Clinical Research and Methods

Deaf Women's Experiences and Satisfaction With Prenatal Care: A Comparative Study

Amanda O'Hearn, PhD

Background and Objectives: *The quality of communication between physician and patient is a major contributor to patient satisfaction and treatment adherence. Deaf patients who use American Sign Language experience significant communication barriers in most medical settings. This study investigated factors impacting deaf patients' satisfaction with prenatal care and prenatal care disparities between deaf and hearing women.* Methods: *Questionnaires modified from Omar and Schiffman's prenatal satisfaction measure were administered to 23 deaf and 32 hearing women.* Results: *Deaf women were less satisfied than hearing women with physician communication and less satisfied with overall care. Deaf women's expectations about provision of interpreter services being met or exceeded was significantly associated with overall satisfaction. Hearing women had more prenatal care appointments and reported receiving more information from their doctors.* Conclusions: *Maximizing communication effectiveness with deaf patients results in better prenatal care and improved patient satisfaction. Good communication includes conveying concern and making efforts to ensure that whatever communication methods used are effective.*

(Fam Med 2006;38(10):712-6.)

Poor communication between clinicians and patients leads to low patient satisfaction and treatment adherence rates and, thus, contributes to poorer health care outcomes.[1-3] Language barriers also lead to negative health outcomes and patient ratings of care.[1] Deaf patients, for whom communication can be difficult, are at risk for low health care satisfaction and adherence.

Approximately 20 million Americans have some hearing loss.[4] Of this group, 4.8 million report being unable to hear or understand any speech.[4] Communication methods among deaf individuals vary from oral approaches to manual approaches, including American Sign Language (ASL).[5]

Deaf individuals use medical services more often, take more sick days from work, and report poorer health than hearing people.[6,7] Deaf persons visit physicians more frequently, have more difficulties communicating with physicians, and feel less comfortable with them.[6] Data from the National Health Interview Surveys (1990–1991) suggest that the deaf population's health care utilization pattern is complex.[8] Prelingually deafened adults, who are more likely to use sign language, use fewer health care services than average, similar to other language minorities, while postlingually deafened adults used health care services more than average, similar to people with chronic illness.[8]

Deafness negatively affects the communication relationship between practitioner and patient.[6,9-11] One third of what hospital staff try to communicate to deaf patients may be misunderstood.[11] Even among highly educated deaf people, communication difficulties are cited as the primary cause for dissatisfaction with medical care.[12,13]

A focus group study of 45 deaf women found that their lack of knowledge regarding health issues was common, including little understanding of the value of cancer screening, Pap smears, mammography, and the purposes of prescribed medications. Deaf women also reported avoidance of health services due to communication barriers.[14] Deaf persons are less likely than hearing counterparts to obtain illness prevention information from their physician, television, radio, or books and are more likely to obtain this information from deaf clubs.[15]

From the University of Rochester Medical Center.

Most clinicians do not know sign language and are not educated about deafness.[16] Even providers who recognize deaf patients' preferences for sign language fail to use interpreter services regularly.[17] Although clinicians often believe that writing and lip reading provide effective communication,[17,18] the average deaf high school graduate reads at a third- or fourth-grade level.[19] Speechreading is not sufficient either, with the best lip-readers understanding only 20% of spoken words.[20]

Deaf patients report increased access and positive experiences in health care when practitioners use qualified interpreters.[21] Providers who demonstrate sensitivity to communication, using even minimal sign language skills, or show a willingness to use pen and paper are appreciated.[14] Deaf patients who were enrolled in an experimental primary care program where ASL interpreters were provided were more satisfied with physician communications and had improved preventive care outcomes.[22] They also were more likely to report receiving Pap tests, mammography, and rectal examinations than deaf patients who were not enrolled in the interpreter access program.

