Medical Students' Ability to Care for Lesbian, Gay, Bisexual, and Transgendered Patients

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Background and Objectives: *Our objective was to assess medical students' ability to care for lesbian, gay, bisexual, and transgender (LGBT) patients and to identify potential deficiencies in medical school curricula pertaining to this care.* Methods: *Between March 1 and April 15, 2004, third- and fourth-year medical students at a metropolitan medical school were sent an e-mail requesting participation in a confidential on-line survey of 64 quantitative questions designed to assess their ability to care for LGBT patients.* Results: *A total of 248 of 320 (77.5%) students responded. Medical students with greater clinical exposure to LGBT patients reported more frequent sexual history taking with LGBT patients, had more positive attitude scores, and possessed higher knowledge scores than students with little or no clinical exposure. Overall, on the 13-item attitude survey, the mean was 4.15 (5=most positive, SD=.55, range 1.86–5.00), indicating a desire and willingness to provide health care to LGBT patients. The mean score on the 14-item knowledge test was 60% (SD=.12) correct.* Conclusions: *Medical students with increased clinical exposure to LGBT patients tended to perform more comprehensive histories, hold more positive attitudes toward LGBT patients, and possess greater knowledge of LGBT health care concerns than students with little or no clinical exposure.*

(Fam Med 2006;38(1):21-7.)

Healthy People 2010 emphasizes the elimination of health disparities to provide equal access to health care to all patients.[1] There is some evidence to indicate that lesbian, gay, bisexual, and transgender (LGBT) individuals are disproportionately affected by certain medical conditions.[2,3] Further, research has alluded to the fact that LBGT patients have felt discomfort with physicans who are insensitive to or have lack of knowledge about LGBT issues, thus impeding their ability to receive quality care.[2,3]

Medical educators have a role in better preparing medical students to handle disenfranchised or marginalized communities, including LGBT patients, and actively reducing health care disparities for these patients. It is estimated that in the United States at least 2.8% of men and 1.4% of women self-identify as homosexual or bisexual.[1] Yet, there are no studies that quantify the likelihood of physicians encountering LGBT patients. Based on their prevalence, however, it is reasonable to infer that most or all physicians will encounter LGBT patients during their career.

Many organizations advocate the development of curricula on culturally sensitive and competent health care for LGBT patients.[1,2,4] LGBT individuals share common social behaviors and choices that influence their health-seeking behavior, preventive health measures, and disease risk. The distinct practices of this population require education of health care professionals to effectively assess and manage their health status. In 1996, the American Medical Association recommended that greater educational efforts be directed to medical students and physicians, focusing on the health care needs of LGBT people in the United States.[2] Prior publications concluded that medical schools inadequately address the health care issues relevant to LGBT people.[5,6]

There are no publications that systematically assess medical students' attitudes, knowledge, and clinical skills pertaining to the health care of LGBT patients. Family medicine educators use these three domains in the design and implementation of culturally competent curricula. Therefore, we created a needs assessment to capture the learning needs of medical students at one institution. Educators may use this instrument to

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gauge their own students' needs and craft a culturally competent curriculum that is sensitive to the needs of LBGT patients.

Methods

Needs Assessment Survey

Between March 1 and April 15, 2004, 320 third- and fourth-year medical students attending a large, private, urban medical school were e-mailed an invitation to participate in an on-line survey to assess their attitudes, knowledge, and clinical skills pertaining to the health care of LGBT patients. The e-mail invitation included a description of the survey's goals and objectives, the offer of a $5 movie ticket incentive, and a link to the survey Web site. One e-mail invitation was sent every 10 days, for a total of four e-mails.

Upon accessing the survey, students logged in to the survey using a unique user identification number and password provided in their e-mail. Informed consent was obtained from all participants. Log-in information was "de-identified" and detached from all survey responses. We requested that students log in to verify that only registered medical students completed the surveys and to ensure that no one completed the needs assessment twice.

The 64-item survey was designed for completion within a 15-minute time period. The school's Institutional Review Board approved the study.

Measures

The questionnaire consisted of four parts. Part 1 elicited demographic information about the subjects.

