



Patient-Reported Quality of Pain Treatment and Use of Interpreters in Spanish-Speaking Patients Hospitalized for Obstetric and Gynecological Care

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BACKGROUND: Assessment and treatment of pain are based largely on patient's self reports. Patients with limited English proficiency (LEP) may have difficulties communicating their pain symptoms in the presence of language barriers.

OBJECTIVE: To determine whether interpreter use was associated with quality of acute pain treatment among Latina patients with limited English proficiency.

DESIGN: Secondary analysis of two cross-sectional surveys.

PARTICIPANTS: One hundred and eighty-five Latino female patients hospitalized for obstetric and gynecological care who required interpreter services. Patients were classified into two groups according to interpreter availability ('Always' and 'Not Always' available).

MAIN MEASURES: Quality of pain treatment was measured by patient report of 1) overall level of pain control during hospitalization; 2) timeliness of pain treatment; and 3) perceived provider helpfulness to treat pain.

KEY RESULTS: Patients who always received interpreters were more likely to report higher levels of pain control ($P=0.02$), timely pain treatment ($P=0.02$), and greater perceived provider helpfulness to treat their pain ($P=0.005$), compared with patients who not always received interpreters.

CONCLUSION: Use of interpreters by LEP patients was associated with better patient reports on quality of pain treatment, and may also improve clinical interactions related to pain.

KEY WORDS: interpreters; limited English proficiency; Latinos/Latinas; pain; pain treatment.

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INTRODUCTION

Pain continues to be the most common medical complaint among hospitalized patients, with up to 80 % of medical and surgical patients reporting pain.^{1,2} Patient reports on the quality of pain treatment are important measures of the overall quality of healthcare. These reports depend not only on the degree of pain relief after treatment, but also on such factors as patients' expectations^{3,4} and provider–patient communication.⁵

Because the assessment and treatment of pain are based largely on patients' reports about the location, intensity, and quality of pain, effective provider–patient communication is necessary for effective treatment. Patients with limited English proficiency (LEP) may have difficulties communicating their pain symptoms in the presence of language barriers. Suboptimal communication between providers and patients may affect assessment and treatment decisions, and may lead to poor management of pain symptoms. Not surprisingly, previous studies have linked LEP with higher levels of pain and greater barriers to pain management.^{6,7}

Patients in obstetric and gynecologic services can experience significant pain associated with surgical procedures and labor and delivery. Although postoperative pain treatment with opioids is standard of care, management of pain associated with labor and delivery includes a variety of acceptable approaches. Epidural analgesia is most

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frequently used and recommended by the American College of Obstetricians and Gynecologists.⁸ The few studies on attitudes of Latinas towards pain during labor and delivery suggest that Latinas have similar pain management expectations as non-minority patients.^{9,10} Furthermore, in a study among Latinas, exploring factors influencing requests for epidural analgesia, counseling on pain management by the attending obstetrician increased the acceptability of this technique by 10 %.¹⁰

Addressing communication barriers between healthcare providers and patients with LEP has assumed ever-increasing importance. Nearly one in five people in the United States (US) speaks a language other than English at home, and 25 million—nearly 9 % of the total US population—are thought to have LEP.¹¹ Spanish is the most common non-English language spoken in the US, and nearly half of native Spanish speakers have LEP.¹¹ The increasing number of LEP patients poses substantial challenges for healthcare providers who manage pain during hospitalizations and in other settings.

One important way to improve communication between providers and LEP patients is to use interpreters.¹² Although interpreters do not completely eliminate language barriers, they facilitate communication between providers, patients with LEP, and patients' families. Previous studies have shown that use of interpreters improves communication between healthcare providers and patients with LEP,^{13–15} and promotes adherence to prescribed treatment regimens and follow-up care for some clinical conditions.¹⁶

Considering the importance of provider–patient communication in treating pain, as well as the presence of barriers to pain treatment among LEP patients, we investigated whether the use of interpreters was associated with better pain treatment in hospitalized LEP patients. Our study sample consisted of female Spanish-speaking patients with LEP who were hospitalized for obstetric and gynecological care at two teaching hospitals.

