

**The Role of Patient-Pharmacist
Communication regarding Health
Disparities: Minority Patient Attitudes
and Perceptions in Clinical Settings**

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Presenter Disclosures

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**Background and Significance:
Provider-Patient Communication**

- Health care provider communication with patients is essential in maintaining appropriate consistency of positive health outcomes.
- The role of patient-provider communication has been well established¹⁻⁴.
- Most research focuses on the communication between the physician provider and the patient^{3, 5}.
- Research on healthcare communication and interaction with health disparities regarding chronic illnesses⁶ such as asthma⁶, chronic pain², diabetes self-care³, and heart disease⁴ does exist.
- Health disparities do exist regarding healthcare, incidence/prevalence of chronic diseases within populations from diverse, ethnic backgrounds⁵⁻²¹.

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Purpose & Objectives

To better define the factors that contribute to health disparities among minority populations in a Southern California county, the objectives and specific aims of the current study are to:

Objective 1: Identify barriers or enabling factors to communication between the pharmacist and patient that may be associated with the health disparities among minority patients in clinical settings.

Objective 2: Examine and identify the attitudes and perceptions among minority patients towards the pharmacist's role in managing the patient's health and treatment regimens.

Objective 3: Examine levels of communication as measured by Interpersonal Processes of Care (IPC) among minority patients who participate in clinical health care activities with a pharmacist.

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Study Design

Design

- Cross-sectional, convenience sample
- Two sites: Community health system clinic & large regional medical center (Inland Empire-Southern California county)

Mixed Method Approach (Quantitative & Qualitative)

- Phase I: Survey Study
- Phase II: Focus Group Interviews

Inclusion/Exclusion Criteria

- Currently seeking treatment at community clinic and hospital
- Patients were at least 18 years of age
- Able to speak, read, or write in English or Spanish

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Methods: Survey Instrument

- One-sheet, 2-page written survey
- Interpersonal Process of Care (IPC) Measures for Communication, Demographics
- English & Spanish consent forms, flyers, scripts, and survey were approved by Institutional Review Board.

IPC Measures include: Five-point Likert scale (Frequency)

- Levels of clarity of communication
- Elicitation of and responsiveness to patient problems, concerns, and expectations
- Explanation of the medical condition
- Explanation of processes of care and self-care
- Empowerment
- Responsiveness to patient preferences regarding decisions
- Interpersonal style of communication
- Discrimination
- Cultural sensitivity
- Emotional support^{3-23,24}

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Methods: Data Analysis

- **Univariable:** Demographics, population profile (Means, Standard deviations, Frequencies)
- **Bivariable:** Independent samples t-test and chi-square tests for independence (Analysis by gender, Chi-square tests, Tables 1-3)
- **Multivariable:** Multiple techniques utilized (Figures 1-2 & Table 4):
 - Exploratory factor analysis with varimax rotation
 - Cronbach alpha calculations for estimates of reliability
 - Logistic regression modeling (OR, 95% CI, p-value)
- Analyses conducted with SPSS statistical software (Version 16.0)³³
- All alpha levels of significance were fixed at 0.05

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Results

Patient Recruitment for Survey (n=76)

- Community health system clinic composed of ambulatory care and internal medicine services: 68 patients
- Medical center composed of internal medicine services: 8 patients

Gender (3 patients 'No response' from total)

- 24 males
- 49 females

- **Tables 1-3: Demographic Profile & Summary**
- **Figures 1-2: Factor Analysis Results**
- **Table 4: Logistic Regression Results**

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Table 1: Demographic and Patient Profile Comparison Ambulatory Care and Internal Medicine Patients by Gender

