Analysis of Clerkship Student-Patient Interviews in Underserved Clinics

William B. Shore, MD; Jessica Muller, PhD; David Thom, MD, PhD, MPH; Julia Mergendoller, RA; George W. Saba, PhD

BACKGROUND AND OBJECTIVES: Third-year family medicine clerkship students at our urban medical school are assigned to clinics in diverse settings, where they are required to video record one patient interview. Our research goals were to describe student communication behaviors and compare the frequency of these behaviors at clinics serving primarily uninsured patients to clinics with primarily insured patients.

METHODS: Eighty-seven student-patient recordings were reviewed and analyzed.

RESULTS: Seventy-two percent of students performed general interviewing skills at an adequate or outstanding level; however, only a small number of students asked contextual questions about patients' use of social services (7%), barriers to care (6%), or patients' cultural/spiritual values and health concerns (13%), regardless of clinic type (underserved or insured). In visits with female patients, all students were more likely to show a personal interest in the patient (88% versus 71%). In visits where there was gender concordance between the patient and student, the students were more likely to face the patient (98% versus 73%).

CONCLUSIONS: This study indicates that, even though third-year students may have adequate general interviewing skills, they may need additional training and practice in obtaining contextual information about patients in all clinical settings. These findings also suggest that the gender of the patient, as well as gender concordance between patient and student, play a role in student-patient interactions.

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As our patient populations become more diverse, medical students need to develop effective communication skills to better understand patients' concerns and provide optimal patient-centered care.[1-5] Medical school "doctoring" courses have increasingly recognized the importance of teaching communication and typically focus on basic clinical skills.[6-7] However, they rarely incorporate curricula that specifically address doctor-patient communication with vulnerable and underserved populations.[8] Moreover, much of the research that addresses doctor-patient communication in educational settings is done with standardized patients or in simulated clinical practice settings. Few studies explore student interactions with real patients in various clinical settings.[9-15]

To better understand communication between medical students and real patients in clinically diverse settings, we examined their interactions during the third-year family medicine clerkship to determine (1) the type and frequency of verbal and non-verbal communication behaviors used by family medicine clerkship students with patients and (2) if any trends or patterns existed in these behaviors based on differences in practice setting, student demographics, or clerkship variables.

Methods

We examined interviews by third-year family medicine clerkship students at an urban medical school over a 2-year period. Students are placed in one of 14 clinical settings, which range from academic to medically underserved community settings and serve patients from multilple cultural backgrounds. During their 6-week clerkship, all students are required to video record one patient interview for clinical supervision.[16] Students select these patients on the basis of language concordance and schedule availability. With Institutional Review Board approval for the study, we asked clerkship students for their consent to review the history-taking component of their patient interview, excluding the physical examination or any subsequent consultations with

From the Department of Family and Community Medicine, University of California, San Francisco.

attending physicians. Clerkship evaluators do not know the identity of students who do or do not consent.

Because no previous observational tool had been developed to identify communication behaviors of students with real patients in diverse clinical settings, we created a new instrument that included items from the Patient-Physician Interaction Scale and from research on cultural competence communication.[17-19] This tool identified 44 communication behaviors within nine categories: greeting the patient; eliciting patient's concerns; setting the agenda; explaining diagnosis, medications, and treatment options; closing the interview; listening actively; building rapport; exploring contextual factors; and demonstrating professional behavior. A trained research assistant, fluent in Spanish, reviewed and coded for the presence or absence of each behavior, gave each interview an overall quality score (inadequate, adequate or outstanding), and noted student and patient gender, type of visit, and clinic site. Only interviews conducted in English, Spanish, or with an interpreter were included in the study. Two of the study investigators (WS and JM) coded a sample of the interviews to estimate inter-rater reliability using the Fleiss's kappa statistic.[20] The frequency of each behavior was compared for pre-specified subgroups using a chi-square statistic or Fisher's exact test (if any cell was <5). Analyses were done using SPSS 17.0.

