

The Medical Communication of Deaf Patients

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As language is such a fundamental tool in the determination of a diagnosis and in patient education, non-English-speaking patients and deaf patients often suffer from inferior medical care. Deaf adults and adults studying English as a second language (third- to fifth-grade English-comprehension level) were compared. Participants completed a survey and a test of commonly used medical vocabulary. The two populations did not differ significantly in education level or in vocabulary test scores. Deaf patients were often less able to speak to their physician in their customary language (sign language); as a result, they perceive greater difficulties in expressing themselves to their physicians and reexplain themselves less frequently in response to misunderstandings. It is clear that deaf patients should be recognized as a subset of non-English-speaking patients who are at increased risk for poor physician-patient communication.

The purpose of this investigation is to describe the profound communication problems that exist for the deaf in the medical setting by comparing their communication skills with those of recent immigrants to the United States. Although articles have been published describing how best to treat or communicate with the deaf or hearing-impaired patient,¹⁻⁷ little has been done to quantitate the ability of the deaf person to communicate with his or her physician. Lass et al⁸ found that even among their well-educated population, "the most serious problem was perceived to be communication as certain aspects of medical care were not well understood." Schein and Delk⁹ reported that even deaf officers of affiliates of the National Association of the Deaf, more than 60 percent of whom had attended at least one year of college, still failed to understand almost one third of what hospital staff tried to tell them.

No attempts have been made previously to study a more representative sampling of the deaf population, with or without appropriate control groups. It is estimated that 1.8 million Americans are deaf¹⁰ and that American Sign Language of the Deaf (ASL) is the third most commonly spoken "foreign" language in the United States.⁷ The deaf

population, therefore, is a sizable group who are at risk for poor health care resulting from problems in physician-patient communication.

One may liken the handicap of deaf persons to that of recent immigrants to the United States, whose English is rudimentary and whose understanding of American culture is minimal. Deaf people often describe themselves as part of the "deaf community," having a unique culture different from that of hearing Americans. Recent immigrants enrolled in graduated levels of English instruction are a useful yardstick by which one might assess the ability of deaf people to communicate in the medical setting. Vernon¹¹ found that the average deaf adult reads English at the fourth- to fifth-grade level. Comparison with immigrants at the level of English comprehension would point up any added handicap to medical communication that the deaf population might have.

To determine the degree to which deaf patients experience communication problems in a medical setting, a study was undertaken in which the following questions were addressed:

1. How often do deaf patients speak to their physicians in their primary language (ASL)?
2. Do deaf patients feel that they get their meaning across to their physicians? If they do not, do they reexplain themselves?
3. Do deaf patients feel that they understand their physicians? If they do not, do they ask their physicians to clarify the issue?
4. How well do deaf patients understand commonly used medical vocabulary?

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METHODS

Two groups of subjects were included in this study. The test group consisted of 22 deaf subjects, and the control group consisted of 119 immigrant subjects. Subjects were matched for level of education and age. Before testing, an exemption was received from the University of California, Irvine, Human Subjects Committee, as all subjects were 18 years of age or older and research involved only a written test and survey that did not identify the subjects.

The deaf group included willing subjects from a Catholic church, a Lutheran church, and a Jewish synagogue. These three facilities have services for the deaf conducted in ASL. Testing was done after services. Only test results from participants who defined themselves as deaf, could not hear well enough to understand conversation, became deaf before the age of 6 years, considered ASL their language of greatest fluency, and had been to see a physician in the last five years were used. Twenty-two people fulfilled these criteria.

The comparison group consisted of willing subjects from an immigrant population attending two adult education centers. These schools teach English as a second language (ESL) to adult immigrants of all ages, backgrounds, and educational levels. Students were placed in classes based only on their ability with English. Students in ESL levels 2 (ESL-2) and 3 (ESL-3) were selected for this study because educators at the two schools believed that these students had fourth- to fifth-grade levels of English comprehension. Only test results from participants who identified themselves as not deaf, could hear well enough to understand conversation, and whose language of greatest fluency and first language was not English were used. Seventy-nine people of those tested fulfilled these criteria at ESL-2, and 40 people fulfilled these criteria at ESL-3.

The survey was written in English understandable at the fourth-grade level. Questions were asked to obtain demographic information and educational level of the participants, their families, and whomever they might live with. Also asked were questions concerning communication with their physician. This area included how often they see a physician, how they communicate with their physician, and four questions for self-ranking the participants' feelings about how well they understand their physician, how well their physician understands them, how often they ask questions when they do not understand, and how often they reexplain themselves in response to a misunderstanding.

A multiple-choice test of 105 commonly used medical vocabulary words was given to the participants. Multiple-choice responses were understandable at the fourth-grade level. Participants were told the nature of the investigation and that it was voluntary. There were no time constraints to complete the questions.

