blood glucose levels as measured on her portable glucometer. Via text, she denied having any symptoms, including weight change, increased urination at night, or thirst.

On physical examination, the patient was of normal build, with a body mass index of 24 kg/m^2. Moist mucous membranes were noted, and her skin appeared normal. Vital signs and cardiovascular and pulmonary examination findings were normal. No abdominal tenderness was present, and feet examination findings were normal. Point-of-care test results included a blood glucose level of 86 mg/dL and hemoglobin A_{1c} concentration of 7.0%.

She removed her glucometer from her purse. The device's log verified blood glucose measurements from 140 to 290 mg/dL throughout the day. The glucometer was 1 year old and had been bought at the retail pharmacy, as she noted in her texts. The device, including the

battery, was inspected and was found to be intact. The test strips, however, had expired 2 months ago. When the expiration date was shown to the patient, she smiled. A new prescription for strips was sent to the pharmacy for her to pick up; a new strip was inserted into the meter, and blood glucose level was noted to be normal at 87 mg/dL.

The woman was scheduled for a 1-week follow-up visit with at the retail clinic with the health care provider and with a medically trained American Sign Language (ASL) translator present.

Patients with deafness pose a unique health care challenge. Federal disability antidiscrimination laws mandate equal access and equal opportunity to participate and benefit from health care services, and deafness is a disability that is covered by these antidiscrimination laws. Individuals who lack a nonorganic cause for deafness are considered to be functionally deaf. An individual gets a functionally deaf diagnosis when there is an underutilization of residual hearing as determined by various auditory acuity tests.[1] According to the Survey of Income and Program Participation, a national survey that regularly collects data identifying the US population with hearing loss or deafness, roughly 10 million Americans are hard of hearing and another 1 million are functionally deaf.[2] Furthermore, more than half of these individuals are 65 years or older. Given that the 65-and-older population utilizes a larger proportion of health care services, this is a considerable number of individuals.

Certain cultural characteristics distinguish the community of persons with deafness from the hearing population. Among people with deafness, there is a difference between being deaf and being a member of the Deaf community.[3] The term *deaf* (using a lowercase *d*) refers to persons with an audiologic inability to hear.[4] When *Deaf* is used with a capital *D*, it is seen in the context of individuals whose identity is mainly shaped by their shared language and experiences of being deaf in a hearing society. In the general society, deafness is defined as a medical disability. On the contrary, to the Deaf community, deafness is a natural characteristic that defines who they are. Moreover, they do not view themselves as “disabled” but rather as members of a linguistic minority.[5]

Language is among the most important aspects of the Deaf culture. ASL is the language of the Deaf community in the United States. In fact, English is often viewed as a second language among Deaf patients. ASL is a unique language with its own syntax and grammar. Unfortunately, there is a lack of sign language covering medical terminology.[6] This can lead to a lack of effective communication modalities for conversations about health care.

Persons who are defined as functionally deaf or hard of hearing may struggle to effectively communicate with health care providers. Deaf patients in the United States often report fear, mistrust, and frustration in their health care encounters.[7] This miscommunication between deaf patients and health care providers can lead to misunderstanding of diagnostic and therapeutic interventions.[8] Furthermore, it is believed that they are less likely to fully understand medical

interventions.[7] Furthermore, it is believed that they are less likely to fully understand medical diagnoses and/or treatment plans.[9] Providers cannot expect deaf patients to provide informed consent for medical treatment and procedures if the providers cannot be sure the patients fully understand the information presented. In the acute care setting, a correlation exists between a patient's being disabled (including deafness and/or blindness) and an increased risk of experiencing a preventable adverse event.[7] The problem is compounded when the patient is faced with the increased challenge of contacting emergency medical services.

Health care providers are often under the misguided notion that most deaf people are efficient at lip-reading. In contrast, deaf persons who are familiar with spoken language and who have practiced lip-reading can understand at best 30% to 45% of spoken English.[3] In addition, providers often believe that note-writing is an effective form of health care communication.[6] But note-writing has certain inherent limitations, including those related to health literacy. It has been reported that among the deaf population, the median reading level for 17- to 18-year-olds is grade 4, and that 30% of deaf persons are functionally illiterate—that is, read at or below a 2.8 grade level.[10] Even among the well-educated deaf population there exists a relatively low health literacy level.[11] A lack of appropriate sign language terminology may be a contributing factor. Limited health literacy coupled with a lack of available health information in sign language reduces access to preventive health care information for deaf patients, which can lead to overall poor health outcome.

Cultural competency training contributes to better accessibility to health services for persons who are deaf.[7] To best bridge the gap between hearing and nonhearing patients in the health care setting, we should begin by incorporating more cultural competency training into all health education programs. Medical personnel should be educated about the numerous services available to assist the deaf population in effectively communicating with the medical community. Medical facilities including hospitals, urgent care centers, ambulatory care clinics, dialysis centers, and clinics should include annual cultural competency training with a specific focus on deaf patients.

The medical sector should utilize medically qualified ASL interpreters and use assistive devices when providing care to deaf patients. Only 41% of deaf patients in Germany, for example, had experience with an interpreter in the medical setting.[11] Medical personnel should be mindful of culturally appropriate methods of communicating with the Deaf community. The use of the role-reversal exercises can help members of the medical community to view things through the eyes of a deaf patient. Longer appointments for hearing-impaired patients also can be beneficial.

These recent technological advances have made communication easier for deaf patients and have helped bridge the gap between the hearing and the nonhearing communities. For example, with the assistance of voice text messenger, deaf people can make initial contact with health care providers via telephone.[7] And the availability of the internet in medical facilities has made telemedicine a viable option. Telemedicine can provide wide access to resource centers,

offering web-based communication with medical sign-language experts.[7] Nevertheless, more than 50% of the world population reportedly does not have access to the internet.[12]

When encountering a deaf patient with diabetes, it is imperative to utilize all of the available resources to effectively communicate all of the necessary health information. When faced with the challenge of teaching a deaf patient how to use a glucometer or how to perform a fingerstick, the assistance of a medically trained ASL interpreter, along with text messages via the use of assistive devices and the use of lip-reading, also may need to be utilized.

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