


Can You Hear Me Now? Effects of Patient-Centered Communication With Young Adults Aged 26 to 39

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Abstract

Patient-centered communication (PCC) is critical to the delivery of quality health care services. Although numerous health outcomes have been connected to patient-provider communication, there is limited research that has explored the processes and pathways between communication and health. Research among young adults (ages 26-39 years) is even more scarce, despite findings that health communication does vary with age. This cross-sectional study used data from the 2014 Health Interview National Trends Survey to explore the relationship between PCC, patient trust, patient satisfaction, social support, self-care skills, and emotional well-being among young adults aged 26 to 39 years. Our results showed that income, history of depression diagnosis, PCC, patient trust, social support, and patient self-efficacy (self-care skills) were all significantly related to emotional well-being. These findings suggest the need to explore the means through which communication can impact emotional well-being, specifically among young adults who are in poor health or have a history of depression. Future research should also include longitudinal studies, in order to determine causality and directionality among constructs.

Keywords

health communication, patient-centered communication, young adults, emotional well-being, patient satisfaction

Introduction

Patient-centered communication (PCC) between health care providers and patients takes into account patients' concerns, feelings, and expectations; seeks to understand patients in the context of their unique environment; and involves patients in decision-making through shared understanding (1). Effective patient-provider communication is a core clinical function for health care providers, and it is central to the delivery of quality health care services (2). Numerous studies have established patient-provider communication as an essential component of satisfactory relationships with health care providers, as well as an important contributor to better outcomes (eg, patient satisfaction, treatment adherence, and self-management) for patients (3). However, elucidating the impact of communication on various outcomes is complicated because patients and providers usually communicate across multiple encounters, both directly and indirectly (3-5), and communication can have a lasting effect on health outcomes long after the communication occurs (eg, disease

outcomes quality of life, and socioeconomic disparities in health outcomes and health care) (6).

Patient-centered communication can occur in many forms, through both mediated (eg, technology such as email or by an interpreter) and interpersonal contexts; via planned and spontaneously communicated messages; and through verbal, written, or nonverbal messages (7). Communication with health care providers facilitates the transmission of information, the provision of therapeutic instruction, and enables providers to render accurate diagnoses (8,9). This type of communication is a form of formal social support

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that is important in the provision of preventive information and guidance for patients so they can better manage health conditions and decisions (10). Additionally, patient–provider communication is at least partially responsible for the impressions and relationships that are developed between patients and their providers, which subsequently define the expectations, patterns, and outcomes of the therapeutic relationship going forward (11,12).

Despite the many outcomes linked to patient–provider communication, there is limited understanding of the various mechanisms, including specific aspects of communication and biopsychosocial factors, that undergird the relationship between patients and their health care providers (5). Little empirical evidence is available to understand the processes and fundamental pathways linking communication to health (5). Furthermore, research is lacking that explores these pathways among young adults, despite evidence that health communication experiences vary with age (13). Therefore, there is a clear need for research regarding communication pathways among young adults and their health care providers, in order to determine if there are differential effects on outcomes.

Young adulthood is an especially important time for PCC. Young adults experience specific physical and psychological challenges and developmental transitions, such as completing education, launching careers, and planning families (14,15). Health behaviors during these years are likely to have a lasting impact on one’s health (16). However, health care providers are often limited in their ability to engage adolescent and young adult patients in their own health care, due to varying provider comfort levels and time constraints (17).

In addition to developmental differences, age-related differences might exist related to PCC. Young adults are significantly more likely than other age groups to prefer patient-centered interactions with health care providers, prefer to be treated as equal partners in decision-making, and more likely to rate provider qualities such as warmth and caring as important (18). This suggests that PCC may be more important to patients in this age group and this could subsequently influence outcomes, such as satisfaction, that are related to PCC. Furthermore, age influences how patients perceive health communication, with young adults reporting fewer positive perceptions of their communication with their health care provider (13). Nonetheless, although PCC has been shown to impact numerous health outcomes in other age groups, there is a lack of research exploring whether these findings remain consistent among young adults. In our extensive literature review, we only identified a few articles that explore PCC in young adults (eg, see Alden, Merz, & Akashi, 2012; Asp, Bratt, & Bramhagen, 2015; Balfe et al., 2013; Davey et al., 2013; Pinto et al., 2017). While previous research has explored some relationships between patient–provider communication, patient satisfaction, patient trust, social support, and self-care, research that examines emotional well-being as an outcome is very limited. Thus, the

current study explores the relationship between PCC, patient trust, patient satisfaction, social support, self-care skills, and emotional well-being, specifically among young adults.