Part 2 assessed clinical communication skills used in the care of LGBT patients. We modeled items in Part 2 from a validated survey of resident and attending physicians' attitudes toward patients with AIDS.[8] We used this instrument because its items were specific to medical trainees, contained items on sexual behavior and identity, and had been previously approved and implemented at our institution.

Part 3 assessed students' career goals, their desire to care for LGBT patients, attitudes toward physician responsibilities to LGBT patients, their comfort with LGBT clinical encounters, and their opinions about same-sex intimate relationships. Subjects indicated their level of agreement or disagreement with each item along a 5-point scale on which 5 indicated strong agreement and 1 indicated strong disagreement. We also adapted this portion of the instrument from the survey mentioned previously.[8]

Part 4 consisted of 10 true/false and four multiple-choice knowledge-based questions pertaining to LGBT health care. While this portion of the survey has not been used before or validated, these questions were based on health objectives presented in the *Healthy People 2010: Companion Document for Lesbian, Gay, Bisexual, and Transgender (LGBT) Health*.[1] This document identifies priority areas and inequalities in health that the medical professional is expected to address. These questions assessed the following 10 domains: cancer risk, health communication, immunizations, HIV/AIDS, mental health, nutrition, sexually transmitted diseases, substance abuse, tobacco use, and violence prevention. We included training-level appropriate items and designed the knowledge section with the expectation that the majority of students would score 60%.

Data Analysis

Data were coded for each question, and basic descriptive statistics were computed using SPSS.® Survey responses were summarized and described by the following groups: medical school class, race, gender, age, sexual orientation, and religious identity. We used analytic statistics, appropriate to data types and distribution (one-way ANOVA, chi-square, Pearson's correlation, regression analysis). The attitude items were reverse scored for the calculation of the mean attitude score to ensure that the most-positive attitudes had the highest scores.

One-way ANOVAs were used to determine differences in clinical skills, knowledge score, and attitude score by clinical encounter category. Chi-square analyses were used to assess differences in clinical skills, knowledge, and attitude by descriptive characteristics.

Results

Subjects

A total of 248 of the 320 students (77.5%) completed the on-line survey. Only 50.8% (126/248) of eligible participants collected movie tickets from the Student Activities Office. Table 1 shows the characteristics of survey respondents.

Student Clinical Encounters and Skills

Less than half of respondents reported screening for same-sex activity "always" or "often" (25.6% "rarely" or "never") when taking a sexual history; 53.6% "rarely" or "never" discover or identify a patient's sexual orientation.

A total of 91.5% of respondents reported at least one clinical encounter with an LGBT patient in their entire medical school career (Table 2). Among students with some exposure to LGBT patients, 72% felt "very comfortable" or "somewhat comfortable" addressing the patient's health care needs, and 74% "never" or "rarely" avoid questions pertaining to sexual behavior. However, also within this group, only 49% "always" or "often" reported screening for an intimate partner, 18% "always" or "often" screen for children, and 81% "never" or "rarely" ask the patient's permission to document their sexual history in their chart.

Table 1

Demographic Characteristics of Survey Respondents

Characteristic		*n=248 (%)*
Training	Third-year students	120 (50.6)
	Fourth-year students	111 (46.8)
	MD/PhD	6 (2.5)
Age	Years	25.9 (range 22–43)
Gender	Male	132 (53.9)
Sexual orientation	Heterosexual	229 (96.2)
	Homosexual or bisexual	9 (3.8)
Race/ Ethnicity	White/Caucasian	127 (53.4)
	Asian/Pacific Islander	79 (33.2)
	Multiracial	12 (5.0)
	African American/black	11 (4.6)
	Latino/Hispanic	6 (2.5)
	Other	3 (1.3)
Religious identity	Christian	83 (35.6)
	Jewish	63 (27.0)
	Nonaffiliated	36 (15.5)
	Atheist	16 (6.9)
	Hindu	16 (6.9)
	Other	19 (8.1)

We divided students who reported clinical encounters with LGBT patients into three subsets based on whether they had 1–5, 6–10, or 11 or more such clinical encounters (Table 2). We compared these subsets to investigate whether a greater number of clinical encounters are associated with a greater likelihood to perform a more-complete history and physical with LGBT individuals. Using one-way ANOVA, we found that students with a greater number of LGBT encounters were more likely to screen for same-sex sexual behaviors (F=12.5, $P<.001$), identify a patient's sexual orientation (F=2.81, $P<.04$), screen for a same- sex intimate partner (F=5.61, $P<.001$), and screen for children in the patient's family (F=3.80, $P<.012$). In addition, students with greater experience faced less difficulty gathering an oral history (F=6.74, $P<.001$) and conducting a genitourinary exam on LGBT patients (F=6.10, $P<.001$).

