Patient Education and Counseling 81 (2010) 222–228

Contents lists available at ScienceDirect

Patient Education and Counseling

journal homepage: www.elsevier.com/locate/pateducou

Patient Perception, Preference and Participation

The impact of limited English proficiency and physician language concordance on reports of clinical interactions among patients with diabetes: The DISTANCE study

Yael Schenker [a,b,*], Andrew J. Karter [c], Dean Schillinger [a,d], E. Margaret Warton [c], Nancy E. Adler [e], Howard H. Moffet [c], Ameena T. Ahmed [c], Alicia Fernandez [a]

[a] Department of Medicine, University of California, San Francisco, USA
[b] Department of Epidemiology, University of California, San Francisco, USA
[c] Kaiser Permanente, Division of Research, Oakland, USA
[d] Center for Vulnerable Populations at San Francisco General Hospital, University of California, San Francisco, USA
[e] Center for Health and Community, University of California, San Francisco, USA

ARTICLE INFO

Article history:
Received 7 October 2009
Received in revised form 2 February 2010
Accepted 4 February 2010

Keywords:
Limited English proficiency
Language concordance
Communication
Trust
Discrimination

ABSTRACT

Objective: To assess the association of limited English proficiency (LEP) and physician language concordance with patient reports of clinical interactions.
Methods: Cross-sectional survey of 8638 Kaiser Permanente Northern California patients with diabetes. Patient responses were used to define English proficiency and physician language concordance. Quality of clinical interactions was based on 5 questions drawn from validated scales on communication, 2 on trust, and 3 on discrimination.
Results: Respondents included 8116 English-proficient and 522 LEP patients. Among LEP patients, 210 were language concordant and 153 were language discordant. In fully adjusted models, LEP patients were more likely than English-proficient patients to report suboptimal interactions on 3 out of 10 outcomes, including 1 communication and 2 discrimination items. In separate analyses, LEP-discordant patients were more likely than English-proficient patients to report suboptimal clinician–patient interactions on 7 out of 10 outcomes, including 2 communication, 2 trust, and 3 discrimination items. In contrast, LEP-concordant patients reported similar interactions to English-proficient patients.
Conclusions: Reports of suboptimal interactions among patients with LEP were more common among those with language-discordant physicians.
Practice implications: Expanding access to language concordant physicians may improve clinical interactions among patients with LEP. Quality and performance assessments should consider physician–patient language concordance.

1. Background

Providing care that is both responsive to and respectful of patient preferences and cultural values is recognized by the Institute of Medicine as a core component of healthcare quality and an area in which improvements are needed [1]. Interpersonal aspects of the medical encounter predict patient satisfaction [2,3] and have been associated with adherence and self-management [4–9] and improved clinical outcomes [10–12] among patients with chronic diseases. Increasingly, reports of interpersonal care are viewed as important assessments of healthcare quality and targets of quality improvement initiatives [13].

Language barriers faced by patients with limited English proficiency (LEP), a large and growing segment of the U.S. population, complicate physician–patient interactions [14]. Patients with LEP report decreased satisfaction with communication by healthcare providers [15,16] and may be less likely to understand medical situations [17,18], be scheduled for appropriate follow-up appointments [19], or receive informed consent [20]. Nationwide healthcare quality assessments have consistently noted less favorable reports of care among patients with LEP [21–23].

Comparatively little research has explored the impact of physician–patient language concordance on reports of interpersonal care. A handful of studies suggest that language concordant clinician–patient interactions may be more patient-centered than interactions requiring the use of an interpreter [24–27]. However, the majority of these studies have been conducted with patients from single language groups in the safety net setting, or among patients with variable access to care, and have been unable to

* Corresponding author at: University of California, San Francisco, Box 1364, San Francisco, CA 94143, USA. Tel.: +1 415 254 9958; fax: +1 415 206 5586.
E-mail address: yael.schenker@ucsf.edu (Y. Schenker).

0738-3991/$ – see front matter © 2010 Elsevier Ireland Ltd. All rights reserved.
doi:10.1016/j.pec.2010.02.005

distinguish language barriers from other barriers to communication such as education, cultural differences, illness burden, and access to care.

We expand on this research to explore the association of language barriers and physician language concordance on patient reports of clinician–patient interactions among a large, linguistically diverse cohort of patients with diabetes who have uniform access to care. We examined three unique, yet interconnected components of clinician–patient interactions: communication, trust, and perceived discrimination [12]. Specifically, we used survey data from the Diabetes Study of Northern California (DISTANCE) [28] to assess (1) the association of limited English proficiency with patient reports of clinician–patient communication, trust and discrimination and (2) whether this association is modified by having a language concordant physician.

