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Factors Associated with Perceived Patient-Provider Communication Quality among Puerto Ricans

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Abstract

Patient-provider communication is an important factor influencing patients' health outcomes. This study examined the relationship between patient-provider communication quality and sociodemographic, health care access, trusted information sources, and health status variables. Data were from a representative sample of 450 Puerto Rican adults who participated in the Health Information National Trends Survey. A composite score rating perceived patient-provider communication quality was created from five items (Cronbach's alpha=0.87). A multivariate linear regression analysis was conducted. Patient-provider communication ratings were lower among the unemployed ($p=0.049$), those who do not trust a lot in the information provided by their providers ($p=0.003$), and respondents with higher depressive symptoms scores ($p=0.036$). Perceived patient-provider communication quality, however, was higher among respondents who visited their providers five or more times in the last year ($p=0.023$). Understanding patient perceptions of provider communication may serve to develop system-level interventions aimed at eliminating communication disparities and improving patients' health outcomes.

Keywords

Patient-provider communication; patient-centered care; Puerto Rico; health communication; health care

The association between patient-provider communication quality and improvements in health outcomes is well established¹. Perceived patient-provider communication quality has shown to be influential in promoting healthy behaviors such as quitting smoking, increased physical activity, healthy diets², and increased cancer screening³⁻⁴. Evidence also suggests that perceived patient-provider communication quality is associated to adherence to clinical recommendations⁵, increased effectiveness of medical treatment⁶, increased patient satisfaction with their health care⁷, improved health status⁸, fewer claims of malpractice⁹, and improved patient safety¹⁰.

According to Epstein *et al.*¹¹⁻¹², high-quality patient-provider communication shares four elements: 1) eliciting and understanding the patient's perspective, 2) understanding the patient's unique psychosocial background, 3) reaching a shared understanding of the problem and its treatment with the patient, and 4) helping patients to share power and responsibility by involving them in the decision-making regarding treatment options. All four of the elements are reserved to describe the manner in which providers -as health care delivery agents- promote patient-centered care. In this way, patients are actively involved in directing their own medical care and approach their providers as informed consumers rather than passive recipients of medical treatment¹³; while providers are more cognizant and flexible in accommodating a shared decision-making approach in their repertoire of clinical strategies¹⁴.

Although previous research has found that several factors may influence the degree to which providers communicate with their patients, this literature has yielded mixed results. For example, Kaplan *et al.*¹⁵ found that elderly (> 75 years) and young adult (< 30 years) patients, patients with high school education or less, minority patients, and male patients reported lower ratings of patient-provider communication than their counterparts. Interestingly, a recent study conducted by Rutten *et al.*¹⁶ reported differences in perceived patient-provider communication quality by depressive symptoms, health care access, and health status but no sociodemographic characteristics. Trust in health care providers has also been associated with improved patient-provider communication quality¹⁷.

Although patient-provider communication has been widely studied in the field of health communication, research on Hispanic subgroups is limited. Wallace *et al.*¹⁸ have pointed out that exclusive assessments of patient-provider communication within the Hispanic population have just begun to be explored. Recently, Puerto Rico participated in a demonstration project, sponsored by the National Cancer Institute, aimed at adapting the Health Interview National Trends Survey (HINTS) to local settings and expanding the collection of data for Hispanic Spanish-speaking populations¹⁹. Data from the HINTS provide a unique opportunity to examine how Puerto Ricans perceive the quality performance of their providers within five communication activities closely related to the four communication elements described by Epstein *et al.*¹¹⁻¹².

This study aimed to examine the relationship between patients' perceptions of the quality of communication with their providers and key sociodemographic, health care access, health information sources, and health status variables among Puerto Ricans.

Methods

Data collection, design, and sample

Data for this study are from a fully translated version of the 2007 HINTS instrument developed specifically for Puerto Rico. Data were collected from April through June 2009 from a representative sample of Puerto Rican households by trained bilingual interviewers using computer-assisted random-digit dialing from all telephone exchanges in Puerto Rico. A stratified sampling frame representing the eight health regions of Puerto Rico was employed. Within each stratum, sampled residential phone numbers were selected with equal probability. Selected residential numbers participated in an initial screening interview to select one adult aged 18 years or older from the household for an extended interview. The response rate for the household screener and the extended interview was the same (76.3%).