Overall, the majority of students who reported encounters with LGBT individuals reported feeling comfortable addressing the health care needs of LGBT patients (Table 2). However, self-reported comfort was not significantly associated with more comprehensive history-taking skills or higher knowledge scores.

Student Attitudes

Students who reported a greater number of clinical encounters with LGBT patients were more likely to have a more-positive attitude score (F=5.53, $P<.001$). Table 3 summarizes mean scores and ranges for the 13 individual items assessing students' desire and willingness to care for LGBT patients. The scores are based on a 5-point Likert scale, where a score of 5 was the most positive attitude score, and a score of 1 was the most negative score. The attitude items were reverse scored during the calculation of the overall attitude score to control for negative and positive attitude statements. Students had an overall attitude score of 4.15 (SD=.55, range 1.86–5.00).

Females had a higher overall attitude score than their male peers had (4.33 versus 4.08, F=4.67, $P<.001$). Positive correlations with attitude score included those with knowledge score ($r=.168$, $P=.009$) and student age ($r=.208$, $P=.001$).

Student Knowledge

Students with a greater number of clinical encounters demonstrated higher knowledge scores (F=3.57, $P=.015$). Table 4 shows the proportion of students responding correctly to each of the 14 knowledge items. The spread of correct responses per question ranged from 94% to 13%, indicating a level of difficulty ranging from easy to very difficult. All students, regardless of clinical encounter category, demonstrated little knowledge in the areas of cancer risk, mental health, HIV risk, and nutrition. The overall percent correct score on the 14-item knowledge section was .60, (SD=.12, n=246), with a minimum score of .29 and a maximum score of .93. A total of 177 students scored higher than the mode score of 57%. Figure 1 displays the distribution of knowledge scores.

We compared students on either side of the mode score of 57% to look for predictors in LGBT health knowledge. We chose the mode to split the imperfect normal curve in half. We found no significant correlations or differences in knowledge based on demographic background, training level, gender, race/ethnicity, or religious identity. Knowledge scores were positively correlated with attitude score ($r=.168$, $P=.009$) and greater encounters with LGBT patients ($r=.187$, $P=.003$).

Discussion

Clinical Encounters and Skills

We found that students with greater exposure to LGBT patients were more likely to unveil a patient's sexual orientation and screen for children in the patient's family. However, at best, students investigate the family structure and sexual orientation of a patient "sometimes." Early intervention by educators who teach students appropriate questions during history

