

MEDICAL STUDENTS' EXPECTATIONS FOR ENCOUNTERS WITH MINORITY AND NONMINORITY PATIENTS

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The authors examined the expectations of first-year medical students (n = 139) at the University of California, Los Angeles, School of Medicine in regard to interacting with black, Latino, Asian, and white patients. Using slides and a questionnaire, the results indicated that students expected to be significantly less comfortable interviewing blacks than other patients and to view blacks and Latinos as less likely to comply with treatment than whites and Asians. Black and Hispanic students were significantly more likely than white and Asian students to expect black and Hispanic patients to comply with treatment.

In the last decade, programs have been implemented to increase the representation of underserved ethnic groups in medical school and to educate medical students about the health care needs of underserved minorities.¹⁻³ Little is known, however, about how minority and nonminority students interact with underserved minority patients, ie, whether minority students are more comfortable than nonminority students with minority patients. The importance of obtaining data on such issues is underscored by the

increasing ethnic diversity of the US population and the continuing documentation of significant health problems of the federally designated "underserved" ethnic minorities (ie, blacks, Latinos, and American Indians).^{4,5}

There are several reasons to anticipate that medical students of various ethnicities would differ in their expectations for encounters with designated underserved minority patients. Some student groups could have negative expectations based on prejudicial attitudes toward patients from underserved minority groups. Minority students may be relatively more knowledgeable about the cultural backgrounds and health care needs of underserved populations. This greater knowledge could lessen the student's anxiety about interviewing, or, alternatively, could enhance anxiety through a greater concern for providing high-quality care. Thus, students from underserved minority backgrounds were expected to be more comfortable interviewing underserved minority patients relative to other students, or all student groups were expected to be somewhat less comfortable interviewing underserved minority patients. Regardless of the student's anxiety level, underserved minority students were expected to have relatively more favorable (less prejudiced) attitudes toward the behavior (ie, compliance) of underserved minority patients.

There are few previous studies of medical students' expectations or attitudes toward treating underserved minority patients. Wolkon and Yamamoto⁶ found that first-year medical students thought blacks and other minorities had poorer access to care and received poorer quality care. Studies of nonmedical

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student populations have found both positive and negative attitudes or stereotypes about black populations.^{7,8} These studies relied on simple self-reports of attitudes; self-reports of such attitudes are particularly susceptible to a socially desirable response bias. Techniques have been developed to minimize such biases, for example, by providing pictures of specific individuals.⁹⁻¹¹ Such techniques have not been used to study medical students' (or other health professionals') attitudes or practices in caring for underserved minority patients.

Several previous authors examined perceived or actual differences in health care received by different ethnic groups. While some studies have found no large differences in the quality of care delivered as a function of patient ethnicity,¹² one study of inpatient psychiatric care suggests that blacks received poorer quality care than nonblacks.¹³ Several studies suggest that both psychotherapists and their patients experience difficulties dealing with ethnic differences in treatment.¹⁴⁻²¹

METHODS

Sample and Design

The sample consisted of all 145 first-year medical students at the UCLA School of Medicine during the 1982-83 academic year. Twenty-one of the students were enrolled in the Charles R. Drew/UCLA Medical Education Program, a recently developed program designed to provide comprehensive medical services to inner-city, underserved populations. On two consecutive days, students were asked to remain after a course lecture to participate in a slide demonstration and complete a questionnaire (one half of the class was eligible to participate each day).

Before the slide demonstration, the students were instructed to assume that they were working in a private office of a primary care physician, taking histories of chief complaints from patients. The students viewed eight slides of persons identified as patients in the practice. After each slide, the students completed a 14-item instrument that elicited their expectations for the interview.

The eight slides depicted one male patient and one female patient in each of four ethnic groups: Latino, black, Asian, and white. The subjects for the slides were nonmedical students of UCLA between the ages of 18 and 25 years. The order of the slide presentation was reversed on the second day to compensate for

any sequence effects. The slides were selected from 20 slides on the basis of a pretest with 20 second-year medical students, who rated the slides for neutrality of background and similarity of facial expression (a slight smile).