Prenatal care has been shown to decrease infant mortality and improve quality of life for newborns,[23,24] yet many pregnant women do not fully utilize prenatal care.[25] One of the motivating factors for pregnant women to receive prenatal care is satisfaction.[19,26] Some of the factors related to patient satisfaction include perceived quality of communication with their physician, continuity of care, attendance at childbirth classes, and perceived physician concern.[27] Women who do not feel that they received adequate prenatal information feel less prepared for delivery and are less satisfied with the experience.[28] Omar and Schiffman[29] found that women whose expectations of prenatal care were met were more satisfied than those whose expectations were not met.

There have been no reported studies on prenatal care and deaf women. The present study compares deaf and hearing women's experiences in prenatal care, in particular as related to communication and patient satisfaction.

Methods

Instrument

A survey questionnaire was adapted from Omar and Schiffman's[29] prenatal satisfaction measure. This modified questionnaire was composed of 37 items related to several facets of patient satisfaction, expectations about communication and care, and health outcomes of both baby and mother. Perceived quality of communication, perceived physician concern, continuity of care (number of different doctors seen), and overall satisfaction were assessed through Likert-scale items. Several open-ended questions were included to generate ideas about deaf women's experiences and guide future studies. Number of prenatal care visits was compared to the visit schedule suggested by the Expert Panel on the Content of Prenatal Care,[30] which recommends nine visits for low-risk women. Demographic information also was collected, and questions were included that assessed deafness-related communication factors. The study was reviewed and approved by the Institutional Review Board at Gallaudet University.

Subject Recruitment

Hearing and deaf participants were recruited via e-mail and posted advertisements on the university campus, as well as through the Internet, friendship networks, and deaf organizations. Twenty-three deaf women and 32 hearing women who had a baby within the past 3 years completed the questionnaire. Most deaf women (91%) reported using sign language as their primary mode of communication although one third of this group also endorsed using some mode of oral communication (lipreading, talking) at least some of the time. Additional information regarding the participant sample is presented in Tables 1 and 2.

Data Analysis

We used descriptive statistics (means, standard deviation, percentages) to describe subjects' demographics and the proportion of women in the hearing versus deaf groups who responded differently to survey items. Analysis of variance was used to determine if differences between the groups were significant.

Results

There was a trend for hearing women to have more prenatal appointments than deaf women, ($F[1,54]=3.88$, $P=.054$). Thirty-one hearing women (97%) reported having nine or more prenatal appointments; for deaf women, only 17 (74%) had nine or more appointments.

Hearing women reported getting significantly more information from their doctors than did deaf women. Ninety-one percent of hearing women reported they got "a lot" of information from their doctor, while 61% of deaf women endorsed the same ($F[1,54]=7.95$, $P<.01$). More of the hearing women reported that their doctors counseled them about abstinence from alcohol than did the deaf women (91% versus 61%) ($F[1,54]=7.95$, $P<.01$). There were no significant differences between the groups in length of hospital stay for mother or child, total number of doctors seen, premature deliveries, baby's birth weight, participation in prenatal classes, or presence of delivery complications. Both groups endorsed being equally informed by their doctors on the use of vitamins, weight gain during pregnancy, and breast-feeding.

Table 1

Participants' Sample Characteristics

	Deaf		Hearing	
Characteristics	*%*	*n*	*%*	*n*
Mother's age				
Under 25 years	—	—	12	4
25–29	22	4	22	7
30–34	39	9	41	13
35–39	35	8	16	5
40 and over	—	—	9	3
Not answered	4	1	—	—
Baby's age				
0–1 year	4	1	31	10
13 months–2 years	26	6	38	12
25 months and over	66	15	31	10
Not answered	4	1	—	—
Education				
High School	22	5	19	6
College/technical	39	9	34	11
Post-college	39	9	44	14
Not answered	—	—	3	1
Ethnicity				
Caucasian	70	16	72	23
African American	9	2	16	5
Hispanic American	13	3	—	—
Asian American	4	1	6	2
Other	4	1	6	2
Seen most for care				
Doctor	65	15	72	23
Midwife or other	35	8	27	9