Table 2

Clinical Skills and Attitudes Stratified by Medical Student Clinical Encounters

	Clinical Encounters With Self-identified LGBT Patients				
	0 Patients (n=21)	*1–5 Patients (n=122)*	*6–10 Patients (n=65)*	*>10 Patients (n=38)*	P *Value*
1. When taking a sexual history, students are instructed to ask their patients, "Do you have sex with men, women, or both?" How often do you ask your patient this question?*	2.76	2.94	3.62	3.92	<.001
2. How often do you ask your patients to identify their sexual orientation?*	2.33	2.35	2.72	2.84	.04
3. Overall, how comfortable were you addressing the health care needs of your LGBT patients?**	—	3.91	4.02	4.16	.159
4. Compared to heterosexual patients, how often have you treated self-identified LGBT patients differently with respect to the following:*					
4A. Less eye contact	—	1.15	1.25	1.16	.069
4B. Conducted fewer procedures to avoid physical contact	—	1.11	1.15	1.11	.715
4C. Spent most visits discussing sexual behavior	—	1.27	1.51	1.56	.008
4D. Spent most visits screening patients for STDs	—	1.42	1.85	1.83	.002
5. During your clinical encounters with self-identified LGBT patients, how often did the following events occur:*					
5A. Avoided questions about sexual behavior	—	1.65	1.68	1.37	.174
5B. Asked patients' permission to document their sexual history in their chart.	—	1.17	1.18	1.47	.003
5C. Asked if they had an intimate partner	—	3.20	3.89	3.92	<.001
5D. Asked if they had any children in their family	—	2.11	2.44	2.87	.011
6. It is more challenging to gather an oral history from a homosexual patient than a heterosexual patient.***	2.52	2.26	2.15	1.37	<.001
7. It is more challenging to conduct a physical exam on a homosexual patient than a heterosexual patient.***	1.71	1.51	1.63	1.18	.051
8. It is more challenging to conduct a genitourinary exam on a homosexual patient than a heterosexual patient.***	2.10	1.78	1.77	1.11	<.001
9. It is more challenging to discuss sexual behavior with homosexual patients than heterosexual patients.***	2.86	2.52	2.54	1.66	<.001

* Scoring for items 1, 2, 4A–D, 5A–D: 1-never, 2-rarely, 3-sometimes, 4-often, 5-always
** Scoring for item 3: 1-very uncomfortable, 2-uncomfortable, 3-neutral, 4-comfortable, 5-very comfortable
*** Scoring for items 6–9: 1-strongly disagree, 2-agree, 3-neutral, 4-agree, 5-strongly agree

LGBT—lesbian, gay, bisexual, and transgendered
STDs—sexually transmitted diseases

taking may improve the unveiling of this information during patient encounters. We also found that students with greater clinical encounters with LGBT patients were more likely to screen for same-sex behavior and an intimate partner. The majority of students perform these history-taking skills "sometimes" or "often," indicating that these skills are being addressed in the curricula.

Including intimate partners and family members in the care of LGBT patients is an important but often overlooked component of the doctor-patient relationship. Our students reported that while 49% of students "always" or "often" reported screening for an intimate partner, only 18% "always" or "often" screen for children. Recognizing that LGBT people have their own family structures helps the physician identify caregivers and dependents within the patient's family. An individual's family structure has important implications for health care decisions, health insurance, and inheritance. According to the American Medical Association's Council on Scientific Affairs report, it is important for physicians to recognize nontraditional families, especially when questions of medical decision making and "next-of-kin" arise.[9] Family structures may include an intimate partner, parents, relatives, close friends, or children.

Table 3

Attitudes Toward LGBT Patients Scale

Item	*n=248 Mean; Range*
1. Lesbian and gay patients deserve the same level of quality care from medical institutions as heterosexual patients.	4.94; 2.0–5.0
2. Gay and lesbian patients should only seek health care from gay and lesbian health clinics.	1.35; 1.0–5.0
3. Physicians in private practice have a responsibility to treat LGBT patients.	4.63; 1.0–5.0
4. I would be comfortable if I became known among my professional peers as a doctor that cares for LGBT patients.	4.32; 1.0–5.0
5. I am concerned that if my heterosexual patients learned that I was treating LGBT patients, they will no longer seek my care.	1.52; 1.0–5.0
6. I would be comfortable telling my intimate partner that I cared for LGBT patients.	4.84; 1.0–5.0
7. It is more challenging to gather an oral history from a homosexual patient than from a heterosexual patient.	2.12; 1.0–5.0
8. It is more challenging to conduct a physical exam on a homosexual patient than on a heterosexual patient.	1.51; 1.0–5.0
9. It is more challenging to conduct a genitourinary exam on a homosexual patient than on a heterosexual patient.	1.70; 1.0–5.0
10. It is more challenging to discuss sexual behavior with homosexual patients than with heterosexual patients.	2.42; 1.0–5.0
11. Homosexual patients should disclose their sexual orientation to their physician.	3.91; 1.0–5.0
12. Same-sex sexual attraction is a natural expression of sexuality in humans.	3.85; 1.0–5.0
13. Same-sex sexual behavior is a natural expression of sexuality in humans.	3.58; 1.0–5.0

Scoring: 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree

LGBT—lesbian, gay, bisexual, and transgendered

It is a challenge to quantify adequate exposure of medical students to LGBT patients. Observed standardized clinical encounters are an effective means of learning appropriate history taking with LGBT patients.[10] Individual schools can design their own case scenarios to learn the topic. Students should be evaluated prior to and following these standardized encounters to assess the effectiveness of their communication skills, rapport building, and comfort discussing sexuality with patients.