Expectations of Encounters

The study questionnaire included 14 items that measured the students' expectations of the encounter with each patient, including degree of comfort in interviewing, communication barriers due to language, whether the patient could afford medical treatment, and whether the patient would comply with the physician's treatment plan. Each student also indicated which patient he or she would be most and least comfortable interviewing.

For each slide, a multiple-item comfort scale was developed by summing appropriate items. Reliability (Cronbach's alpha) of all eight comfort scales and of a global comfort scale exceeded conventional standards for group comparisons.

Independent Variables

Explanatory variables include ethnicity and sex of the patient and the student's ethnicity, age, sex, socioeconomic status, and previous medical experience, assessed by the study questionnaire. For some analyses, persons from federally designated underserved minorities (black and Latino combined) were contrasted with other persons (white and Asian combined). Cross tabulations were used to determine whether student expectation differed as a function of ethnicity of the patient or the student. Factors, such as socioeconomic status, that are confounded with ethnicity were controlled through multiple linear regression analyses. The dependent variables were selected expectations, such as the likelihood of the student selecting a black as the patient with whom he or she expected to be least comfortable. The independent variables were the full set of student characteristics noted above.

RESULTS

Student Characteristics

Of the 145 first-year students, 139 completed the study questionnaire, for a response rate of 96 percent. As displayed in Table 1, 57 percent of the students

TABLE 1. DISTRIBUTION OF STUDENTS BY SEX AND ETHNICITY*

| Sex of Student | Student Ethnicity | | | | | All Ethnicities (%) (n = 138) |
|------------------------|-----------------------|-----------------------|-----------------------|------------------------|----------------------|----------------------------------|
| | White (%) (n = 78) | Black (%) (n = 18) | Asian (%) (n = 23) | Latino (%) (n = 16) | Other (%) (n = 3) | |
| Male (n = 87) | 38 | 9 | 11 | 4 | 1 | 63 |
| Female (n = 51) | 18 | 4 | 6 | 7 | 1 | 37 |
| All students (n = 138) | 57 | 13 | 17 | 12 | 2 | 100 |

* The totals differ from the column totals due to rounding error (one student did not answer these items).

were white and 63 percent were male. Most were from a middle- or upper-class backgrounds. The majority of students (84 percent) had some previous medical experience.

On the average, Hispanic students were about a year older and Asian students about a year younger than either black or white students. Black and Hispanic students were from lower socioeconomic groups, on the average, than white or Asian students. For example, 47 percent of black, 69 percent of Latino, 30 percent of white, and 25 percent of Asian students have an annual family income under \$30,000 ($\chi^2(6) = 14.1, P < .005$). The ethnic groups did not differ significantly in total years of medical experience.

Expected Comfort in Interviewing

Expected comfort in interviewing differed significantly by slide ($F(7, 124) = 36.1, P < .01$), primarily because of less comfort with the black patients. When asked to indicate the patient they would be *least* comfortable interviewing, 44 percent of students selected a black patient. This percentage is significantly greater than the percentage (25 percent) expected at random ($t = 5.04, P < .001$). The percentage of students selecting a white patient (10 percent) is significantly less than expected at random ($t = 4.0, P < .001$).

Only 6 percent of students selected a black as the patient they would be *most* comfortable interviewing. By contrast, 40 percent selected a Latino, 27 percent an Asian, and 27 percent a white patient (Table 2). The differences from random expectations are significant for both Hispanic and black patients. On the average, students expected to be most comfortable with the Hispanic female patient (who had a somewhat maternal appearance); only 2 percent of students

TABLE 2. PATIENTS SELECTED BY STUDENTS AS MOST AND LEAST COMFORTABLE TO INTERVIEW

| Slide of Patient | Most Comfortable (%) (n = 134) | Least Comfortable (%) (n = 132) |
|------------------|-----------------------------------|------------------------------------|
| Black, male | 4 | 22 |
| Black, female | 2 | 22 |
| Latino, male | 2 | 18 |
| Latino, female | 38 | 5 |
| Asian, male | 13 | 10 |
| Asian, female | 14 | 13 |
| White, male | 18 | 3 |
| White, female | 9 | 7 |

expected to be most comfortable with the male Hispanic patient.