A total of 639 interviews were collected. Because patient-provider communication quality questions were only asked to participants who had seen a provider in the past 12 months, the final sample size for this study was 450 individuals (we also excluded respondents with missing data from patient-provider communication questions and independent variables). This research was approved by the Institutional Review Board of the University of Puerto Rico. More details about this data collection, design, and sampling are published elsewhere¹⁹.

Measures

Patient-provider communication quality—Participants were asked the following: During the past 12 months, how often did doctors, nurses, or other health professionals (1) give you the chance to ask all the health-related questions you had; (2) give the attention you needed to your feelings and emotions; (3) involve you in decisions about your health care as much as you wanted; (4) make sure you understood the things you needed to do to take care of your health; and (5) help you deal with feelings of uncertainty about your health or health care? These items were modified versions of items developed for the Consumer Assessment of Health Plans Study (CAHPS)²⁰. Items from CAHPS have been previously shown to index a single underlying latent communication quality construct^{3, 16, 20-22}.

Responses were originally recorded on a 4-point scale from always to never. For this analysis, each item score was reversed so that higher ratings indicated more positive perceptions of their provider's communication. A composite score, ranging from 5 to 20, was created from the sum of ratings on each item to assess patient-provider communication quality; this procedure is consistent with previous research^{16, 22}. The resulting composite score showed high internal consistency (Cronbach's alpha = 0.87); further examination of the item-total correlations and recalculated alpha if an item was deleted showed that all items related strongly to the overall scale.

Independent variables—Selected sociodemographic, health care access, trusted information sources, and health status variables were included in this analysis according to theoretical models^{1, 11-12} and existing research^{16, 22-23} that describe factors influencing patient-provider communication. The following sociodemographic characteristics were included: sex, age, educational attainment, marital status, and employment status. Health insurance status was assessed by asking respondents if they had any kind of health care coverage, including health insurance, prepaid plans, or government plans. For usual source of care, respondents were asked if they had a particular doctor, nurse, or other health professional that they see most often. Respondents were also asked how many times, in the last 12 months, they visited a health care provider to receive any medical service, and they were asked to rate their level of trust for their providers as *a lot*, *some*, *a little*, or *not at all*. Health information seeking was assessed by asking respondents if they had ever looked for information about health or medical topics from any source. Respondents were also asked to rate their general health status. Finally, because communication between patients and providers is especially challenging in cancer care²², respondents were asked if they had ever been diagnosed with cancer, and they were asked to rate their perceived risk of getting cancer.

The depressive symptoms scale was assessed from six items that asked respondents the amount of time they have experienced each of the following feelings: (1) *so sad that nothing could cheer you up*, (2) *nervous*, (3) *restless or fidgety*, (4) *hopeless*, (5) *that everything was an effort*, and (6) *worthless*. Responses were recorded on a 5-point scale from *none of the time* to *all of the time*. These six items were summed up into a composite depressive symptoms score ranging from 6 to 30 (Cronbach's alpha = 0.85), with higher scores indicating greater depression. The combination of these six items as a measure of depression symptoms is consistent with previous research on patient provider-communication¹⁶. The depression scale on HINTS was drawn from the “Kessler 6” questionnaire on psychological distress and it has been validated in multiple populations²⁴.

Data analysis

To account for the multistage sampling design of HINTS, the Jackknife Variance Estimation technique was used for generating replicate sampling weights to calculate population estimates and confidence intervals²⁵. Responses from the patient-provider quality items with missing values were not counted for the composite score and were excluded from analysis. The mean of the composite patient-provider quality score was calculated for each independent variable. In addition, the Pearson correlation between the patient-provider communication quality score and the composite depressive symptoms score was computed. A multivariate linear regression analysis was conducted to examine the associations between independent variables and patient-provider communication quality scores. All analyses were performed using STATA SE 12²⁶.