Methodology

Data Source

This study used data from the Health Interview National Survey (HINTS), a nationally representative survey conducted by the National Cancer Institute every 1 to 2 years since 2003 (19). We used cycle 4 data from HINTS (HINTS 4), collected from August to November 2014 (20). The [university masked for blind review] institutional review board classified this study as being nonhuman subjects research because all data are de-identified and publicly available.

Data weighting. Westat developed full-sample weights to account for oversampling and nonresponse, such that estimations are reflective of the total population, as if the sampling strategy had been completely random. The weights for HINTS 4 data included a sampling/probability weight and a set of 50 replicate weights, which were also developed using the delete one jackknife method. These weights are used for standard error computation for estimates generated by HINTS data (20).

Sample

The sample in this study was limited to surveyed adults between the ages of 26 and 39 years who also reported visiting a health care provider in the past 12 months. Emerging adults (18–25 years of age; $N = 126$) were excluded from the sample as they have specific characteristics that separate them from young adults (21). Only respondents who indicated they had visited a health care provider at least once in the 12 months preceding survey administration were asked questions pertaining to communication, satisfaction, trust, social support, and self-efficacy.

Sample characteristics. The majority of respondents were female (74%), and the average age was 33 years ($SD = 3.9$; see Table 1). Approximately 70% of the sample identified as white, and most respondents reported that they have health insurance (87%) and 62% had a regular health care provider. Just over 57% of respondents rated their overall health as excellent or very good, 32% as good, and 11% as fair or poor. Just over half (52%) of the respondents reported visiting their doctor 1 to 2 times in the last year and 48% reported seeing their provider 3 or more times.

Measures

The primary variables in this study include PCC, patient satisfaction, patient trust, social support, self-care skills, and emotional well-being. We also included relevant demographic variables (age, gender, race, ethnicity, marital status,

Table 1. Sample Demographics: Young Adult Sample From HINTS, Cycle 4, 2014 (N = 422).

Variable	% (N)
Gender	
Male	25.7 (108)
Female	74.3 (312)
Race	
White	69.7 (294)
Black	19.0 (80)
Other	11.3 (48)
Hispanic ethnicity	
Hispanic	17.7 (74)
Not Hispanic	82.3 (344)
Marital status	
Married/partnered	61.7 (258)
Not married	38.3 (160)
Educational attainment	
HS or less	13.1 (55)
Some college/vocational	25.0 (105)
College graduate or more	61.9 (260)
Census region	
Northeast	14.9 (63)
Midwest	17.3 (73)
South	42.7 (180)
West	25.1 (106)
Has been diagnosed with depression	
Yes	27.3 (114)
No	72.7 (304)
Has health insurance	
Yes	87.3 (364)
No	12.7 (53)
Has a regular health care provider	
Yes	62.3 (261)
No	37.7 (158)
Number of visits with health care provider in last 12 months	
1	23.2 (98)
2	28.4 (120)
3	15.9 (67)
4	10.0 (42)
5-9	11.1 (47)
10+	11.4 (48)
	Mean (SD)
Age (in years)	32.97 (3.88)
Patient-centered communication	22.80 (4.97)
Satisfaction (perceived quality of care)	3.90 (0.99)
Trust in provider	3.23 (0.76)
Social support	2.58 (0.75)
Self-care skills (self-efficacy)	3.94 (0.82)
Emotional well-being	13.62 (3.04)

Abbreviations: HINTS, Health Interview National Survey; HS, high school.

education, income, and geographic region) and health-related variables (health insurance coverage, regular health care provider, depression diagnosis, and general health status).

Patient-centered communication. Patient-centered communication was assessed with 7 items that asked respondents about

their communication with health care providers seen in the 12 months preceding survey administration. Participants were asked about multiple components of PCC, including information exchange, responding to emotions, making decisions, enabling self-management, fostering relationships, and managing uncertainty. Responses were scored on a 4-point Likert scale, and the sum score was averaged (1 = never to 4 = always). Mean PCC scores were not evenly distributed, but skewness (−0.77) and kurtosis (−0.06) scores were acceptable.