There are no statistically significant differences by student ethnicity in the likelihood of selecting a black or Latino as the patient that the student would be *least* comfortable interviewing (Table 3). There is a trend for black and Hispanic students to be somewhat less likely to select a black or Hispanic patient, but the overall sample size is too small to detect this small an effect.

Using multiple linear regression, student characteristics that best predicted overall expected comfort (for all patients) were examined. Other patients factors being equal, blacks and Latinos (as a group) and older students expected to be more comfortable interviewing (Table 4) than whites and Asians (as a group) and younger students.

Expected Compliance with Medical Treatment

On the average, students thought that white and Asian patients (as a group) were more likely to comply with treatment than blacks and Latinos (as a group)

TABLE 3. PERCENT OF STUDENTS LEAST COMFORTABLE WITH A PATIENT, BY PATIENT AND STUDENT ETHNICITY*

| Student Ethnicity | Underserved Minority Patients | Other Patients |
|--------------------------|-------------------------------------|--------------------------|
| | Percent of Students | Percent of Students** |
| Black or Latino (n = 33) | 58 | 42 |
| Other (n = 101) | 70 | 30 |
| All students (n = 134) | 67 | 34 |

* Students and patients are grouped as federally designated underserved minority vs other. The sample size is 134 (5 students had missing data).

** The row total exceeds 100 percent due to rounding error.

TABLE 4. REGRESSION RESULTS FOR GLOBAL COMFORT IN INTERVIEWING*

| Independent Variable | Regression Coefficient | Significance |
|----------------------|------------------------|--------------|
| Intercept | 11.2 | |
| Student age** | 0.15 | P < .05 |
| Student ethnicity*** | 1.43 | P < .001 |

* The sample size for the analysis is 127 due to missing data. The explained variance (R) is 18 percent. The dependent variable is global comfort, the mean comfort score for all 8 slides. The mean global comfort score is 14.5. This regression analysis includes only those independent variables that had significant coefficients in preliminary analyses.

** Mean = 23.6; standard deviation = 2.5

*** 1 = black or Latino; 0 = other ethnicity; Mean = .23; standard deviation = .42.

($t = 3.66, P < .001$). This effect is due to a significantly lower expected compliance for the male Latino and the male and female black patients than for other patients ($P < .01$). As displayed in Table 5, 70 percent of students thought that the white male patient would comply, but only 29 percent of students thought that the black male patient would do so.

Black and Hispanic students (combined) are significantly more likely to expect the male Latino and the male and female black patients to comply than are white and Asian students (combined) ($t = 3.84, P < .0005$). For example, 35 percent of underserved minority students, but only 16 percent of other stu-

dents, expected the black female patient to comply (Table 5).

Other Expectations

Taking all patients into consideration, Hispanic students were significantly less likely to anticipate communication problems due to language than were other students ($P < .001$). Specifically, Hispanic students did not anticipate communication problems with any of the eight patients. Students in other ethnic groups expected to have difficulties due to language with one or more patients, especially with the Hispanic male and Asian female patients.

There were no significant differences by patient ethnicity in perceived ability to afford treatment.

The majority of students believe that physicians are more comfortable with patients who are similar to them in ethnicity and social class (Table 6). These beliefs are not significantly different for students of different income levels or ethnic groups.

DISCUSSION

The authors studied one medical school class that included students from a training program designed to enhance care for federally designated underserved minorities. The class had a much higher proportion of minority students (40 percent) than the national average (9.6 percent).²² Thus, the students were likely to be sensitive to cultural issues; as a result, the differences among student groups reported here might be smaller than at other schools.