	Total (N=76)	Males (N=24)	Females (N=49)	p-value (α=0.05)
Mean age years (SD)	45.1 (16.4)	46.1 (17.4)	43.7 (16.0)	0.551
Mean years in United States (SD)	34.1 (17.1)	34.8 (17.8)	33.9 (16.5)	0.832
Ethnicity (%)				0.141
African American/Black	12.5	16.7	10.4	
Hispanic/Latino/Spanish	51.4	33.3	60.4	
Asian/Asian American	2.8	4.2	2.1	
Native Hawaiian or Pacific Islander	4.2	0	6.2	
Caucasian/White	25.0	37.5	18.8	
Other Ethnicity	4.2	8.3	2.1	
Employment Status (%)				0.643
Working at least part time	34.2	29.2	36.7	
Not currently working	54.8	62.5	51.0	
Other work status	11.0	8.3	12.2	

*Statistically significant with α = 0.05.

- Patients not statistically different relative to:
 - Age
 - Ethnicity
 - Employment status

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Table 2: Demographic and Patient Profile Comparison Ambulatory Care and Internal Medicine Patients by Gender for Education, Marital Status, Medical Insurance Status

	Total (N=76)	Males (N=24)	Females (N=49)	p-value ($\alpha=0.05$)
Educational Level (%)				
High school or GED, Equivalent	37.0	45.8	32.7	0.278
Some college	45.2	45.8	44.9	
Some college/Graduate	17.8	8.3	22.4	
Marital Status (%)				
Single	37.0	25.0	42.9	0.032*
Married	41.1	66.7	28.6	
Divorced	12.3	4.2	16.3	
Widowed	4.1	0	6.1	
Never married	5.5	4.2	6.1	
Medical Insurance Status (%)				
No insurance	36.1	41.7	33.3	0.153
Medical	40.3	29.2	45.8	
Medicare w/o prescription benefits	2.8	4.2	2.1	
Medicare w/ prescription benefits	6.9	12.5	4.2	
Private insurance w/o prescription benefits	1.4	0	2.1	
Private insurance w/ prescription benefits	6.9	0	10.4	
Other coverage	5.6	12.5	2.1	

*Statistically significant with $\alpha = 0.05$.

- Patients are highly educated.
- MediCal, various forms of prescription benefits
- Marital Status statistically different ($p=0.032$)

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Table 3: Part3-Demographic and Patient Profile Comparison Ambulatory Care and Internal Medicine Patients by Gender for Clinical Outcomes

	Total (N=76)	Males (N=24)	Females (N=49)	p-value ($\alpha=0.05$)
Health Professional seen for Health Needs (%)				
Pharmacist	6.8	16.7	2.0	0.183
Doctor	86.3	79.2	89.8	
Nurse	1.4	0	2.0	
Physician Assistant	1.4	0	2.0	
Other	4.1	4.1	4.1	
Patients taking any prescribed medications (%)	58.0	60.9	56.5	0.730
Upon talking to pharmacist, patients who take drugs as prescribed by their doctor (%)	97.2	95.7	97.9	0.589

*Statistically significant with $\alpha = 0.05$.

- No statistical differences regarding:
 - Health professional contact
 - Prescription compliance/adherence

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Results: Factor Analysis

Figure 1: Factor analysis results for patient-pharmacist communication Factors 1 & 2

Factors	Cronbach Alpha $\alpha=0.906$	Factors	Cronbach Alpha $\alpha=0.910$
1. Interactive and informative pharmacotherapy counselling between pharmacist and patient <ul style="list-style-type: none"> • How often did pharmacists explain your test results such as blood tests or lab results? • How often did pharmacists tell you what could happen if you didn't take a drug that was prescribed for you? • How often did pharmacists tell you about side effects you might get from a drug? • How often did you and your pharmacist work out a treatment plan with you? • If there were treatment choices, how often did pharmacists ask if you would like to help decide your treatment? • How often did pharmacists give you support and guidance? 		2. Positive, validating communication style regarding pharmacist interaction with patient <ul style="list-style-type: none"> • How often did pharmacists really find out what your concerns were? • How often did pharmacists let you say what you wanted to say? • How often did pharmacists listen to your health concerns? • How often do pharmacists show they care about you? • How often were pharmacists concerned about your feelings? • How often did pharmacists respect you as a person? • How often did pharmacists treat you as an equal? 	