TABLE 1. CHARACTERISTICS OF THE THREE STUDY GROUPS

Characteristic	ESL-2 (n = 78)	ESL-3 (n = 40)	Deaf (n = 22)
Education			
Not completed high school	22	11	6
High school graduate	35	20	10
College graduate	20	7	5
Age			
Mean (years)	32.64	31.42	45.32
Range	±9.85	±9.82	±16.24
Using language of greatest fluency with physician (%)	42.2*	42.2*	21.7*
Vocabulary test results			
Mean percent correct	56.2**	71.4	66.7
Range	±25.6	±20.8	±31.8

ESL-2, ESL-3—English as a second language, levels 2 and 3

* ESL-2 and ESL-3 scores tabulated together

** n = 79

Data analyses were performed with a computer using the *Bio-Medical Data Program* statistical software¹² and manually. Statistical comparisons were made by standard statistical methods. Chi-squared values were calculated for educational level. P values were calculated for age, vocabulary test results, language use, and the physician-patient communication self-ranked questions to determine the differences between proportion tests for comparison of respective means.

RESULTS

The characteristics of the three study groups are presented in Table 1. There was no significant difference in the distribution of educational level between the ESL-2, ESL-3, and the deaf groups. There was also no significant difference in mean age between the three groups. The deaf subjects were significantly less likely than the ESL groups to be able to speak to a physician in their language of greatest fluency.

There was no significant difference among the deaf, ESL-1, and ESL-2 study participants in their ability to identify correctly the meaning of commonly used medical vocabulary words. Results indicate, however, that many words commonly used by physicians may not be understood by deaf or immigrant patients; for example, fewer than 50 percent could correctly identify the meaning of gallbladder, stools, sober, anxiety, erection, or nausea. Nevertheless, more than 90 percent could identify x-ray examination, cough, alcohol, diet, fever, and aspirin. There was no significant difference among the deaf and ESL test participants in their assessment of how often

they failed to understand their physician or how often they asked clarifying questions. There were significant differences, however, among the assessment of the deaf participants and the ESL participants in two other areas. The deaf test participants more frequently felt that their physician did not understand what they were trying to communicate and they less frequently tried to reexplain themselves to their physician.

DISCUSSION

There is a remarkable similarity between the abilities of the immigrant and deaf populations studied to identify correctly commonly used medical words in English. This similarity occurred despite the American upbringing of the deaf patients. This similar inability to understand common medical words suggests the rather provocative notion that a deaf person growing up in the United States may have as little exposure to medical terms as an individual growing up in a non-English-speaking society.

Although it may be difficult to think of a deaf patient as a representative of another culture (or perhaps sub-culture), it is a useful concept. Immigrants are not expected to read lips in English or to read a note written in English, nor is it assumed that they are mentally retarded if incapable of composing grammatically correct written questions in English. Yet these are the expectations and assumptions made by many health care workers regarding deaf patients. The hearing-impaired are not incapable of communication; they are simply fluent in a language not understood by most physicians.

Differences do exist, however, between these two patient populations. Deaf patients are less likely to find physicians who can use American Sign Language. Also, deaf patients perceive a greater problem in getting their meaning across to their physicians, and are less likely, perhaps as a result, to reexplain themselves. Perhaps these differences are related in the following way: If deaf patients must rely on English more often, because few physicians know how to use sign language, it is reasonable that deaf patients should feel there is a greater problem in communication. They may also less frequently feel that it is worth the effort to reexplain themselves. These differences suggest that there is a communication gap for the deaf patient wider than that experienced by the immigrant patient, primarily because of the deaf patient's greater need to rely on English.

When the physician is unable to obtain an adequate history, the most important tool for diagnosis is lost. Moreover, it is primarily through language that the physician works to establish rapport and trust. Good physician-patient communication is fundamental to good health care. Perhaps the best way to approach improving communication with the deaf patient is to use methods that have worked well with immigrant patients. The use of interpreters and respect for the culture and intellect of the patient are the foundations upon which good bilingual communication rests.

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References

1. Clark N: Hospital treatment of hearing impaired patients, a commentary on the American Hospital Association memorandum. *Deaf Am* 1978; 30:9
2. Chapman J: Special health needs of the hearing impaired. *Volta Rev* 1975; 77:35-44
3. Davenport SLH: Improving communication with the deaf patient. *J Fam Pract* 1977; 4:1065-1068
4. Di Pietro LJ, Knight CH, Sams JS: Health care delivery for deaf patients: The providers' role. *Am Ann Deaf* 1981; 2:106-112
5. Golden P, Ulrich M: Deaf patients' access to care depends on staff communication. *Hospitals* 1978; 52:86-90
6. Mindel ED, Vernon M: Out of the shadows and the silence. *JAMA* 1972; 220:1127-1128
7. Reisman G, Scanlon J, Kemp K: Medical interpreting for hearing-impaired patients. *JAMA* 1977; 237:2397-2398
8. Lass LG, Franklin RR, Bertrand WE, Baker J: Health knowledge, attitudes and practices of the deaf population in greater New Orleans—A pilot study. *Am Ann Deaf* 1978; 123:960-967
9. Schein JD, Delk MT: Survey of health care for deaf people. *Deaf Am* 1980; 32:5-6
10. Mindel ED, Vernon M: *They Grow in Silence*. Silver Springs, Md, National Association of the Deaf, 1971
11. Vernon M: Potential, achievement and rehabilitation in the deaf population. *Rehabil Lit* 1970; 31:258-267
12. Dixon WJ (ed): *BMDP Statistical Software*. University of California Press, Berkeley, 1985