Results

Respondents' mean scores for the composite patient-provider communication quality scale by each independent variable are summarized in Table 1. Overall, respondents' mean score

was favorable (16.49, SE=0.25). All mean scores were less than the maximum achievable score of 20, regardless of the variable. Mean scores ranged from 14.86 (respondents who do not trust a lot in the information provided by their providers) up to 18.16 (respondents with previous cancer diagnosis). There was a significant negative correlation (Pearson $r = -0.17$, $p=0.0002$) between ratings of provider's communication quality and depressive symptoms score, showing that respondents with greater depressive symptoms scores reported a lower perceived quality of patient-provider communication.

Results of the multivariate linear regression analysis are summarized in Table 2. After controlling for sociodemographic, health care access, trusted information sources, and health status variables, perceived patient-provider communication quality was significantly lower among the unemployed ($p=0.049$) and those who do not trust a lot in the information provided by their providers ($p=0.003$) as compared to their counterparts. The number of visits to health care providers in the last year was also associated with respondents' perceptions of the quality of communication with their providers ($p=0.023$). A decline in the ratings of patient-provider communication quality was observed with an increase in the depressive symptoms score ($p=0.036$). No other independent variable was significantly associated with the dependent variable of interest.

Discussion

This study confirms differences in perceived patient-provider communication quality by key sociodemographic, health care access, health information sources, and health status characteristics among Puerto Rican adults who had visited a health care provider in the year prior to the survey. To our knowledge, this is the first study reporting such differences among this population using a representative sample of households and a validated set of items to assess perceived patient-provider communication quality.

Previous research examining differences in patient-provider communication quality by sociodemographic characteristics has yielded inconsistent results¹⁵⁻¹⁷. In this study, unemployment was the only sociodemographic variable associated with lower ratings of patient-provider communication quality. This finding should not be looked at exclusively as a health communication problem because there is extensive research showing that unemployment adversely affects people's physical and mental health²⁷. It is well known that having employment provides financial security, social status, personal development, and self-esteem, all of which are important for improving health and reducing health inequities²⁸. This is important within the context of Puerto Rico because its labor force participation rate is among the lowest in the world (41%) and the unemployment rate (nearly 15% in 2012) has been persistently well above the rate of the United States mainland²⁹.

On the other hand, having health insurance and a usual source of health care were not associated with a more favorable patient-provider communication quality score; this finding is inconsistent with previous research^{16, 23, 30}. Although we cannot definitively address why we did not find an association, it may be that this is in part due to the nature of our sample drawn from a homogenous Hispanic subgroup of Puerto Ricans, rather than from a nationally representative sample^{16, 23} or a heterogeneous population³⁰. In our study, the only

health care access variable that was associated with improved patient-provider communication quality was the number of medical visits; respondents who visited their providers five or more times in the year prior to the survey had a higher score. This finding may indicate that the frequency of medical encounters is important in developing a more favorable interaction with health care providers. Respondents who established a more stable relationship with physicians over time are also those who secure more active communication during the clinical encounter. It could also be that as physicians come to know their patients better due to a higher frequency of visits, they build more confidence in their patient's interest in and ability to engage in communication¹⁵. These alternative explanations of continuity of care must be taken with caution because we were not able to determine how many providers were visited by each respondent; so, respondents may have seen multiple providers prior to the year of the survey.

Consistent with the literature¹⁶, our study found that individuals with higher depression scores rated their provider's communication less favorably. In Puerto Rico, 14.7% of adults meet the criteria for depression; ranking second among United States jurisdictions³¹. Swenson et al.³² have stated that depression might affect patient-provider communication at three levels during the clinical encounter. At the level of visit process, depression could impair patients' social interactions and lead to a less efficient patient-provider relationship, less discussion of the patient's perspective, or less participatory decision-making. At the level of visit content, the demands of dealing with depression and related symptoms could reduce communication across other health concerns or lead physicians to prioritize some health issues over others. Finally, at the level of visit recall, the cognitive changes associated with depression could limit patient recall of communication. Evidence shows that compared with patients without depressive symptoms, patients with depression report more unmet expectations and less satisfaction with the medical care they receive³³. Our findings identify a large and important group of patients with a greater need of more effective communication from their providers in order to enhance their ability to improve health behaviors and outcomes.