Results

Two hundred students were eligible during the 2-year study period. We obtained consents from 96 students (48%) to review their recordings. After eliminating nine recordings for technical problems, 87 interviews were analyzed.

As seen in Table 1, visits were nearly equally divided by student and patient gender and were mostly initial appointments. Fifty-six percent of the students were at medically underserved clinic sites serving primarily low-income patients;

Table 1: Visit Characteristics

Visit Characteristic	Number (%)
Student gender	
Female	42 (48)
Male	45 (52)
Patient gender	
Female	43 (49)
Male	44 (51)
Site type	
Underserved	49 (56)
Not underserved	38 (44)
Visit type	
First visit	78 (90)
Follow-up visit	7 (10)

44% were in clinics with insured middle and upper class patients.

Of the 44 communication behaviors initially identified, six could not be captured as they occurred off camera, either during the initial greeting or at the end of the visit. Two items were dropped because there were too few visits to allow for meaningful analysis: "interactions with family members in the room" (10 visits) and "use of an interpreter" (six visits, three in underserved and three in private clinics). Of the remaining 36 items, four had kappa scores <0.40 and were excluded. Table 2 shows frequencies of the final 32 items with 95% confidence intervals and the ratings for overall interview quality, along with their kappa scores. (See Table 2 footnote for complete list.)

Seventy-two percent of all students performed general interviewing skills at an adequate or outstanding level. However, regardless of the type of clinic (underserved or insured), only a small number of students asked contextual questions about patients' use of social services (7%), barriers to care (6%), or patients' cultural/spiritual values and health concerns (13%).

We also examined the 32 communication behaviors by clerkship timing, type of clinic/clerkship site, student gender, patient gender, and gender concordance. As shown in Table 3, students who took the clerkship in the second half of their third year were more likely to negotiate an agenda with patients than students taking the clerkship earlier. Their interviews were also more likely to be rated as adequate or outstanding. When comparing clinic type, we found that students at underserved clinics appeared more focused on the patient, less distracted during the interview, and more likely to show personal interest in the patient than those at non-underserved clinics. Communication behaviors exhibited by students also varied according to patient gender. If the patient were female, both male and female students were more likely to demonstrate empathy, express reassurance, and explore patients' cultural values. Students seeing patients of the same gender (gender concordance) were more likely to face the patient than those in gender discordant interviews.

Limitations

Limitations of this study include technical problems with the recordings; our focus on the history-taking component of the patient interview, which precluded examination of students' introductions to patients, physical exams or post-consultation discussions with patients; and our inability to analyze family interaction behaviors.

Conclusions

Our results suggest that clerkship timing, type of clerkship clinic, and gender of patient and student can influence the quality of communication between medical student

Table 2: Frequency of Student Behaviors

Student Behavior by Category*	Inter-rater Kappa	Percent Yes	95% CI**
Greets patient			
Positions him/herself facing patient	0.88	89	81–94
Elicits patient's concerns			
Asks patient about reason for visit/why now	0.73	73	63–81
Asks patient to prioritize concerns/what most worried about	0.41	6	3–13
Asks patient what she/he thinks is going on	0.85	33	24–45
Asks patient to describe symptoms	0.87	85	75–91
Asks about treatments patient has tried so far	0.87	63	52–73
Asks about impact of health problem on life at home/school/ work/ADLs	0.70	34	25–45
Uses open-ended, non-leading questions	0.52	63	53–73
Expresses validation (empathy)	0.87	79	69–86
Sets agenda			
Negotiates agenda with patient	0.43	12	6–20
Explains diagnosis, medications, and treatment options			
Clearly explains health problem to patient/treatment options	0.41	37	27–48
Responds to patient's/family's questions	1.00	73	60–83
Asks if there are any further questions	0.41	33	24–44
Listens actively			
Uses verbal expressions of interest throughout the interview	0.73	93	86–97
Uses non-verbal expressions of interest (facial expressions, nods, appropriate touching, pauses, leans toward patient)	0.64	92	84–96
Focuses on patient – not distracted by phone, staff, computer, writing	0.76	82	72–88
Interrupts infrequently and appropriately	0.87	100	96-100
Builds rapport			
Shows personal interest in patient	0.76	79	70–86
Engages in informal conversation when appropriate	0.56	54	43–65
Expresses empathy	0.73	76	66–84
Acknowledges and responds to patient's ideas, feelings, values	0.67	73	63–81
Reassures patient/validates patient behavior	0.60	71	61–79