METHODS

Participants

Female Latina patients were surveyed regarding their experiences with care as part of the evaluation for the *Hablamos Juntos* (HJ) initiative. Sponsored by the Robert Wood Johnson Foundation, HJ was intended to

increase linguistic access for Spanish-speaking patients with LEP. Following a competitive application process, ten healthcare organizations located throughout the United States were selected for HJ demonstration projects, including two teaching hospitals. Both hospitals implemented programs to increase the availability of trained interpreters to patients on their obstetric and gynecology units. After institutional review board (IRB) approval at each clinical site, and following the protocol approved by the RAND corporation (Santa Monica, CA), representative samples of patients from these units were asked to complete patient experience surveys after their discharge from the hospital in 2003 (before the start of the demonstration projects), and again in 2006 (near the end of the demonstration projects). Results from both survey waves were included in this study. The surveys were administered in English or Spanish by computer-assisted telephone interviewing. Response rates ranged from 70 % to 76 % across sites and survey waves. Additional details about the surveys and the HJ evaluation have been published elsewhere.¹⁷ For the present study, we pooled data from both survey waves after negative testing for interaction between interpreter use and year of the survey.

A total of 368 participants completed the HJ hospital survey across both teaching hospitals and both survey waves. For this study, we limited the sample to LEP participants who indicated that they needed pain medications and interpreter services during their hospital stay (n=185). Patients who reported a need for interpreter were labeled as LEP.

Study Measures

Quality of Pain Treatment. Participants' reports on the quality of their pain treatment were elicited by three survey items (Text box). Participants who reported that their pain was not always well controlled were asked whether language barriers were a problem. These items were adapted from the Consumer Assessment of Healthcare Providers and Systems (CAHPS) Hospital Survey.¹⁸ Similar items have been translated into Spanish and evaluated for equivalence with the English versions.¹⁹ The scored responses to these items ranged from 1 (never) to 4 (always) and from 1 (not a problem) to 3 (a big problem). For the three survey items on quality of pain treatment, very few participants responded “never”. We collapsed the

never/sometimes category and left the “usually” and “always” categories unchanged.

Text box. Survey items

Quality of pain treatment	Response options
During this hospital stay, how often was your pain well controlled?	Always, Usually, Sometimes, Never
How often did doctors, nurses, or other hospital staff respond quickly when you asked for pain medicine?	
How often did doctors, nurses, or other hospital staff do everything they could to help with your pain?	
Pain treatment and language barriers	
During this hospital stay, was it ever a problem getting pain medicine because (nurses/doctors) did not speak your language?	Yes, No
How much of a problem was it getting pain medicine because (nurses/doctors) did not speak your language?	A big problem, A small problem, Not a problem
Use of interpreters	
During this hospital stay, did you ever want/need an interpreter to help you speak with (doctors/nurses)?	Yes, No
During this hospital stay, how often was an interpreter from the hospital made available to you?”	Always, Usually, Sometimes, Never

Need and Use of Interpreters. The main predictor variable was constructed from two survey items (Text box). Based on their responses, each participant was placed in one of two mutually exclusive categories: interpreter needed and always available (Always); and interpreter needed and sometimes, usually, or never available (Not Always).

Other Covariates. Our selection of covariates was guided by results from previous studies of patient-reported outcomes.^{13,20–22} Other covariates included in the analyses

were age (18–34, ≥ 35 years), years of education (0–11, ≥ 12), place of birth (US vs. foreign born), insurance status (insured vs. uninsured), and self-reported health status (excellent/very good/good vs. fair/poor). Household income and size were used to categorize households as either 1) below the federal poverty level, or 2) at or exceeding the federal poverty level. The reason for hospitalization (obstetrical childbirth vs. surgery/other), length of hospitalization (1–2 days vs. ≥ 3 days), and survey year (2003 vs. 2006), were also included in the analyses.

Statistical Analyses

Cross tabulations were used to evaluate unadjusted associations between interpreter use and key demographic characteristics of the participants. To evaluate the associations between interpreter use and pain treatment, we performed unadjusted and adjusted ordered logistic regression analyses, and confirmed that none of these analyses violated the proportional odds assumption. We report the overall adjusted odds ratios for each one of the outcome variables, as well as the covariates included in the adjusted model. In all regression models, Always was the reference category, because it represents the ideal situation for an LEP patient in terms of communication regarding adequate pain treatment. We also present descriptive data on patients' reports of problems obtaining pain medication, by interpreter availability. P-values less than 0.05 were considered statistically significant. All analyses were conducted using STATA version 11.1 (Stata Corporation, College Station, TX).

Treatment of Missing Values

Rates of missing values were low for all variables (<1 % missing) except for household income, for which 21 % were missing. For household income, we imputed missing values by using a modified regression imputation approach applied in related research.¹⁵ We found that participants with and without missing income values were similar with respect to age, gender, place of birth, education, and self-reported health status. In sensitivity analyses, we found no significant differences between the results of regression models in which we included or excluded participants with imputed household income.

RESULTS

Sample Characteristics

Seventy-nine percent of study participants were 18 to 35 years of age; 70 % had less than 12 years of education; 99 % were foreign born; 71 % reported excellent, very good, or good health; 74 % were uninsured; 86 % were hospitalized for childbirth; and 66 % were hospitalized for two days or fewer.