Table 2

Deafness-related Characteristics of Deaf Participants

	Percent	*n*
Decibel loss, in better ear		
Severe, 70–89	18	5
Profound, 90 and above	65	15
Not answered	13	3
Onset of deafness		
Birth	74	17
0–1 year	13	3
1.1–3.5 years	13	3
Etiology of deafness		
Hereditary/genetics	35	8
Rubella	8.7	2
Postnatal illness	13	3
Other	13	3
Unknown	26	6
Communication used in general		
Some oral	70	16
No oral	30	7
Communication with doctor		
Some oral	35	13
No oral	56	8
Frequency of interpreted appointments		
None	26	6
1–2	22	5
3–5	13	3
6 or more	39	9
Who interpreted (multiple answers permitted)		
Spouse/partner	27	6
Family	9	2
Friend	5	1
Professional	59	13

Significant differences were noted between deaf and hearing women for overall satisfaction with prenatal care; hearing women had higher satisfaction scores than deaf women. Likewise, hearing women also reported greater satisfaction with communication and with perceived physician concern than did deaf women (Table 3).

No differences in satisfaction score were found in relation to use of a doctor versus a midwife, number of doctors seen, premature delivery, or the baby's birth weight. The 16 deaf women who used oral means of communication did not differ in overall satisfaction from the six who did not (F [1,21]=.43, P=.52). Deaf women became less satisfied overall as the number of prenatal appointments increased (r [23]=-.49, P<.05). The same was not found for hearing women (r (29)= -.08, P=.68].

Ninety-five percent of deaf respondents preferred their doctor to communicate with them by signing or through an interpreter, while only half reported being provided with a professional interpreter at least some of the time. Deaf respondents were asked to compare expectations they had about interpreter services (eg, "I expected my doctor to provide me with an interpreter for appointments," "I expected I would bring my own interpreter for appointments.") versus what actually happened in prenatal visits and at delivery. As interpreter expectations were met and exceeded, satisfaction increased ([r (22)=.43, P<.05]).

When asked "Should your doctor be responsible for good communication?" 100% of hearing women answered affirmatively, while only 82% of deaf women did. Open-ended questions revealed a common theme of deaf patients wanting doctors to use several ways to communicate to increase the clarity of the message, such as writing if communication was not understood through lipreading. "She took time to talk with me and she explained things clearly. When I wasn't sure if I understood, she wrote information down." Frequently, deaf women said that the provision of interpreter services would demonstrate the physician's concern for them as well as improve communication. "Provide interpreters so I won't have to rely on family, so communication will be faster, clearer."

Table 3

Means, Standard Deviations (SDs), and One-way Analyses of Variance (ANOVA) for Deaf and Hearing Respondents on Satisfaction Variables

Variable	*Deaf*		*Hearing*		*ANOVA*	
	Mean	*SD*	*Mean*	*SD*	*F Test*	*P Value*
Satisfaction with overall care	10.8	3.9	13.5	2.5	(1,54)=9.92	<.01
Satisfaction with communication	2.2	.63	2.7	.46	(1,50)=8.7	<.01
Satisfaction with physician concern	9.8	2.9	12.1	2.7	(1,50)=5.02	<.05

The importance of clear communication was the subject of many deaf respondents' open-ended comments. "[The doctor should be] putting more interest in writing and adding information to my questions." None of the deaf women stated that their doctors called them to check on them, whereas several hearing women did.

Discussion

Despite the communication and prenatal care satisfaction differences between the deaf and hearing participants in this study, the measures associated with pregnancy outcomes (birth weight, length of hospital stay, premature deliveries, or delivery complications) did not show significant differences between the groups. This participant sample was particularly well educated, which may have been a mitigating factor decreasing pregnancy risks, and the sample was not large enough to identify differences between groups in events that occur infrequently. Nevertheless, we did find that deaf women were less satisfied overall with their prenatal care, less satisfied with physician concern and quality of communication, had fewer prenatal care appointments, and received less information from their physicians than did hearing women.