(continued on next page)

Table 2: Continued

Student Behavior by Category*	Inter-rater Kappa	Percent Yes	95% CI**
Explores contetual factors			
Explores patient's cultural/spiritual values, expectations about health concerns	0.76	11	6–20
Asks about patient's use of social services (Medicaid, home health, etc)	1.00	8	4–16
Asks about access/barriers to care (housing, money, transportation, ability to make appointments, immigration concerns, etc)	0.87	5	2–11
Asks for contextual information about occupation, diet, lifestyle, family, home and neighborhood safety, access to grocery stores, etc	0.76	48	38–59
Asks follow-up questions to clarify	0.88	76	66–84
Uses minimal medical jargon	1.00	87	79–93
Checks for comprehension (teach back, closing loop)	1.00	26	18–37
Demonstrates professional behavior			
Conveys nonjudgmental/respectful attitude	1.00	100	96–100
Engages in appropriate behaviors (no slang, did not chew gum, etc	1.00	100	96–100
Dresses appropriately (white coat, minimally exposed tattoos, no midriff exposed, minimal piercings, etc)	1.00	100	96–100
Overall quality of interview			
Adequate or outstanding	0.64	78	67–85

* Behaviors not included in analysis (see Methods section) were: Greets patient warmly/expresses interest in patient; introduces him/herself to patient and others in room; asks for/responds to family members' concerns; asks patient how prefers to be addressed; asks if patient has other concerns; clearly explains medications, prescription refill needs; asks patient about preferences/if wants to participate in decision-making; suggests clear and specific follow-up; summarizes discussion; asks if there are further questions; asks if patient wants interpreter/works with interpreter effectively; summarizes patients' statements.

** Fisher exact confidence intervals

and patient.[21-23] Further, this study demonstrates that while third-year medical students generally displayed good interviewing skills with patients, most failed to gather the contextual information that could potentially be critical to the care of their patients. While important in caring for all patients, awareness and discussion of contextual factors are essential in taking care of vulnerable populations since they can represent significant barriers to health care, as well as provide information about the strengths that help patients cope.[24-28] To ensure that students are equipped with effective skills to optimize care of all patients, we need to develop curricula that specifically address doctor-patient communication with vulnerable and underserved populations. Further consideration is needed to determine how to best incorporate this skills training into our preclinical and clinical communication curricula and how to best evaluate students' practice of communication skills in the care of real patients.

CORRESPONDING AUTHOR: Address correspondence to Dr Shore, University of California, San Francisco, Department of Family and Community Medicine, 995 Potrero, Bldg 80, WD, 83, San Francisco, CA 94110. 415-206-5790. Fax: 415-206-8387. shorew@fcm.ucsf.edu.

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Table 3: Behaviors With Significant Differences in Frequency (Percent) by Subgroups

Behavior	Clerkship Timing			Clerkship Site			Patient Gender		
	Early n=49	Late n=38	P Value	Under-served n=49	Not Under-served n=38	P Value	Female n=42	Male n=45	P Value
Negotiates agenda	4	20	.026						
Adequate versus < adequate	69	87	.046						
Focuses on patient				89	71	.025			
Shows personal interest				88	68	.027	86	66	.028
Reassures patient							81	61	.033
Explorers cultural values							19	5	.04
Faces patient									
Asks for contextual information									

Negotiates Agenda	Gender Concordance			Initial Visit		
	Yes n=54	No n=30	P Value	Yes n=78	No n=7	P Value
Adequate versus < adequate						
Focuses on patient						
Shows personal interest						
Reassures patient						
Explorers cultural values						
Faces patient						
Asks for contextual information	98	73	.001	52	0	.026

Fischer exact confidence intervals

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