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Factor Analysis (Cont.)

Figure 2: Factor analysis results for patient-pharmacist communication Factors 3 & 4

Factors	Cronbach Alpha	Factors	Cronbach Alpha
3. Perceptions of patient background regarding race, level of education, and income <ul style="list-style-type: none"> • How often did you feel your treatment was unfair because of your race? • How often did pharmacists judge you because of your level of schooling? • How often did pharmacists judge you because of your income? 	0.911	4. Negative, disempowering communication style regarding pharmacist interaction with patient <ul style="list-style-type: none"> • How often did pharmacists speak too fast? • How often did pharmacists use words that were hard? • How often did pharmacists ignore you? • How often did pharmacists ignore what you told them? 	0.831

- **Cronbach Alpha:** Measures indicate high factor loadings
 - Factor 1: *Interactive and informative pharmacotherapy counseling between pharmacist and patient*
 - Factor 2: *Positive, validating communication style regarding pharmacist interaction with patient*
 - Factor 3: *Perceptions of patient background regarding race, level of education, and income*

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Logistic Regression Results

Table 4: Logistic regression model results based on four factors as independent variables

Factors	Right now, are you taking any prescribed drugs?		Based on when you talk to your pharmacist, do you take your drugs as prescribed by your doctor?	
	Odds Ratio (95% CI)	p-value	Odds Ratio (95% CI)	p-value
1. Interactive and informative pharmacotherapy counseling between pharmacist and patient	1.898 (0.977-3.689)	0.059	1.411 (0.400-4.973)	0.592
2. Positive, validating communication style regarding pharmacist interaction with patient	2.951 (1.143-7.618)	0.025*	1.835 (0.310-10.863)	0.503
3. Perceptions of patient background regarding race, level of education, and income	5.213 (1.724-15.759)	0.003*	0.362 (0.013-10.163)	0.551
4. Negative, disempowering communication style regarding pharmacist interaction with patient	2.572 (0.983-6.725)	0.054	0.829 (0.220-3.134)	0.783
R² Value^a	0.475		0.106	

^a = Statistically significant at $\alpha=0.05$ level.
^b = Nagelkerke R-square used to estimate the total of variability explained by the model

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Factor Analysis: Predictive Modeling

- **Factor 2: Positive, validating communication style regarding pharmacist interaction with patient** was significantly associated with over two-fold odds of patients taking any prescribed medications
 - Significant, Approximate 3-fold odds (OR: 2.951, 95% CI: 1.143-7.618, $p=0.025$).
- **Factor 3: Perceptions of patient background regarding race, level of education, and income** was significantly associated with over five-fold odds of patients taking any prescribed medications
 - Significant, Approximate 5-fold odds (OR: 5.213, 95% CI: 1.724-15.759, $p=0.003$)

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Conclusions:
Patient-Pharmacist Communication

1. Primarily, patients' responses from this sample yielded unique results when items were loaded in the exploratory factor analysis.
2. In terms of Factor 2, patients indicated that positive, validating communication style regarding pharmacist interactions with patients loaded quite strongly.
3. In terms of Factor 3, patients indicated that perceptions of patient background regarding race, level of education, and income loaded strongly.
4. Results indicate that there are clear areas of patient-pharmacist communication processes that may reinforce positive communication interactions between the pharmacist and their patient.

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Limitations of the Study

1. Recruitment Procedures: Limited recruitment in inpatient setting due to logistics of patient care and pharmacist contact.
2. Pilot Study: Limitations of recruitment limited statistical power calculations due to small sample size.
3. Self-administered questionnaire: Recall and response bias from patients may exist.
4. Generalization of results: Limited application to populations in other U.S. cities.

- *However, the results are promising in an area of pharmacist-patient communication research.*

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