It is notable that the deaf respondents who were proficient in oral communication (ie, speaking, lipreading) were no more satisfied with their prenatal care than the deaf women who communicated exclusively through sign language. Regardless of variations in their communication abilities, the deaf women were consistently less satisfied then the hearing women. This finding suggests that oral proficiencies among deaf individuals do not by themselves yield effective communication or patient satisfaction. Specific efforts are still necessary to ensure that communication is effective with deaf patients with speech and speech reading proficiencies. For a deaf patient who prefers sign language, effective communication is dependent on the provision of interpreter services, regardless of any oral communication proficiencies that deaf person may have.

When deaf women's expectations about interpreters were met or exceeded, satisfaction increased. This finding is supported by prior research indicating that the negative consequences that can ensue when physicians know that interpreters should be used, yet do not use them.[17] With hearing loss being the sixth most common chronic condition in the United States,[31] there is compelling reason for medical education curricula to include information regarding optimal communication with deaf and hard of hearing patients or family members.[32]

Deaf women reported fewer prenatal appointments than hearing women. Whether this reflects a difference in the number of appointments scheduled versus the number attended (or both) cannot be determined from the available data. As the number of prenatal appointments increased for deaf women, their satisfaction decreased. It may be that deaf women find diminishing value in additional appointments as they contend with ongoing communication barriers with their doctors. Hearing women reported receiving more information from their doctors and were more often counseled about abstinence from alcohol. This also is likely due to communication barriers that prompted deaf women to seek information in other ways. This may have implications for health outcomes, especially in higher risk medical situations or with women whose education level is lower than that of the women in our sample.

When asked "Should your doctor be responsible for good communication?" 100% of hearing women answered affirmatively, while only 82% of deaf women did. This may partially explain why deaf women report satisfaction with their doctors, even when communication is difficult; they may perceive that they bear some of the responsibility for effective communication (or lack thereof). Alternatively, deaf women's expectations may be significantly lower, such that a lesser quality of communication exceeds their attenuated expectations.

The fact that deaf women were not satisfied with several aspects of communication, yet reported being satisfied overall, merits further consideration. The influence of stigma on self-esteem and satisfaction may provide some answers. In general, stigmatized individuals are not dissatisfied with their lives.[33] Members of marginalized groups compare themselves not to the majority but to members of their own group.[34] Deaf

women may perceive small attempts by their doctors as impressive in a context relative to their reference group's past experiences.

As in other studies, when doctors made efforts to be sensitive to communication, positive outcomes resulted.[14] Our results suggest that physician efforts to make communication effective cannot be readily distinguished from physician concern. Adopting more concern, especially where communication is involved with deaf patients, may well increase overall patient satisfaction.

The major limitation of this study was the small, educated sample, which limits generalizability. Research conducted in ASL rather than through questionnaires would yield greater numbers of participants who are not fluent in English. Comparison of deaf and hearing women's experiences receiving care from the same doctor, or the same group practice, would further enhance the results. Additionally, recall bias may have influenced the results, as this study was assessing satisfaction from a period of time up to 3 years prior to the survey, and satisfaction may have been influenced by subsequent physician interactions.

Future studies should examine what types of training can be most effective with physicians to result in both physician and patient satisfaction. Including information about hearing loss in resident training curricula on patient-doctor communication may be one avenue. Barnett[32] provides detailed recommendations in this regard.

Acknowledgments: This work was supported in part by a grant from the National Institute on Disability and Rehabilitation Research in the US Department of Education's Office of Special Education and Rehabilitative Services. However, the contents of this article do not necessarily represent the policy of the US Department of Education, and you should not assume endorsement by the federal government. The work also was supported in part by Cooperative Agreement Number I-U48-DP-000031 from the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the author and do not necessarily represent the official views of the Centers for Disease Control and Prevention.

This study was presented at the American Public Health Association's Annual Conference, November 2004, Washington, DC.

Correspondence: Address correspondence to Dr O'Hearn, University of Rochester Medical Center, 300 Crittenden Boulevard, Rochester, NY 14642. 585-275-2285. Fax: 585-273-1117. amanda_ohearn@urmc.rochester.edu.

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