There is minimal published research that explores clinicians' ability to perform an adequate social and sexual history, and we did not find any other medical school assessing the number of LGBT clinical encounters experienced by their students. More research needs to be done on students' ability to perform comprehensive histories.

Attitudes

Students who reported a greater number of clinical encounters with LGBT patients were more likely to have a more-positive attitude score. This was truer for women and older students. These findings are consistent with other studies showing that the majority of college and graduate school students display positive attitudes to lesbians and gay men, with female students exhibiting more-positive views than their male peers.[11,13] However, the majority of students shared concerns about the challenges they face discussing sexual identity and sexual behavior. Further, self-reported comfort alone is not an adequate measure of a student's ability to care for LGBT patients. Although the majority of students reported feeling comfortable providing care to LGBT individuals, they were not likely to elicit comprehensive histories.

A minority of students held negative opinions about patients who experience same-sex attraction or patients who engage in same-sex behavior, and they experienced greater challenges discussing sexuality in clinical encounters. We know from studies of homophobia that lack of personal contact with gay and lesbian people is highly correlated with negative attitudes.[14] Studies show that teaching and promoting tolerance by designing discussion forums where students may voice their opinions and feelings about these encounters and listen to others do the same can result in change.[8,15] More research needs to be done to identify what interventions are effective at enhancing attitudes toward the care of this population.

Table 4

Medical Student Knowledge of LGBT Health Concerns

True/False	*% Answering Correctly*
1. Prevalence of cervical cancer and dysplasia has been demonstrated to be equivalent among lesbians and heterosexual women. (TRUE)	43
2. Lesbians are more likely to suffer from obesity than heterosexual women. (TRUE)	13
3. Lesbians are less likely to abuse alcohol than heterosexual women. (FALSE)	87
4. The incidence of depression in older gays and lesbians is greater than in the general population. (FALSE)	54
5. During male-to-female sex reassignment surgery, the prostate gland is removed. (FALSE)	68
6. Heterosexual women are more likely to be smokers than lesbian women. (FALSE)	72
7. Breast cancer can still occur after bilateral reductive surgery for female-to-male transsexuals. (TRUE)	94
8. When taking a sexual history on an adolescent, it is important to ask about sexual activity before questions about sexual attraction. (FALSE)	42
9. Hepatitis A vaccinations for men who have sex with men consist of three shots given 3 to 6 months apart. (FALSE)	70
Multiple Choice (Four choices per item)	
10. The fastest growing demographic of new HIV infections is (BLACK MEN WHO HAVE SEX WITH MEN)	39
11. Among coupled gay male households, rates of domestic violence are (SIMILAR TO THOSE OF THE POPULATION AT LARGE)	69
12. Which of the following statements most accurately describes the term *transgendered* (TRANSGENDERED REFERS TO INDIVIDUALS WHO HAVE A STRONG SENSE OF INCONGRUITY BETWEEN THEIR BIRTH SEX AND GENDER IDENTITY)	56
13. Among lesbians and gay men, rates of completed suicides are (SIMILAR TO THOSE OF THE POPULATION AT LARGE)	48
14. Condoms are not protective against which of the following sexually transmitted diseases (HUMAN PAPILLOMA VIRUS)	84

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Knowledge

We found that students with greater exposure to LGBT patients demonstrated better knowledge of their health concerns. Yet students in our sample demonstrated a sufficient amount of disagreement and confusion on several LGBT health concerns to merit clarification through curricular modifications. Studies have found that reservations in discussing sexual orientation were due to a lack of knowledge regarding LGBT patients' health care needs.[7,11] More education in the areas of cancer risk, nutrition, HIV risk, and mental health can address these knowledge gaps.