Patient satisfaction. Patient satisfaction was assessed with a single item that measured perceived care quality, which was used as a proxy for patient satisfaction (22,23). Respondents were asked, “Overall, how would you rate the quality of health care you received in the past 12 months?” Responses were scored on a 5-point Likert scale (1 = poor to 5 = excellent).

Patient trust. Patient trust was also assessed with a single item. Respondents were asked, “In the past 12 months, how often did you feel you could rely on your doctors, nurses, or other health care professionals to take care of your health care needs?” Responses were scored on a 5-point Likert scale (1 = never to 5 = always).

Social support. Social support was measured with 3 items that assessed perceived social support. Respondents were asked the following questions: (1) “Is there anyone you can count on to provide you with emotional support when you need it—such as talking over problems or helping you make difficult decisions?”; (2) “Do you have friends or family members whom you talk to about your health?” and (3) “If you needed help with your daily chores, is there someone who can help you?” Responses were dichotomous (1 = yes; 0 = no). We summed all 3 items to create a total score reflecting overall social support, ranging from 0 to 3.

Self-care skills. Self-care skills were assessed with a single item that measured the proxy, self-efficacy. Respondents were asked, “Overall, how confident are you about your ability to take good care of your health?” Responses were scored on a 5-point Likert scale (1 = not confident at all to 5 = completely confident).

Emotional well-being. Emotional well-being was assessed using the Patient Health Questionnaire for Depression and Anxiety (PHQ-4), which combines two 2-item brief screeners for depression and anxiety (24). Respondents were asked how often they had been bothered by the following problems in the 2 weeks preceding survey administration: (1) little interest or pleasure in doing things; (2) feeling down, depressed, or hopeless; (3) feeling nervous, anxious, or on edge; and (4) not being able to stop or control worrying. Responses were scored on a 4-point Likert scale (1 = nearly every day to 4 = not at all) and summed to calculate total

emotional well-being scores, ranging from 0 to 16. The PHQ-4 has excellent reliability, with Cronbach's α scores ranging from .86 to .89 (24).

Analysis

Descriptive and bivariate analyses. We calculated sample demographics and descriptive statistics for all variables of interest prior to the multivariate analyses. We assessed internal consistency using Cronbach's α for the PHQ-4. Independent samples *t* tests and Pearson's correlations were used to examine demographic and health-related differences related to the outcome of interest and emotional well-being.

Multivariate analyses. We conducted 7 linear regression models with hierarchical entry to explore the relationship between independent variables (PCC, patient satisfaction, patient trust, social support, and self-care skills) and the dependent variable (emotional well-being). A hierarchical model was used to detect changes R^2 changes between models (25). The VIF for all variables was less than 3, indicating nonproblematic multicollinearity.

Missing data. We deleted 9 cases prior to analysis due to missing all items for the scales measuring PCC (primary construct of interest) and/or emotional well-being (primary outcome of interest). The remaining missing data for each variable of interest were minimal (most variables were missing <1%; the variable with the highest missing data was race at 6% missing). As such, we used listwise deletion in the regression models.

Results

Bivariate Analyses

There were significant relationships between emotional well-being and multiple demographic and health-related characteristics in this sample (see Table 2). Young adults who were female, Hispanic, not married/partnered, had been diagnosed with depression in the past, or did not have health insurance had significantly lower emotional well-being. Higher education levels, higher income, fewer provider visits in the preceding year (1–2), and better general health were significantly related to improved emotional well-being. As shown in Table 3, all primary variables of interest were significantly related to each other. Communication that is more patient centered is associated with increased patient satisfaction, increased patient trust, greater social support, better self-efficacy, and higher levels of emotional well-being.