2. Methods

2.1. Subjects and setting

The Diabetes Study of Northern California (DISTANCE) is a survey follow-up cohort study designed to assess the association of a wide range of social and behavioral factors with disparities in healthcare processes and outcomes for patients with diabetes. Study recruitment procedures have been published previously [28]. Briefly, study subjects were members of Kaiser Permanente Northern California (KPNC), a large not-for-profit health plan serving over 3 million members in Northern California. KPNC complies with federal statutes on language access by offering interpreter services through on-site and remote-access professional medical interpreters, bilingual staff, and commercial language telephone lines at all facilities.

The KPNC Diabetes Registry was established in 1994 to identify and follow health plan members with diabetes. An ethnically stratified, random sample of patients was selected from the approximately 200,000 Diabetes Registry members at KPNC to receive the DISTANCE survey. Within each strata (White, Black, Asian, Latino, and Other), patients were randomly assigned consecutive study identification numbers using a computerized random number generator, and the survey was administered to patients in that order within each strata. The survey was in the field during 2005 and 2006 and had a response rate of 62% [28]. Few baseline variables differed between respondents and nonrespondents [28]. Participation was somewhat lower among minorities and patients with lower levels of education, but somewhat higher among patients with limited English proficiency. There were 17,795 respondents to the long version of the survey, which included 184 questions administered via computer-assisted telephone interview, or self-administered in written form, depending on the respondent's preference. The written survey was available in English only. The computer-assisted telephone interview script was translated into Spanish, Cantonese, Mandarin, and Tagolog by an independent firm using certified medical translators. All translations were edited against the English text by a second translator, with disagreements resolved by a third linguist. Because the questions about communication, trust and perceived discrimination asked about interpersonal care in the past year and experiences with a personal physician, we included only patients who reported having a personal physician and at least one healthcare visit to KPNC in the past 12 months ($N = 8729$). Of these, 8638 patients answered one or more of the outcome questions, and this sample provided the basis for the current analysis. The DISTANCE study was approved by the Institutional Review Boards of the Kaiser Foundation Research Institute and the University of California, San Francisco.

2.2. Measurements

2.2.1. Clinician–patient interactions

Our outcomes of interest for this study were 10 questions about clinician–patient interactions, all of which come from validated scales (see Appendix A). These included five questions about communication [13,21–23,29], two questions about trust [30], and three questions about perceived discrimination [13,31]. For each question, patients were asked to report their experiences over the past year on a four-point Likert scale ranging from "never" to "always." Responses were dichotomized based on the distribution of the sample: responses of *never*/*sometimes*/*usually* for positive characteristics and *always*/*usually*/*sometimes* for negative characteristics were defined as suboptimal clinician–patient interactions.

2.2.2. English proficiency and language concordance

English proficiency was assessed by asking: "How often do you have difficulty understanding or speaking English?" Patients who answered "sometimes," "rarely" or "never" were designated as English-proficient, while those who answered "always" or "often" were considered to have limited English proficiency (LEP). Among patients with LEP, physician language concordance was assessed by asking: "Without using an interpreter, how well does your personal physician speak your language?" Patients who answered "excellently," "very well," or "well" were considered to have language concordant physicians (LEP-concordant), while those who answered "fair," "poorly," "does not speak my language" or "don't know" were considered to have language-discordant physicians (LEP-discordant).

2.2.3. Demographic and clinical characteristics

Demographic information including race, education and annual income were determined from patient survey responses. The survey included the 8-item Patient Health Questionnaire (PHQ-8) used to evaluate depressive symptoms. Based on previously established categories, patients who scored $\geq$10 were classified as having moderate to severe depressive symptoms [32]. We used the comorbidity measure DxCG, an established proprietary risk assessment tool calculated at the individual patient level and designed to quantify the patient's illness burden [33]. Nationwide, DxCG scores range from .15 to 12, with higher scores indicating higher illness burden [22].

2.3. Statistical analysis

Our goal was to assess the independent association of LEP status with reports of communication, trust, and discrimination and to determine whether having a language concordant physician modified this association.

We compared reports of "suboptimal" clinician–patient interactions by English proficiency and by language concordance in four bivariate models (English-proficient vs LEP; English-proficient vs LEP-concordant; English-proficient vs LEP-discordant; and LEP-concordant vs LEP-discordant) using chi-squared tests. We then used logistic regression models with generalized estimating equations (GEE) that account for clustering of patients by physicians to determine the independent association of limited English proficiency and language concordance with reports of suboptimal clinician–patient interactions. Models were adjusted for demographic (age, sex, race, education, income) and clinical (comorbidity score and depression) characteristics hypothesized *a priori* to be associated with patient reports of clinician–patient interactions [34,35] and included categories for missing variables. The model comparing LEP-concordant and LEP-discordant participants was adjusted