The expectations refer to eight young, middle-class patients depicted in the slides. The visual cueing technique was used to minimize socially desirable responses. The technique is most appropriate for eliciting first impressions.⁹ The students might respond differently to patients they know well. An attempt was made to select slides that depicted (on the basis of dress) patients of the same social class so as to elicit responses to patient ethnicity unconfounded by perceptions of social class differences. This attempt apparently succeeded, as students did not perceive differences in patient's ability to afford treatment. Students' expectations however, could differ when ethnicity and social class are confounded.

The study reported here represents a first attempt at understanding how medical students feel about interacting with patients of various ethnicities using

TABLE 5. EXPECTED COMPLIANCE WITH MEDICAL TREATMENT FOR EIGHT PATIENTS BY STUDENT ETHNICITY*

| Slide/Patient | Underserved Ethnic Minority (n = 34) | Other Students (n = 105) | All Students (n = 139) |
|-----------------|--|-----------------------------|---------------------------|
| | Expected To Comply (%) | Expected To Comply (%) | Expected To Comply (%) |
| Black, male** | 35 | 27 | 29 |
| Black, female** | 35 | 16 | 21 |
| Latino, male** | 50 | 28 | 33 |
| Latino, female | 68 | 67 | 67 |
| Asian, male | 50 | 45 | 46 |
| Asian, female | 47 | 49 | 48 |
| White, male | 74 | 68 | 70 |
| White, female | 38 | 40 | 39 |

* The number of students varies by slide from 137 to 139 due to missing data. Students were underserved ethnic minority, black or Latino.

** For these three slides (as a set), the differences in expected compliance between the two student groups (black or Latino vs other) are statistically significant, P < .0005.

TABLE 6. EXPECTATIONS FOR PHYSICIANS' COMFORT WITH PATIENTS

| Abbreviated Item Content | Percent of Students (n = 137) | | |
|---|-------------------------------|----------|----------|
| | Agree | Not Sure | Disagree |
| Physicians are more comfortable with patients of the same ethnicity as the physician | 64 | 20 | 16 |
| Physicians are more comfortable with patients of the same socioeconomic status as the physician | 65 | 18 | 17 |
| Physicians are more comfortable with patients who are similar to them | 65 | 20 | 16 |

measures with acceptable psychometric properties. The findings are provocative, if only suggestive.

All student groups expected to be less comfortable with black than with nonblack patients. This finding was somewhat unexpected. Possible explanations for it are: some students may hold negative or prejudicial attitudes toward black patients; minority students in this particular class may be especially aware of the health care needs of blacks and thus were more self-conscious about health encounters.

The findings are not due to a confounding of ethnicity and socioeconomic class for either patients or students. As noted above, the patients were specifically chosen to represent the same social class. Further, the same results were obtained while controlling for the student's socioeconomic status using multiple linear regression.

Students expected black and Hispanic patients to be less compliant with treatment than other patients. This effect was partly due to the relatively more negative expectations of white and Asian students. As hypothesized, underserved minority students held more favorable views of the behavior of underserved minority patients.

All groups of students had favorable expectations for the Hispanic female patient, possibly because of her maternal appearance, suggesting that nonethnicity-related visual cues may exert powerful effects on expectations. Subsequent studies should attempt to evaluate systematically the relative effects of ethnicity, dress, and other characteristics of appearance on expectations for medical encounters.

Hispanic students anticipated fewer language barriers during encounters than the other student groups.

This finding was only partly due to more favorable expectations for communication with Hispanic patients. The students' familiarity with languages, however, was not elicited. Future studies should examine the effects of the student's use of language and acculturation.

Another finding from the study was that most students believe that physicians are less comfortable with patients whose backgrounds are different from their own; as such, students may be receptive to educational programs designed to facilitate clinical interactions with patients from a variety of cultural groups. In the future, the authors hope to determine whether the expectations elicited by the questionnaire predict student behavior during clinical rotations or choice of practice location. The techniques described here could be easily adapted for studies of the attitudes of other health professionals, such as, nurses residents, or attending physicians.

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