Patient Characteristics and Use of Interpreters

Overall, 27 % of the study participants reported always receiving an interpreter (Always), and 73 % sometimes receiving an interpreter (Not Always). Groups were similar with respect to age, health status, income and education levels. (Table 1)

Table 1. Patient Characteristics by Interpreter Availability

Patient characteristics	All (n=185)	Interpreter availability		P-value
		Not Always (n=135)	Always (n=50)	
Age, years				
18-34	146 (79 %)	107 (79 %)	39 (78 %)	0.9
≥35	39 (21 %)	28 (21 %)	11 (22 %)	
Education, years				
0-11	128 (70 %)	90 (67 %)	38 (78 %)	0.1
≥12	94 (39 %)	45 (33 %)	11 (22 %)	
Adjusted household income				
<1.0 poverty level	106 (57 %)	76 (56 %)	30 (60 %)	0.6
≥1.0 poverty level	79 (43 %)	59 (44 %)	20 (40 %)	
Birthplace				
United States	1 (0.5 %)	1 (0.7 %)	0	0.3
Mexico	91 (49 %)	68 (50 %)	23 (46 %)	
Central America	72 (39 %)	48 (36 %)	24 (48 %)	
South America/Other	21 (11 %)	18 (13 %)	3 (6 %)	
Self-reported health status				
Excellent/Very Good/Good	131 (71 %)	93 (69 %)	38 (76 %)	0.3
Fair/Poor	54 (29 %)	42 (31 %)	12 (24 %)	
Insured	48 (26 %)	35 (26 %)	13 (26 %)	0.9
Reason for hospitalization				
Surgery	15 (8 %)	12 (9 %)	3 (6 %)	0.7
Childbirth (including cesarean section)	260 (86 %)	115 (86 %)	45 (90 %)	
Other medical reason	10 (5 %)	8 (6 %)	2 (4 %)	
Wave of interview				
Wave 1	95 (51 %)	67 (50 %)	28 (56 %)	0.4
Wave 2	90 (49 %)	68 (50 %)	22 (44 %)	

Comparisons between groups were performed by using chi-square tests or Fisher's exact test when needed

Patient Reports on Pain Treatment and Use of Interpreters

Table 2 shows adjusted results from the regression analyses estimating the association between patient reports on quality of pain treatment and use of interpreters. Unadjusted results were almost identical to the adjusted ones; therefore, we only present the adjusted analyses. Compared with the Always group, the Not Always group reported significantly lower scores for all three items on quality of pain treatment, including pain control, timely response, and perceived helpfulness from staff. These differences were significant (p<0.05) in the unadjusted and adjusted models.

Patient Reports on Language Barriers

Table 3 presents descriptive data on patient reports of language barriers for obtaining pain treatment from doctors

Table 2. Adjusted Odds Ratios Examining the Association of Interpreter Availability and Patient Reports of Quality of Pain Treatment

	Adequate pain control during hospitalization		Timely response to pain		Perceived helpfulness from staff to respond to pain	
	OR	95 % CI	OR	95 % CI	OR	95 % CI
Interpreter not always available	0.4	0.2-0.8	0.4	0.2-0.8	0.3	0.2-0.7
Age ≥ 35y	0.9	0.4-1.9	0.9	0.4-1.9	1.5	0.6-3.4
Education ≥ 12y	0.9	0.4-1.7	1	0.5-1.2	0.9	0.4-1.8
Income ≥ 1.0 poverty level	0.7	0.3-1.7	0.4	0.2-1	0.7	0.4-1.3
Health status Excellent/Very Good/Good	1.3	0.6-2.5	1.1	0.5-2.2	1.4	0.7-2.8
Insured	0.1	0.2-0.9	0.5	0.2-1.2	0.8	0.4-1.6
Reason for hospitalization childbirth	1.5	0.8-3	1.21	0.5-3	1.3	0.7-2.7
Wave 2	1.2	0.6-2.3	1.17	0.6-2.2	1.1	0.6-2.1

Calculated using ordered logistic regression; response categories were never/sometimes, usually, always. The reference category for all models was interpreter always available

and nurses, by interpreter need and availability. Language barriers were reported by 13 % of patients in the Not Always group, compared to 8 % in the Always group.

DISCUSSION

In this study of hospitalized Spanish-speaking women, we found that interpreter use was associated with better patient reports of pain control, timely response to pain needs, and perceived helpfulness of healthcare providers to provide pain treatment. These findings indicate that providing interpreters for hospitalized patients with LEP results in higher-rated patient-reported quality of care for pain control.