Respondents who trust a lot in their providers also rated their communication interaction more favorably than those who reported no such level of trust. Our results complement existing research that shows that health care providers are the most trusted source of health information among Puerto Ricans¹⁹. Research demonstrates that high levels of trust are associated with improved patient-provider communication quality ratings³⁴⁻³⁵. Patients' trust in their providers is based on a belief that their physician is honest and competent, will act in their best interest, and preserve their confidentiality^{34,36}. Evidence shows that trust appears to be enhanced among patients who report that their physician performs specific communication behaviors such as making an effort to understand their personal circumstances, communicating clearly and openly, and sharing decision-making³⁶⁻³⁷; all of these constructs were assessed in this study by the composite measure of patient-provider communication quality. Awareness of the key role played by patients' trust levels of their providers, although not an exclusive determinant to drive the patient-provider interaction, seems to be a necessary step to ultimately enhance the communication between both parties.

Our findings are relevant to the current discussions on how to improve the delivery of health care. For example, efforts at the system level should be implemented to improve providers' competencies to identify patients at risk of facing communication difficulties. DeVoe *et al.*²³ suggest that training at medical schools and continued medical education should emphasize how to assess patient's communication preferences. In addition, since patient satisfaction with their care is now incorporated into the scheme to determine financial incentives for providers in many places²³, including the United States and Puerto Rico, a better understanding of how patient characteristics influence their provider rating is needed to design fair incentives policies. We know from our study that specific sociodemographic, health care access, and health status differences do matter in how patients rate communication with their providers, so these differences should be taken into account when implementing compensation policies based on perceived provider's performance. For example, as part of the Patient Protection and Affordable Care Act, risk adjustment programs will be used to set different levels of payments to health plans based on the demographics and health status of the patients insured by the plans.

Our study has several limitations. The cross-sectional nature of the data precludes us to infer causality. Second, the self-reported nature of the information, including the possibility of recall bias, should be considered in interpreting our findings. Third, the survey assessed patients' perceptions of provider communication in general; our data neither assess particular patient-provider encounters nor the type of providers visited by each respondent. Additionally, HINTS did not assess other important dimensions associated with patient-provider communication (e.g., health literacy). However, our study provides data from a representative sample of households of Puerto Rico, a sample size large enough to conduct state-level analyses, and the use of a validated questionnaire to assess latent constructs related to perceived patient-provider communication quality.

Conclusions

This study suggests that differences in perceived patient-provider communication quality by key patient characteristics exist among Puerto Ricans. Understanding and addressing such differences must be a top priority to improving health care delivery and ultimately people's health behaviors and outcomes. Our findings may serve to inform system- and policy-level efforts aimed at improving clinical encounters with subgroups of patients who are in great need of better communication exchanges with their providers.

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Table 1
Respondents' characteristics and mean scores for the patient-provider communication quality scale

	N (%) ^I	Mean	SE (mean)
Overall	450 (100)	16.49	0.25
Sociodemographic			
Sex			
Men	127 (28.2)	16.46	0.41
Women	323 (71.8)	16.50	0.37
Age			
18-34	53 (11.8)	16.41	0.59
35-49	88 (19.6)	16.11	0.71
50-64	145 (32.2)	16.76	0.34
65+	164 (36.4)	16.92	0.46
Education			
Less than high school	118 (26.2)	15.94	0.43
High school	115 (25.6)	16.05	0.58
Some college	87 (19.3)	16.84	0.68
College graduate or more	130 (28.9)	17.28	0.33
Marital status			
Married or living together	236 (52.4)	16.59	0.47
Not currently married	214 (47.6)	16.39	0.40
Employment status			
Employed	129 (28.7)	17.08	0.37
Not currently employed	321 (71.3)	16.06	0.37
Health care access			
Health insurance			
Yes	431 (95.8)	16.57	0.27
No	19 (4.2)	15.00	0.90
Usual source of health care			
Yes	378 (84.0)	16.85	0.28
No	72 (16.0)	15.15	0.83
No. of visits to providers			
1-4	250 (55.6)	15.94	0.38
5+	200 (44.4)	17.11	0.34
Health information sources			
Trust information from providers			
A lot	365 (81.1)	16.82	0.28
Not a lot	85 (18.9)	14.86	0.48
Seek health information from any source			
Yes	169 (37.6)	17.23	0.42
No	281 (62.4)	16.08	0.35