Limitations

Our study contains several limitations. First, it is limited to one inner-city private medical school where students obtain most of their clinical training at one of the largest public hospitals in the country serving a large LGBT population. In addition, our medical students come from all over the United States, so they may not be representative of medical students and schools in general.

Second, 77% of eligible students completed the needs assessment. Nonrespondents may have more negative attitudes and less clinical experience with LGBT patients.

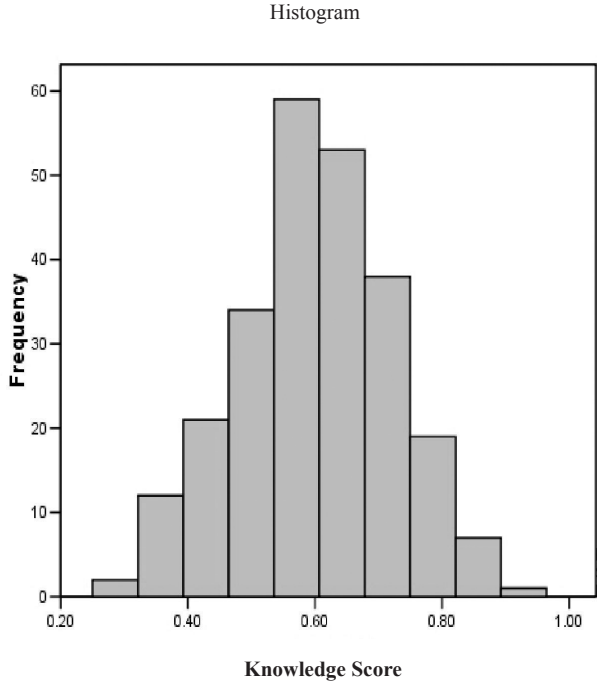
Third, students may have been concerned about researchers or school administrators linking their survey responses to their identity, thus discouraging their participation or biasing their responses toward expression of socially desirable answers.

Fourth, self-reporting without triangulation does not allow a more objective evaluation of students' true abilities. Observed clinical encounters or mock clinical encounters can be used to assess whether individuals truly show deficiencies in history taking and physical exam performance with LGBT patients. This is the first step in collecting data on medical students' needs and soliciting further research to clarify curricular deficiencies.

Fifth, a mean score of 60% on a mostly true/false knowledge test may indicate a result from chance alone. However, 57% correct responses reflects the average performance of the respondents. When considering individuals' questions, which ranged in percent correct from 13% to 94%, it is clear that some questions indicate a deficiency in knowledge, and some are common knowledge.

Figure 1

Distribution of Medical Student Knowledge Scores



Mean=.6002
Standard deviation=.12339
n=246

Finally, self-reporting may have been biased by the offering of an incentive. However, only half of participants claimed a $5 movie ticket for a survey that took 15 minutes to complete.

Conclusions

Medical students with increased clinical exposure to LGBT patients tended to perform more-comprehensive histories, hold more-positive attitudes toward LGBT patients, and possess greater knowledge of LGBT health care concerns than students with little or no clinical exposure. We identified some gaps in our current curriculum's history-taking instruction (screening for same-sex intimate partners, screening for household dependents) and LGBT health instruction (cancer risk, mental health, nutrition). These deficiencies may be assessed and managed through clinical case studies and observed standardized clinical encounters specific to LGBT patients.

Different student populations will have different needs. We sampled students at a predominantly white, Judeo-Christian, urban medical school. The results at neighboring medical schools and sites in more-socially conservative and racially homogeneous areas of the country may illuminate unique differences in their students' attitudes, knowledge, and clinical experience. The next step is to encourage faculty at other medical schools to use our survey instrument and further describe the needs of medical students at these other schools.

Acknowledgments: Financial support was provided by the Bronx Lesbian and Gay Health Resource Consortium.

This manuscript was presented at the Society of Teachers of Family Medicine 2005 Annual Spring Conference in New Orleans.

We acknowledge and thank Dean Mariano Rey for his support of the research protocol, William Holloway for his technical support, and the Bronx Gay and Lesbian Health Research Consortium Research Committee for their financial support of this project.

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