When participants were asked how much of a problem it was to obtain pain medicines from doctors and nurses who do not speak Spanish, participants who always had access to an interpreter reported fewer problems than those who did not. These descriptive results suggest that use of interpreters may ease obtaining needed pain medicines, and may contribute to better pain control. Our findings are in agreement with previous research reporting that Spanish-

speaking patients in the US experience greater barriers to pain management than English speaking patients, with barriers mostly due to difficulties in communication with providers.⁷

Our findings are also consistent with previous studies documenting the importance of interpreter services for Latino patients who need to communicate regarding healthcare issues. In a study of uninsured Spanish-speaking Latinos who accessed hospital services, patients who used interpreters reported more satisfaction in their communications with providers, pharmacy, and staff than their counterparts who needed but did not receive interpreters.²³ Another study of outpatients similarly found that Latinos who used interpreters were more satisfied with communication about medications.²⁰ We extend this limited body of literature to the potentially positive impact of interpreters on pain treatment among hospitalized Spanish-speaking women.

Our results have clinical implications that support the use of interpreters in managing pain. Unfortunately, interpreters are still grossly underused in clinical settings.²⁴⁻²⁶ Patients and families with LEP are more likely than others to experience limited communication with healthcare providers, receiving only basic information and poor attention to their questions, concerns, and emotions.²⁷ Further, providers who speak Spanish less than fluently sometimes try to communicate with LEP patients without the benefit of interpreters, especially in routine situations, leading to miscommunication and inadequate assessments of pain.²⁸ Given the complexity of the pain experience, its assessment should not be limited to simple descriptors or ratings. Unfortunately, consideration of the nuances of pain is hindered, if not entirely suppressed, when barriers to communication exist. Effective pain management requires the assessment of pain characteristics, associated symptoms, and potential side effects of analgesic medications. By enhancing communication, interpreters enable pain to be assessed

Table 3. Patient Report of Language Barriers for Obtaining Pain Medication

	Not Always N=135	Always N=50
Problem getting pain medication from	N (%)	N (%)
Nurses		
A big problem	8 (6 %)	1 (2 %)
A small problem	9 (7 %)	3 (6 %)
Not a problem	118 (87 %)	48 (96 %)
Doctors		
A big problem	7 (5 %)	1 (2 %)
A small problem	10 (7 %)	1 (2 %)
Not a problem	118 (87 %)	48 (96 %)

more comprehensively, and may also help providers understand the cultural context of their patients' medical concerns.^{28,29}

Decisions around pain control during labor and delivery require excellent communication between providers and patients. Patients' expectations and knowledge about the different alternatives for pain treatment, specifically epidural and spinal analgesia, influence the use of these methods.¹⁰ Use of interpreters may be particularly valuable to facilitate communication around pain control with obstetric LEP patients who have lower levels of education, are new to the healthcare system, and have poor knowledge of analgesic alternatives for labor and delivery.

This study also has clear policy implications. In 1999, the Joint Commission on Accreditation of Healthcare Organizations declared that pain assessment was the fifth vital sign, and since that time, healthcare institutions have promoted pain assessment for all patients. Our study suggests that interpreters can help to properly implement this mandate for patients with LEP. In the ideal clinical scenario, language concordance between providers and patients would ensure better outcomes in pain management. Given the multitude of languages spoken in the US and the lack of linguistic diversity in the healthcare workforce, however, this ideal cannot easily be achieved. Meanwhile, promoting a more consistent use of interpreters will improve provider-patient communication and potentially improve clinical assessment and treatment of pain.

These findings should be interpreted in light of several limitations. First, because the data are observational, causal inferences are impossible. Second, the data set contained only patient-reported outcomes at the time of discharge, so we could not evaluate pain levels at the time of clinical encounters. Specifically, we lack data on the type of analgesic treatment received by patients and on actual pain measurements, such as intensity and duration of pain, which have previously been identified as important indicators of the quality of pain treatment.^{30,31} Nonetheless, patient-related outcomes, including patient perceptions of treatment, are also important measures of quality. Third, we did not have specific information about patient's expectations of the health care system, or overall patient satisfaction with health care staff, which may influence responses to the questions asked. Finally, our study population was highly selected, so our findings may not be readily generalized to men, rural populations, community samples, or women hospitalized for reasons other than obstetric or gynecological care.

In conclusion, use of interpreters is associated with better self-reported quality of pain treatment in patients with LEP, and may enhance clinical interactions related to pain. Despite the limitations of our study, these findings

illuminate a possible avenue to improve the quality of pain management for LEP patients. Future studies are needed to evaluate the clinical effect of interpreter services on pain treatment for patients in this population.

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Conflict of Interest: The authors declare that they do not have a conflict of interest.

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