	N (%) ¹	Mean	SE (mean)
Health status			
Perceived health			
Excellent/very good	124 (27.6)	16.69	0.43
Good	146 (32.4)	17.17	0.48
Fair/poor	180 (40.0)	15.71	0.52
Personal cancer history			
Yes	35 (7.8)	18.16	0.61
No	415 (92.2)	16.38	0.27
Perceived cancer risk			
Very high/somewhat high	140 (31.1)	16.95	0.34
Moderate	219 (48.7)	16.10	0.46
Somewhat low/very low	91 (20.2)	16.80	0.65
Depressive symptoms score ²	450 (100)	Pearson r -0.17	p = 0.0002

¹ % may not add up to 100 because of rounding.

² Score ranges from 6 to 30, with higher scores indicating greater depressive symptoms. Sample mean = 10.20 (SE = 0.30)

Table 2
Linear regression for patient ratings of health care provider's communication

	Beta	SE	t test	p value	95% CI
Sociodemographic					
Sex					
Men	0	-	-	-	-
Women	0.95	0.64	0.15	0.88	-1.20, 1.39
Age					
18-34	0	-	-	-	-
35-49	-0.60	0.97	-0.61	0.54	-2.56, 1.36
50-64	0.73	0.67	1.09	0.28	-0.62, 2.08
65+	1.40	0.73	1.92	0.06	-0.07, 2.88
Education					
Less than high school	0	-	-	-	-
High school	0.10	0.80	0.13	0.90	-1.51, 1.72
Some college	0.73	0.94	0.77	0.44	-1.17, 2.62
College graduate or more	0.65	0.88	0.74	0.47	-1.12, 2.41
Marital status					
Married or living together	0	-	-	-	-
Not currently married	-0.06	0.60	-0.11	0.92	-1.28, 1.15
Employment status					
Employed	0	-	-	-	-
Not currently employed	-1.11	0.55	-2.02	0.049	-2.22, -0.01
Health care access					
Health insurance					
Yes	0	-	-	-	-
No	-1.12	1.03	-1.09	0.28	-3.19, 0.94
Usual source of health care					
Yes	0	-	-	-	-
No	-1.25	0.87	-1.44	0.16	-3.00, 0.50
No. of visits to providers					

	Beta	SE	t test	p value	95% CI
1-4	0	-	-	-	-
5+	1.20	0.51	2.34	0.023	0.17, 2.23
Health information sources					
Trust information from providers					
A lot	0	-	-	-	-
Not a lot	-0.58	0.19	-3.11	0.003	-0.95, -0.20
Seek health information from any source					
Yes	0	-	-	-	-
No	-0.90	0.65	-1.40	0.17	-2.21, 0.40
Health status					
Perceived health					
Excellent/very good	0	-	-	-	-
Good	0.38	0.72	0.53	0.60	-1.06, 1.83
Fair/poor	-0.71	0.77	-0.93	0.36	-2.25, 0.83
Personal cancer history					
Yes	0	-	-	-	-
No	-0.28	0.50	-0.57	0.57	-1.28, 0.71
Perceived cancer risk					
Very high/somewhat high	0	-	-	-	-
Moderate	-0.29	0.66	-0.44	0.67	-1.61, 1.04
Somewhat low/very low	0.36	0.62	0.58	0.57	-0.90, 1.61
Depressive symptoms score	-0.12	0.06	-2.15	0.036	-0.24, -0.01