Linear Regression Models

Demographic and health-related characteristics (model 1). Model 1 analyzed the relationship between demographic characteristics, health-related characteristics, and emotional well-

Table 2. Relationship Between Sample Characteristics and Emotional Well-Being (N = 422).^a

Variable	Emotional well-being, mean (SD)	t	P value
Gender		2.25	.025
Male	14.19 (2.36)		
Female	13.42 (3.23)		
Race		1.05	.296
White	13.76 (2.94)		
Non-white	13.39 (3.25)		
Hispanic ethnicity		−2.03	.043
Hispanic	12.99 (3.33)		
Not Hispanic	13.77 (2.95)		
Marital status		3.61	< .001
Married/partnered	14.05 (2.96)		
Not married	12.96 (3.06)		
Has been diagnosed with depression		−9.35	< .001
Yes	11.55 (3.45)		
No	14.40 (2.48)		
Has health insurance		2.67	.008
Yes	13.75 (2.91)		
No	12.57 (3.72)		
Has a regular health care provider		1.51	.133
Yes	13.78 (2.97)		
No	13.32 (3.15)		
Number of provider visits in 12 months		2.27	.024
1-2	13.94 (2.92)		
3+	13.27 (3.13)		
		<i>r</i>	
Age (in years)	n/a	−0.02	.633
Education level	n/a	0.21	< .001
Income	n/a	0.37	< .001
General health	n/a	0.34	< .001

^aSignificant findings ($P < .05$) are highlighted in bold.

being (see Table 4). The overall model fit was statistically significant, $R^2 = 0.34$, adjusted $R^2 = 0.32$, $F(15, 382) = 13.30$, $P < .001$. Greater levels of household income ($\beta = .25$, $b = 0.35$, $P < .001$) and increased self-reported health ($\beta = .19$, $b = 0.64$, $P < .001$) were both significantly associated with increased emotional well-being. Those respondents who indicated that they had a regular health care provider also had significantly increased emotional well-being ($\beta = .09$, $b = 0.55$, $P = .044$). A history of a depression diagnosis was significantly associated with decreased emotional well-being ($\beta = -.38$, $b = -2.58$, $P < .001$).

Patient-centered communication (model 2). In model 2, we added PCC, and the overall model fit was significant, $R^2 = 0.34$, adjusted $R^2 = 0.32$, $F(16, 381) = 12.50$, $P < .001$. Patient-centered communication was not significantly related to emotional well-being among young adults. Greater levels of household income ($\beta = .25$, $b = 0.35$,

Table 3. Bivariate Correlations for Primary Variables of Interest.

Variables	PCC	Patient satisfaction	Patient trust	Social support	Self-efficacy	Emotional well-being
PCC	–	–	–	–	–	–
Patient satisfaction	0.692 <i>P</i> < .000	–	–	–	–	–
Patient trust	0.614 <i>P</i> < .000	0.719 <i>P</i> < .000	–	–	–	–
Social support	0.293 <i>P</i> < .000	0.282 <i>P</i> < .000	0.217 <i>P</i> = .002	–	–	–
Self-care/self-efficacy	.285 <i>P</i> < .000	.308 <i>P</i> < .000	0.270 <i>P</i> < .000	0.142 <i>P</i> = .004	–	–
Emotional well-being	0.138 <i>P</i> = .005	0.255 <i>P</i> < .000	0.257 <i>P</i> < .000	0.312 <i>P</i> < .000	0.293 <i>P</i> < .000	–

Abbreviation: PCC, patient-centered communication.

Table 4. Linear Regressions Predicting Emotional Well-Being Models 1 to 3 (N = 422).

	Model 1				Model 2				Model 3			
	β	<i>b</i>	<i>t</i>	<i>P</i>	β	<i>b</i>	<i>t</i>	<i>P</i>	β	<i>b</i>	<i>t</i>	<i>P</i>
Demographic												
Age	–.062	–0.048	–1.39	.167	–.057	–0.04	–1.28	.203	–.035	–0.03	–0.81	.420
Gender (male = 1)	.051	0.358	1.20	.232	.054	0.38	1.26	.208	.055	0.39	1.32	.186
Race (white = 1)	.030	0.199	0.60	.551	.031	0.20	0.61	.539	.031	0.21	0.63	.527
Race (missing = 1)	.036	0.483	0.71	.478	.036	0.48	0.71	.480	.063	0.84	1.25	.212
Hispanic (yes = 1)	–.057	–0.463	–1.17	.243	–.056	–0.45	–1.15	.251	–.039	–0.31	–0.82	.414
Married/partnered (yes = 1)	.050	0.315	1.10	.272	.048	0.30	1.04	.298	.024	0.15	0.54	.593
Education	–.031	–0.070	–0.64	.523	–.030	–0.07	–0.61	.540	–.027	–0.06	–0.57	.571
Income	.247	0.354	4.75	.000	.246	0.35	4.72	.000	.201	0.29	3.90	.000
Midwest region	.049	0.386	0.84	.399	.047	0.37	0.80	.423	.025	.20	.44	.660
South region	.038	0.235	0.60	.548	.038	0.24	0.60	.548	.013	0.08	0.21	.831
West Region	–.033	–0.235	–0.55	.583	–.030	–0.21	–0.49	.626	–.046	–0.32	–0.77	.445
Health related												
Has insurance (yes = 1)	.021	0.194	0.45	.650	.022	0.20	0.47	.638	.010	0.09	0.22	.823
Has regular provider (yes = 1)	.088	0.549	2.02	.044	.080	0.50	1.81	.071	.038	0.24	0.86	.392
General health	.189	0.636	4.03	.000	.185	0.62	3.90	.000	.088	0.30	1.51	.124
Depression diagnosis (yes = 1)	–.380	–2.58	–8.47	.000	–.376	–2.56	–8.33	.000	–.353	–2.39	–8.01	.000
PCC					.036	0.15	0.81	.420	–.134	–0.58	–2.20	.029
Patient satisfaction									.023	0.07	0.32	.746
Patient trust									.158	0.62	2.57	.010
Social Support									.186	0.75	4.09	.000
Self-efficacy									.125	0.46	2.26	.024
N		398				398				394		
<i>F</i>		(15, 382) = 13.30				(16, 381) = 12.50				(20, 373) = 11.94		
<i>P</i>		< .001				< .001				< .001		
<i>R</i> ²		0.343				0.344				0.390		
Adjusted <i>R</i> ²		0.317				0.317				0.358		

^aSignificant findings (*P* < .05) are highlighted in bold.

P < .001) and increased self-reported health ($\beta = .18$, *b* = 0.62, *P* < .001) were both significantly associated with increased emotional well-being. A history of a depression diagnosis was significantly associated with decreased emotional well-being ($\beta = -.38$, *b* = –2.56, *P* < .001).

Patient satisfaction, trust, social support, and self-care (model 3). In model 3, we added the proxy for patient satisfaction

(patient-perceived quality of care) patient trust, social support, and self-care. The overall model fit was statistically significant, *R*² = 0.39, adjusted *R*² = 0.36, *F* (20, 373) = 11.94, *P* < .001. Income ($\beta = .20$, *b* = 0.29, *P* < .001), depression diagnosis ($\beta = -.35$, *b* = –2.39, *P* < .001), patient trust ($\beta = .16$, *b* = 0.62, *P* = .010), and social support ($\beta = .19$, *b* = 0.75, *P* < .001) all remained significant. Higher levels of PCC were significantly related to decreased emotional well-

being ($\beta = -.13$, $b = -0.58$, $P = .029$). Self-efficacy was significantly related to emotional well-being ($\beta = .13$, $b = 0.46$, $P = .024$), such that increased self-efficacy was related to increased emotional well-being.

Discussion

In our final regression model, we found that income, depression diagnosis, patient trust, social support, self-efficacy, and PCC were all significantly related to emotional well-being among young adults. The positive relationship that PCC has with emotional well-being is consistent with previous research (26,27). Our finding related to patient trust is consistent with studies among other patient groups that have found patients who perceive that they receive good health care also have greater emotional well-being (28,29). Similarly, our finding that social support was significantly related to emotional well-being among young adults was consistent with previous research among other populations (30). Additionally, social support is often most critical to health when people are feeling stressed or unable to cope (31), making the connection to emotional well-being unsurprising. Finally, our finding that enhanced self-efficacy is associated with greater emotional well-being among young adults is also consistent with the literature in other populations (32,33).

Our findings related to PCC were in some ways unexpected. In the final regression model, PCC was significantly related to emotional well-being among young adults, but not in the expected direction. Rather, we found that increased PCC was related to decreased emotional well-being. We note that the relationship between PCC and emotional well-being was initially positive (although not significant), but changed direction in model 3, when we added satisfaction, trust, social support, and self-care to the model. This change from a positive to negative relationship as we added variables to the model might indicate that subsequent variables of interest change the relationship between PCC and emotional well-being. Additionally, the data showed primarily high scores related to PCC: 28% of young adults had an average score of 4 on the PCC scale, which is the highest possible score. Very few respondents (<10%) reported a mean score of less than 2 on the PCC scale. This may have caused the relationship between PCC and emotional well-being to no longer be measurable, due to the fact that many respondents reported the highest scores possible and there was no room for improvement. The changes in PCC across models indicate possible interactions between PCC and the other variables of interest in this study.

It is also important to remember that communication with patients can be impacted by individual differences unrelated to communication, which may be reflected by the constructs in this model. For example, it might be harder for providers to engage depressed patients or these patients may be more likely to negatively view communication and, therefore, rate providers lower in terms of patient-centeredness. Previous

research has found that depressive symptoms negatively affect patient-provider communication quality (34). This same phenomenon could also occur with patients who are in poorer health. There are also qualities in this study that may naturally align themselves with better PCC. Furthermore, patients who have better social skills may be more likely to have a strong support network and easily communicate and engage with providers. Finally, patients with healthier self-care skills and those who are more confident in taking care of their health may also be more likely to have confidence in other areas of life, such as building support networks and interacting with providers in a medical setting.

Limitations and Strengths

There are certain limitations that are important to consider when interpreting the findings generated by this study. First, the PCC responses are all subject to patient perceptions about health care interactions over a 1-year period and could be subject to recall bias. Additionally, the young adults included in study analyses were not fully representative of all young adults. The use of cross-sectional data prohibited the ability to determine the direction of effects. The use of secondary data also introduced certain limitations. This study only addressed one component of overall emotional well-being, represented by the PHQ-4. There are certain measurement limitations, such as single-item measures. This study also used perceived care quality as a proxy measure for patient satisfaction. Although perceived care quality has been used to represent patient satisfaction in previous research (22,23), it does not capture the entirety of the patient satisfaction construct. The data did not provide information regarding which type of health care provider patients were referencing with their responses.

Despite these limitations, this study has many strengths. This study contributes to the extant literature by addressing PCC, satisfaction, trust, and emotional well-being among young adults. The ultimate goal in studying the relationships between these constructs is to improve young adult health behaviors and outcomes, but a clear understanding of how PCC is related to satisfaction, trust, and emotional well-being is a necessary and valuable preliminary step. This study's findings regarding the importance of communication, trust in one's health care provider, social support, and self-efficacy among young adults provides foundational information that can be used in future research.

Future Research

Longitudinal, event, or encounter-based studies are needed to further explore both the direct and indirect relationships between PCC and emotional well-being. The ability to determine directionality and causality is a critical next step. A better understanding of the mechanisms by which PCC impacts emotional well-being may allow for the design of interventions that target improved PCC and/or other

constructs in the model by Street et al. Additional research could explore these constructs among young adults who were not well-represented in this study, such as those without a regular care provider and/or those who are uninsured. There is also a crucial need for research among more diverse groups of young adults.

Research that differentiates between health care provider roles (eg, doctor, nurse practitioner, nurse) and characteristics (eg, race/ethnicity, gender, training) is also important, as different types of providers may communicate differently due to factors such as training and organizational constraints. Studies that explore how technology-mediated patient-provider communication, such as telehealth consultations, may differentially impact health outcomes are needed. This type of communication is quickly becoming central in health care due to the COVID-19 pandemic, and thus it is critical to understand the potential implications it holds for patient-provider relationships as telehealth will likely become more common in the future.

Conclusion

Communication between young adults and their health care providers is a key factor in the overall health care experience, which ultimately impacts numerous health behaviors and outcomes. It is important to accurately measure PCC among young adult populations and to understand how this communication impacts not only emotional well-being but also other health outcomes (eg, quality of life, preventative care engagement). Engaging young adults in their health care as early as possible bodes well for better long-term health outcomes and a healthier population overall. This engagement hinges on the patient-provider relationship, of which communication is the foundation.

Authors' Note

The institutional review board of the University of Maryland, Baltimore, classified this study as being nonhuman subjects research because all data are de-identified and publicly available.

Declaration of Conflicting Interests

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